Project 2

Appendices

UPPER GREAT PLAINS REGION
Transmission Planning

JULY 2002

A. GENERATION AND TRANSMISSION FACILITY PARAMETERS

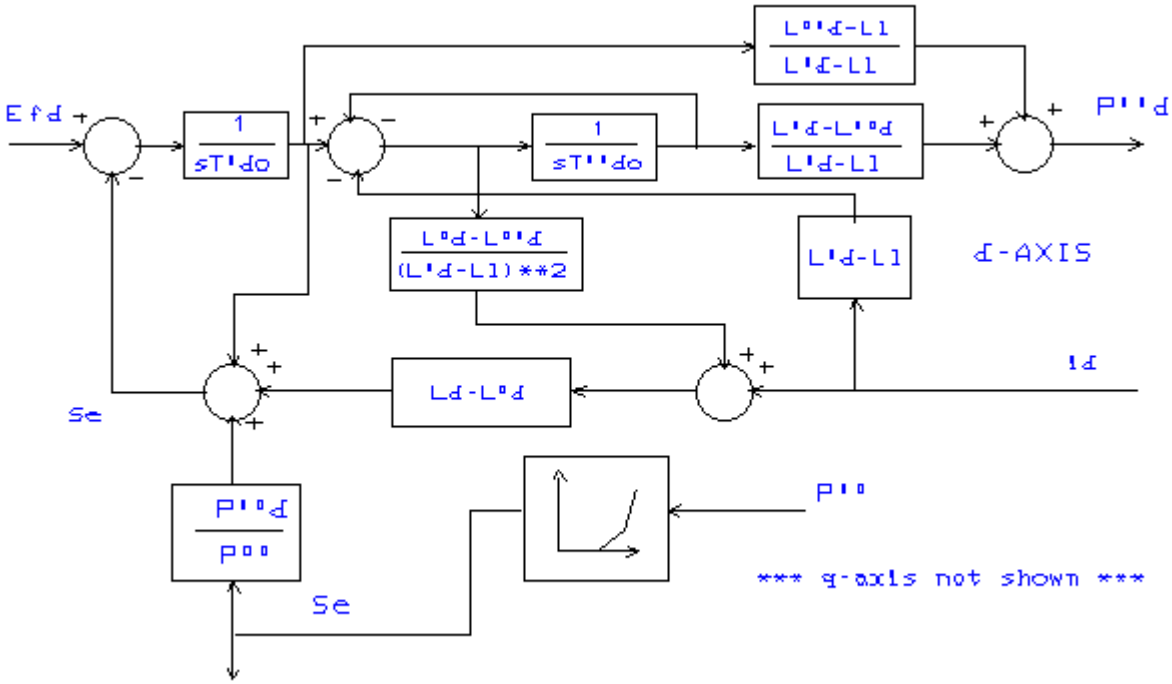
A.1 Generator Parameters

Gas Power Plant Model

Generator

Rated kVA	373,000	
Rated kW	317,050	
Max kvar	196,490	(0.85 pf)
Min kvar	-116,469	(-0.95 pf)
Voltage	18,000	
Amps	11,964	
P.F.	0.85	
Hertz	60	
RPM	3600	

Dynamic Model: genrou
Description: Solid rotor generator represented by equal mutual inductance modeling

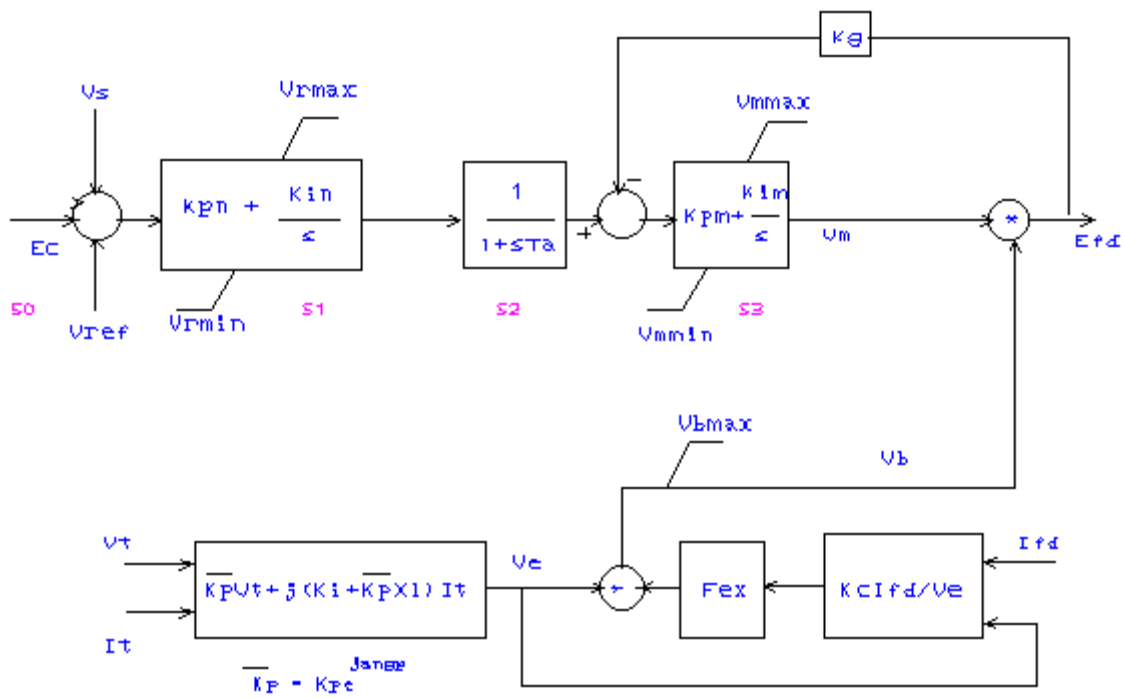


Value	Name	EPCL Variable	Description
4.8000	T'do	tpdo	D-axis transient rotor time constant
0.0330	T"do	tppdo	D-axis subtransient rotor time constant
0.4100	T'qo	tpqo	Q-axis transient rotor time constant
0.0700	T"qo	tppqo	Q-axis subtransient rotor time constant

4.5000	H	h	Inertia constant, sec
0.0	D	d	Damping factor, pu
2.1400	Ld	ld	D-axis synchronous reactance
2.0400	Lq	lq	Q-axis synchronous reactance
0.2400	L'd	lpd	D-axis transient reactance
0.5000	L'q	lpq	Q-axis transient reactance
0.2300	L"d	lppd	D-axis subtransient reactance
0.1900	Ll	ll	Stator leakage reactance, pu
0.1000	Se1.0	s1	Saturation factor at 1 pu flux
0.4000	Se1.2	s12	Saturation factor at 1.2 pu flux
0.0060	Ra	ra	Stator resistance, pu
0.0	Rcomp	rcomp	Compounding resistance voltage control, pu
0.0	Xcomp	xcomp	Compounding reactance voltage control, pu

Excitation System

Dynamic Model: exst4b
Description: IEEE type ST4b excitation system

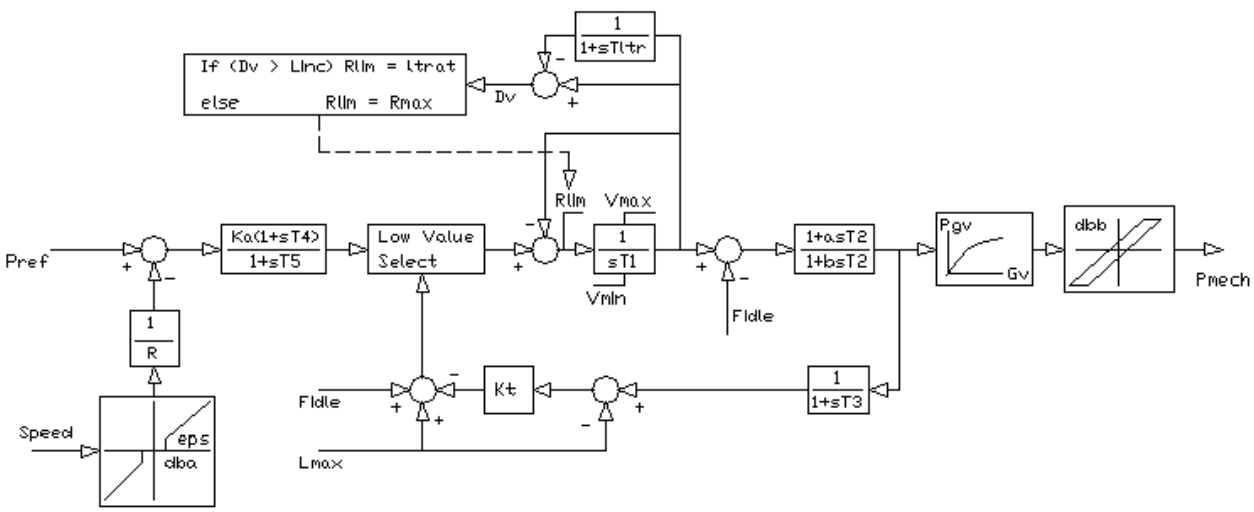


Value	Name	EPCL Variable	Description
0.0200	Tr	tr	Filter time constant, sec
3.1500	Kpr	kpr	Proportional Gain, p.u.
3.1500	Kir	kir	Integral Gain, p.u.
0.0100	Ta	ta	Time constant, sec
1.0000	Vrmax	vrmax	Maximum control element output, pu
-0.870	Vrmin	vrmin	Minimum control element output, pu
1.0000	Kpm	kpm	Prop. Gain of field voltage regulator, p.u.
0.0	Kim	kim	Integral Gain of field voltage regulator, p.u.
1.0000	Vmmax	vmmax	Maximum field voltage regulator

			output, pu
-0.870	Vmmin	vmmin	Minimum field voltage regulator output, pu
0.0000	Kg	kg	Excitation limiter gain, pu
6.5000	Kp	kp	Potential source gain, pu
0.0	Angp	angp	Phase angle of potential source, degrees
0.0	Ki	ki	Current source gain, pu
0.0800	Kc	kc	Exciter regulation factor, pu
0.0	Xl	xl	Main generator leakage reactance, pu
8.0000	Vbmax	vbmax	Maximum excitation voltage

Prime Mover

Dynamic Model: gast
Description: Single shaft gas turbine



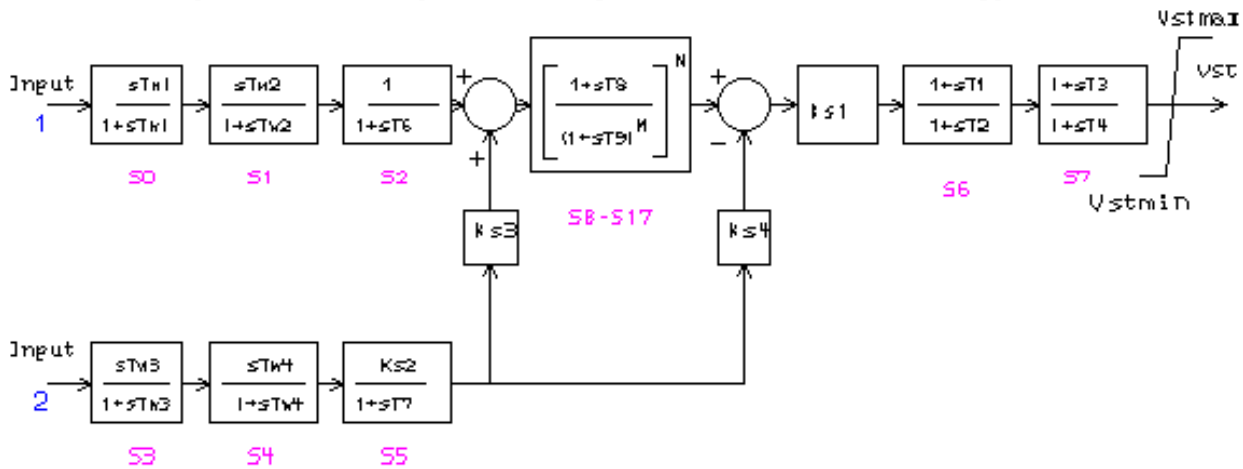
Value	*Name*	*EPCL Variable*	*Description*
0.0400	R	r	Permanent droop, pu
0.4000	T1	t1	Governor mechanism time constant, sec
0.5000	T2	t2	Turbine power time constant, sec
3.0000	T3	t3	Turbine exhaust temperature time constant, sec
1.0000	Lmax	lmax	Ambient temperature load limit
3.0000	Kt	kt	Temperature limiter gain
1.5000	Vmax	vmax	Maximum turbine power, pu of mwcap
0.0	Vmin	vmin	Minimum turbine power, pu of mwcap
0.0	Dturb	dturb	Turbine damping coefficient, pu [NOT USED]
0.2000	Fidle	fiddle	Fuel flow at zero power output, pu
0.0100	Rmax	rmax	Maximum fuel valve opening rate, pu/sec
0.0500	Linc	loadinc	Valve position change allowed at fast rate,pu
5.0000	Tltr	tltr	Valve position averaging time constant, sec
0.0050	Ltrat	ltrate	Maximum long term fuel valve opening rate, pu/sec
0.0	a	a	Turbine power time constant numerator scale factor

1.0000	b	b	Turbine power time constant denominator scale factor
0.0	db1	db1	Intentional deadband width, Hz.
0.0	Eps	eps	Intentional db hysteresis, Hz.
0.0	db2	db2	Unintentional deadband, MW
0.0	GV1	gv1	Nonlinear gain point 1, p.u. gv
0.0	Pgv1	pgv1	Nonlinear gain point 1, p.u. power
0.0	GV2	gv2	Nonlinear gain point 2, p.u. gv
0.0	Pgv2	pgv2	Nonlinear gain point 2, p.u. power
0.0	GV3	gv3	Nonlinear gain point 3, p.u. gv
0.0	Pgv3	pgv3	Nonlinear gain point 3, p.u. power
0.0	GV4	gv4	Nonlinear gain point 4, p.u. gv
0.0	Pgv4	pgv4	Nonlinear gain point 4, p.u. power
0.0	GV5	gv5	Nonlinear gain point 5, p.u. gv
0.0	Pgv5	pgv5	Nonlinear gain point 5, p.u. power
0.0	GV6	gv6	Nonlinear gain point 6, p.u. gv
0.0	Pgv6	pgv6	Nonlinear gain point 6, p.u. power
0.0	Ka	ka	Governor gain
0.0	T4	t4	Governor lead time constant, sec
0.0	T5	t5	Governor lag time constant, sec

Power System Stabilizer

Dynamic Model: pss2a

Description: Dual input Power system stabilizer (IEEE type PSS2A)



Value	Name	EPCL Variable	Description
1.0000	j1	j1	Input signal #1 code
0.0	k1	k1	Input signal #1 remote bus number
3.0000	j2	j2	Input signal #2 code
0.0	k2	k2	Input signal #2 remote bus number
2.0000	tw1	tw1	First washout on signal #1, sec
2.0000	tw2	tw2	Second washout on signal #1, sec
2.0000	tw3	tw3	First washout on signal #2, sec
0.0	tw4	tw4	Second washout on signal #2, sec
0.0	t6	t6	Time constant on signal #1, sec
2.0000	t7	t7	Time constant on signal #2, sec
0.2220	ks2	ks2	Gain on signal #2
1.0000	ks3	ks3	Gain on signal #2
1.0000	ks4	ks4	Gain on signal #2

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 0.5000  t8      t8       Lead of ramp tracking filter
 0.1000  t9      t9       Lag of ramp tracking filter
 1.0000  n       n        Order of ramp tracking filter
 5.0000  m       m        Order of ramp tracking filter
10.0000  ks1     ks1      Stabilizer  gain
 0.2500  t1      t1       Lead/lag time constants, sec
 0.0400  t2      t2       Lead/lag time constants, sec
 0.2000  t3      t3       Lead/lag time constants, sec
 0.0300  t4      t4       Lead/lag time constants, sec
 0.1000  vstmax  vstmax   Stabilizer output max limit, p.u.
-0.1000  vstmin  vstmin   Stabilizer output min limit, p.u.
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B. CATEGORY A (PRE-CONTINGENCY) DATA

Legend for filenames and abbreviations:

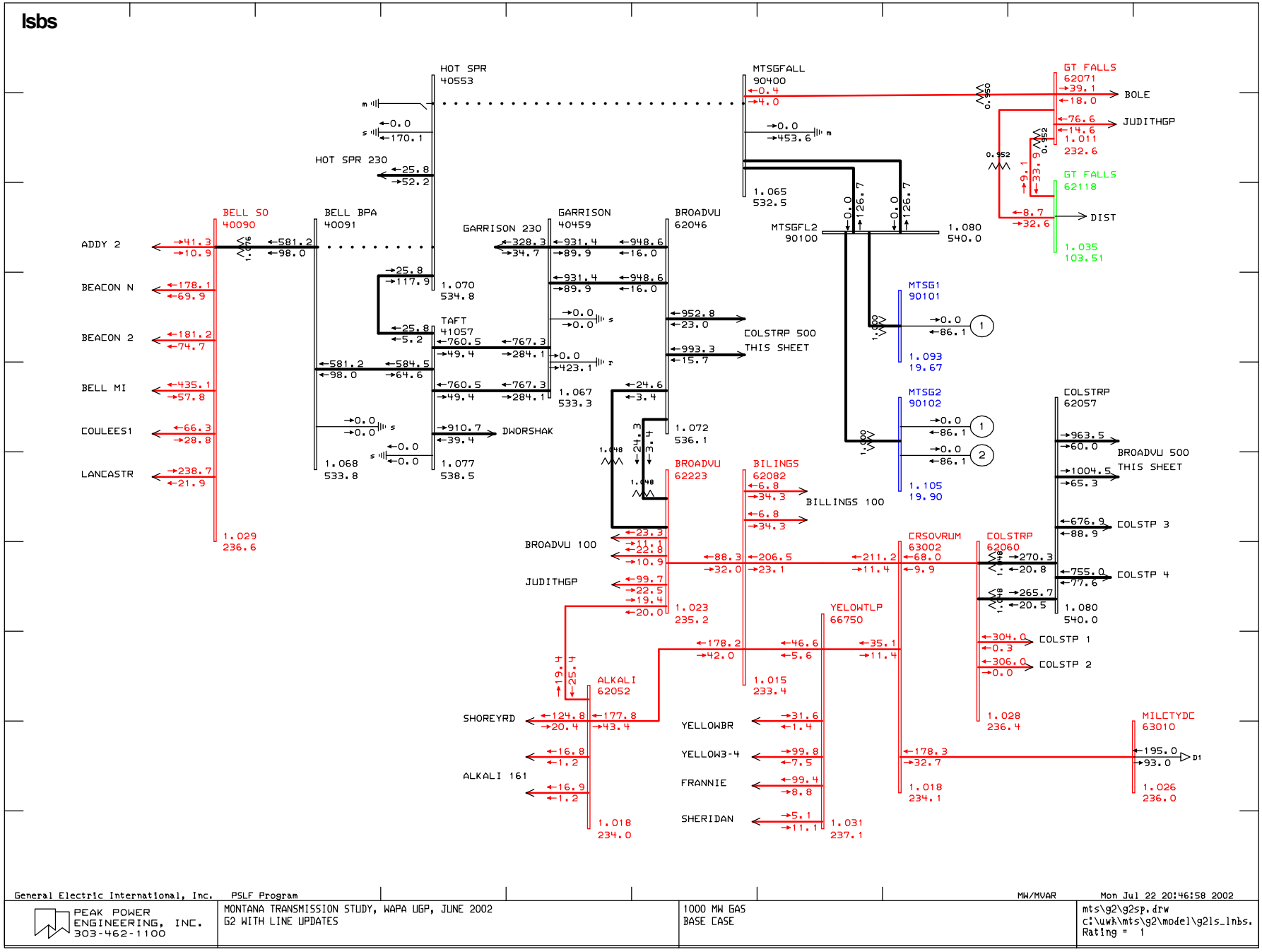
- G1 through G5 - Generator number, synonymous with Project number.
- lsbs - Light Summer Base
- hsbs - Heavy Summer Base
- sp - schedule to Spokane
- slc - schedule to Salt Lake City
- den - schedule to Denver
- lb or let - schedule to N. Lethbridge

Example: A filename or title description containing the string “G1sp_l2” represents Project 1 Line 2 scheduled to Spokane.

Each case includes the following data:

- Power Flow Plots
- Rate Reports
- Voltage Reports
- Area Interchange Summaries
- Area Tie Line Summaries
- Loss Reports

B.1 **lsbs**



General Electric International, Inc. PSLF Program MW/MVAR Mon Jul 22 20:46:58 2002

PEAK POWER ENGINEERING, INC. 303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 WITH LINE UPDATES

1000 MW GAS
BASE CASE

mts\g2\g2sp.drw
c:\uwk\mts\g2\model\g2ls_lnbs.
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------								rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------	loading	
54083	E EDMON9	138	54	55938	STEL TAP	138	54	22	197.9	1.5	197.9	468.6A	169.9	F
54503	STELCOA9	138	54	55938	STEL TAP	138	54	22	-197.3	-0.1	197.3	497.9A	159.8	F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-66.0	-5.3	66.2	45.0M	148.3	T
54506	BELLAMY4	240	54	54518	ARGYLL E	240	54	04	81.2	84.2	117.0	240.6A	134.0	T
54062	BARDO 7	138	54	54065	N HOLDE9	138	54	74	82.0	-53.0	97.7	355.6A	111.9	F
54154	E CALGAR	240	54	54161	SARCEE 4	240	54	16	-91.2	365.6	376.8	801.1A	110.9	T
54681	NEVIS 7	138	54	54823	NEVIS 9	138	54	1	33.2	15.6	36.7	33.3M	110.2	F
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	23.6	83.7	79.0M	106.0	F
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	144.0	-51.7	153.0	156.5M	103.0	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	144.0	-51.7	153.0	156.5M	103.0	T
54290	BALZAC G	138	54	55290	BALZAC 1	14	54	T1	107.1	13.1	107.9	105.0M	102.8	F
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-7.9	29.1	30.0M	100.8	T
54079	MILLAR 7	138	54	55102	MILLARA9	14	54	T2	55.6	29.0	62.7	62.5M	100.4	F

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V12.0
WESTERN SYSTEMS COORDINATING COUNCIL
2002 LS2B APPROVED OPERATING CASE

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54054	LAMOURE4	240	1.1046	54081	METIS644	240	1.1120	54090	BICKERD4	240	1.1205
54103	DEERLAN4	240	1.1029	54121	ELLERSLI	240	1.1124	54126	WABAMUN4	240	1.1072
54128	SUNDANM9	240	1.1080	54129	E EDMON4	240	1.1084	54130	N CALDE4	240	1.1056
54131	N BARRH4	240	1.1049	54150	LANGDON2	500	1.1250	54329	KEEPHIL4	240	1.1222
54441	946/947X	240	1.1124	54505	JASPER 4	240	1.1078	54506	BELLAMY4	240	1.1213
54509	ARGYLL W	240	1.1206	54512	DOME T29	240	1.1119	54513	LAMBTON4	240	1.1090
54514	CLOVERB4	240	1.1050	54518	ARGYLL E	240	1.1201	54519	CASTLTX2	240	1.1045
54521	PETROLIA	240	1.1140	54524	GENESEE4	240	1.1210	54675	PAINTRT7	240	1.1015
54681	NEVIS 7	138	1.1099	54806	946/947N	240	1.1084	54844	709S702T	138	1.1092
54978	EAST IN4	240	1.1085	55891	904AL TP	240	1.1085	55969	770S701T	138	1.1087
51017	KMS230	230	1.1064								

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54003	COLINTO9	138	1.0523	54007	BOYLE 9	138	1.0564	54012	FOX CREE	138	1.0666
54013	KAYBOB 9	138	1.0717	54014	GULF RO9	138	1.0819	54015	MTN COA9	138	1.0653
54016	FLATBUS9	138	1.0542	54017	COLD CR7	138	1.0666	54019	WESGEN T	138	1.0531
54020	EDSON A9	138	1.0624	54021	WESGEN 7	138	1.0556	54054	LAMOURE4	240	1.1046
54069	JARROW 9	138	1.0542	54073	IPPL ST9	138	1.0585	54075	SEDGEWI9	138	1.0508
54076	BUFFALO9	138	1.0545	54077	BIGSTON4	240	1.0949	54078	CHEVRON7	138	1.0717
54081	METIS644	240	1.1120	54082	BICKERD7	138	1.0718	54090	BICKERD4	240	1.1205
54097	BIG HOR9	138	1.0675	54103	DEERLAN4	240	1.1029	54111	SANDHIL7	138	1.0794
54121	ELLERSLI	240	1.1124	54125	SUNDANL9	138	1.0654	54126	WABAMUN4	240	1.1072
54128	SUNDANM9	240	1.1080	54129	E EDMON4	240	1.1084	54130	N CALDE4	240	1.1056
54131	N BARRH4	240	1.1049	54134	DALEHUR9	138	1.0656	54139	GAETZ 4	240	1.0751
54141	HIGHVAL9	138	1.0652	54142	WILLESD4	240	1.0883	54144	RED DEE4	240	1.0671
54147	BENALTO4	240	1.0665	54148	E CROSS4	240	1.0574	54150	LANGDON2	500	1.1250
54153	BRAZEAU4	240	1.0977	54155	SAGITAW4	240	1.0591	54157	PEIGAN 4	240	1.0705
54159	N LETHB4	240	1.0856	54200	848S901T	240	1.0730	54232	PANCAN 9	138	1.0792
54233	DOME EM7	138	1.0794	54258	PLAMOND9	138	1.0551	54259	LAC LA 9	138	1.0996
54260	WINEFRE9	138	1.0966	54269	COALSPU7	138	1.0846	54281	MILO 2	240	1.0684
54285	LEISMER9	240	1.0825	54287	GREGG R9	138	1.0959	54298	ALB NEWS	240	1.0502
54302	MARIONA9	138	1.0652	54308	FLATLK-3	138	1.0559	54325	CHEV KG9	138	1.0717
54326	COAL VA9	138	1.0834	54329	KEEPHIL4	240	1.1222	54335	W BROOK4	240	1.0589
54362	EDGERTO7	138	1.0548	54381	FLATLK-1	138	1.0558	54412	BENBOW 9	138	1.0717
54441	946/947X	240	1.1124	54505	JASPER 4	240	1.1078	54506	BELLAMY4	240	1.1213
54509	ARGYLL W	240	1.1206	54512	DOME T29	240	1.1119	54513	LAMBTON4	240	1.1090
54514	CLOVERB4	240	1.1050	54518	ARGYLL E	240	1.1201	54519	CASTLTX2	240	1.1045
54521	PETROLIA	240	1.1140	54524	GENESEE4	240	1.1210	54557	WESLY C4	240	1.0613
54558	WESLY C7	138	1.0651	54559	CARMON 9	138	1.0630	54560	PEACE/29	138	1.0623
54561	DIASHOW7	138	1.0624	54567	FRIEDEN7	138	1.0537	54571	MERCER 9	138	1.0735
54572	MERC TAP	138	1.0738	54576	CRYST L7	138	1.0749	54578	SADHL TP	138	1.0598
54579	SADDLE 9	138	1.0529	54580	FLYSHT/2	138	1.0630	54581	WAP JCT7	138	1.0513
54584	ALBRIGHT	138	1.0569	54585	P&G 7	138	1.0570	54588	BIG MTN7	138	1.0614
54589	DOME CU7	138	1.0736	54590	BRDGE C7	138	1.0619	54593	DONNELL9	138	1.0661
54594	TAP7L487	138	1.0690	54595	TRIANGL7	138	1.0645	54596	VALLEYV9	138	1.0777
54598	BEZANSON	138	1.0756	54599	L. SMOKY	240	1.0645	54600	L.SMOKY7	138	1.0840
54601	STURGEO7	138	1.0838	54606	SIMONET9	138	1.0843	54607	FOXCRK/2	138	1.0643
54608	GOOSE R9	138	1.0662	54612	RUTH LA7	138	1.0925	54613	RUTH LK7	138	1.0929
54618	PARS CR7	138	1.0897	54619	HANGSTO9	138	1.0871	54621	MITS E.4	240	1.0748
54622	MITS E.7	138	1.0980	54623	AEC MILL	138	1.0970	54624	OTAUWAU7	138	1.0978
54632	LOU CR.4	240	1.0638	54633	LOU CR.7	138	1.0596	54634	SARHLK/2	138	1.0532
54636	ESSO JU7	138	1.0543	54637	MORSE RV	138	1.0548	54639	VIRGINI9	138	1.0521
54643	WOLF LK9	138	1.0698	54646	MARG LK4	240	1.0781	54647	MARG LK7	138	1.0829
54648	LACOREY9	138	1.0806	54649	ETHEL L7	138	1.0671	54652	BONNY 9	138	1.0838
54654	BONN SVC	138	1.0838	54655	WHITFISH	240	1.0951	54656	WHITBY 7	138	1.0841
54657	VILNA 9	138	1.0819	54663	IRISH C9	138	1.0616	54665	BUFALOTP	138	1.0545
54666	VERMILO7	138	1.0596	54670	HILL 9	138	1.0685	54675	PAINTRT7	240	1.1015
54680	NEVIS 4	240	1.0776	54681	NEVIS 7	138	1.1099	54685	3HILLS/3	138	1.0615
54691	MICH. C9	138	1.0997	54693	WINT HI9	138	1.0934	54694	BULLPON9	138	1.0872
54700	MCNEILL	138	1.0795	54701	OYEN 7	138	1.0600	54707	SHEER 14	240	1.0545
54709	ANDERSO4	240	1.0547	54710	ANDERSON	138	1.0846	54711	SHEER 24	240	1.0535
54714	JAROW TP	138	1.0542	54715	BAT. RV7	138	1.0809	54721	BAT RV79	240	1.0990
54723	CORDEL 4	240	1.0990	54729	PRIM TAP	138	1.0650	54730	PRIMROSE	138	1.0710
54798	800S701T	138	1.0612	54802	STURGEO9	138	1.0860	54806	946/947N	240	1.1084
54809	732S901T	240	1.0752	54814	717S701T	138	1.0634	54818	VERMILA9	138	1.0803
54819	TER 70A9	138	1.0630	54822	766S901T	240	1.0624	54823	NEVIS 9	138	1.0747
54827	MONITOR9	138	1.0519	54828	767S701T	138	1.0935	54836	MILNERB9	138	1.0720
54838	848S902T	240	1.0734	54840	732S902T	240	1.0517	54844	709S702T	138	1.1092
54847	BAT RV80	240	1.0990	54962	KAYBOBTP	138	1.0717	54978	EAST IN4	240	1.1085
54983	MARION T	138	1.0653	54984	HIGHVL T	138	1.0652	54988	CROSSF T	240	1.0574
54995	W.GRN TP	240	1.0883	55003	SANDYPT9	138	1.0794	55007	ALGAR-39	138	1.0918
55008	MARIANA7	138	1.0931	55072	SYNC_D04	240	1.0652	55073	AURORA 4	240	1.0698

55117	CLAIR L	138	1.0736	55118	POPLAR 7	138	1.0599	55147	MILNERC9	138	1.0825
55226	WABASCA9	240	1.0677	55260	EMP LIQ7	138	1.0774	55272	FIELDGA9	138	1.0534
55280	BRINTNEL	240	1.0629	55352	GRND CTR	138	1.0684	55367	VEGREVL9	138	1.0539
55515	PRIMROSE	138	1.0563	55820	FICKLE 9	138	1.0675	55891	904AL TP	240	1.1085
55909	DALEH TP	138	1.0656	55910	OBED TAP	138	1.0656	55911	EMPLIQTP	138	1.0779
55912	740L JNC	138	1.0846	55913	G.ROBB T	138	1.0825	55924	CH KGT T	138	1.0717
55943	MILO 1	240	1.0684	55969	770S701T	138	1.1087	50010	COM132	132	1.0509
50016	CKY230	230	1.0520	50020	CMS230	230	1.0500	50036	RBW230	230	1.0582
50037	PEM230	230	1.0614	50038	RBW230-1	230	1.0573	50182	ARN132	132	1.0675
50185	ALZ230	230	1.0610	50186	ROS230	230	1.0718	50187	BRT230	230	1.0684
50188	BUT230	230	1.0500	50190	CBN230	230	1.0531	50191	ROS360	360	1.0530
50192	WAH360	360	1.0535	50193	BRT360	360	1.0500	50313	VIT132	132	1.0704
50314	PVO133	132	1.0699	50315	PVO132	132	1.0703	50316	LDY132	132	1.0524
50318	JPT132	132	1.0715	50319	COC132	132	1.0681	50320	HMC132	132	1.0679
50321	PHY132	132	1.0566	50322	CFT132	132	1.0661	50323	DMR132	132	1.0838
50324	PAL132	132	1.0666	50325	GCL132	132	1.0681	50326	NFD132	132	1.0725
50327	ASH132	132	1.0718	50328	PUN132	132	1.0563	50330	LDR132	132	1.0500
50334	KGH132	132	1.0609	50335	UTA132	132	1.0612	50336	PVL132-2	132	1.0732
50337	LDY122	132	1.0712	50338	CMX132	132	1.0578	50339	PVL132	132	1.0732
50342	SCA132	132	1.0500	50343	KSH132-2	132	1.0732	50344	SHA1	132	1.0715
50345	KSH132	132	1.0726	50346	SHA2	132	1.0757	50347	GOW132	132	1.0862
50348	GTP132	132	1.0901	50349	CLD132	132	1.0940	50350	SOO132	132	1.0954
50351	JOR132	132	1.0991	50352	PML132	132	1.0592	50353	WOS132	132	1.0561
50354	GLSTP17	132	1.0748	50355	GLSTP18	132	1.0719	50356	DND132	132	1.0855
50357	LTZ115	132	1.0713	50358	LTZ116	132	1.0713	50359	JHT132	132	1.0500
50377	LDYTP138	132	1.0526	50381	PVLTP116	132	1.0732	50382	HWDTP122	132	1.0716
50383	LDYTP122	132	1.0712	50385	CMXTP102	132	1.0559	50386	CMXTP101	132	1.0598
50387	PVLTP115	132	1.0732	50390	KSHTP11	132	1.0728	50391	KSHTP14	132	1.0735
50393	SHATP10	132	1.0716	50394	SHATP14	132	1.0757	50395	SALTP17	132	1.0733
50396	SALTP18	132	1.0733	50399	LTZTP115	132	1.0713	50400	LTZTP116	132	1.0713
50403	CMX132-2	132	1.0543	50460	KMO287	287	1.0539	50463	SKA500	500	1.0502
50545	BLW230	230	1.0703	50546	SCK230	230	1.0657	50547	HMH230	230	1.0629
50548	BLM230	230	1.0525	50549	QNT230	230	1.0518	50550	QRP230	230	1.0700
50551	TLR230	230	1.0523	50553	BCR230	230	1.0523	50554	RBF230	230	1.0714
50556	LAP230	230	1.0501	50557	SNK230	230	1.0517	50560	KDS500	500	1.0565
50562	GLN500	500	1.0556	50677	MCK138	138	1.0538	50678	AVO138	138	1.0559
50679	BLU138	138	1.0629	50680	VLM138	138	1.0694	50686	SCO138	138	1.0688
50687	ABA138	138	1.0686	50701	REV500	500	1.0500	50729	PRI138TP	138	1.0687
50782	CBK230	230	1.0502	50783	SEL230	230	1.0534	50785	SEV230	230	1.0519
50786	INV230	230	1.0514	50789	AAL230	230	1.0506	50791	CBK500	500	1.0802
50792	SEL500	500	1.0500	50899	ABA138TP	138	1.0686	50913	HWD132-2	132	1.0694
50914	HWDTP112	132	1.0694	50922	DNDTAP	132	1.0861	50923	HSY-PH	132	1.0904
50924	ESQ-PH	132	1.0855	50928	SCG IPP	132	1.0500	50932	IPH132	132	1.0679
50933	JUL132	132	1.0578	50934	JULTP130	132	1.0609	51017	KMS230	230	1.1064
51019	OYR132B1	132	1.0540	51020	OYR132B2	132	1.0563	51021	OYR T101	132	1.0545
51022	OYR T119	132	1.0570	51024	QLC132B1	132	1.0757	51025	QLC132B2	132	1.0756
51040	ICG132	132	1.0500	51045	ALH230	230	1.0547	51051	PGS132	132	1.0699
51052	PGS-105T	132	1.0699	51053	PGS-114T	132	1.0699	60085	BRIDGER	345	1.0500
60240	MIDPOINT	500	1.0630	62012	TOWN2	500	1.0852	62013	TOWN1	500	1.0852
62033	ANA BPA	115	1.0512	62046	BROADVU	500	1.0706	62053	BROADV&2	500	1.0634
62054	BROADV&1	500	1.0641	62057	COLSTRP	500	1.0800	40045	ALLSTON	500	1.0769
40051	ALVEY	500	1.0813	40061	ASHE	500	1.0800	41184	BALD MT	115	1.0514
40091	BELL BPA	500	1.0511	40111	BIG EDDY	500	1.0803	43049	BOARD F	500	1.0800
47013	BRIDGPRT	115	1.0548	40155	BUCKLEY	500	1.0832	45029	BURNS	500	1.0668
45035	CAPTJACK	500	1.0755	46209	CARMEN	115	1.0524	42315	CASCADEP	115	1.0582
41311	CELILO1	500	1.0801	41312	CELILO2	500	1.0801	40233	CHIEF JO	500	1.0800
42316	CLE ELUM	115	1.0586	40269	CONNEL T	115	1.0510	40271	CONNELL	115	1.0541
40287	COULEE	500	1.0810	40302	COVINGT4	500	1.0770	40306	COVINGT5	500	1.0775
43123	COYOTE	500	1.0834	40323	CUSTER W	500	1.0538	45095	DIXONVLE	500	1.0779
40369	DWORSHAK	500	1.0722	42395	EASTON	115	1.0601	40381	ECHOLAKE	500	1.0825
40451	GAR1EAST	500	1.0817	40453	GAR2EAST	500	1.0817	40459	GARRISON	500	1.0613
40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0725	40499	HANFORD	500	1.0872
47165	HANLY R1	115	1.0509	40517	HATTON T	115	1.0522	40521	HATWAI	500	1.0739
45137	HERMIST	230	1.0509	41212	HILLS CR	115	1.0500	40553	HOT SPR	500	1.0641
42405	HYAK	115	1.0609	40585	JOHN DAY	500	1.0800	40601	KEELER	500	1.0758
45262	KFALLS	500	1.0794	42411	KITTITAS	115	1.0609	40629	LANE	500	1.0717
40665	LIT GOOS	500	1.0805	40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800
40687	MALIN	500	1.0736	40693	MAPLE VL	500	1.0842	40699	MARION	500	1.0807
40711	MCLOUGLN	500	1.0802	40721	MCNARY	345	1.0513	40723	MCNARY	500	1.0815
45197	MERIDINP	500	1.0798	40749	MONROE	500	1.0787	42429	NCLE ELM	115	1.0582
40797	OLYMPIA	500	1.0799	40809	OSTRNDER	500	1.0796	40821	PAUL	500	1.0800
40827	PEARL	500	1.0798	40837	PONDROSA	500	1.0761	40869	RAVER	500	1.0806
40887	RINGOLD	115	1.0500	43485	ROUND BU	500	1.0696	40913	SACJAWEA	500	1.0813
40917	SACJWA T	500	1.0817	40941	SANTIAM	500	1.0804	40949	SATSOP	500	1.0820
40957	SCHULTZ	500	1.0926	40973	SICKLER	500	1.0842	40989	SLATT	500	1.0825
41043	SUMMER L	500	1.0736	45289	SWIFT	230	1.0500	41051	TACOMA	500	1.0815
41057	TAFT	500	1.0697	41095	TROUTDAL	500	1.0825	41103	UNDRWOOD	115	1.0513
41113	VANTAGE	500	1.0905	47099	WELLS	115	1.0623	42467	WOLDALE	115	1.0597
42314	X-POINT	200	1.0597	65510	EMERY	345	1.0500	64074	MILLERS	120	1.0556
64165	SQAW VLY	120	1.0605	64182	SANDIA	120	1.0555	64229	SUMMIT 2	115	1.0507
52226	PRI138	138	1.0696	52229	KER138	138	1.0766	52230	HED138	138	1.0745
52291	DKL138	138	1.0582	52300	LEE138T3	138	1.0580	52301	LEE138T4	138	1.0580

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  52302 LEE138C   138 1.0580    52303 JOR138TP  138 1.0576    52304 DGB138    138 1.0568
  52306 SEX138    138 1.0583    52307 GLE138    138 1.0584    52308 REC138    138 1.0587
  52309 SAU138    138 1.0572    52310 SPR138TP  138 1.0572    52313 HOL138    138 1.0571
  52314 OKM138    138 1.0564    52319 JOR138    138 1.0574    52426 MAS138    138 1.0745
  52809 LEE-T3    230 1.0588    52810 LEE-T4A   230 1.0581    52811 LEE-T4B   230 1.0599
  52812 LEE-T4C   230 1.0585    52813 LEE-T4D   230 1.0586    52815 PRI-T2    138 1.0729


    undervoltage summary < 0.900000
--no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)



    undervoltage summary < 0.950000
--no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)

  54551 RING CK7  138 0.9484    54796 791S701T  138 0.9196    54835 791S702T  138 0.9260
  50781 NTL VR    138 0.9447
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V12.0
WESTERN SYSTEMS COORDINATING COUNCIL
2002 LS2B APPROVED OPERATING CASE

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name	ALBERTA										
	mw	10743.6	6887.3	6274.4	0.0	0.0	0.0	0.0	200.4	412.4	37.5
54	mvar	4941.5	852.3	1997.1	0.0	0.0	-21.7	-1195.6	-19.2	91.8	20.4
area name	B.C.HYDRO										
	mw	14043.0	8254.7	6035.1	0.0	0.0	0.0	0.0	1799.8	419.8	260.9
50	mvar	6475.0	225.2	2359.8	0.0	0.0	2924.0	2703.5	-386.1	-7376.0	1.1
area name	IDAHO										
	mw	4676.4	3192.7	1955.0	0.0	0.0	0.0	0.0	1066.3	171.4	177.3
60	mvar	2192.5	558.8	501.3	0.0	0.0	-96.2	0.0	-377.3	531.0	25.7
area name	MONTANA										
	mw	3502.2	3004.4	1207.7	0.0	0.0	0.4	0.0	1700.6	95.7	736.4
62	mvar	1309.0	404.9	524.8	0.0	0.0	-121.3	26.4	-444.0	419.0	152.8
area name	NORTHWEST										
	mw	43404.3	17473.9	16651.6	0.0	0.0	0.0	0.0	253.5	568.8	579.5
40	mvar	15534.6	198.7	5157.0	0.0	0.0	-1726.4	2143.4	1169.1	-6544.3	-308.9
area name	PACE										
	mw	6242.0	5528.2	4750.0	0.0	0.0	0.0	0.0	589.7	188.5	77.2
65	mvar	3201.9	530.2	1528.0	0.0	0.0	-528.2	0.0	-173.8	-295.8	12.6
area name	PSCOLORADO										
	mw	5792.0	4234.7	4858.1	0.0	0.0	0.0	0.0	-744.4	121.0	102.7
70	mvar	3667.3	621.6	1835.0	0.0	0.0	0.0	-1397.7	49.8	134.4	3.8
area name	SIERRA										
	mw	1901.7	1069.7	1075.2	0.0	0.0	0.0	0.0	-36.3	30.8	99.7
64	mvar	925.4	-25.6	280.4	0.0	0.0	-158.5	73.9	16.2	-237.5	7.8
area name	W KOOTENAY										
	mw	763.5	498.0	486.1	0.0	0.0	0.0	0.0	0.4	11.5	98.0
52	mvar	450.0	8.4	160.7	0.0	0.0	-79.2	-71.9	-8.8	7.6	-3.5
area name	WAPA R.M.										
	mw	6091.6	3956.3	2784.2	0.0	0.0	0.0	0.0	1050.4	121.7	411.4
73	mvar	2883.8	-184.9	950.8	0.0	0.0	-299.3	-177.1	-206.0	-453.5	16.2
area name	WAPA U.M.										
	mw	61.8	28.9	-120.2	0.0	0.0	0.0	0.0	140.8	8.3	28.9
63	mvar	34.0	1.8	117.5	0.0	0.0	-79.0	4.5	-5.8	-35.4	1.8
TOTL	mw	97222.1	54128.8	45957.1	0.0	0.0	0.4	0.0	6021.3	2150.0	
	mvar	41615.0	3191.5	15412.5	0.0	0.0	-185.8	2109.5	-386.0	-13758.7	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	200.4	-19.2
TOTAL		200.4	-19.2

FROM AREA	50 B.C.HYDRO	mw	mvar
TO AREA	54 ALBERTA	-200.4	19.2
TO AREA	40 NORTHWEST	2000.7	-414.2
TO AREA	52 W KOOTENAY	-0.4	8.8
TOTAL		1799.8	-386.1
FROM AREA	60 IDAHO	mw	mvar
TO AREA	40 NORTHWEST	948.9	-336.3
TO AREA	65 PACE	249.9	-23.4
TO AREA	64 SIERRA	-132.6	-17.5
TOTAL		1066.3	-377.3
FROM AREA	62 MONTANA	mw	mvar
TO AREA	40 NORTHWEST	1784.2	-451.3
TO AREA	65 PACE	21.7	4.7
TO AREA	63 WAPA U.M.	-105.3	2.6
TOTAL		1700.6	-444.0
FROM AREA	40 NORTHWEST	mw	mvar
TO AREA	50 B.C.HYDRO	-2000.7	414.2
TO AREA	60 IDAHO	-948.9	336.3
TO AREA	26 LADWP	1956.0	411.8
TO AREA	62 MONTANA	-1784.2	451.3
TO AREA	30 PG AND E	2897.8	-424.5
TO AREA	64 SIERRA	133.4	-20.1
TOTAL		253.5	1169.1
FROM AREA	65 PACE	mw	mvar
TO AREA	14 ARIZONA	270.5	36.8
TO AREA	60 IDAHO	-249.9	23.4
TO AREA	26 LADWP	66.9	-133.0
TO AREA	62 MONTANA	-21.7	-4.7
TO AREA	18 NEVADA	154.8	-81.3
TO AREA	64 SIERRA	23.7	9.1
TO AREA	19 WAPA L.C.	177.1	-26.4
TO AREA	73 WAPA R.M.	168.4	2.3
TOTAL		589.7	-173.8
FROM AREA	70 PSCOLORADO	mw	mvar
TO AREA	73 WAPA R.M.	-744.4	49.8
TOTAL		-744.4	49.8
FROM AREA	64 SIERRA	mw	mvar
TO AREA	60 IDAHO	132.6	17.5
TO AREA	26 LADWP	-30.7	6.3
TO AREA	40 NORTHWEST	-133.4	20.1
TO AREA	65 PACE	-23.7	-9.1
TO AREA	30 PG AND E	6.2	-15.5
TO AREA	24 SOCALIF	12.9	-3.1
TOTAL		-36.3	16.2
FROM AREA	52 W KOOTENAY	mw	mvar
TO AREA	50 B.C.HYDRO	0.4	-8.8
TOTAL		0.4	-8.8
FROM AREA	73 WAPA R.M.	mw	mvar
TO AREA	10 NEW MEXICO	334.8	-92.9
TO AREA	65 PACE	-168.4	-2.3
TO AREA	70 PSCOLORADO	744.4	-49.8
TO AREA	19 WAPA L.C.	175.1	-64.2
TO AREA	63 WAPA U.M.	-35.5	3.2

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  TOTAL                                          1050.4     -206.0

FROM AREA   63 WAPA U.M.                           mw        mvar
  TO AREA   62 MONTANA                           105.3       -2.6
  TO AREA   73 WAPA R.M.                          35.5       -3.2
  TOTAL                                          140.8       -5.8
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AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V12.0
WESTERN SYSTEMS COORDINATING COUNCIL
2002 LS2B APPROVED OPERATING CASE

--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
54150	LANGDON2	500	50791	CBK500	500	1	193.16	4.17	f
54205	COLEMAN7	138	50776	NTL138	138	1	6.34	-20.67	t
54273	POCATER7	138	50830	FRO T274	138	1	0.92	-2.70	t
from area 54 to area 50 B.C.HYDRO							200.41	-19.20	
Total from area 54 ALBERTA							200.41	-19.20	

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
62004	ANACOND	230	40457	GARRISON	230	1	-80.48	6.94	f
62004	ANACOND	230	40457	GARRISON	230	2	-87.58	3.85	f
62009	RATTLE S	161	40867	RATTLE S	230	1	-63.16	-22.36	t
62012	TOWN2	500	40453	GAR2EAST	500	2	930.26	-199.40	t
62013	TOWN1	500	40451	GAR1EAST	500	1	930.26	-199.40	t
62066	KERR	115	40391	ELMO	115	1	15.82	-22.16	f
62072	OVANDO	230	40457	GARRISON	230	1	-48.80	11.23	t
62072	OVANDO	230	40551	HOT SPR	230	1	94.14	6.41	t
62085	CROWCR B	115	48055	BURKAVAB	115	1	45.54	-18.10	t
62086	THOMSON	115	48053	BURKAVAA	115	1	48.17	-18.31	t
from area 62 to area 40 NORTHWEST							1784.16	-451.31	
62030	PTRSNFLT	230	65025	AMPS	230	1	69.42	12.47	t
62045	BLGS PHA	230	66750	YELOWTLP	230	1	-46.01	-5.99	t
62061	RMRK PHA	161	66755	YELOWTLP	161	1	-22.96	-5.87	f
62084	DILLON S	161	65155	BIGGRASS	161	1	21.27	4.09	t
from area 62 to area 65 PACE							21.71	4.70	
62023	GT FALLS	161	63008	HAVRE	161	1	18.48	-10.61	f
62024	RAINBOW	161	63015	VERONA	161	1	16.74	-10.83	f
62027	SHELBY	115	63014	TIBERTAP	115	1	2.16	0.14	f
62051	HARDIN	230	63002	CRSOVRUM	230	1	69.16	16.54	t
62056	HUNTLEY	230	63002	CRSOVRUM	230	1	-211.84	7.35	t
from area 62 to area 63 WAPA U.M.							-105.30	2.58	
Total from area 62 MONTANA							1700.57	-444.02	

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
40145	BOUNDARY	230	50822	NLYPHS	230	1	-239.74	2.37	f
40323	CUSTER W	500	50194	ING500	500	1	-887.85	207.14	t
40323	CUSTER W	500	50194	ING500	500	2	-873.08	204.67	t
from area 40 to area 50 B.C.HYDRO							-2000.67	414.18	
45029	BURNS	500	60240	MIDPOINT	500	1	-995.66	360.71	t
45103	ENTERPRS	230	60150	HELLSCYN	230	1	-19.06	-13.65	f
40507	HARNEY	115	61826	HINES	115	1	-15.61	10.68	f
40621	LAGRANDE	230	60192	LADD	230	1	9.25	-10.91	f
48197	LOLO	230	60278	IMNAHA	230	1	72.13	-10.49	t
from area 40 to area 60 IDAHO							-948.94	336.34	
41311	CELILO1	500	26097	SYLMAR1	230	1	388.82	62.88	f
41313	CELILO3	230	26098	SYLMAR3	230	1	589.18	142.96	f
41312	CELILO2	500	26099	SYLMAR2	230	1	388.82	62.86	f
41314	CELILO4	230	26100	SYLMAR4	230	1	589.18	143.08	f
from area 40 to area 26 LADWP							1956.00	411.78	
48053	BURKAVAA	115	62086	THOMSON	115	1	-48.17	18.31	f
48055	BURKAVAB	115	62085	CROWCR B	115	1	-45.54	18.10	f
40391	ELMO	115	62066	KERR	115	1	-15.82	22.16	t
40451	GAR1EAST	500	62013	TOWN1	500	1	-930.26	199.40	f
40453	GAR2EAST	500	62012	TOWN2	500	2	-930.26	199.40	f
40457	GARRISON	230	62072	OVANDO	230	1	48.80	-11.23	f
40457	GARRISON	230	62004	ANACOND	230	1	80.48	-6.94	t
40457	GARRISON	230	62004	ANACOND	230	2	87.58	-3.85	t
40551	HOT SPR	230	62072	OVANDO	230	1	-94.14	-6.41	f
40867	RATTLE S	230	62009	RATTLE S	161	1	63.16	22.36	f
from area 40 to area 62 MONTANA							-1784.16	451.31	
45035	CAPTJACK	500	30020	OLINDA	500	1	1067.90	-144.52	f
45087	DELTA	115	31468	CASCADE	115	1	71.13	-19.39	f
40687	MALIN	500	30005	ROUND MT	500	1	875.77	-122.30	f
40687	MALIN	500	30005	ROUND MT	500	2	883.03	-138.25	f

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from area  40 to area  30 PG AND E                              2897.83   -424.45

   40537 HIL TOP   230        64058 HIL TOP   345  1             133.44    -20.10   f
from area  40 to area  64 SIERRA                                 133.44    -20.10

Total from area  40 NORTHWEST                                    253.50   1169.05

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1             270.45     36.79   t
from area  65 to area  14 ARIZONA                                270.45     36.79

   65075 ANTLOPE   230        60073 BRADY     230  1              35.55    -19.18   f
   65135 BENLOMND  345        60060 BORAH     345  1             -10.57     94.46   t
   65220 BRIDGER   230        60085 BRIDGER   345  1              -5.29     -4.20   t
   65220 BRIDGER   230        60085 BRIDGER   345  2              -5.38     -4.27   t
   65220 BRIDGER   230        60085 BRIDGER   345  3              -5.29     -4.20   t
   65665 GOSHEN    345        60085 BRIDGER   345  1            -606.31    -57.46   f
   65665 GOSHEN    345        60190 KINPORT   345  1             306.99      2.16   t
   65670 GOSHEN    161        60030 BLACKFT   161  1              81.95     -2.31   f
   65920 MALAD     138        60020 AMFLS     138  1             -19.95      0.72   t
   66565 TREASTON  230        60073 BRADY     230  1             -21.63     17.73   t
from area  65 to area  60 IDAHO                                 -249.93     23.45

   65995 MONA      345        26043 INTERMT   345  1              33.46    -66.48   f
   65995 MONA      345        26043 INTERMT   345  2              33.46    -66.48   f
from area  65 to area  26 LADWP                                   66.93   -132.96

   65025 AMPS      230        62030 PTRSNFLT  230  1             -69.42    -12.47   f
   65155 BIGGRASS  161        62084 DILLON S  161  1             -21.27     -4.09   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1              46.01      5.99   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1              22.96      5.87   t
from area  65 to area  62 MONTANA                                -21.71     -4.70

   66280 REDBUTTE  345        18002 HA PS     345  1             154.76    -81.31   f
from area  65 to area  18 NEVADA                                 154.76    -81.31

   66210 PAVANT    230        64124 UTAH-NEV  230  1              23.74      9.12   t
from area  65 to area  64 SIERRA                                  23.74      9.12

   66355 SIGURDPS  230        79031 GLENCANY  230  1             177.11    -26.45   t
from area  65 to area  19 WAPA L.C.                              177.11    -26.45

   65060 ANT MINE  230        73276 TEKLA     230  1              36.54     12.75   f
   65085 ASHLEY    138        79067 VERNAL    138  1             -47.98      5.37   t
   65192 BONANZA   138        79067 VERNAL    138  1              48.34     -2.78   t
   65193 BONANZA   345        79005 BEARS     345  1            -187.44    -11.13   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1             -38.85     -0.18   f
   65305 CASPERPP  115        73042 CASPERLM  115  1              -0.02     -8.25   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1              84.19    -20.15   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1              88.41    -18.23   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1              70.85     -2.91   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1              80.84     -0.09   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1             -52.19      9.17   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2             -52.19      9.17   f
   66278 RANGELY   138        79001 ARTESIA   138  1              -5.64     -6.18   f
   66278 RANGELY   138        79046 MEEKER    138  1              18.46     -4.80   f
   66305 RIVERTON  230        73170 RIVERTON  115  1               4.60      5.21   f
   66535 THERMOPL  230        73197 THERMOPL  115  1               2.59      5.93   t
   66540 THERPACE  115        73197 THERMOPL  115  1               6.82      4.38   t
   66720 WORLAND   115        73222 WORLANTP  115  1              -5.56      4.25   t
   66725 WYODAK    230        73148 OSAGE     230  1             102.62    -11.96   t
   66725 WYODAK    230        73168 RENO      230  1              54.09     -0.83   f
   66725 WYODAK    230        73294 HUGHES    230  1             107.11     -2.53   f
   66725 WYODAK    230        73282 WYODAK     69  1              11.61     13.90   f
   66725 WYODAK    230        73282 WYODAK     69  2               7.85      9.40   f
   66725 WYODAK    230        74016 WYGEN      14  1               0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1            -166.68     12.77   t
from area  65 to area  73 WAPA R.M.                              168.39      2.27

Total from area  65 PACE                                         589.73   -173.79

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   70005 BRUSHCPP  115        73013 B.CK PS   115  1              42.00      2.48   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2              44.57      4.60   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1             -11.50     -1.10   f
   70122 COMANCHE  230        73477 FULLER    230  1              85.18     16.97   t
   70139 DANIELPK  230        73477 FULLER    230  1             -23.06      2.09   t
   70193 FTN VALL  115        73412 MIDWAYBR  115  1              11.71     -5.84   t
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70205	GRANDJCT	230	79036	GRANDJCT	345	1	-21.68	-12.02	f
70256	LAPORTPS	115	73105	LAPORTE	115	1	-13.32	-5.91	t
70274	MALTA	230	73138	MT.ELBRT	230	1	-69.85	6.78	f
70285	MIDWAYPS	115	73412	MIDWAYBR	115	1	20.22	-43.14	f
70286	MIDWAYPS	230	73413	MIDWAYBR	230	1	152.43	51.05	t
70287	MILL	115	73296	FRASER	115	1	-35.27	5.40	f
70308	PALMER	115	73414	MONUMENT	115	1	-14.44	3.39	t
70311	PAWNEE	230	73192	STORY	230	1	-88.07	-29.76	t
70327	PONCHA	115	79037	GUNNISON	115	1	-3.83	4.19	f
70350	RAWHIDE	24	73165	RAWHIDE	230	1	262.21	33.58	t
70358	RIFLE PS	230	79059	RIFLE WA	230	1	-67.89	27.21	f
70358	RIFLE PS	230	79250	AMATLAS	230	1	-49.95	-13.05	f
70375	SAN LUIS	230	79054	PONCHABR	230	1	-60.01	13.25	t
70410	ST.VRAIN	230	73116	LONGPEAK	230	1	-30.82	32.07	f
70470	WELD PS	115	73211	WELD LM	115	1	-16.11	122.25	f
70471	WELD PS	230	73212	WELD LM	230	1	-272.04	-84.74	f
70474	WINDSOR	230	73011	AULT	230	1	-223.63	-11.97	t
70476	WOODLAND	115	73400	EMIL AND	115	1	11.49	-0.05	f
70525	MTHARRIS	138	79038	HAYDEN	138	1	-5.59	-1.05	t
79033	GOREPASS	230	79039	HAYDEN	230	1	-188.03	-0.69	t
79033	GOREPASS	230	73072	GOREPASS	138	1	-3.11	5.45	f
79034	GRANDJCT	115	79048	MONTROSE	115	1	29.82	-6.64	t
79056	RIFLE CU	138	79046	MEEKER	138	1	-44.03	0.67	f
79057	RIFLE CU	230	79059	RIFLE WA	230	1	1.18	-52.22	t
79058	RIFLE CU	345	79014	CRAIG	345	1	-399.54	-18.61	f
79058	RIFLE CU	345	79036	GRANDJCT	345	1	393.86	18.81	f
79091	WOLCOTTP	230	79039	HAYDEN	230	1	-151.73	6.59	f
79173	COLBRAN	115	79174	MOLINA-L	115	1	0.00	-0.53	f
70351	RAWHIDEA	14	73165	RAWHIDE	230	1	0.00	0.00	t
70550	W CANON	115	73551	W CANON	230	1	-5.58	-19.68	t
from area 70 to area 73 WAPA R.M.							-744.38	49.82	
Total from area 70 PSCOLORADO							-744.38	49.82	

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
79060	SANJN PS	345	10292	SAN_JUAN	345	1	334.78	-92.93	t
from area 73 to area 10 NEW MEXICO							334.78	-92.93	
73042	CASPERLM	115	65305	CASPERPP	115	1	0.02	8.25	f
73070	GLENRCKN	115	65425	DAVEJOHN	115	1	-70.85	2.91	t
73071	GLENRCKS	115	65425	DAVEJOHN	115	1	-80.84	0.09	t
73107	LAR.RIVR	230	65420	DAVEJOHN	230	1	-84.19	20.15	t
73148	OSAGE	230	66725	WYODAK	230	1	-102.62	11.96	f
73167	REFNRYTP	115	65305	CASPERPP	115	1	38.85	0.18	t
73168	RENO	230	66725	WYODAK	230	1	-54.09	0.83	t
73170	RIVERTON	115	66305	RIVERTON	230	1	-4.60	-5.21	t
73190	STEGALL	230	65420	DAVEJOHN	230	1	-88.41	18.23	t
73197	THERMOPL	115	66540	THERPACE	115	1	-6.82	-4.38	f
73197	THERMOPL	115	66535	THERMOPL	230	1	-2.59	-5.93	f
73222	WORLANTP	115	66720	WORLAND	115	1	5.56	-4.25	f
73229	YELLOWBR	230	66750	YELOWTLP	230	1	166.68	-12.77	f
73276	TEKLA	230	65060	ANT MINE	230	1	-36.54	-12.75	t
73282	WYODAK	69	66725	WYODAK	230	1	-11.61	-13.90	t
73282	WYODAK	69	66725	WYODAK	230	2	-7.85	-9.40	t
73294	HUGHES	230	66725	WYODAK	230	1	-107.11	2.53	t
79001	ARTESIA	138	66278	RANGELY	138	1	5.64	6.18	t
79005	BEARS	345	65193	BONANZA	345	1	187.44	11.13	t
79026	FLAMGORG	138	65565	FLAMGORG	230	1	52.19	-9.17	t
79026	FLAMGORG	138	65565	FLAMGORG	230	2	52.19	-9.17	t
79046	MEEKER	138	66278	RANGELY	138	1	-18.46	4.80	t
79067	VERNAL	138	65085	ASHLEY	138	1	47.98	-5.37	f
79067	VERNAL	138	65192	BONANZA	138	1	-48.34	2.78	f
74016	WYGEN	14	66725	WYODAK	230	1	0.00	0.00	t
from area 73 to area 65 PACE							-168.39	-2.27	
73011	AULT	230	70474	WINDSOR	230	1	223.63	11.97	f
73013	B.CK PS	115	70005	BRUSHCPP	115	1	-42.00	-2.48	t
73013	B.CK PS	115	70005	BRUSHCPP	115	2	-44.57	-4.60	t
73044	COBBLKTP	115	70116	COBBLAKE	115	1	11.50	1.10	t
73072	GOREPASS	138	79033	GOREPASS	230	1	3.11	-5.45	t
73105	LAPORTE	115	70256	LAPORTPS	115	1	13.32	5.91	f
73116	LONGPEAK	230	70410	ST.VRAIN	230	1	30.82	-32.07	t
73138	MT.ELBRT	230	70274	MALTA	230	1	69.85	-6.78	t
73165	RAWHIDE	230	70350	RAWHIDE	24	1	-262.21	-33.58	f
73165	RAWHIDE	230	70351	RAWHIDEA	14	1	-0.00	-0.00	f
73192	STORY	230	70311	PAWNEE	230	1	88.07	29.76	f
73211	WELD LM	115	70470	WELD PS	115	1	16.11	-122.25	t
73212	WELD LM	230	70471	WELD PS	230	1	272.04	84.74	t
73296	FRASER	115	70287	MILL	115	1	35.27	-5.40	t
73400	EMIL AND	115	70476	WOODLAND	115	1	-11.49	0.05	t

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   73412 MIDWAYBR  115        70193 FTN VALL  115  1            -11.71      5.84   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1            -20.22     43.14   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1           -152.43    -51.05   f
   73414 MONUMENT  115        70308 PALMER    115  1             14.44     -3.39   f
   73477 FULLER    230        70122 COMANCHE  230  1            -85.18    -16.97   f
   73477 FULLER    230        70139 DANIELPK  230  1             23.06     -2.09   f
   79014 CRAIG     345        79058 RIFLE CU  345  1            399.54     18.61   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1           -393.86    -18.81   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1             21.68     12.02   t
   79037 GUNNISON  115        70327 PONCHA    115  1              3.83     -4.19   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1              5.59      1.05   f
   79039 HAYDEN    230        79033 GOREPASS  230  1            188.03      0.69   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1            151.73     -6.59   t
   79046 MEEKER    138        79056 RIFLE CU  138  1             44.03     -0.67   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1            -29.82      6.64   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1             60.01    -13.25   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1             67.89    -27.21   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1             -1.18     52.22   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1             -0.00      0.53   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1             49.95     13.05   t
   73551 W CANON   230        70550 W CANON   115  1              5.58     19.68   f
from area  73 to area  70 PSCOLORADO                            744.38    -49.82

   79061 SHIP PS   230        79063 SHIPROCK  230  1            149.59    -43.11   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1             25.56    -21.05   t
from area  73 to area  19 WAPA L.C.                             175.14    -64.16

   73229 YELLOWBR  230        63001 CROS PHA  230  1            -35.48      3.23   f
from area  73 to area  63 WAPA U.M.                             -35.48      3.23

Total from area  73 WAPA R.M.                                  1050.44   -205.95

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1            -69.16    -16.54   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1            211.84     -7.35   f
   63008 HAVRE     161        62023 GT FALLS  161  1            -18.48     10.61   t
   63014 TIBERTAP  115        62027 SHELBY    115  1             -2.16     -0.14   t
   63015 VERONA    161        62024 RAINBOW   161  1            -16.74     10.83   t
from area  63 to area  62 MONTANA                               105.30     -2.58

   63001 CROS PHA  230        73229 YELLOWBR  230  1             35.48     -3.23   t
from area  63 to area  73 WAPA R.M.                              35.48     -3.23

Total from area  63 WAPA U.M.                                   140.78     -5.81
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WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Summation of selected system

	-----MW----	----MVAR---		
Generation	54128.789	3025.492	Generators	2550
Actual Load	45957.066	15412.540	Loads	6811
Net actual shunt	0.405	-185.823	Shunts	1294
Net actual svd	0.000	2107.439	Svd	587
Loss	2150.197	-13922.676	Buses	13159
			Lines	10964
			Transformers	5120
MVA-miles	4534994.0	1050228.6	DC buses	6
Miles	46968.402		DC converters	10
			DC lines	3

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	6887.254	852.430	Generators	136
Actual Load	6274.402	1997.100	Loads	517
Net actual shunt	0.000	-21.744	Shunts	9
Net actual svd	0.000	-1195.581	Svd	76
Net Interchange	200.408	-19.199	Buses	989
Sched Interchange	200.000		Lines	782
Loss	412.444	91.859	Transformers	406
MVA-miles	1164695.4	291562.3	DC buses	0
Miles	18668.695		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.466	19.090		
Loss at 13.80 Kv	3.240	76.348		
Loss at 14.40 Kv	0.440	14.459		
Loss at 25.00 Kv	1.465	16.921		
Loss at 34.00 Kv	0.046	0.759		
Loss at 69.00 Kv	14.504	-22.349		
Loss at 138.00 Kv	157.645	-309.209		
Loss at 240.00 Kv	217.491	-426.238		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	16.147	722.078		
Largest mismatch MVA	0.0084	0.0499		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	8254.719	225.159	Generators	106
Actual Load	6035.052	2359.838	Loads	395
Net actual shunt	0.000	2924.022	Shunts	104
Net actual svd	0.000	2703.485	Svd	125
Net Interchange	1799.825	-386.142	Buses	1054
Sched Interchange	1800.000		Lines	719
Loss	419.843	-7376.047	Transformers	644
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.045	1.966		
Loss at 13.80 Kv	6.690	399.883		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.301	0.082		
Loss at 132.00 Kv	25.089	36.375		
Loss at 138.00 Kv	11.037	-136.497		
Loss at 230.00 Kv	39.633	-770.071		
Loss at 500.00 Kv	290.678	-7381.497		
Loss at other Kv	46.369	473.712		
Largest mismatch MVA	0.0337	0.0390		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	3192.674	558.774	Generators	49
Actual Load	1955.000	501.300	Loads	64
Net actual shunt	0.000	-96.193	Shunts	2
Net actual svd	0.000	0.000	Svd	0
Net Interchange	1066.273	-377.224	Buses	156
Sched Interchange	1066.000		Lines	120
Loss	171.401	530.889	Transformers	96
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.271	5.817		
Loss at 13.80 Kv	1.166	43.754		
Loss at 14.40 Kv	0.390	15.211		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.913	81.895		
Loss at 115.00 Kv	0.434	0.343		
Loss at 138.00 Kv	14.241	-58.646		
Loss at 161.00 Kv	1.197	0.908		
Loss at 230.00 Kv	15.301	-301.093		
Loss at 345.00 Kv	132.482	579.176		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	5.007	163.526		
Largest mismatch MVA	0.0071	0.0083		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	3004.414	236.578	Generators	22
Actual Load	1207.745	524.807	Loads	200
Net actual shunt	0.405	-121.249	Shunts	56
Net actual svd	0.000	26.439	Svd	11
Net Interchange	1700.345	-448.191	Buses	310
Sched Interchange	1701.000		Lines	317
Loss	95.919	254.774	Transformers	89
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.000	39.319		
Loss at 69.00 Kv	0.539	1.671		
Loss at 100.00 Kv	12.469	-55.300		
Loss at 115.00 Kv	2.839	-16.732		
Loss at 161.00 Kv	9.961	-96.772		
Loss at 230.00 Kv	12.995	-182.797		
Loss at 500.00 Kv	56.492	381.151		
Loss at other Kv	0.625	184.233		
Largest mismatch MVA	0.0038	0.0158		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	17473.885	199.058	Generators	290
Actual Load	16651.566	5157.048	Loads	1663
Net actual shunt	0.000	-1726.490	Shunts	46
Net actual svd	0.000	2143.414	Svd	163
Net Interchange	253.510	1169.405	Buses	2740
Sched Interchange	253.000		Lines	2709
Loss	568.792	-6544.327	Transformers	632
MVA-miles	2866149.5	635845.3	DC buses	4
Miles	18402.309		DC converters	4
			DC lines	2
Loss at 11.00 Kv	-0.000	0.223		
Loss at 13.20 Kv	0.000	2.267		
Loss at 13.80 Kv	4.466	150.383		
Loss at 14.40 Kv	-0.000	0.000		
Loss at 25.00 Kv	3.293	174.030		
Loss at 34.50 Kv	0.069	-0.965		
Loss at 69.00 Kv	7.427	2.567		
Loss at 100.00 Kv	0.120	-0.323		
Loss at 115.00 Kv	126.826	-36.380		
Loss at 230.00 Kv	137.422	-744.993		
Loss at 345.00 Kv	7.065	-312.695		

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Loss at 500.00 Kv         221.623    -6635.248
Loss at other Kv           60.479      856.816

Largest mismatch MVA       0.0240       0.0529

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area  65 [PACE                           ]

                      -----MW----  ----MVAR---
Generation               5528.244      530.654        Generators           53
Actual Load              4749.998     1528.040        Loads               273
Net actual shunt            0.000     -528.263        Shunts               51
Net actual svd              0.000        0.000        Svd                   2
Net Interchange           589.741     -173.419        Buses               564
Sched Interchange         590.300                     Lines               408
Loss                      188.505     -295.706        Transformers        336

MVA-miles                     3.4          1.1        DC buses              0
Miles                       1.900                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           0.819       22.935
Loss at  34.50 Kv           1.010        7.109
Loss at  46.00 Kv           3.908       70.489
Loss at  69.00 Kv           0.728        8.212
Loss at 100.00 Kv           0.017        0.583
Loss at 115.00 Kv           2.786       -8.588
Loss at 138.00 Kv          40.604       35.466
Loss at 161.00 Kv           7.688      -26.374
Loss at 230.00 Kv          63.918     -105.762
Loss at 345.00 Kv          64.589     -358.180
Loss at other Kv            2.440       58.404

Largest mismatch MVA       0.0273       0.0779

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area  70 [PSCOLORADO                     ]

                      -----MW----  ----MVAR---
Generation               4234.680      621.565        Generators           46
Actual Load              4858.050     1835.016        Loads               358
Net actual shunt            0.000        0.000        Shunts                0
Net actual svd              0.000    -1397.656        Svd                  43
Net Interchange          -744.395       49.817        Buses               500
Sched Interchange        -743.800                     Lines               461
Loss                      121.026      134.431        Transformers        147

MVA-miles                 22717.3       6310.8        DC buses              0
Miles                     564.500                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           2.115       74.404
Loss at  14.40 Kv           0.081        0.808
Loss at  25.00 Kv           0.013        0.166
Loss at  46.00 Kv           0.190        0.001
Loss at  69.00 Kv           3.820      -11.984
Loss at 100.00 Kv           0.007       -0.105
Loss at 115.00 Kv          21.169     -103.917
Loss at 138.00 Kv           0.647       -3.754
Loss at 230.00 Kv          85.921      -46.552
Loss at 345.00 Kv           0.000        0.004
Loss at other Kv            7.063      225.361

Largest mismatch MVA       0.0098       0.0537

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area  64 [SIERRA                         ]

                      -----MW----  ----MVAR---
Generation               1069.690      -25.558        Generators           19
Actual Load              1075.167      280.355        Loads               115
Net actual shunt            0.000     -158.467        Shunts               23
Net actual svd              0.000       73.889        Svd                   5
Net Interchange           -36.245       16.165        Buses               275
Sched Interchange         -36.000                     Lines               197
Loss                       30.770     -237.521        Transformers        117

MVA-miles                 51756.4      28302.4        DC buses              0
```

Miles	1042.600		DC converters	0
			DC lines	0
Loss at 13.80 Kv	1.784	32.653		
Loss at 69.00 Kv	0.000	0.000		
Loss at 115.00 Kv	0.298	-7.513		
Loss at 230.00 Kv	0.902	-112.910		
Loss at 345.00 Kv	7.224	-180.866		
Loss at other Kv	20.563	31.115		
Largest mismatch MVA	0.0106	0.0203		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 52 [W KOOTENAY]

	-----MW----	----MVAR---		
Generation	498.040	8.446	Generators	18
Actual Load	486.100	160.700	Loads	65
Net actual shunt	0.000	-79.194	Shunts	27
Net actual svd	0.000	-71.873	Svd	4
Net Interchange	0.430	-8.836	Buses	260
Sched Interchange	0.000		Lines	166
Loss	11.510	7.649	Transformers	116
MVA-miles	18675.5	6123.0	DC buses	0
Miles	1005.200		DC converters	0
			DC lines	0
Loss at 13.20 Kv	-0.000	9.145		
Loss at 13.80 Kv	0.000	0.000		
Loss at 14.40 Kv	0.000	21.896		
Loss at 25.00 Kv	0.000	0.000		
Loss at 138.00 Kv	0.104	-8.447		
Loss at 161.00 Kv	2.006	-19.726		
Loss at 230.00 Kv	0.710	-19.318		
Loss at other Kv	8.690	24.098		
Largest mismatch MVA	0.0025	0.0087		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

Area 73 [WAPA R.M.]

	-----MW----	----MVAR---		
Generation	3956.307	-183.442	Generators	74
Actual Load	2784.180	950.836	Loads	356
Net actual shunt	0.000	-299.295	Shunts	4
Net actual svd	0.000	-177.105	Svd	53
Net Interchange	1050.453	-204.383	Buses	620
Sched Interchange	1050.700		Lines	567
Loss	121.673	-453.515	Transformers	174
MVA-miles	410996.3	82083.9	DC buses	0
Miles	7283.200		DC converters	0
			DC lines	0
Loss at 13.80 Kv	3.825	48.729		
Loss at 34.50 Kv	0.149	2.098		
Loss at 69.00 Kv	3.015	-20.123		
Loss at 115.00 Kv	43.509	-234.484		
Loss at 138.00 Kv	3.351	-37.193		
Loss at 230.00 Kv	29.696	-352.339		
Loss at 345.00 Kv	33.755	-54.281		
Loss at other Kv	4.373	194.078		
Largest mismatch MVA	0.0128	0.0823		

WESTERN SYSTEMS COORDINATING COUNCIL, WAPA UGP, JUNE 2002
G1

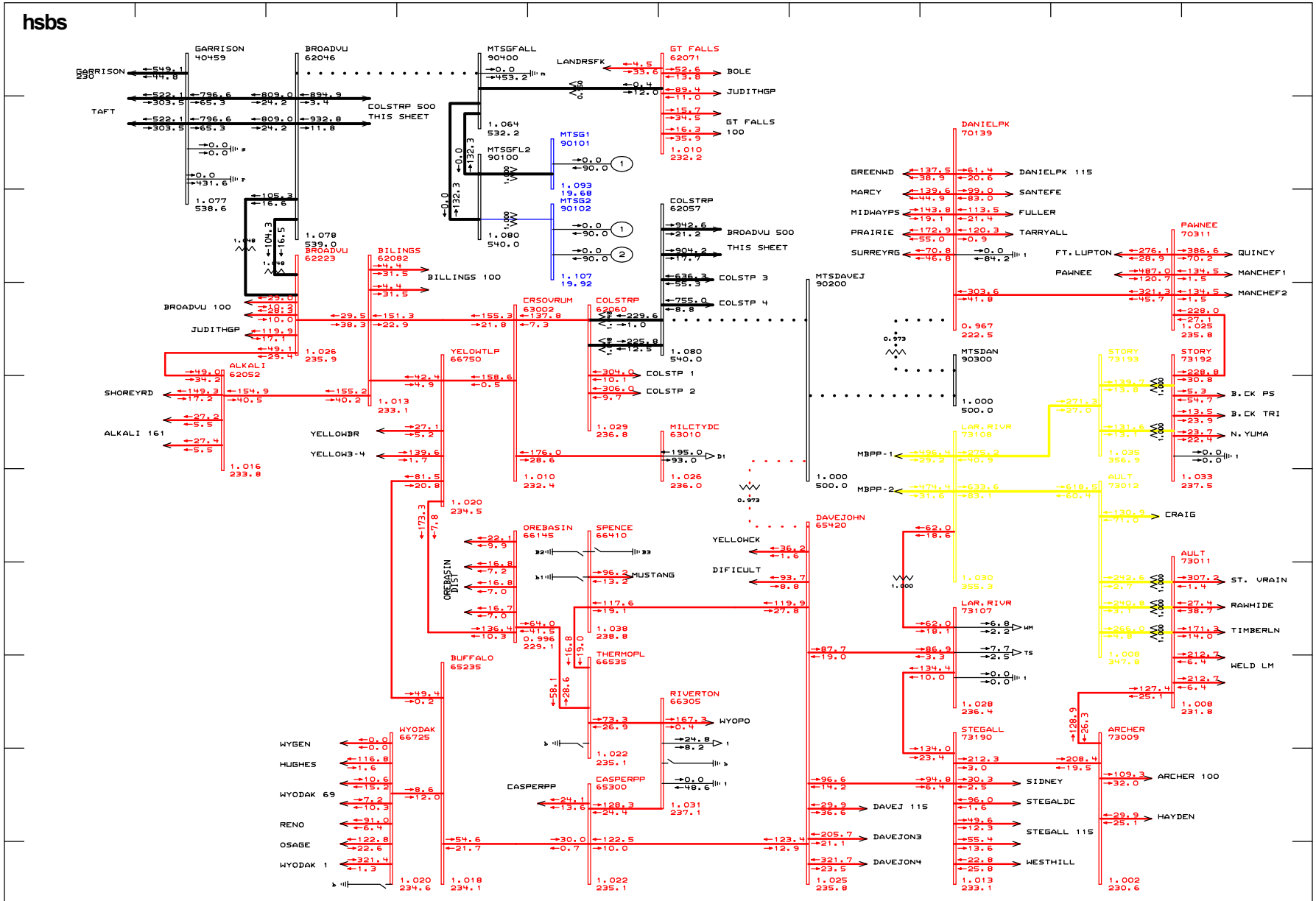
Area 63 [WAPA U.M.]

	-----MW----	----MVAR---		
Generation	28.882	1.828	Generators	1
Actual Load	-120.200	117.500	Loads	17
Net actual shunt	0.000	-78.951	Shunts	1
Net actual svd	0.000	2.427	Svd	4
Net Interchange	140.768	-3.986	Buses	15
Sched Interchange	141.000		Lines	12
Loss	8.314	-35.163	Transformers	3
MVA-miles	0.0	0.0	DC buses	0

Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.041	1.533		
Loss at 115.00 Kv	0.038	-6.833		
Loss at 161.00 Kv	0.580	-50.345		
Loss at 230.00 Kv	7.654	20.481		
Largest mismatch MVA	0.0001	0.0007		

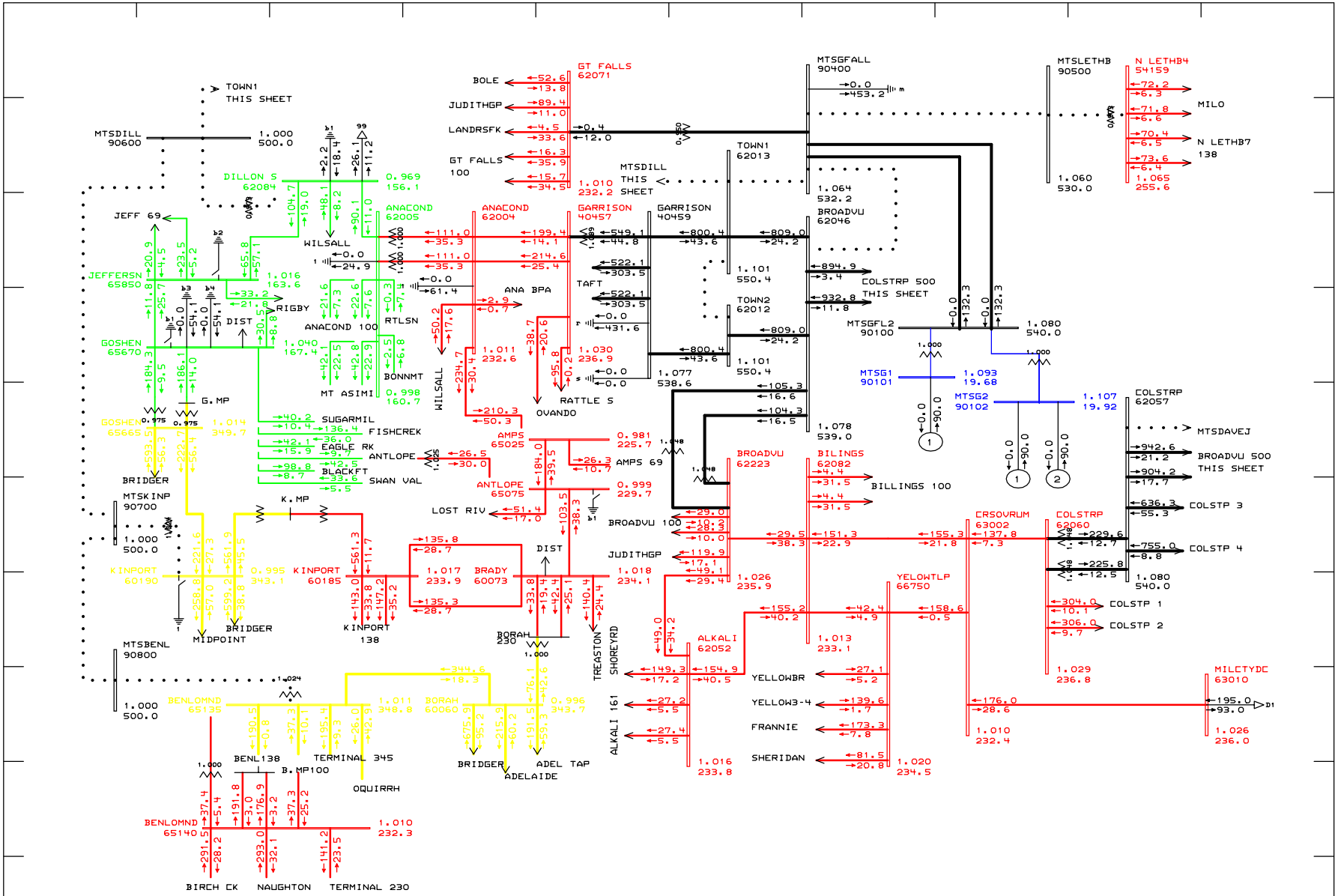
B.2

hsbs



General Electric International, Inc. PSLF Program MW/MVAR Mon Jul 22 20:47:43 2002

PEAK POWER ENGINEERING, INC. 303-462-1100	MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002 G2 WITH LINE UPDATES	1000 MW GAS BASE CASE	mts\g2\g2den.drw c:\uwk\mts\g2\model\g2hs_lnbs. Rating = 1



General Electric International, Inc. PSLF Program MW/MVAR Mon Jul 22 20:50:13 2002

PEAK POWER ENGINEERING, INC.
303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 WITH LINE UPDATES

1000 MW GAS
BASE CASE

mts\g2\g2slc.drw
c:\uwk\mts\g2\model\g2hs_lnbs.
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------									rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------	loading		
54611	RUTH LK8	69	54	54839	RUTH LK1	138	54	1	57.9	13.8	59.5	45.0M	132.3	T	
64026	CARSON	120	64	64027	CARSON T	120	64	1	-55.6	-6.6	56.0	216.5A	130.5	F	
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-57.3	-4.6	57.5	45.0M	128.6	T	
64194	DAYTON	120	64	64254	DAYTON	25	64	1	16.6	6.5	17.8	14.0M	127.5	F	
79026	FLAMGORG	138	73	79029	FLAMGORG	69	73	1	22.1	6.0	22.9	19.0M	120.4	F	
64099	SPAN SPG	120	64	64114	TRACY	120	64	1	-128.2	-2.8	128.2	514.8A	118.8	F	
64091	RENO	120	64	64263	RENO	25	64	1	50.3	20.5	54.3	46.7M	116.3	F	
70249	LAJUNTAW	115	70	70250	LAJUNTAW	69	70	1	26.2	12.4	29.0	25.0M	116.0	F	
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	1	50.2	20.3	54.2	46.7M	116.0	F	
64091	RENO	120	64	64263	RENO	25	64	2	50.2	20.3	54.2	46.7M	116.0	F	
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	2	47.8	19.3	51.6	46.7M	110.4	F	
64202	HAN CRTP	120	64	64203	TWN CRTP	120	64	1	74.2	19.8	76.8	356.0A	109.1	F	
64201	PINSN TP	120	64	64202	HAN CRTP	120	64	1	74.6	20.6	77.4	356.0A	109.1	F	
64200	REDHOUSE	120	64	64201	PINSN TP	120	64	1	75.9	23.6	79.5	356.0A	109.0	T	
64129	VALMY	120	64	64200	REDHOUSE	120	64	1	77.0	26.3	81.4	356.0A	108.6	T	
54234	CASTLE R	138	54	55972	CASTLE-1	25	54	1	-50.0	21.0	54.2	50.0M	108.4	F	
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	24.1	83.8	79.0M	106.1	F	
54232	PANCAN 9	138	54	55386	EMPRESS9	25	54	T1	15.7	1.0	15.7	15.0M	104.7	F	
64114	TRACY	120	64	64118	TRACY G2	14	64	1	-82.5	-4.0	82.6	81.0M	104.0	T	
48319	PLEASANT	115	40	48355	RATHDRUM	115	40	1	-84.1	-16.2	85.6	430.8A	103.3	F	
43017	BEAVER	14	40	43021	BEAVER	230	40	1	356.8	44.1	359.6	348.0M	103.3	F	
54052	BLUERIDG	138	54	55281	BLUERDGE	14	54	T1	20.8	15.2	25.7	25.0M	102.9	F	
54154	E CALGAR	240	54	54189	ENMX2SD9	138	54	T1	234.1	-169.4	289.0	300.0M	102.8	T	
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	9A	155.0	-10.5	155.4	155.0M	101.9	T	
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	BC	155.0	-10.5	155.4	155.0M	101.9	T	
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	78	155.0	-10.5	155.4	155.0M	101.9	T	
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	56	155.0	-10.5	155.4	155.0M	101.9	T	
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	155.0	-10.5	155.4	155.0M	101.9	T	
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	DE	155.0	-10.5	155.4	155.0M	101.9	T	
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	155.0	-10.5	155.4	155.0M	101.9	T	
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-8.7	29.3	30.0M	101.9	T	
46733	LAGRND5	14	40	46735	LGBK5	115	40	1	40.0	6.8	40.6	40.0M	101.4	F	

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V12.0
WESTERN SYSTEMS COORDINATING COUNCIL
2002 HS3A APPROVED OPERATING CASE

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54090	BICKERD4	240	1.1047	54153	BRAZEAU4	240	1.1053	54329	KEEPHIL4	240	1.1117
54524	GENESEE4	240	1.1086	54681	NEVIS 7	138	1.1101	54802	STURGEO9	138	1.1003
55969	770S701T	138	1.1052	51017	KMS230	230	1.1081	62012	TOWN2	500	1.1014
62013	TOWN1	500	1.1014								

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54012	FOX CREE	138	1.0510	54013	KAYBOB 9	138	1.0517	54014	GULF RO9	138	1.0592
54021	WESGEN 7	138	1.0507	54050	RBCUPIL7	138	1.0507	54054	LAMOURE4	240	1.0795
54073	IPPL ST9	138	1.0575	54077	BIGSTON4	240	1.0600	54078	CHEVRON7	138	1.0515
54081	METIS644	240	1.0853	54082	BICKERD7	138	1.0557	54090	BICKERD4	240	1.1047
54097	BIG HOR9	138	1.0817	54098	STRACHA9	138	1.0577	54103	DEERLAN4	240	1.0820
54121	ELLERSLI	240	1.0759	54125	SUNDANL9	138	1.0543	54126	WABAMUN4	240	1.0869
54128	SUNDANM9	240	1.0965	54129	E EDMON4	240	1.0709	54130	N CALDE4	240	1.0645
54131	N BARRH4	240	1.0836	54139	GAETZ 4	240	1.0597	54141	HIGHVAL9	138	1.0538
54142	WILLESD4	240	1.0961	54144	RED DEE4	240	1.0636	54147	BENALTO4	240	1.0767
54148	E CROSS4	240	1.0586	54150	LANGDON2	500	1.0533	54152	JANET 4	240	1.0533
54153	BRAZEAU4	240	1.1053	54157	PEIGAN 4	240	1.0748	54159	N LETHB4	240	1.0648
54184	SARCEE 7	138	1.0530	54195	RUNDLE S	138	1.0504	54223	WARE JCT	240	1.0511
54249	RP05103S	138	1.0669	54261	SPRAY S	138	1.0508	54269	COALSPU7	138	1.0609
54281	MILO 2	240	1.0605	54285	LEISMER9	240	1.0749	54287	GREGG R9	138	1.0701
54302	MARIONA9	138	1.0540	54325	CHEV KG9	138	1.0515	54326	COAL VA9	138	1.0582
54329	KEEPHIL4	240	1.1117	54335	W BROOK4	240	1.0550	54384	ENMX28S9	138	1.0523
54412	BENBOW 9	138	1.0518	54441	946/947X	240	1.0759	54444	SPRINGB9	138	1.0505
54505	JASPER 4	240	1.0658	54506	BELLAMY4	240	1.0757	54509	ARGYLL W	240	1.0758
54512	DOME T29	240	1.0764	54513	LAMBTON4	240	1.0705	54514	CLOVERB4	240	1.0694
54518	ARGYLL E	240	1.0760	54519	CASTLTX2	240	1.0705	54521	PETROLIA	240	1.0746
54524	GENESEE4	240	1.1086	54542	RBW LAK7	138	1.0505	54546	CHINCHA7	138	1.0575
54547	KEG RVR7	138	1.0561	54548	KEMP RV9	138	1.0578	54549	HOTCHKS7	138	1.0596
54552	CADOTTE9	138	1.0585	54553	NORCEN 9	138	1.0552	54554	LUBICON7	138	1.0582
54555	CRANBER9	138	1.0591	54558	WESLY C7	138	1.0791	54559	CARMON 9	138	1.0767
54560	PEACE/29	138	1.0753	54561	DIASHOW7	138	1.0736	54589	DOME CU7	138	1.0672
54593	DONNELL9	138	1.0669	54594	TAP7L487	138	1.0686	54595	TRIANGL7	138	1.0619
54596	VALLEYV9	138	1.0782	54600	L.SMOKY7	138	1.0848	54601	STURGEO7	138	1.0844
54606	SIMONET9	138	1.0846	54607	FOXCRK/2	138	1.0515	54608	GOOSE R9	138	1.0666
54612	RUTH LA7	138	1.0600	54613	RUTH LK7	138	1.0603	54618	PARS CR7	138	1.0508
54621	MITS E.4	240	1.0565	54622	MITS E.7	138	1.0892	54623	AEC MILL	138	1.0881
54624	OTAUWAU7	138	1.0890	54633	LOU CR.7	138	1.0570	54634	SARHLK/2	138	1.0511
54636	ESSO JU7	138	1.0519	54637	MORSE RV	138	1.0524	54639	VIRGINI9	138	1.0529
54643	WOLF LK9	138	1.0709	54646	MARG LK4	240	1.0740	54647	MARG LK7	138	1.0861
54648	LACOREY9	138	1.0683	54652	BONNY 9	138	1.0544	54654	BONN SVC	138	1.0544
54655	WHITFISH	240	1.0857	54675	PAINTRT7	240	1.0896	54680	NEVIS 4	240	1.0748
54681	NEVIS 7	138	1.1101	54685	3HILLS/3	138	1.0581	54691	MICH. C9	138	1.0735
54693	WINT HI9	138	1.0749	54694	BULLPON9	138	1.0750	54707	SHEER 14	240	1.0625
54709	ANDERSO4	240	1.0630	54710	ANDERSON	138	1.0850	54711	SHEER 24	240	1.0625
54715	BAT. RV7	138	1.0821	54721	BAT RV79	240	1.0926	54723	CORDEL 4	240	1.0926
54729	PRIM TAP	138	1.0652	54730	PRIMROSE	138	1.0712	54796	791S701T	138	1.0628
54802	STURGEO9	138	1.1003	54806	946/947N	240	1.0709	54809	732S901T	240	1.0667
54818	VERMILA9	138	1.0798	54822	766S901T	240	1.0628	54823	NEVIS 9	138	1.0878
54835	791S702T	138	1.0631	54836	MILNERB9	138	1.0779	54844	709S702T	138	1.0732
54847	BAT RV80	240	1.0926	54848	791S703T	138	1.0530	54962	KAYBOBTP	138	1.0517
54963	CANMORE9	138	1.0506	54978	EAST IN4	240	1.0705	54983	MARION T	138	1.0541
54984	HIGHVL T	138	1.0538	54988	CROSSF T	240	1.0586	54995	W.GRN TP	240	1.0962
55012	BASSET 7	138	1.0562	55013	HAIGRIVE	138	1.0572	55067	FTNELSON	138	1.0665
55072	SYNC_D04	240	1.0563	55073	AURORA 4	240	1.0619	55075	SEAL LK9	138	1.0643
55147	MILNERC9	138	1.0880	55226	WABASCA9	240	1.0532	55272	FIELDGA9	138	1.0513
55280	BRINTNEL	240	1.0504	55515	PRIMROSE	138	1.0565	55763	BC BORDE	138	1.0627
55891	904AL TP	240	1.0705	55894	SARCEE M	138	1.0512	55912	740L JNC	138	1.0609
55913	G.ROBB T	138	1.0600	55924	CH KGT T	138	1.0515	55943	MILO 1	240	1.0605
55969	770S701T	138	1.1052	50010	COM132	132	1.0725	50020	CMS230	230	1.0500
50036	RBW230	230	1.0549	50037	PEM230	230	1.0586	50038	RBW230-1	230	1.0534
50182	ARN132	132	1.0822	50185	ALZ230	230	1.0521	50186	ROS230	230	1.0620
50187	BRT230	230	1.0698	50188	BUT230	230	1.0500	50193	BRT360	360	1.0500
50313	VIT132	132	1.0518	50314	PVO133	132	1.0507	50315	PVO132	132	1.0512
50323	DMR132	132	1.0557	50330	LDR132	132	1.0504	50331	GLD132	132	1.0518
50334	KGH132	132	1.0529	50335	UTA132	132	1.0531	50342	SCA132	132	1.0500
50343	KSH132-2	132	1.0501	50346	SHA2	132	1.0504	50347	GOW132	132	1.0518
50348	GTP132	132	1.0553	50349	CLD132	132	1.0571	50350	SOO132	132	1.0577
50351	JOR132	132	1.0614	50352	PML132	132	1.0518	50353	WOS132	132	1.0536
50354	GLSTP17	132	1.0562	50355	GLSTP18	132	1.0548	50356	DND132	132	1.0521
50391	KSHTP14	132	1.0504	50394	SHATP14	132	1.0504	50395	SALTP17	132	1.0547
50396	SALTP18	132	1.0549	50447	TKW138	138	1.0535	50463	SKA500	500	1.0632
50464	TKW500	500	1.0688	50540	GMS230	230	1.0548	50541	KDS230	230	1.0544

50545	BLW230	230	1.0657	50546	SCK230	230	1.0598	50547	HMH230	230	1.0581
50548	BLM230	230	1.0587	50549	QNT230	230	1.0579	50550	QRP230	230	1.0653
50551	TLR230	230	1.0585	50553	BCR230	230	1.0585	50554	RBF230	230	1.0665
50556	LAP230	230	1.0569	50557	SNK230	230	1.0589	50558	GMS500	500	1.0500
50560	KDS500	500	1.0620	50561	WSN500	500	1.0502	50562	GLN500	500	1.0681
50653	NIC138	138	1.0529	50655	VVW138	138	1.0510	50656	SVA138	138	1.0521
50659	BDM138	138	1.0513	50660	WGS138	138	1.0610	50661	MON138	138	1.0582
50672	BKL138	138	1.0520	50679	BLU138	138	1.0539	50680	VLM138	138	1.0591
50686	SCO138	138	1.0679	50687	ABA138	138	1.0586	50691	NIC230	230	1.0502
50700	MCA500	500	1.0500	50701	REV500	500	1.0500	50729	PRI138TP	138	1.0678
50776	NTL138	138	1.0539	50783	SEL230	230	1.0589	50785	SEV230	230	1.0580
50792	SEL500	500	1.0500	50899	ABA138TP	138	1.0586	50902	BDM138TP	138	1.0513
50922	DNDTAP	132	1.0529	50923	HSY-PH	132	1.0556	50924	ESQ-PH	132	1.0521
50928	SCG IPP	132	1.0684	50934	JULTP130	132	1.0529	51017	KMS230	230	1.1081
51045	ALH230	230	1.0578	60085	BRIDGER	345	1.0500	60240	MIDPOINT	500	1.0687
62012	TOWN2	500	1.1014	62013	TOWN1	500	1.1014	62033	ANA BPA	115	1.0568
62046	BROADVU	500	1.0783	62053	BROADV&2	500	1.0737	62054	BROADV&1	500	1.0745
62057	COLSTRP	500	1.0800	40045	ALLSTON	500	1.0726	40051	ALVEY	500	1.0801
40061	ASHE	500	1.0800	40091	BELL BPA	500	1.0665	40111	BIG EDDY	500	1.0768
43049	BOARD F	500	1.0840	40139	BONNVILE	115	1.0500	47013	BRIDGPRT	115	1.0540
40155	BUCKLEY	500	1.0780	45029	BURNS	500	1.0552	45035	CAPTJACK	500	1.0772
46209	CARMEN	115	1.0621	41311	CELILO1	500	1.0767	41312	CELILO2	500	1.0767
40233	CHIEF JO	500	1.0800	40287	COULEE	500	1.0810	40302	COVINGT4	500	1.0754
40306	COVINGT5	500	1.0759	43115	COYO M1	500	1.0557	43123	COYOTE	500	1.0848
45095	DIXONVLE	500	1.0806	40369	DWORSHAK	500	1.0749	40381	ECHOLAKE	500	1.0786
40451	GAR1EAST	500	1.0938	40453	GAR2EAST	500	1.0938	40459	GARRISON	500	1.0778
40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0747	40499	HANFORD	500	1.0816
40521	HATWAI	500	1.0720	45137	HERMIST	230	1.0509	41212	HILLS CR	115	1.0500
40553	HOT SPR	500	1.0778	40585	JOHN DAY	500	1.0850	40601	KEELER	500	1.0823
45262	KFALLS	500	1.0799	40629	LANE	500	1.0733	40665	LIT GOOS	500	1.0800
40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800	40687	MALIN	500	1.0758
40693	MAPLE VL	500	1.0776	40699	MARION	500	1.0809	40711	MCLOUGLN	500	1.0700
40721	MCNARY	345	1.0510	40723	MCNARY	500	1.0800	45197	MERIDINP	500	1.0785
40749	MONROE	500	1.0797	40797	OLYMPIA	500	1.0791	40809	OSTRNDER	500	1.0723
40821	PAUL	500	1.0800	40827	PEARL	500	1.0789	40837	PONDROSA	500	1.0798
40869	RAVER	500	1.0797	43485	ROUND BU	500	1.0713	40913	SACJAWEA	500	1.0755
40917	SACJWA T	500	1.0768	40941	SANTIAM	500	1.0802	40949	SATSOP	500	1.0799
40957	SCHULTZ	500	1.0843	40973	SICKLER	500	1.0795	40989	SLATT	500	1.0812
41043	SUMMER L	500	1.0785	45289	SWIFT	230	1.0500	41051	TACOMA	500	1.0794
41057	TAFT	500	1.0867	41095	TROUTDAL	500	1.0646	41113	VANTAGE	500	1.0749
45337	WEED JPS	115	1.0507	47099	WELLS	115	1.0630	66225	PINTO	345	1.0511
66235	PINTO PS	345	1.0501	52226	PRI138	138	1.0679	52229	KER138	138	1.0714
52230	HED138	138	1.0704	52426	MAS138	138	1.0703	52815	PRI-T2	138	1.0686

undervoltage summary < 0.900000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)

undervoltage summary < 0.950000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
50781	NTL VR	138	0.9499	48069	CHESTER	115	0.9447	48165	IRVIN	115	0.9489
48310	OPORTUNE	115	0.9494	48299	OPPORTUN	115	0.9468	48306	OTIS	230	0.9384
70249	LAJUNTAW	115	0.9285	64072	MEYERS	120	0.9484	64092	RND HILL	120	0.9466
64102	STATELIN	120	0.9457	64203	TWN CRTP	120	0.9452				

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		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name		ALBERTA									
	mw	10743.6	7862.7	7899.2	0.0	0.0	0.0	0.0	-399.4	363.0	59.3
54	mvar	4916.5	857.1	2641.0	0.0	0.0	-22.5	-1851.9	-37.0	127.6	11.7
area name		B.C.HYDRO									
	mw	14693.0	10251.1	6889.1	0.0	0.0	0.0	0.0	2850.1	511.8	197.5
50	mvar	6719.0	925.9	2565.8	0.0	0.0	2957.8	2143.6	-276.4	-6464.9	9.1
area name		IDAHO									
	mw	4676.4	4111.5	2984.0	0.0	0.0	0.0	0.0	919.9	207.6	144.1
60	mvar	2192.5	457.6	711.6	0.0	0.0	-595.5	0.0	-311.2	652.6	0.1
area name		MONTANA									
	mw	3502.2	2908.3	1422.9	0.0	0.0	0.3	0.0	1367.7	117.4	696.3
62	mvar	1309.0	313.5	610.2	0.0	0.0	-122.0	-90.5	-448.3	364.1	109.1
area name		NORTHWEST									
	mw	43502.3	27331.8	22671.3	0.0	0.0	0.0	0.0	3513.9	1146.6	664.7
40	mvar	15475.0	3752.3	6850.3	0.0	0.0	-1855.3	-4060.1	1035.8	1781.6	35.3
area name		PACE									
	mw	6212.0	5584.9	6293.7	0.0	0.0	0.0	0.0	-981.2	272.3	163.9
65	mvar	3201.9	755.6	1960.1	0.0	0.0	-1762.6	-48.6	36.6	569.9	32.1
area name		PSCOLORADO									
	mw	5806.0	5191.5	6332.7	0.0	0.0	0.0	0.0	-1332.4	191.1	112.5
70	mvar	3667.3	1771.8	2372.6	0.0	0.0	0.0	-1672.0	285.5	785.7	33.2
area name		SIERRA									
	mw	1901.7	1375.4	1719.1	0.0	0.0	0.0	0.0	-399.9	56.2	109.4
64	mvar	925.4	126.5	458.7	0.0	0.0	-188.1	69.0	57.3	-270.4	24.2
area name		W KOOTENAY									
	mw	763.5	596.5	722.4	0.0	0.0	0.0	0.0	-150.5	24.7	104.6
52	mvar	450.0	100.1	210.2	0.0	0.0	-77.8	-130.7	-8.1	106.5	25.3
area name		WAPA R.M.									
	mw	6091.6	5379.5	3608.3	0.0	0.0	0.0	0.0	1611.9	159.3	497.1
73	mvar	2883.8	217.9	1237.0	0.0	0.0	-296.1	-271.8	-388.5	-62.7	58.0
area name		WAPA U.M.									
	mw	61.8	55.5	-102.1	0.0	0.0	0.0	0.0	146.9	10.7	55.5
63	mvar	34.0	4.8	123.6	0.0	0.0	-79.0	-15.8	-28.2	4.2	4.8
TOTL	mw	97954.1	70648.6	60440.6	0.0	0.0	0.3	0.0	7147.1	3060.6	
	mvar	41774.4	9282.9	19741.2	0.0	0.0	-2041.1	-5929.0	-82.5	-2405.6	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	-399.4	-37.0
TOTAL		-399.4	-37.0

		mw	mvar
FROM AREA	50 B.C.HYDRO		

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  TO AREA   54 ALBERTA                          399.4       37.0
  TO AREA   40 NORTHWEST                       2300.2     -321.6
  TO AREA   52 W KOOTENAY                       150.5        8.1
  TOTAL                                        2850.1     -276.4

FROM AREA   60 IDAHO                             mw        mvar
  TO AREA   40 NORTHWEST                        -56.8     -295.4
  TO AREA   65 PACE                             843.9       36.2
  TO AREA   64 SIERRA                           132.8      -52.0
  TOTAL                                         919.9     -311.2

FROM AREA   62 MONTANA                           mw        mvar
  TO AREA   40 NORTHWEST                       1118.8     -362.7
  TO AREA   65 PACE                             239.2      -88.3
  TO AREA   63 WAPA U.M.                          9.7        2.8
  TOTAL                                        1367.7     -448.3

FROM AREA   40 NORTHWEST                         mw        mvar
  TO AREA   50 B.C.HYDRO                      -2300.2      321.6
  TO AREA   60 IDAHO                             56.8      295.4
  TO AREA   26 LADWP                           2806.7      607.1
  TO AREA   62 MONTANA                        -1118.8      362.7
  TO AREA   30 PG AND E                        3884.1     -501.7
  TO AREA   64 SIERRA                           185.3      -49.3
  TOTAL                                        3513.9     1035.8

FROM AREA   65 PACE                              mw        mvar
  TO AREA   14 ARIZONA                          -37.5       92.9
  TO AREA   60 IDAHO                           -843.9      -36.2
  TO AREA   26 LADWP                            -27.7     -168.6
  TO AREA   62 MONTANA                         -239.2       88.3
  TO AREA   18 NEVADA                           251.8      -58.1
  TO AREA   64 SIERRA                            36.2       13.4
  TO AREA   19 WAPA L.C.                         42.0       31.7
  TO AREA   73 WAPA R.M.                       -162.9       73.2
  TOTAL                                        -981.2       36.6

FROM AREA   70 PSCOLORADO                        mw        mvar
  TO AREA   73 WAPA R.M.                      -1332.4      285.5
  TOTAL                                       -1332.4      285.5

FROM AREA   64 SIERRA                            mw        mvar
  TO AREA   60 IDAHO                           -132.8       52.0
  TO AREA   26 LADWP                            -51.3        1.5
  TO AREA   40 NORTHWEST                       -185.3       49.3
  TO AREA   65 PACE                             -36.2      -13.4
  TO AREA   30 PG AND E                          -7.7      -29.1
  TO AREA   24 SOCALIF                           13.4       -2.9
  TOTAL                                        -399.9       57.3

FROM AREA   52 W KOOTENAY                        mw        mvar
  TO AREA   50 B.C.HYDRO                       -150.5       -8.1
  TOTAL                                        -150.5       -8.1

FROM AREA   73 WAPA R.M.                         mw        mvar
  TO AREA   10 NEW MEXICO                       186.5      -27.2
  TO AREA   65 PACE                             162.9      -73.2
  TO AREA   70 PSCOLORADO                      1332.4     -285.5
  TO AREA   19 WAPA L.C.                         86.8      -28.1
  TO AREA   63 WAPA U.M.                       -156.6       25.4
  TOTAL                                        1611.9     -388.5
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		mw	mvar
FROM AREA	63 WAPA U.M.		
TO AREA	62 MONTANA	-9.7	-2.8
TO AREA	73 WAPA R.M.	156.6	-25.4
TOTAL		146.9	-28.2

AREA TIE LINE SUMMARY

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WESTERN SYSTEMS COORDINATING COUNCIL
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---------from--------			--------- to --------					---mw----	---mvar--	meter
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck				
54150	LANGDON2	500	50791	CBK500	500	1		-359.38	-36.30	f
54205	COLEMAN7	138	50776	NTL138	138	1		-14.09	-8.93	t
54273	POCATER7	138	50830	FRO T274	138	1		-25.95	8.19	t
from area 54 to area 50 B.C.HYDRO								-399.42	-37.04	
Total from area 54 ALBERTA								-399.42	-37.04	

---------from--------			--------- to --------					---mw----	---mvar--	meter
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck				
62004	ANACOND	230	40457	GARRISON	230	1		-196.40	-5.63	f
62004	ANACOND	230	40457	GARRISON	230	2		-212.29	-15.45	f
62009	RATTLE S	161	40867	RATTLE S	230	1		-122.28	-32.74	t
62012	TOWN2	500	40453	GAR2EAST	500	2		796.40	-152.91	t
62013	TOWN1	500	40451	GAR1EAST	500	1		796.40	-152.91	t
62066	KERR	115	40391	ELMO	115	1		5.85	-15.09	f
62072	OVANDO	230	40457	GARRISON	230	1		-39.03	23.15	t
62072	OVANDO	230	40551	HOT SPR	230	1		33.20	13.65	t
62085	CROWCR B	115	48055	BURKAVAB	115	1		25.37	-12.00	t
62086	THOMSON	115	48053	BURKAVAA	115	1		31.63	-12.79	t
from area 62 to area 40 NORTHWEST								1118.84	-362.73	
62030	PTRSNFLT	230	65025	AMPS	230	1		210.53	-50.02	t
62045	BLGS PHA	230	66750	YELOWTLP	230	1		-42.51	5.04	t
62061	RMRK PHA	161	66755	YELOWTLP	161	1		-22.35	-2.61	f
62084	DILLON S	161	65155	BIGGRASS	161	1		93.49	-40.75	t
from area 62 to area 65 PACE								239.16	-88.34	
62023	GT FALLS	161	63008	HAVRE	161	1		14.01	-12.26	f
62024	RAINBOW	161	63015	VERONA	161	1		12.92	-12.05	f
62027	SHELBY	115	63014	TIBERTAP	115	1		0.19	-2.50	f
62051	HARDIN	230	63002	CRSOVRUM	230	1		137.96	8.14	t
62056	HUNTLEY	230	63002	CRSOVRUM	230	1		-155.40	21.46	t
from area 62 to area 63 WAPA U.M.								9.68	2.79	
Total from area 62 MONTANA								1367.68	-448.28	

---------from--------			--------- to --------					---mw----	---mvar--	meter
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck				
40145	BOUNDARY	230	50822	NLYPHS	230	1		-306.33	-0.42	f
40323	CUSTER W	500	50194	ING500	500	1		-1005.27	161.80	t
40323	CUSTER W	500	50194	ING500	500	2		-988.60	160.18	t
from area 40 to area 50 B.C.HYDRO								-2300.20	321.56	
45029	BURNS	500	60240	MIDPOINT	500	1		-239.39	368.00	t
45103	ENTERPRS	230	60150	HELLSCYN	230	1		25.68	-34.46	f
40507	HARNEY	115	61826	HINES	115	1		-13.43	15.60	f
40621	LAGRANDE	230	60192	LADD	230	1		68.93	-28.95	f
48197	LOLO	230	60278	IMNAHA	230	1		215.04	-24.83	t
from area 40 to area 60 IDAHO								56.83	295.37	
41311	CELILO1	500	26097	SYLMAR1	230	1		529.60	58.88	f
41313	CELILO3	230	26098	SYLMAR3	230	1		873.73	244.48	f
41312	CELILO2	500	26099	SYLMAR2	230	1		529.60	58.81	f
41314	CELILO4	230	26100	SYLMAR4	230	1		873.73	244.92	f
from area 40 to area 26 LADWP								2806.66	607.09	
48053	BURKAVAA	115	62086	THOMSON	115	1		-31.63	12.79	f
48055	BURKAVAB	115	62085	CROWCR B	115	1		-25.37	12.00	f
40391	ELMO	115	62066	KERR	115	1		-5.85	15.09	t
40451	GAR1EAST	500	62013	TOWN1	500	1		-796.40	152.91	f
40453	GAR2EAST	500	62012	TOWN2	500	2		-796.40	152.91	f
40457	GARRISON	230	62072	OVANDO	230	1		39.03	-23.15	f
40457	GARRISON	230	62004	ANACOND	230	1		196.40	5.63	t
40457	GARRISON	230	62004	ANACOND	230	2		212.29	15.45	t
40551	HOT SPR	230	62072	OVANDO	230	1		-33.20	-13.65	f
40867	RATTLE S	230	62009	RATTLE S	161	1		122.28	32.74	f
from area 40 to area 62 MONTANA								-1118.84	362.73	
45035	CAPTJACK	500	30020	OLINDA	500	1		1373.16	-223.88	f
45087	DELTA	115	31468	CASCADE	115	1		71.53	-15.41	f

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   40687 MALIN     500        30005 ROUND MT  500  1            1214.33   -122.22   f
   40687 MALIN     500        30005 ROUND MT  500  2            1225.10   -140.17   f
from area  40 to area  30 PG AND E                              3884.11   -501.68

   40537 HIL TOP   230        64058 HIL TOP   345  1             185.34    -49.27   f
from area  40 to area  64 SIERRA                                 185.34    -49.27

Total from area  40 NORTHWEST                                   3513.89   1035.81

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1             -37.50     92.91   t
from area  65 to area  14 ARIZONA                                -37.50     92.91

   65075 ANTLOPE   230        60073 BRADY     230  1             103.66    -38.16   f
   65135 BENLOMND  345        60060 BORAH     345  1            -344.66     18.24   t
   65220 BRIDGER   230        60085 BRIDGER   345  1             -41.56     -8.45   t
   65220 BRIDGER   230        60085 BRIDGER   345  2             -42.24     -8.57   t
   65220 BRIDGER   230        60085 BRIDGER   345  3             -41.56     -8.45   t
   65665 GOSHEN    345        60085 BRIDGER   345  1            -593.41    -56.31   f
   65665 GOSHEN    345        60190 KINPORT   345  1             221.69     27.34   t
   65670 GOSHEN    161        60030 BLACKFT   161  1             100.67     11.42   f
   65920 MALAD     138        60020 AMFLS     138  1             -66.06      2.40   t
   66565 TREASTON  230        60073 BRADY     230  1            -140.43     24.37   t
from area  65 to area  60 IDAHO                                 -843.90    -36.18

   65995 MONA      345        26043 INTERMT   345  1             -13.85    -84.32   f
   65995 MONA      345        26043 INTERMT   345  2             -13.85    -84.32   f
from area  65 to area  26 LADWP                                  -27.71   -168.65

   65025 AMPS      230        62030 PTRSNFLT  230  1            -210.53     50.02   f
   65155 BIGGRASS  161        62084 DILLON S  161  1             -93.49     40.75   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1              42.51     -5.04   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1              22.35      2.61   t
from area  65 to area  62 MONTANA                               -239.16     88.34

   66280 REDBUTTE  345        18002 HA PS     345  1             251.84    -58.11   f
from area  65 to area  18 NEVADA                                 251.84    -58.11

   66210 PAVANT    230        64124 UTAH-NEV  230  1              36.17     13.41   t
from area  65 to area  64 SIERRA                                  36.17     13.41

   66355 SIGURDPS  230        79031 GLENCANY  230  1              41.97     31.68   t
from area  65 to area  19 WAPA L.C.                               41.97     31.68

   65060 ANT MINE  230        73276 TEKLA     230  1              30.13     18.58   f
   65085 ASHLEY    138        79067 VERNAL    138  1             -80.81      5.97   t
   65192 BONANZA   138        79067 VERNAL    138  1              49.69      6.29   t
   65193 BONANZA   345        79005 BEARS     345  1            -351.43      0.36   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1             -35.74     -4.03   f
   65305 CASPERPP  115        73042 CASPERLM  115  1              -4.99     -5.24   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1              87.72    -19.04   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1              96.56    -14.22   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1              73.50      2.46   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1              85.03      6.33   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1             -45.92      5.94   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2             -45.92      5.94   f
   66278 RANGELY   138        79001 ARTESIA   138  1              -6.99     -5.16   f
   66278 RANGELY   138        79046 MEEKER    138  1              -7.98     -0.75   f
   66305 RIVERTON  230        73170 RIVERTON  115  1               6.22     10.15   f
   66535 THERMOPL  230        73197 THERMOPL  115  1               0.84      8.85   t
   66540 THERPACE  115        73197 THERMOPL  115  1              11.47      9.05   t
   66720 WORLAND   115        73222 WORLANTP  115  1             -12.52      9.03   t
   66725 WYODAK    230        73148 OSAGE     230  1             121.55    -16.48   t
   66725 WYODAK    230        73168 RENO      230  1              91.00      6.36   f
   66725 WYODAK    230        73294 HUGHES    230  1             116.77     -1.57   f
   66725 WYODAK    230        73282 WYODAK     69  1             -10.63     15.21   f
   66725 WYODAK    230        73282 WYODAK     69  2              -7.19     10.28   f
   66725 WYODAK    230        74016 WYGEN      14  1               0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1            -323.22     18.92   t
from area  65 to area  73 WAPA R.M.                             -162.88     73.22

Total from area  65 PACE                                        -981.16     36.63

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   70005 BRUSHCPP  115        73013 B.CK PS   115  1             118.30     23.01   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2             124.81     30.01   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1             -15.34     -1.44   f
   70122 COMANCHE  230        73477 FULLER    230  1              95.49     31.36   t
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70139	DANIELPK	230	73477	FULLER	230	1	-115.06	-18.30	t
70193	FTN VALL	115	73412	MIDWAYBR	115	1	4.47	-0.15	t
70205	GRANDJCT	230	79036	GRANDJCT	345	1	-46.91	-23.06	f
70256	LAPORTPS	115	73105	LAPORTE	115	1	-14.74	-6.25	t
70274	MALTA	230	73138	MT.ELBRT	230	1	-145.52	-6.88	f
70285	MIDWAYPS	115	73412	MIDWAYBR	115	1	18.43	-22.63	f
70286	MIDWAYPS	230	73413	MIDWAYBR	230	1	132.07	79.33	t
70287	MILL	115	73296	FRASER	115	1	-41.68	9.51	f
70308	PALMER	115	73414	MONUMENT	115	1	-47.42	17.72	t
70311	PAWNEE	230	73192	STORY	230	1	-228.76	-30.81	t
70327	PONCHA	115	79037	GUNNISON	115	1	-23.83	10.86	f
70350	RAWHIDE	24	73165	RAWHIDE	230	1	262.16	80.95	t
70358	RIFLE PS	230	79059	RIFLE WA	230	1	-90.98	11.09	f
70358	RIFLE PS	230	79250	AMATLAS	230	1	-75.90	-3.66	f
70375	SAN LUIS	230	79054	PONCHABR	230	1	-80.57	6.69	t
70410	ST.VRAIN	230	73116	LONGPEAK	230	1	-51.99	66.34	f
70470	WELD PS	115	73211	WELD LM	115	1	-20.39	61.43	f
70471	WELD PS	230	73212	WELD LM	230	1	-369.21	1.17	f
70474	WINDSOR	230	73011	AULT	230	1	-307.19	1.38	t
70476	WOODLAND	115	73400	EMIL AND	115	1	14.70	2.51	f
70525	MTHARRIS	138	79038	HAYDEN	138	1	-7.21	-1.37	t
79033	GOREPASS	230	79039	HAYDEN	230	1	-250.97	-22.33	t
79033	GOREPASS	230	73072	GOREPASS	138	1	2.66	3.44	f
79034	GRANDJCT	115	79048	MONTROSE	115	1	22.95	-4.66	t
79056	RIFLE CU	138	79046	MEEKER	138	1	-18.96	-2.19	f
79057	RIFLE CU	230	79059	RIFLE WA	230	1	9.38	-24.09	t
79058	RIFLE CU	345	79014	CRAIG	345	1	-336.13	-1.45	f
79058	RIFLE CU	345	79036	GRANDJCT	345	1	306.73	-2.71	f
79091	WOLCOTTP	230	79039	HAYDEN	230	1	-183.00	0.02	f
79173	COLBRAN	115	79174	MOLINA-L	115	1	-0.00	-0.53	f
70351	RAWHIDEA	14	73165	RAWHIDE	230	1	50.81	40.24	t
70550	W CANON	115	73551	W CANON	230	1	-23.57	-19.05	t

from area 70 to area 73 WAPA R.M. -1332.36 285.47

Total from area 70 PSCOLORADO -1332.36 285.47

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
79060	SANJN PS	345	10292	SAN_JUAN	345	1	186.46	-27.16	t

from area 73 to area 10 NEW MEXICO 186.46 -27.16

73042	CASPERLM	115	65305	CASPERPP	115	1	4.99	5.24	f
73070	GLENRCKN	115	65425	DAVEJOHN	115	1	-73.50	-2.46	t
73071	GLENRCKS	115	65425	DAVEJOHN	115	1	-85.03	-6.33	t
73107	LAR.RIVR	230	65420	DAVEJOHN	230	1	-87.72	19.04	t
73148	OSAGE	230	66725	WYODAK	230	1	-121.55	16.48	f
73167	REFNRYTP	115	65305	CASPERPP	115	1	35.74	4.03	t
73168	RENO	230	66725	WYODAK	230	1	-91.00	-6.36	t
73170	RIVERTON	115	66305	RIVERTON	230	1	-6.22	-10.15	t
73190	STEGALL	230	65420	DAVEJOHN	230	1	-96.56	14.22	t
73197	THERMOPL	115	66540	THERPACE	115	1	-11.47	-9.05	f
73197	THERMOPL	115	66535	THERMOPL	230	1	-0.84	-8.85	f
73222	WORLANTP	115	66720	WORLAND	115	1	12.52	-9.03	f
73229	YELLOWBR	230	66750	YELOWTLP	230	1	323.22	-18.92	f
73276	TEKLA	230	65060	ANT MINE	230	1	-30.13	-18.58	t
73282	WYODAK	69	66725	WYODAK	230	1	10.63	-15.21	t
73282	WYODAK	69	66725	WYODAK	230	2	7.19	-10.28	t
73294	HUGHES	230	66725	WYODAK	230	1	-116.77	1.57	t
79001	ARTESIA	138	66278	RANGELY	138	1	6.99	5.16	t
79005	BEARS	345	65193	BONANZA	345	1	351.43	-0.36	t
79026	FLAMGORG	138	65565	FLAMGORG	230	1	45.92	-5.94	t
79026	FLAMGORG	138	65565	FLAMGORG	230	2	45.92	-5.94	t
79046	MEEKER	138	66278	RANGELY	138	1	7.98	0.75	t
79067	VERNAL	138	65085	ASHLEY	138	1	80.81	-5.97	f
79067	VERNAL	138	65192	BONANZA	138	1	-49.69	-6.29	f
74016	WYGEN	14	66725	WYODAK	230	1	0.00	0.00	t

from area 73 to area 65 PACE 162.88 -73.22

73011	AULT	230	70474	WINDSOR	230	1	307.19	-1.38	f
73013	B.CK PS	115	70005	BRUSHCPP	115	1	-118.30	-23.01	t
73013	B.CK PS	115	70005	BRUSHCPP	115	2	-124.81	-30.01	t
73044	COBBLKTP	115	70116	COBBLAKE	115	1	15.34	1.44	t
73072	GOREPASS	138	79033	GOREPASS	230	1	-2.66	-3.44	t
73105	LAPORTE	115	70256	LAPORTPS	115	1	14.74	6.25	f
73116	LONGPEAK	230	70410	ST.VRAIN	230	1	51.99	-66.34	t
73138	MT.ELBRT	230	70274	MALTA	230	1	145.52	6.88	t
73165	RAWHIDE	230	70350	RAWHIDE	24	1	-262.16	-80.95	f
73165	RAWHIDE	230	70351	RAWHIDEA	14	1	-50.81	-40.24	f
73192	STORY	230	70311	PAWNEE	230	1	228.76	30.81	f
73211	WELD LM	115	70470	WELD PS	115	1	20.39	-61.43	t
73212	WELD LM	230	70471	WELD PS	230	1	369.21	-1.17	t

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   73296 FRASER    115        70287 MILL      115  1             41.68     -9.51   t
   73400 EMIL AND  115        70476 WOODLAND  115  1            -14.70     -2.51   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1             -4.47      0.15   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1            -18.43     22.63   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1           -132.07    -79.33   f
   73414 MONUMENT  115        70308 PALMER    115  1             47.42    -17.72   f
   73477 FULLER    230        70122 COMANCHE  230  1            -95.49    -31.36   f
   73477 FULLER    230        70139 DANIELPK  230  1            115.06     18.30   f
   79014 CRAIG     345        79058 RIFLE CU  345  1            336.13      1.45   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1           -306.73      2.71   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1             46.91     23.06   t
   79037 GUNNISON  115        70327 PONCHA    115  1             23.83    -10.86   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1              7.21      1.37   f
   79039 HAYDEN    230        79033 GOREPASS  230  1            250.97     22.33   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1            183.00     -0.02   t
   79046 MEEKER    138        79056 RIFLE CU  138  1             18.96      2.19   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1            -22.95      4.66   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1             80.57     -6.69   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1             90.98    -11.09   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1             -9.38     24.09   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1              0.00      0.53   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1             75.90      3.66   t
   73551 W CANON   230        70550 W CANON   115  1             23.57     19.05   f
from area  73 to area  70 PSCOLORADO                           1332.36   -285.47

   79061 SHIP PS   230        79063 SHIPROCK  230  1             87.43    -14.92   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1             -0.61    -13.17   t
from area  73 to area  19 WAPA L.C.                              86.82    -28.08

   73229 YELLOWBR  230        63001 CROS PHA  230  1           -156.57     25.41   f
from area  73 to area  63 WAPA U.M.                            -156.57     25.41

Total from area  73 WAPA R.M.                                  1611.95   -388.52

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1           -137.96     -8.14   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1            155.40    -21.46   f
   63008 HAVRE     161        62023 GT FALLS  161  1            -14.01     12.26   t
   63014 TIBERTAP  115        62027 SHELBY    115  1             -0.19      2.50   t
   63015 VERONA    161        62024 RAINBOW   161  1            -12.92     12.05   t
from area  63 to area  62 MONTANA                                -9.68     -2.79

   63001 CROS PHA  230        73229 YELLOWBR  230  1            156.57    -25.41   t
from area  63 to area  73 WAPA R.M.                             156.57    -25.41

Total from area  63 WAPA U.M.                                   146.89    -28.20
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Summation of selected system

	-----MW----	----MVAR---		
Generation	70648.648	9117.936	Generators	2564
Actual Load	60440.602	19741.215	Loads	6813
Net actual shunt	0.321	-2041.117	Shunts	1297
Net actual svd	0.000	-5930.230	Svd	585
Loss	3060.728	-2569.394	Buses	13183
			Lines	10961
			Transformers	5140
MVA-miles	6287675.5	972363.3	DC buses	6
Miles	46985.316		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	7862.734	857.197	Generators	142
Actual Load	7899.199	2641.000	Loads	512
Net actual shunt	0.000	-22.487	Shunts	9
Net actual svd	0.000	-1851.936	Svd	76
Net Interchange	-399.428	-37.039	Buses	991
Sched Interchange	-400.000		Lines	781
Loss	362.961	127.660	Transformers	406
MVA-miles	1111698.0	226120.4	DC buses	0
Miles	18637.697		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.733	25.322		
Loss at 13.80 Kv	3.367	88.111		
Loss at 14.40 Kv	0.019	2.275		
Loss at 25.00 Kv	1.931	27.273		
Loss at 34.00 Kv	0.053	0.877		
Loss at 69.00 Kv	18.964	-3.364		
Loss at 138.00 Kv	151.490	-263.415		
Loss at 240.00 Kv	167.689	-572.756		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	17.714	823.337		
Largest mismatch MVA	0.0121	0.1179		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	10251.102	925.883	Generators	112
Actual Load	6889.125	2565.790	Loads	395
Net actual shunt	0.000	2957.812	Shunts	104
Net actual svd	0.000	2143.605	Svd	125
Net Interchange	2850.135	-276.386	Buses	1054
Sched Interchange	2849.900		Lines	718
Loss	511.839	-6464.939	Transformers	645
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.307	7.922		
Loss at 13.80 Kv	10.057	491.737		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.302	0.084		
Loss at 132.00 Kv	36.981	105.857		
Loss at 138.00 Kv	15.076	-120.952		
Loss at 230.00 Kv	53.123	-614.115		
Loss at 500.00 Kv	338.766	-7000.631		
Loss at other Kv	57.226	665.161		
Largest mismatch MVA	0.0312	0.0351		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 60 [IDAHO]

	-----MW----	----MVAR---

Generation	4111.463	457.600	Generators	62
Actual Load	2984.000	711.600	Loads	64
Net actual shunt	0.000	-595.478	Shunts	15
Net actual svd	0.000	0.000	Svd	0
Net Interchange	919.864	-311.091	Buses	156
Sched Interchange	920.000		Lines	120
Loss	207.600	652.570	Transformers	96
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.272	5.839		
Loss at 13.80 Kv	3.375	116.064		
Loss at 14.40 Kv	0.878	34.174		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.590	27.429		
Loss at 115.00 Kv	0.438	0.380		
Loss at 138.00 Kv	19.680	-4.774		
Loss at 161.00 Kv	1.800	2.733		
Loss at 230.00 Kv	72.395	-34.598		
Loss at 345.00 Kv	102.916	335.740		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	5.255	169.583		
Largest mismatch MVA	0.0024	0.0082		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	2908.334	146.846	Generators	22
Actual Load	1422.895	610.184	Loads	200
Net actual shunt	0.321	-121.986	Shunts	56
Net actual svd	0.000	-90.512	Svd	11
Net Interchange	1367.597	-450.856	Buses	310
Sched Interchange	1368.000		Lines	317
Loss	117.521	200.016	Transformers	89
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.000	36.356		
Loss at 69.00 Kv	0.538	2.554		
Loss at 100.00 Kv	15.820	-45.784		
Loss at 115.00 Kv	2.234	-18.339		
Loss at 161.00 Kv	30.178	-13.233		
Loss at 230.00 Kv	24.146	-80.848		
Loss at 500.00 Kv	43.958	143.897		
Loss at other Kv	0.648	175.413		
Largest mismatch MVA	0.0045	0.0081		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	27331.773	3752.767	Generators	383
Actual Load	22671.295	6850.328	Loads	1652
Net actual shunt	0.000	-1855.398	Shunts	43
Net actual svd	0.000	-4060.109	Svd	159
Net Interchange	3513.902	1036.054	Buses	2740
Sched Interchange	3514.000		Lines	2710
Loss	1146.586	1781.908	Transformers	654
MVA-miles	4582896.5	611580.2	DC buses	4
Miles	18469.418		DC converters	4
			DC lines	2
Loss at 11.00 Kv	-0.000	0.606		
Loss at 13.20 Kv	0.000	4.928		
Loss at 13.80 Kv	4.807	207.596		
Loss at 14.40 Kv	0.284	13.035		
Loss at 25.00 Kv	3.168	165.818		
Loss at 34.50 Kv	0.345	6.193		
Loss at 69.00 Kv	14.912	42.575		
Loss at 100.00 Kv	0.121	-0.183		
Loss at 115.00 Kv	218.081	502.353		
Loss at 230.00 Kv	338.233	1624.930		
Loss at 345.00 Kv	16.041	-175.694		

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Loss at 500.00 Kv         425.745    -1920.996
Loss at other Kv          124.848     1310.747

Largest mismatch MVA       0.0286       0.0790

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area  65 [PACE                           ]

                      -----MW----  ----MVAR---
Generation               5584.900      755.788        Generators           52
Actual Load              6293.716     1960.150        Loads               274
Net actual shunt            0.000    -1762.570        Shunts               74
Net actual svd              0.000      -48.571        Svd                   2
Net Interchange          -981.147       36.871        Buses               564
Sched Interchange        -981.200                     Lines               407
Loss                      272.334      569.904        Transformers        337

MVA-miles                     5.0          1.6        DC buses              0
Miles                       1.900                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           0.868       28.077
Loss at  34.50 Kv           0.990        7.429
Loss at  46.00 Kv           6.339      137.414
Loss at  69.00 Kv           1.672       22.771
Loss at 100.00 Kv           0.056        1.037
Loss at 115.00 Kv           3.001       -9.332
Loss at 138.00 Kv          71.155      198.499
Loss at 161.00 Kv          15.087        2.871
Loss at 230.00 Kv          80.593       61.975
Loss at 345.00 Kv          88.501       20.527
Loss at other Kv            4.074       98.636

Largest mismatch MVA       0.0031       0.0248

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area  70 [PSCOLORADO                     ]

                      -----MW----  ----MVAR---
Generation               5191.508     1771.750        Generators           66
Actual Load              6332.696     2372.604        Loads               362
Net actual shunt            0.000        0.000        Shunts                0
Net actual svd              0.000    -1672.031        Svd                  43
Net Interchange         -1332.337      285.456        Buses               500
Sched Interchange       -1332.800                     Lines               461
Loss                      191.144      785.742        Transformers        147

MVA-miles                 30598.7       6263.1        DC buses              0
Miles                     564.500                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           4.007      136.179
Loss at  14.40 Kv           0.080        0.798
Loss at  25.00 Kv           0.010        0.140
Loss at  46.00 Kv           0.196        0.009
Loss at  69.00 Kv           7.173        1.660
Loss at 100.00 Kv           0.032       -0.501
Loss at 115.00 Kv          33.096      -37.718
Loss at 138.00 Kv           0.225       -5.718
Loss at 230.00 Kv         138.902      449.863
Loss at 345.00 Kv           0.002        0.112
Loss at other Kv            7.423      240.917

Largest mismatch MVA       0.0243       0.0264

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area  64 [SIERRA                         ]

                      -----MW----  ----MVAR---
Generation               1375.351      126.528        Generators           22
Actual Load              1719.091      458.744        Loads               121
Net actual shunt            0.000     -188.116        Shunts               30
Net actual svd              0.000       68.967        Svd                   5
Net Interchange          -399.899       57.299        Buses               275
Sched Interchange        -399.000                     Lines               197
Loss                       56.159     -270.358        Transformers        117

MVA-miles                 66649.6      38456.5        DC buses              0
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Miles	1042.600		DC converters	0
			DC lines	0
Loss at 13.80 Kv	2.542	51.449		
Loss at 69.00 Kv	0.000	0.000		
Loss at 115.00 Kv	0.479	-6.145		
Loss at 230.00 Kv	1.908	-99.624		
Loss at 345.00 Kv	9.075	-441.238		
Loss at other Kv	42.154	225.200		
Largest mismatch MVA	0.0067	0.0424		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
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Area 52 [W KOOTENAY]

	-----MW----	----MVAR---		
Generation	596.550	100.091	Generators	20
Actual Load	722.400	210.200	Loads	64
Net actual shunt	0.000	-77.820	Shunts	27
Net actual svd	0.000	-130.690	Svd	4
Net Interchange	-150.510	-8.137	Buses	260
Sched Interchange	-149.900		Lines	165
Loss	24.660	106.536	Transformers	117
MVA-miles	30835.6	4863.4	DC buses	0
Miles	986.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.000	8.258		
Loss at 13.80 Kv	0.000	0.000		
Loss at 14.40 Kv	0.000	29.986		
Loss at 25.00 Kv	0.000	0.000		
Loss at 138.00 Kv	0.396	-0.490		
Loss at 161.00 Kv	9.043	11.279		
Loss at 230.00 Kv	1.525	-8.685		
Loss at other Kv	13.696	66.188		
Largest mismatch MVA	0.0008	0.0060		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 73 [WAPA R.M.]

	-----MW----	----MVAR---		
Generation	5379.477	218.708	Generators	80
Actual Load	3608.290	1237.018	Loads	355
Net actual shunt	0.000	-296.124	Shunts	4
Net actual svd	0.000	-271.844	Svd	53
Net Interchange	1611.933	-387.598	Buses	620
Sched Interchange	1612.000		Lines	567
Loss	159.255	-62.738	Transformers	174
MVA-miles	464992.6	85078.0	DC buses	0
Miles	7283.200		DC converters	0
			DC lines	0
Loss at 13.80 Kv	6.221	91.895		
Loss at 34.50 Kv	0.315	4.024		
Loss at 69.00 Kv	5.364	-11.099		
Loss at 115.00 Kv	64.437	-116.586		
Loss at 138.00 Kv	4.687	-30.251		
Loss at 230.00 Kv	36.118	-278.216		
Loss at 345.00 Kv	34.875	-45.982		
Loss at other Kv	7.239	323.477		
Largest mismatch MVA	0.0228	0.0342		

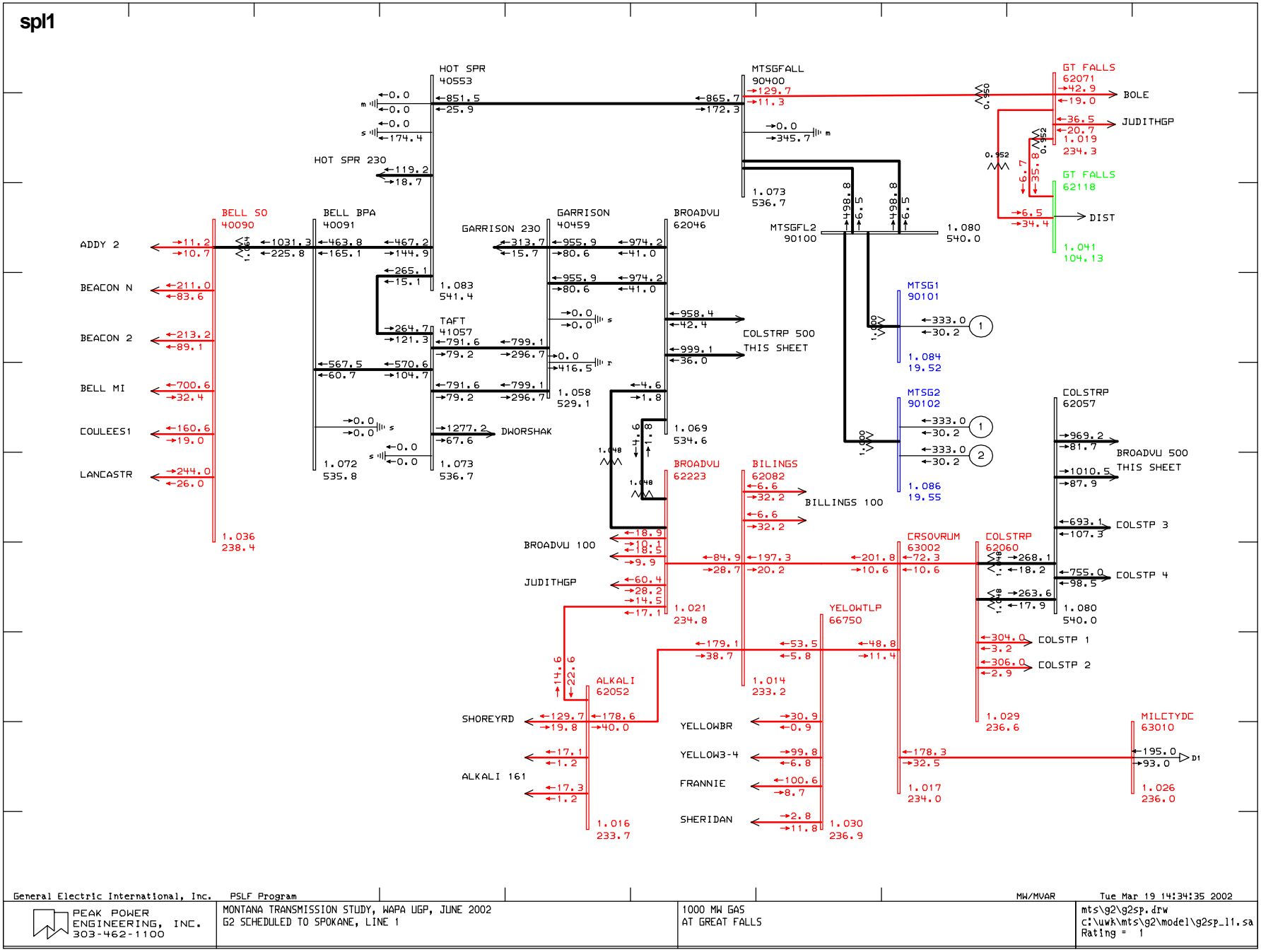
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G1

Area 63 [WAPA U.M.]

	-----MW----	----MVAR---		
Generation	55.454	4.779	Generators	1
Actual Load	-102.100	123.600	Loads	17
Net actual shunt	0.000	-78.951	Shunts	1
Net actual svd	0.000	-17.109	Svd	4
Net Interchange	146.885	-27.065	Buses	15
Sched Interchange	147.000		Lines	12
Loss	10.669	4.305	Transformers	3
MVA-miles	0.0	0.0	DC buses	0

Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.219	6.218		
Loss at 115.00 Kv	0.025	-7.077		
Loss at 161.00 Kv	0.926	-47.969		
Loss at 230.00 Kv	9.498	53.134		
Largest mismatch MVA	0.0001	0.0010		

B.3 **spl1**



General Electric International, Inc. PSLF Program MW/MVAR Tue Mar 19 14:34:35 2002

PEAK POWER ENGINEERING, INC. 303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

1000 MW GAS
AT GREAT FALLS

mts\g2\g2sp.drw
c:\uwk\mts\g2\model\g2sp_11.sa
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------								rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------	loading	
54083	E EDMON9	138	54	55938	STEL TAP	138	54	22	197.9	1.5	197.9	468.6A	169.9	F
54503	STELCOA9	138	54	55938	STEL TAP	138	54	22	-197.3	-0.2	197.3	497.9A	159.8	F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-66.0	-5.3	66.2	45.0M	148.3	T
54506	BELLAMY4	240	54	54518	ARGYLL E	240	54	04	81.2	84.2	117.0	240.6A	134.0	T
54062	BARDO 7	138	54	54065	N HOLDE9	138	54	74	82.0	-53.0	97.7	355.6A	111.9	F
54154	E CALGAR	240	54	54161	SARCEE 4	240	54	16	-91.2	365.6	376.8	801.1A	110.9	T
54681	NEVIS 7	138	54	54823	NEVIS 9	138	54	1	33.2	15.6	36.7	33.3M	110.2	F
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	23.6	83.7	79.0M	106.0	F
54290	BALZAC G	138	54	55290	BALZAC 1	14	54	T1	107.1	13.1	107.9	105.0M	102.8	F
54079	MILLAR 7	138	54	55102	MILLARA9	14	54	T2	55.6	29.0	62.7	62.5M	100.4	F

```
Processing file c:\uwk\mts\base\rvoltlsbs.out
Processing file c:\uwk\mts\g2\rvoltspl1.out

Compvolt found the following for comparisons:
     477 Voltage Violations read from c:\uwk\mts\base\rvoltlsbs.out
     479 Voltage Violations read from c:\uwk\mts\g2\rvoltspl1.out


**** VOLTS:  NEW ****
Component                   w/o Prj         w/ Prj  Rating
50464 TKW500    500   0.95 <= pu <= 1.05    1.0528  1.00 pu kV
50541 KDS230    230   0.95 <= pu <= 1.05    1.0504  1.00 pu kV
50561 WSN500    500   0.95 <= pu <= 1.05    1.0505  1.00 pu kV

**** VOLTS: WORSE ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS: BETTER ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS:  AWAY ****
Component             w/o Prj      w/ Prj          Rating
47165 HANLY R1  115   1.0509  0.95 <= pu <= 1.05   1.00 pu kV
40887 RINGOLD   115   1.0500  0.95 <= pu <= 1.05   1.00 pu kV
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54054	LAMOURE4	240	1.1046	54081	METIS644	240	1.1120	54090	BICKERD4	240	1.1205
54103	DEERLAN4	240	1.1029	54121	ELLERSLI	240	1.1124	54126	WABAMUN4	240	1.1072
54128	SUNDANM9	240	1.1080	54129	E EDMON4	240	1.1083	54130	N CALDE4	240	1.1056
54131	N BARRH4	240	1.1049	54150	LANGDON2	500	1.1250	54329	KEEPHIL4	240	1.1222
54441	946/947X	240	1.1124	54505	JASPER 4	240	1.1078	54506	BELLAMY4	240	1.1213
54509	ARGYLL W	240	1.1206	54512	DOME T29	240	1.1119	54513	LAMBTON4	240	1.1090
54514	CLOVERB4	240	1.1050	54518	ARGYLL E	240	1.1201	54519	CASTLTX2	240	1.1045
54521	PETROLIA	240	1.1140	54524	GENESEE4	240	1.1210	54675	PAINTRT7	240	1.1015
54681	NEVIS 7	138	1.1099	54806	946/947N	240	1.1083	54844	709S702T	138	1.1092
54978	EAST IN4	240	1.1085	55891	904AL TP	240	1.1085	55969	770S701T	138	1.1087
51017	KMS230	230	1.1121								

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
90400	MTSGFALL	500	1.0740	90100	MTSGFL2	500	1.0800	54003	COLINTO9	138	1.0523
54007	BOYLE 9	138	1.0564	54012	FOX CREE	138	1.0666	54013	KAYBOB 9	138	1.0717
54014	GULF RO9	138	1.0819	54015	MTN COA9	138	1.0653	54016	FLATBUS9	138	1.0542
54017	COLD CR7	138	1.0666	54019	WESGEN T	138	1.0531	54020	EDSON A9	138	1.0624
54021	WESGEN 7	138	1.0556	54054	LAMOURE4	240	1.1046	54069	JARROW 9	138	1.0542
54073	IPPL ST9	138	1.0585	54075	SEDGEWI9	138	1.0508	54076	BUFFALO9	138	1.0545
54077	BIGSTON4	240	1.0949	54078	CHEVRON7	138	1.0717	54081	METIS644	240	1.1120
54082	BICKERD7	138	1.0718	54090	BICKERD4	240	1.1205	54097	BIG HOR9	138	1.0675
54103	DEERLAN4	240	1.1029	54111	SANDHIL7	138	1.0794	54121	ELLERSLI	240	1.1124
54125	SUNDANL9	138	1.0654	54126	WABAMUN4	240	1.1072	54128	SUNDANM9	240	1.1080
54129	E EDMON4	240	1.1083	54130	N CALDE4	240	1.1056	54131	N BARRH4	240	1.1049
54134	DALEHUR9	138	1.0656	54139	GAETZ 4	240	1.0751	54141	HIGHVAL9	138	1.0652
54142	WILLESD4	240	1.0883	54144	RED DEE4	240	1.0671	54147	BENALTO4	240	1.0665
54148	E CROSS4	240	1.0574	54150	LANGDON2	500	1.1250	54153	BRAZEAU4	240	1.0977
54155	SAGITAW4	240	1.0591	54157	PEIGAN 4	240	1.0705	54159	N LETHB4	240	1.0856
54200	848S901T	240	1.0730	54232	PANCAN 9	138	1.0792	54233	DOME EM7	138	1.0794
54258	PLAMOND9	138	1.0551	54259	LAC LA 9	138	1.0996	54260	WINEFRE9	138	1.0966
54269	COALSPU7	138	1.0846	54281	MILO 2	240	1.0684	54285	LEISMER9	240	1.0825
54287	GREGG R9	138	1.0959	54298	ALB NEWS	240	1.0502	54302	MARIONA9	138	1.0652
54308	FLATLK-3	138	1.0559	54325	CHEV KG9	138	1.0717	54326	COAL VA9	138	1.0834
54329	KEEPHIL4	240	1.1222	54335	W BROOK4	240	1.0589	54362	EDGERTO7	138	1.0548
54381	FLATLK-1	138	1.0558	54412	BENBOW 9	138	1.0717	54441	946/947X	240	1.1124
54505	JASPER 4	240	1.1078	54506	BELLAMY4	240	1.1213	54509	ARGYLL W	240	1.1206
54512	DOME T29	240	1.1119	54513	LAMBTON4	240	1.1090	54514	CLOVERB4	240	1.1050
54518	ARGYLL E	240	1.1201	54519	CASTLTX2	240	1.1045	54521	PETROLIA	240	1.1140
54524	GENESEE4	240	1.1210	54557	WESLY C4	240	1.0613	54558	WESLY C7	138	1.0651
54559	CARMON 9	138	1.0630	54560	PEACE/29	138	1.0623	54561	DIASHOW7	138	1.0623
54567	FRIEDEN7	138	1.0537	54571	MERCER 9	138	1.0735	54572	MERC TAP	138	1.0738
54576	CRYST L7	138	1.0749	54578	SADHL TP	138	1.0598	54579	SADDLE 9	138	1.0529
54580	FLYSHT/2	138	1.0630	54581	WAP JCT7	138	1.0513	54584	ALBRIGHT	138	1.0569
54585	P&G 7	138	1.0570	54588	BIG MTN7	138	1.0614	54589	DOME CU7	138	1.0736
54590	BRDGE C7	138	1.0619	54593	DONNELL9	138	1.0661	54594	TAP7L487	138	1.0690
54595	TRIANGL7	138	1.0645	54596	VALLEYV9	138	1.0777	54598	BEZANSON	138	1.0756
54599	L. SMOKY	240	1.0645	54600	L.SMOKY7	138	1.0840	54601	STURGEO7	138	1.0838
54606	SIMONET9	138	1.0843	54607	FOXCRK/2	138	1.0643	54608	GOOSE R9	138	1.0662

54612	RUTH LA7	138	1.0925	54613	RUTH LK7	138	1.0929	54618	PARS CR7	138	1.0897
54619	HANGSTO9	138	1.0871	54621	MITS E.4	240	1.0748	54622	MITS E.7	138	1.0980
54623	AEC MILL	138	1.0970	54624	OTAUWAU7	138	1.0978	54632	LOU CR.4	240	1.0638
54633	LOU CR.7	138	1.0596	54634	SARHLK/2	138	1.0532	54636	ESSO JU7	138	1.0543
54637	MORSE RV	138	1.0548	54639	VIRGINI9	138	1.0521	54643	WOLF LK9	138	1.0698
54646	MARG LK4	240	1.0781	54647	MARG LK7	138	1.0829	54648	LACOREY9	138	1.0806
54649	ETHEL L7	138	1.0671	54652	BONNY 9	138	1.0838	54654	BONN SVC	138	1.0838
54655	WHITFISH	240	1.0951	54656	WHITBY 7	138	1.0841	54657	VILNA 9	138	1.0819
54663	IRISH C9	138	1.0616	54665	BUFALOTP	138	1.0545	54666	VERMILO7	138	1.0596
54670	HILL 9	138	1.0685	54675	PAINTRT7	240	1.1015	54680	NEVIS 4	240	1.0776
54681	NEVIS 7	138	1.1099	54685	3HILLS/3	138	1.0615	54691	MICH. C9	138	1.0997
54693	WINT HI9	138	1.0934	54694	BULLPON9	138	1.0872	54700	MCNEILL	138	1.0795
54701	OYEN 7	138	1.0600	54707	SHEER 14	240	1.0545	54709	ANDERSO4	240	1.0547
54710	ANDERSON	138	1.0846	54711	SHEER 24	240	1.0535	54714	JAROW TP	138	1.0542
54715	BAT. RV7	138	1.0809	54721	BAT RV79	240	1.0990	54723	CORDEL 4	240	1.0990
54729	PRIM TAP	138	1.0650	54730	PRIMROSE	138	1.0710	54798	800S701T	138	1.0612
54802	STURGEO9	138	1.0860	54806	946/947N	240	1.1083	54809	732S901T	240	1.0752
54814	717S701T	138	1.0634	54818	VERMILA9	138	1.0803	54819	TER 70A9	138	1.0630
54822	766S901T	240	1.0624	54823	NEVIS 9	138	1.0747	54827	MONITOR9	138	1.0519
54828	767S701T	138	1.0935	54836	MILNERB9	138	1.0720	54838	848S902T	240	1.0734
54840	732S902T	240	1.0517	54844	709S702T	138	1.1092	54847	BAT RV80	240	1.0990
54962	KAYBOBTP	138	1.0717	54978	EAST IN4	240	1.1085	54983	MARION T	138	1.0653
54984	HIGHVL T	138	1.0652	54988	CROSSF T	240	1.0574	54995	W.GRN TP	240	1.0883
55003	SANDYPT9	138	1.0794	55007	ALGAR-39	138	1.0918	55008	MARIANA7	138	1.0931
55072	SYNC_D04	240	1.0652	55073	AURORA 4	240	1.0698	55117	CLAIR L	138	1.0736
55118	POPLAR 7	138	1.0599	55147	MILNERC9	138	1.0825	55226	WABASCA9	240	1.0677
55260	EMP LIQ7	138	1.0774	55272	FIELDGA9	138	1.0534	55280	BRINTNEL	240	1.0629
55352	GRND CTR	138	1.0684	55367	VEGREVL9	138	1.0539	55515	PRIMROSE	138	1.0563
55820	FICKLE 9	138	1.0675	55891	904AL TP	240	1.1085	55909	DALEH TP	138	1.0656
55910	OBED TAP	138	1.0656	55911	EMPLIQTP	138	1.0779	55912	740L JNC	138	1.0846
55913	G.ROBB T	138	1.0825	55924	CH KGT T	138	1.0717	55943	MILO 1	240	1.0684
55969	770S701T	138	1.1087	50010	COM132	132	1.0509	50016	CKY230	230	1.0519
50020	CMS230	230	1.0500	50036	RBW230	230	1.0582	50037	PEM230	230	1.0615
50038	RBW230-1	230	1.0573	50182	ARN132	132	1.0665	50185	ALZ230	230	1.0605
50186	ROS230	230	1.0713	50187	BRT230	230	1.0686	50188	BUT230	230	1.0500
50190	CBN230	230	1.0524	50191	ROS360	360	1.0527	50192	WAH360	360	1.0531
50193	BRT360	360	1.0500	50313	VIT132	132	1.0704	50314	PVO133	132	1.0698
50315	PVO132	132	1.0703	50316	LDY132	132	1.0523	50318	JPT132	132	1.0715
50319	COC132	132	1.0681	50320	HMC132	132	1.0678	50321	PHY132	132	1.0566
50322	CFT132	132	1.0661	50323	DMR132	132	1.0837	50324	PAL132	132	1.0666
50325	GCL132	132	1.0681	50326	NFD132	132	1.0725	50327	ASH132	132	1.0718
50328	PUN132	132	1.0563	50330	LDR132	132	1.0500	50334	KGH132	132	1.0609
50335	UTA132	132	1.0611	50336	PVL132-2	132	1.0731	50337	LDY122	132	1.0712
50338	CMX132	132	1.0577	50339	PVL132	132	1.0732	50342	SCA132	132	1.0500
50343	KSH132-2	132	1.0732	50344	SHA1	132	1.0715	50345	KSH132	132	1.0726
50346	SHA2	132	1.0757	50347	GOW132	132	1.0862	50348	GTP132	132	1.0901
50349	CLD132	132	1.0940	50350	SOO132	132	1.0953	50351	JOR132	132	1.0990
50352	PML132	132	1.0592	50353	WOS132	132	1.0561	50354	GLSTP17	132	1.0748
50355	GLSTP18	132	1.0718	50356	DND132	132	1.0854	50357	LTZ115	132	1.0713
50358	LTZ116	132	1.0713	50359	JHT132	132	1.0500	50377	LDYTP138	132	1.0526
50381	PVLTP116	132	1.0731	50382	HWDTP122	132	1.0715	50383	LDYTP122	132	1.0712
50385	CMXTP102	132	1.0559	50386	CMXTP101	132	1.0597	50387	PVLTP115	132	1.0732
50390	KSHTP11	132	1.0728	50391	KSHTP14	132	1.0735	50393	SHATP10	132	1.0716
50394	SHATP14	132	1.0757	50395	SALTP17	132	1.0733	50396	SALTP18	132	1.0733
50399	LTZTP115	132	1.0713	50400	LTZTP116	132	1.0713	50403	CMX132-2	132	1.0543

50460	KMO287	287	1.0528	50463	SKA500	500	1.0525	50464	TKW500	500	1.0528
50541	KDS230	230	1.0504	50545	BLW230	230	1.0739	50546	SCK230	230	1.0677
50547	HMH230	230	1.0643	50548	BLM230	230	1.0525	50549	QNT230	230	1.0518
50550	QRP230	230	1.0736	50551	TLR230	230	1.0523	50553	BCR230	230	1.0523
50554	RBF230	230	1.0748	50556	LAP230	230	1.0501	50557	SNK230	230	1.0517
50560	KDS500	500	1.0613	50561	WSN500	500	1.0505	50562	GLN500	500	1.0595
50677	MCK138	138	1.0534	50678	AVO138	138	1.0555	50679	BLU138	138	1.0625
50680	VLM138	138	1.0690	50686	SCO138	138	1.0683	50687	ABA138	138	1.0681
50701	REV500	500	1.0500	50729	PRI138TP	138	1.0682	50782	CBK230	230	1.0502
50783	SEL230	230	1.0545	50785	SEV230	230	1.0532	50786	INV230	230	1.0515
50789	AAL230	230	1.0516	50791	CBK500	500	1.0802	50792	SEL500	500	1.0500
50899	ABA138TP	138	1.0682	50913	HWD132-2	132	1.0693	50914	HWDTP112	132	1.0693
50922	DNDTAP	132	1.0861	50923	HSY-PH	132	1.0903	50924	ESQ-PH	132	1.0854
50928	SCG IPP	132	1.0500	50932	IPH132	132	1.0678	50933	JUL132	132	1.0578
50934	JULTP130	132	1.0609	51017	KMS230	230	1.1121	51019	OYR132B1	132	1.0540
51020	OYR132B2	132	1.0563	51021	OYR T101	132	1.0545	51022	OYR T119	132	1.0570
51024	QLC132B1	132	1.0756	51025	QLC132B2	132	1.0756	51040	ICG132	132	1.0500
51045	ALH230	230	1.0554	51051	PGS132	132	1.0699	51052	PGS-105T	132	1.0699
51053	PGS-114T	132	1.0699	60085	BRIDGER	345	1.0500	60240	MIDPOINT	500	1.0604
62012	TOWN2	500	1.0868	62013	TOWN1	500	1.0868	62033	ANA BPA	115	1.0513
62046	BROADVU	500	1.0709	62053	BROADV&2	500	1.0638	62054	BROADV&1	500	1.0645
62057	COLSTRP	500	1.0800	40045	ALLSTON	500	1.0769	40051	ALVEY	500	1.0812
40061	ASHE	500	1.0800	41184	BALD MT	115	1.0514	40091	BELL BPA	500	1.0803
40111	BIG EDDY	500	1.0803	43049	BOARD F	500	1.0800	47013	BRIDGPRT	115	1.0524
40155	BUCKLEY	500	1.0827	45029	BURNS	500	1.0669	45035	CAPTJACK	500	1.0751
46209	CARMEN	115	1.0531	42315	CASCADEP	115	1.0580	41311	CELILO1	500	1.0800
41312	CELILO2	500	1.0800	40233	CHIEF JO	500	1.0800	42316	CLE ELUM	115	1.0584
40269	CONNEL T	115	1.0505	40271	CONNELL	115	1.0535	40287	COULEE	500	1.0810
40302	COVINGT4	500	1.0763	40306	COVINGT5	500	1.0768	43123	COYOTE	500	1.0830
40323	CUSTER W	500	1.0526	45095	DIXONVLE	500	1.0778	40369	DWORSHAK	500	1.0641
42395	EASTON	115	1.0599	40381	ECHOLAKE	500	1.0817	40451	GAR1EAST	500	1.0854
40453	GAR2EAST	500	1.0854	40459	GARRISON	500	1.0630	40485	GREEN PT	115	1.0520
40489	GRIZZLY	500	1.0720	40499	HANFORD	500	1.0869	40517	HATTON T	115	1.0517
40521	HATWAI	500	1.0664	45137	HERMIST	230	1.0510	41212	HILLS CR	115	1.0500
40553	HOT SPR	500	1.0876	42405	HYAK	115	1.0607	40585	JOHN DAY	500	1.0800
40601	KEELER	500	1.0757	45262	KFALLS	500	1.0793	42411	KITTITAS	115	1.0606
40629	LANE	500	1.0690	40665	LIT GOOS	500	1.0805	40679	LOW GRAN	500	1.0785
40683	LOW MON	500	1.0800	40687	MALIN	500	1.0732	40693	MAPLE VL	500	1.0834
40699	MARION	500	1.0800	40711	MCLOUGLN	500	1.0798	40721	MCNARY	345	1.0512
40723	MCNARY	500	1.0812	45197	MERIDINP	500	1.0797	40749	MONROE	500	1.0777
42429	NCLE ELM	115	1.0580	40797	OLYMPIA	500	1.0798	40809	OSTRNDER	500	1.0792
40821	PAUL	500	1.0800	40827	PEARL	500	1.0795	40837	PONDROSA	500	1.0752
40869	RAVER	500	1.0799	43485	ROUND BU	500	1.0690	40913	SACJAWEA	500	1.0810
40917	SACJWA T	500	1.0814	40941	SANTIAM	500	1.0798	40949	SATSOP	500	1.0819
40957	SCHULTZ	500	1.0922	40973	SICKLER	500	1.0840	40989	SLATT	500	1.0823
41043	SUMMER L	500	1.0723	45289	SWIFT	230	1.0500	41051	TACOMA	500	1.0809
41057	TAFT	500	1.0788	41095	TROUTDAL	500	1.0822	41103	UNDRWOOD	115	1.0513
41113	VANTAGE	500	1.0902	47099	WELLS	115	1.0607	42467	WOLDALE	115	1.0594
42314	X-POINT	200	1.0594	65510	EMERY	345	1.0500	64074	MILLERS	120	1.0574
64165	SQAW VLY	120	1.0606	64182	SANDIA	120	1.0573	64229	SUMMIT 2	115	1.0508
52226	PRI138	138	1.0690	52229	KER138	138	1.0761	52230	HED138	138	1.0740
52291	DKL138	138	1.0577	52300	LEE138T3	138	1.0575	52301	LEE138T4	138	1.0575
52302	LEE138C	138	1.0575	52303	JOR138TP	138	1.0571	52304	DGB138	138	1.0563
52306	SEX138	138	1.0578	52307	GLE138	138	1.0579	52308	REC138	138	1.0582
52309	SAU138	138	1.0567	52310	SPR138TP	138	1.0567	52313	HOL138	138	1.0566

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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
          MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
          G2 SCHEDULED TO SPOKANE, LINE 1

            52314 OKM138    138 1.0559    52319 JOR138    138 1.0569    52426 MAS138    138 1.0739
            52809 LEE-T3    230 1.0583    52810 LEE-T4A   230 1.0576    52811 LEE-T4B   230 1.0593
            52812 LEE-T4C   230 1.0580    52813 LEE-T4D   230 1.0581    52815 PRI-T2    138 1.0723


              undervoltage summary < 0.900000
          --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)



              undervoltage summary < 0.950000
          --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)  --no.-- --name-- -kv- (v pu)

            54551 RING CK7  138 0.9484    54796 791S701T  138 0.9196    54835 791S702T  138 0.9260
            50781 NTL VR    138 0.9447
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

	generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name	ALBERTA									
mw	10743.6	6887.3	6274.4	0.0	0.0	0.0	0.0	200.4	412.4	37.5
54 mvar	4941.5	852.3	1997.1	0.0	0.0	-21.7	-1195.6	-19.2	91.8	20.4
area name	B.C.HYDRO									
mw	14043.0	8264.4	6035.1	0.0	0.0	0.0	0.0	1800.3	429.1	270.6
50 mvar	6475.0	195.7	2359.8	0.0	0.0	2931.6	2573.2	-362.7	-7306.2	-5.6
area name	IDAHO									
mw	4676.4	3194.5	1955.0	0.0	0.0	0.0	0.0	1065.9	173.6	179.1
60 mvar	2192.5	590.9	501.3	0.0	0.0	-96.8	0.0	-371.5	557.9	26.2
area name	MONTANA									
mw	4501.2	4002.3	1207.7	0.0	0.0	0.4	0.0	2684.9	109.2	735.3
62 mvar	1909.0	459.8	524.8	0.0	0.0	-121.0	410.1	-747.5	393.4	179.6
area name	NORTHWEST									
mw	43404.3	16544.1	16651.6	0.0	0.0	0.0	0.0	-732.5	625.0	568.4
40 mvar	15534.6	396.0	5157.0	0.0	0.0	-1724.6	2142.1	1426.9	-6605.4	-287.5
area name	PACE									
mw	6242.0	5530.6	4750.0	0.0	0.0	0.0	0.0	590.8	189.8	79.6
65 mvar	3201.9	548.0	1528.0	0.0	0.0	-528.4	0.0	-168.3	-283.4	12.7
area name	PSCOLORADO									
mw	5792.0	4234.7	4858.1	0.0	0.0	0.0	0.0	-744.6	121.3	102.7
70 mvar	3667.3	624.7	1835.0	0.0	0.0	0.0	-1397.6	51.0	136.2	3.9
area name	SIERRA									
mw	1901.7	1068.6	1075.2	0.0	0.0	0.0	0.0	-36.9	30.3	98.6
64 mvar	925.4	-25.9	280.4	0.0	0.0	-158.4	74.0	19.0	-240.8	7.7
area name	W KOOTENAY									
mw	763.5	498.0	486.1	0.0	0.0	0.0	0.0	0.6	11.4	98.0
52 mvar	450.0	2.0	160.7	0.0	0.0	-79.2	-71.9	-15.0	7.3	-5.3
area name	WAPA R.M.									
mw	6091.6	3958.6	2784.2	0.0	0.0	0.0	0.0	1051.5	122.8	413.7
73 mvar	2883.8	-175.8	950.8	0.0	0.0	-299.3	-177.0	-210.6	-439.7	16.9

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd	-- inter	net losses	slack bus
area name		WAPA U.M.									
	mw	61.8	28.9	-120.2	0.0	0.0	0.0	0.0	140.7	8.4	28.9
63	mvar	34.0	1.1	117.5	0.0	0.0	-79.0	3.3	-6.0	-34.7	1.1
TOTL	mw	98221.1	54211.8	45957.1	0.0	0.0	0.4	0.0	6021.1	2233.2	
	mvar	42215.0	3468.8	15412.5	0.0	0.0	-176.8	2360.6	-403.8	-13723.7	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	200.4	-19.2
TOTAL		200.4	-19.2
FROM AREA	50 B.C.HYDRO		
TO AREA	54 ALBERTA	-200.4	19.2
TO AREA	40 NORTHWEST	2001.3	-396.9
TO AREA	52 W KOOTENAY	-0.6	15.0
TOTAL		1800.3	-362.7
FROM AREA	60 IDAHO		
TO AREA	40 NORTHWEST	982.8	-333.4
TO AREA	65 PACE	210.7	-18.0
TO AREA	64 SIERRA	-127.7	-20.1
TOTAL		1065.9	-371.5
FROM AREA	62 MONTANA		
TO AREA	40 NORTHWEST	2712.6	-737.0
TO AREA	65 PACE	65.6	-10.5
TO AREA	63 WAPA U.M.	-93.3	0.0
TOTAL		2684.9	-747.5
FROM AREA	40 NORTHWEST		
TO AREA	50 B.C.HYDRO	-2001.3	396.9
TO AREA	60 IDAHO	-982.8	333.4
TO AREA	26 LADWP	1956.0	411.9
TO AREA	62 MONTANA	-2712.6	737.0
TO AREA	30 PG AND E	2878.1	-432.0
TO AREA	64 SIERRA	130.0	-20.3
TOTAL		-732.5	1426.9
FROM AREA	65 PACE		
TO AREA	14 ARIZONA	275.7	34.0
TO AREA	60 IDAHO	-210.7	18.0
TO AREA	26 LADWP	67.3	-133.5
TO AREA	62 MONTANA	-65.6	10.5
TO AREA	18 NEVADA	159.7	-81.6
TO AREA	64 SIERRA	23.6	8.9
TO AREA	19 WAPA L.C.	179.3	-28.3
TO AREA	73 WAPA R.M.	161.5	3.6
TOTAL		590.8	-168.3
FROM AREA	70 PSCOLORADO		
TO AREA	73 WAPA R.M.	-744.6	51.0
TOTAL		-744.6	51.0
FROM AREA	64 SIERRA		
TO AREA	60 IDAHO	127.7	20.1
TO AREA	26 LADWP	-31.1	6.4
TO AREA	40 NORTHWEST	-130.0	20.3
TO AREA	65 PACE	-23.6	-8.9
TO AREA	30 PG AND E	8.5	-16.0
TO AREA	24 SOCALIF	11.7	-2.8

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   TOTAL                                              -36.9       19.0

 FROM AREA   52 W KOOTENAY                             mw        mvar
   TO AREA   50 B.C.HYDRO                               0.6      -15.0
   TOTAL                                                0.6      -15.0

 FROM AREA   73 WAPA R.M.                              mw        mvar
   TO AREA   10 NEW MEXICO                            338.7      -96.2
   TO AREA   65 PACE                                 -161.5       -3.6
   TO AREA   70 PSCOLORADO                            744.6      -51.0
   TO AREA   19 WAPA L.C.                             177.2      -65.7
   TO AREA   63 WAPA U.M.                             -47.5        6.0
   TOTAL                                             1051.5     -210.6

 FROM AREA   63 WAPA U.M.                              mw        mvar
   TO AREA   62 MONTANA                                93.3       -0.0
   TO AREA   73 WAPA R.M.                              47.5       -6.0
   TOTAL                                              140.7       -6.0
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AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
54150	LANGDON2	500	50791	CBK500	500	1	193.40	4.09	f
54205	COLEMAN7	138	50776	NTL138	138	1	6.21	-20.63	t
54273	POCATER7	138	50830	FRO T274	138	1	0.81	-2.69	t
from area 54 to area 50 B.C.HYDRO							200.43	-19.23	
Total from area 54 ALBERTA							200.43	-19.23	
---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
90400	MTSGFALL	500	40553	HOT SPR	500	1	865.72	-172.28	f
62004	ANACOND	230	40457	GARRISON	230	1	-94.70	-1.12	f
62004	ANACOND	230	40457	GARRISON	230	2	-102.56	-5.57	f
62009	RATTLE S	161	40867	RATTLE S	230	1	-73.61	-28.08	t
62012	TOWN2	500	40453	GAR2EAST	500	2	955.91	-210.43	t
62013	TOWN1	500	40451	GAR1EAST	500	1	955.91	-210.43	t
62066	KERR	115	40391	ELMO	115	1	15.35	-22.09	f
62072	OVANDO	230	40457	GARRISON	230	1	-3.38	-15.89	t
62072	OVANDO	230	40551	HOT SPR	230	1	101.98	-8.72	t
62085	CROWCR B	115	48055	BURKAVAB	115	1	51.17	-20.24	t
62086	THOMSON	115	48053	BURKAVAA	115	1	52.68	-20.09	t
from area 62 to area 40 NORTHWEST							2724.48	-714.93	
62030	PTRSNFLT	230	65025	AMPS	230	1	106.61	4.25	t
62045	BLGS PHA	230	66750	YELOWTLP	230	1	-53.52	-5.79	t
62061	RMRK PHA	161	66755	YELOWTLP	161	1	-25.45	-5.47	f
62084	DILLON S	161	65155	BIGGRASS	161	1	41.24	-4.33	t
from area 62 to area 65 PACE							68.88	-11.34	
62023	GT FALLS	161	63008	HAVRE	161	1	17.95	-10.60	f
62024	RAINBOW	161	63015	VERONA	161	1	16.28	-10.81	f
62027	SHELBY	115	63014	TIBERTAP	115	1	3.12	0.20	f
62051	HARDIN	230	63002	CRSOVRUM	230	1	72.34	10.55	t
62056	HUNTLEY	230	63002	CRSOVRUM	230	1	-201.77	10.59	t
from area 62 to area 63 WAPA U.M.							-92.09	-0.07	
Total from area 62 MONTANA							2701.27	-726.35	
---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
40145	BOUNDARY	230	50822	NLYPHS	230	1	-140.31	-13.22	f
40323	CUSTER W	500	50194	ING500	500	1	-938.20	206.08	t
40323	CUSTER W	500	50194	ING500	500	2	-922.59	203.67	t
from area 40 to area 50 B.C.HYDRO							-2001.10	396.53	
45029	BURNS	500	60240	MIDPOINT	500	1	-1041.92	358.73	t
45103	ENTERPRS	230	60150	HELLSCYN	230	1	-21.82	-14.27	f
40507	HARNEY	115	61826	HINES	115	1	-16.92	11.20	f
40621	LAGRANDE	230	60192	LADD	230	1	1.18	-9.47	f
48197	LOLO	230	60278	IMNAHA	230	1	93.66	-13.94	t
from area 40 to area 60 IDAHO							-985.83	332.25	
41311	CELILO1	500	26097	SYLMAR1	230	1	388.82	62.87	f
41313	CELILO3	230	26098	SYLMAR3	230	1	589.18	143.06	f
41312	CELILO2	500	26099	SYLMAR2	230	1	388.82	62.84	f
41314	CELILO4	230	26100	SYLMAR4	230	1	589.18	143.19	f
from area 40 to area 26 LADWP							1955.99	411.97	
48053	BURKAVAA	115	62086	THOMSON	115	1	-52.68	20.09	f
48055	BURKAVAB	115	62085	CROWCR B	115	1	-51.17	20.24	f
40391	ELMO	115	62066	KERR	115	1	-15.35	22.09	t
40451	GAR1EAST	500	62013	TOWN1	500	1	-955.91	210.43	f
40453	GAR2EAST	500	62012	TOWN2	500	2	-955.91	210.43	f
40457	GARRISON	230	62072	OVANDO	230	1	3.38	15.89	f
40457	GARRISON	230	62004	ANACOND	230	1	94.70	1.12	t
40457	GARRISON	230	62004	ANACOND	230	2	102.56	5.57	t
40551	HOT SPR	230	62072	OVANDO	230	1	-101.98	8.72	f
40553	HOT SPR	500	90400	MTSGFALL	500	1	-865.72	172.28	t
40867	RATTLE S	230	62009	RATTLE S	161	1	73.61	28.08	f
from area 40 to area 62 MONTANA							-2724.48	714.93	
45035	CAPTJACK	500	30020	OLINDA	500	1	1060.93	-147.30	f

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   45087 DELTA     115        31468 CASCADE   115  1             70.67    -19.08   f
   40687 MALIN     500        30005 ROUND MT  500  1            869.92   -124.90   f
   40687 MALIN     500        30005 ROUND MT  500  2            877.11   -140.83   f
from area  40 to area  30 PG AND E                             2878.63   -432.11

   40537 HIL TOP   230        64058 HIL TOP   345  1            129.90    -20.27   f
from area  40 to area  64 SIERRA                                129.90    -20.27

Total from area  40 NORTHWEST                                  -746.89   1403.30

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1            275.95     33.81   t
from area  65 to area  14 ARIZONA                               275.95     33.81

   65075 ANTLOPE   230        60073 BRADY     230  1             63.49    -25.04   f
   65135 BENLOMND  345        60060 BORAH     345  1            -15.22     96.57   t
   65220 BRIDGER   230        60085 BRIDGER   345  1             -6.90     -4.08   t
   65220 BRIDGER   230        60085 BRIDGER   345  2             -7.02     -4.14   t
   65220 BRIDGER   230        60085 BRIDGER   345  3             -6.90     -4.08   t
   65665 GOSHEN    345        60085 BRIDGER   345  1           -600.36    -60.56   f
   65665 GOSHEN    345        60190 KINPORT   345  1            323.28      1.80   t
   65670 GOSHEN    161        60030 BLACKFT   161  1             85.10     -2.77   f
   65920 MALAD     138        60020 AMFLS     138  1            -20.55      0.91   t
   66565 TREASTON  230        60073 BRADY     230  1            -23.25     18.95   t
from area  65 to area  60 IDAHO                                -208.31     17.57

   65995 MONA      345        26043 INTERMT   345  1             33.67    -66.80   f
   65995 MONA      345        26043 INTERMT   345  2             33.67    -66.80   f
from area  65 to area  26 LADWP                                 67.34   -133.60

   65025 AMPS      230        62030 PTRSNFLT  230  1           -106.61     -4.25   f
   65155 BIGGRASS  161        62084 DILLON S  161  1            -41.24      4.33   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1             53.52      5.79   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1             25.45      5.47   t
from area  65 to area  62 MONTANA                               -68.88     11.34

   66280 REDBUTTE  345        18002 HA PS     345  1            160.03    -81.66   f
from area  65 to area  18 NEVADA                                160.03    -81.66

   66210 PAVANT    230        64124 UTAH-NEV  230  1             23.62      8.92   t
from area  65 to area  64 SIERRA                                 23.62      8.92

   66355 SIGURDPS  230        79031 GLENCANY  230  1            179.45    -28.36   t
from area  65 to area  19 WAPA L.C.                             179.45    -28.36

   65060 ANT MINE  230        73276 TEKLA     230  1             36.29     12.78   f
   65085 ASHLEY    138        79067 VERNAL    138  1            -48.34      5.44   t
   65192 BONANZA   138        79067 VERNAL    138  1             47.20     -2.61   t
   65193 BONANZA   345        79005 BEARS     345  1           -186.54    -11.35   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1            -38.70     -0.23   f
   65305 CASPERPP  115        73042 CASPERLM  115  1              0.35     -8.27   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1             85.91    -20.11   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1             89.39    -18.07   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1             70.97     -2.86   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1             80.92     -0.04   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1            -51.10      9.00   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2            -51.10      9.00   f
   66278 RANGELY   138        79001 ARTESIA   138  1             -6.09     -6.11   f
   66278 RANGELY   138        79046 MEEKER    138  1             18.90     -4.77   f
   66305 RIVERTON  230        73170 RIVERTON  115  1              4.56      5.23   f
   66535 THERMOPL  230        73197 THERMOPL  115  1              2.52      5.94   t
   66540 THERPACE  115        73197 THERMOPL  115  1              6.88      4.29   t
   66720 WORLAND   115        73222 WORLANTP  115  1             -5.70      4.31   t
   66725 WYODAK    230        73148 OSAGE     230  1            103.09    -11.97   t
   66725 WYODAK    230        73168 RENO      230  1             54.34     -0.85   f
   66725 WYODAK    230        73294 HUGHES    230  1            107.44     -2.48   f
   66725 WYODAK    230        73282 WYODAK     69  1             11.62     13.90   f
   66725 WYODAK    230        73282 WYODAK     69  2              7.86      9.40   f
   66725 WYODAK    230        74016 WYGEN      14  1              0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1           -179.34     13.87   t
from area  65 to area  73 WAPA R.M.                             161.35      3.41

Total from area  65 PACE                                        590.55   -168.57

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   70005 BRUSHCPP  115        73013 B.CK PS   115  1             42.00      2.54   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2             44.57      4.66   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1            -11.50     -1.09   f
```

70122	COMANCHE	230	73477	FULLER	230	1	85.07	17.01	t
70139	DANIELPK	230	73477	FULLER	230	1	-22.56	2.00	t
70193	FTN VALL	115	73412	MIDWAYBR	115	1	11.67	-5.81	t
70205	GRANDJCT	230	79036	GRANDJCT	345	1	-21.10	-11.83	f
70256	LAPORTPS	115	73105	LAPORTE	115	1	-13.32	-5.94	t
70274	MALTA	230	73138	MT.ELBRT	230	1	-69.85	6.67	f
70285	MIDWAYPS	115	73412	MIDWAYBR	115	1	20.14	-43.11	f
70286	MIDWAYPS	230	73413	MIDWAYBR	230	1	152.87	51.21	t
70287	MILL	115	73296	FRASER	115	1	-35.23	5.39	f
70308	PALMER	115	73414	MONUMENT	115	1	-14.26	3.34	t
70311	PAWNEE	230	73192	STORY	230	1	-89.48	-29.50	t
70327	PONCHA	115	79037	GUNNISON	115	1	-3.45	4.02	f
70350	RAWHIDE	24	73165	RAWHIDE	230	1	262.21	33.77	t
70358	RIFLE PS	230	79059	RIFLE WA	230	1	-67.29	27.63	f
70358	RIFLE PS	230	79250	AMATLAS	230	1	-49.95	-13.40	f
70375	SAN LUIS	230	79054	PONCHABR	230	1	-59.95	13.28	t
70410	ST.VRAIN	230	73116	LONGPEAK	230	1	-31.24	32.26	f
70470	WELD PS	115	73211	WELD LM	115	1	-16.13	122.24	f
70471	WELD PS	230	73212	WELD LM	230	1	-272.69	-84.40	f
70474	WINDSOR	230	73011	AULT	230	1	-224.23	-11.73	t
70476	WOODLAND	115	73400	EMIL AND	115	1	11.46	-0.05	f
70525	MTHARRIS	138	79038	HAYDEN	138	1	-5.59	-1.05	t
79033	GOREPASS	230	79039	HAYDEN	230	1	-187.69	-0.67	t
79033	GOREPASS	230	73072	GOREPASS	138	1	-3.17	5.46	f
79034	GRANDJCT	115	79048	MONTROSE	115	1	30.19	-6.68	t
79056	RIFLE CU	138	79046	MEEKER	138	1	-44.58	0.68	f
79057	RIFLE CU	230	79059	RIFLE WA	230	1	0.72	-52.80	t
79058	RIFLE CU	345	79014	CRAIG	345	1	-402.30	-19.72	f
79058	RIFLE CU	345	79036	GRANDJCT	345	1	397.30	20.60	f
79091	WOLCOTTP	230	79039	HAYDEN	230	1	-151.83	6.52	f
79173	COLBRAN	115	79174	MOLINA-L	115	1	0.00	-0.52	f
70351	RAWHIDEA	14	73165	RAWHIDE	230	1	-0.00	-0.00	t
70550	W CANON	115	73551	W CANON	230	1	-5.50	-19.61	t
from area 70 to area 73 WAPA R.M.							-744.67	51.37	
Total from area 70 PSCOLORADO							-744.67	51.37	

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
79060	SANJN PS	345	10292	SAN_JUAN	345	1	339.21	-96.60	t
from area 73 to area 10 NEW MEXICO							339.21	-96.60	
73042	CASPERLM	115	65305	CASPERPP	115	1	-0.35	8.27	f
73070	GLENRCKN	115	65425	DAVEJOHN	115	1	-70.97	2.86	t
73071	GLENRCKS	115	65425	DAVEJOHN	115	1	-80.92	0.04	t
73107	LAR.RIVR	230	65420	DAVEJOHN	230	1	-85.91	20.11	t
73148	OSAGE	230	66725	WYODAK	230	1	-103.09	11.97	f
73167	REFNRYTP	115	65305	CASPERPP	115	1	38.70	0.23	t
73168	RENO	230	66725	WYODAK	230	1	-54.34	0.85	t
73170	RIVERTON	115	66305	RIVERTON	230	1	-4.56	-5.23	t
73190	STEGALL	230	65420	DAVEJOHN	230	1	-89.39	18.07	t
73197	THERMOPL	115	66540	THERPACE	115	1	-6.88	-4.29	f
73197	THERMOPL	115	66535	THERMOPL	230	1	-2.52	-5.94	f
73222	WORLANTP	115	66720	WORLAND	115	1	5.70	-4.31	f
73229	YELLOWBR	230	66750	YELOWTLP	230	1	179.34	-13.87	f
73276	TEKLA	230	65060	ANT MINE	230	1	-36.29	-12.78	t
73282	WYODAK	69	66725	WYODAK	230	1	-11.62	-13.90	t
73282	WYODAK	69	66725	WYODAK	230	2	-7.86	-9.40	t
73294	HUGHES	230	66725	WYODAK	230	1	-107.44	2.48	t
79001	ARTESIA	138	66278	RANGELY	138	1	6.09	6.11	t
79005	BEARS	345	65193	BONANZA	345	1	186.54	11.35	t
79026	FLAMGORG	138	65565	FLAMGORG	230	1	51.10	-9.00	t
79026	FLAMGORG	138	65565	FLAMGORG	230	2	51.10	-9.00	t
79046	MEEKER	138	66278	RANGELY	138	1	-18.90	4.77	t
79067	VERNAL	138	65085	ASHLEY	138	1	48.34	-5.44	f
79067	VERNAL	138	65192	BONANZA	138	1	-47.20	2.61	f
74016	WYGEN	14	66725	WYODAK	230	1	0.00	0.00	t
from area 73 to area 65 PACE							-161.35	-3.41	
73011	AULT	230	70474	WINDSOR	230	1	224.23	11.73	f
73013	B.CK PS	115	70005	BRUSHCPP	115	1	-42.00	-2.54	t
73013	B.CK PS	115	70005	BRUSHCPP	115	2	-44.57	-4.66	t
73044	COBBLKTP	115	70116	COBBLAKE	115	1	11.50	1.09	t
73072	GOREPASS	138	79033	GOREPASS	230	1	3.17	-5.46	t
73105	LAPORTE	115	70256	LAPORTPS	115	1	13.32	5.94	f
73116	LONGPEAK	230	70410	ST.VRAIN	230	1	31.24	-32.26	t
73138	MT.ELBRT	230	70274	MALTA	230	1	69.85	-6.67	t
73165	RAWHIDE	230	70350	RAWHIDE	24	1	-262.21	-33.77	f
73165	RAWHIDE	230	70351	RAWHIDEA	14	1	0.00	0.00	f
73192	STORY	230	70311	PAWNEE	230	1	89.48	29.50	f
73211	WELD LM	115	70470	WELD PS	115	1	16.13	-122.24	t

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   73212 WELD  LM  230        70471 WELD  PS  230  1             272.69     84.40   t
   73296 FRASER    115        70287 MILL      115  1              35.23     -5.39   t
   73400 EMIL AND  115        70476 WOODLAND  115  1             -11.46      0.05   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1             -11.67      5.81   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1             -20.14     43.11   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1            -152.87    -51.21   f
   73414 MONUMENT  115        70308 PALMER    115  1              14.26     -3.34   f
   73477 FULLER    230        70122 COMANCHE  230  1             -85.07    -17.01   f
   73477 FULLER    230        70139 DANIELPK  230  1              22.56     -2.00   f
   79014 CRAIG     345        79058 RIFLE CU  345  1             402.30     19.72   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1            -397.30    -20.60   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1              21.10     11.83   t
   79037 GUNNISON  115        70327 PONCHA    115  1               3.45     -4.02   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1               5.59      1.05   f
   79039 HAYDEN    230        79033 GOREPASS  230  1             187.69      0.67   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1             151.83     -6.52   t
   79046 MEEKER    138        79056 RIFLE CU  138  1              44.58     -0.68   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1             -30.19      6.68   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1              59.95    -13.28   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1              67.29    -27.63   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1              -0.72     52.80   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1              -0.00      0.52   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1              49.95     13.40   t
   73551 W CANON   230        70550 W CANON   115  1               5.50     19.61   f
from area  73 to area  70 PSCOLORADO                              744.67    -51.37

   79061 SHIP PS   230        79063 SHIPROCK  230  1             151.42    -44.44   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1              25.98    -21.46   t
from area  73 to area  19 WAPA L.C.                               177.40    -65.89

   73229 YELLOWBR  230        63001 CROS PHA  230  1             -48.63      6.13   f
from area  73 to area  63 WAPA U.M.                               -48.63      6.13

Total from area  73 WAPA R.M.                                    1051.30   -211.15

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1             -72.34    -10.55   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1             201.77    -10.59   f
   63008 HAVRE     161        62023 GT FALLS  161  1             -17.95     10.60   t
   63014 TIBERTAP  115        62027 SHELBY    115  1              -3.12     -0.20   t
   63015 VERONA    161        62024 RAINBOW   161  1             -16.28     10.81   t
from area  63 to area  62 MONTANA                                  92.09      0.07

   63001 CROS PHA  230        73229 YELLOWBR  230  1              48.63     -6.13   t
from area  63 to area  73 WAPA R.M.                                48.63     -6.13

Total from area  63 WAPA U.M.                                     140.71     -6.05
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Summation of selected system

	-----MW----	----MVAR---		
Generation	54211.832	3468.757	Generators	2551
Actual Load	45957.066	15412.540	Loads	6820
Net actual shunt	0.401	-176.822	Shunts	1294
Net actual svd	0.000	2360.574	Svd	589
Loss	2233.215	-13723.700	Buses	13168
			Lines	10966
			Transformers	5125
MVA-miles	4722057.5	1046979.4	DC buses	6
Miles	46968.402		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	6887.254	852.327	Generators	136
Actual Load	6274.402	1997.100	Loads	517
Net actual shunt	0.000	-21.744	Shunts	9
Net actual svd	0.000	-1195.582	Svd	76
Net Interchange	200.426	-19.234	Buses	989
Sched Interchange	200.000		Lines	782
Loss	412.426	91.795	Transformers	406
MVA-miles	1164666.1	291556.8	DC buses	0
Miles	18668.695		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.466	19.090		
Loss at 13.80 Kv	3.240	76.348		
Loss at 14.40 Kv	0.440	14.459		
Loss at 25.00 Kv	1.465	16.921		
Loss at 34.00 Kv	0.046	0.759		
Loss at 69.00 Kv	14.503	-22.350		
Loss at 138.00 Kv	157.629	-309.267		
Loss at 240.00 Kv	217.491	-426.242		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	16.147	722.078		
Largest mismatch MVA	0.0109	0.0906		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	8264.391	195.704	Generators	106
Actual Load	6035.052	2359.838	Loads	395
Net actual shunt	0.000	2931.584	Shunts	104
Net actual svd	0.000	2573.183	Svd	125
Net Interchange	1800.282	-362.669	Buses	1054
Sched Interchange	1800.000		Lines	719
Loss	429.055	-7306.238	Transformers	644
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.044	1.960		
Loss at 13.80 Kv	6.648	399.231		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.301	0.082		
Loss at 132.00 Kv	25.090	36.385		
Loss at 138.00 Kv	11.179	-136.260		
Loss at 230.00 Kv	39.336	-775.318		
Loss at 500.00 Kv	300.089	-7305.982		
Loss at other Kv	46.366	473.662		
Largest mismatch MVA	0.0226	0.0392		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	3194.453	590.916	Generators	49
Actual Load	1955.000	501.300	Loads	64
Net actual shunt	0.000	-96.804	Shunts	2
Net actual svd	0.000	0.000	Svd	0
Net Interchange	1065.872	-371.464	Buses	156
Sched Interchange	1066.000		Lines	120
Loss	173.581	557.884	Transformers	96
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.271	5.817		
Loss at 13.80 Kv	1.176	44.167		
Loss at 14.40 Kv	0.390	15.207		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.984	89.114		
Loss at 115.00 Kv	0.439	0.374		
Loss at 138.00 Kv	14.769	-56.606		
Loss at 161.00 Kv	1.287	1.186		
Loss at 230.00 Kv	15.868	-295.645		
Loss at 345.00 Kv	133.391	590.725		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	5.008	163.544		
Largest mismatch MVA	0.0102	0.0063		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	4002.261	459.805	Generators	23
Actual Load	1207.745	524.807	Loads	200
Net actual shunt	0.401	-120.985	Shunts	56
Net actual svd	0.000	410.084	Svd	12
Net Interchange	2684.920	-747.482	Buses	313
Sched Interchange	2685.000		Lines	318
Loss	109.195	393.381	Transformers	90
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	-0.000	39.098		
Loss at 69.00 Kv	0.487	1.603		
Loss at 100.00 Kv	16.383	-47.283		
Loss at 115.00 Kv	3.337	-15.308		
Loss at 161.00 Kv	12.205	-88.439		
Loss at 230.00 Kv	14.947	-166.438		
Loss at 500.00 Kv	59.892	407.361		
Loss at other Kv	1.943	262.788		
Largest mismatch MVA	0.0029	0.0073		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	16544.072	395.950	Generators	290
Actual Load	16651.566	5157.048	Loads	1663
Net actual shunt	0.000	-1724.635	Shunts	46
Net actual svd	0.000	2142.070	Svd	164
Net Interchange	-732.485	1426.928	Buses	2740
Sched Interchange	-732.000		Lines	2710
Loss	624.970	-6605.442	Transformers	632
MVA-miles	3051521.5	632588.2	DC buses	4
Miles	18402.309		DC converters	4
			DC lines	2
Loss at 11.00 Kv	-0.000	0.201		
Loss at 13.20 Kv	-0.000	2.023		
Loss at 13.80 Kv	4.043	134.923		
Loss at 14.40 Kv	-0.000	0.000		
Loss at 25.00 Kv	2.980	154.659		
Loss at 34.50 Kv	0.076	-0.784		
Loss at 69.00 Kv	7.505	2.973		
Loss at 100.00 Kv	0.119	-0.034		
Loss at 115.00 Kv	126.230	-60.067		
Loss at 230.00 Kv	150.239	-676.079		
Loss at 345.00 Kv	7.422	-307.228		

Loss at 500.00 Kv	266.039	-6682.591
Loss at other Kv	60.317	826.559
Largest mismatch MVA	0.0294	0.0763

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 65 [PACE]

	-----MW----	----MVAR---		
Generation	5530.637	547.978	Generators	53
Actual Load	4749.998	1528.040	Loads	273
Net actual shunt	0.000	-528.436	Shunts	51
Net actual svd	0.000	0.000	Svd	2
Net Interchange	590.792	-168.267	Buses	564
Sched Interchange	590.300		Lines	408
Loss	189.847	-283.353	Transformers	336
MVA-miles	3.4	1.1	DC buses	0
Miles	1.900		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.808	22.667		
Loss at 34.50 Kv	1.010	7.108		
Loss at 46.00 Kv	3.907	70.489		
Loss at 69.00 Kv	0.730	8.230		
Loss at 100.00 Kv	0.017	0.584		
Loss at 115.00 Kv	2.783	-8.601		
Loss at 138.00 Kv	40.605	35.428		
Loss at 161.00 Kv	7.702	-25.565		
Loss at 230.00 Kv	64.659	-98.940		
Loss at 345.00 Kv	65.184	-353.158		
Loss at other Kv	2.440	58.407		
Largest mismatch MVA	0.0356	0.0345		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 70 [PSCOLORADO]

	-----MW----	----MVAR---		
Generation	4234.680	624.672	Generators	46
Actual Load	4858.050	1835.016	Loads	358
Net actual shunt	0.000	0.000	Shunts	0
Net actual svd	0.000	-1397.573	Svd	43
Net Interchange	-744.632	51.049	Buses	500
Sched Interchange	-743.800		Lines	461
Loss	121.262	136.178	Transformers	147
MVA-miles	22703.7	6352.5	DC buses	0
Miles	564.500		DC converters	0
			DC lines	0
Loss at 13.80 Kv	2.115	74.413		
Loss at 14.40 Kv	0.081	0.808		
Loss at 25.00 Kv	0.013	0.165		
Loss at 46.00 Kv	0.190	0.001		
Loss at 69.00 Kv	3.825	-11.944		
Loss at 100.00 Kv	0.007	-0.106		
Loss at 115.00 Kv	21.223	-103.712		
Loss at 138.00 Kv	0.660	-3.690		
Loss at 230.00 Kv	86.085	-45.143		
Loss at 345.00 Kv	0.000	0.003		
Loss at other Kv	7.063	225.381		
Largest mismatch MVA	0.0069	0.0248		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 64 [SIERRA]

	-----MW----	----MVAR---		
Generation	1068.594	-25.871	Generators	19
Actual Load	1075.167	280.355	Loads	115
Net actual shunt	0.000	-158.438	Shunts	23
Net actual svd	0.000	73.982	Svd	5
Net Interchange	-36.872	19.018	Buses	275
Sched Interchange	-36.000		Lines	197
Loss	30.297	-240.790	Transformers	117
MVA-miles	51760.0	27887.8	DC buses	0

Miles	1042.600		DC converters	0
			DC lines	0
Loss at 13.80 Kv	1.778	32.534		
Loss at 69.00 Kv	0.000	0.000		
Loss at 115.00 Kv	0.298	-7.511		
Loss at 230.00 Kv	0.897	-113.053		
Loss at 345.00 Kv	6.886	-183.714		
Loss at other Kv	20.439	30.954		
Largest mismatch MVA	0.0099	0.0255		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 52 [W KOOTENAY]

	-----MW----	----MVAR---		
Generation	498.040	1.979	Generators	18
Actual Load	486.100	160.700	Loads	65
Net actual shunt	0.000	-79.153	Shunts	27
Net actual svd	0.000	-71.876	Svd	4
Net Interchange	0.561	-15.016	Buses	260
Sched Interchange	0.000		Lines	166
Loss	11.379	7.323	Transformers	116
MVA-miles	18571.0	6183.3	DC buses	0
Miles	1005.200		DC converters	0
			DC lines	0
Loss at 13.20 Kv	-0.000	9.141		
Loss at 13.80 Kv	0.000	0.000		
Loss at 14.40 Kv	-0.000	22.026		
Loss at 25.00 Kv	0.000	0.000		
Loss at 138.00 Kv	0.104	-8.434		
Loss at 161.00 Kv	2.006	-19.735		
Loss at 230.00 Kv	0.700	-19.556		
Loss at other Kv	8.569	23.881		
Largest mismatch MVA	0.0009	0.0032		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

Area 73 [WAPA R.M.]

	-----MW----	----MVAR---		
Generation	3958.571	-175.809	Generators	74
Actual Load	2784.180	950.836	Loads	356
Net actual shunt	0.000	-299.260	Shunts	4
Net actual svd	0.000	-176.968	Svd	53
Net Interchange	1051.545	-210.644	Buses	620
Sched Interchange	1050.700		Lines	567
Loss	122.847	-439.747	Transformers	174
MVA-miles	412832.1	82409.7	DC buses	0
Miles	7283.200		DC converters	0
			DC lines	0
Loss at 13.80 Kv	3.826	48.749		
Loss at 34.50 Kv	0.149	2.098		
Loss at 69.00 Kv	3.017	-20.115		
Loss at 115.00 Kv	43.808	-233.250		
Loss at 138.00 Kv	3.371	-37.236		
Loss at 230.00 Kv	30.069	-347.976		
Loss at 345.00 Kv	34.230	-46.237		
Loss at other Kv	4.376	194.221		
Largest mismatch MVA	0.0090	0.0650		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SPOKANE, LINE 1

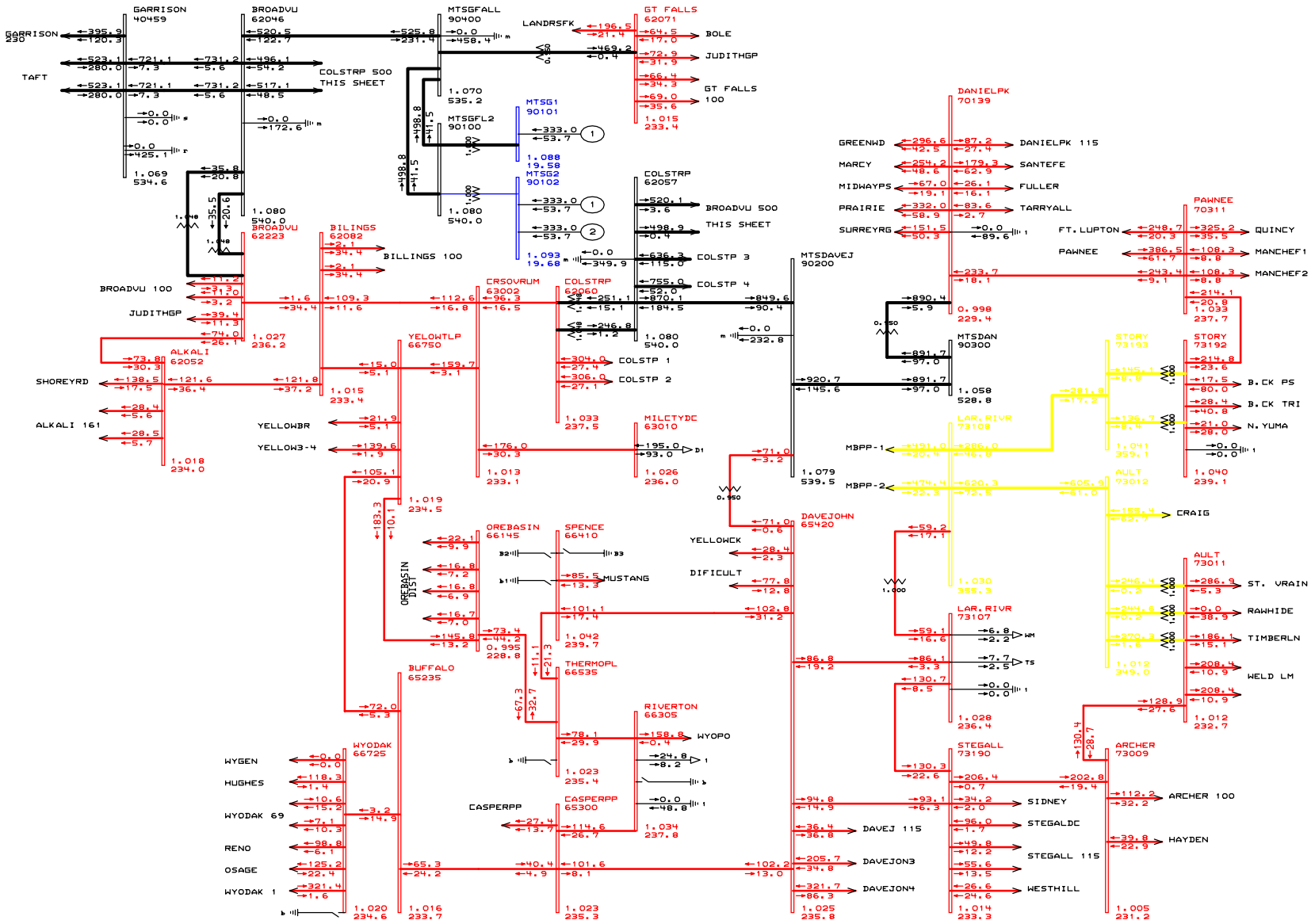
Area 63 [WAPA U.M.]

	-----MW----	----MVAR---		
Generation	28.882	1.105	Generators	1
Actual Load	-120.200	117.500	Loads	17
Net actual shunt	0.000	-78.951	Shunts	1
Net actual svd	0.000	3.255	Svd	4
Net Interchange	140.724	-6.009	Buses	21
Sched Interchange	141.000		Lines	12
Loss	8.358	-34.691	Transformers	3
MVA-miles	0.0	0.0	DC buses	0

Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.042	1.546		
Loss at 115.00 Kv	0.043	-6.927		
Loss at 161.00 Kv	0.544	-51.072		
Loss at 230.00 Kv	7.729	21.762		
Largest mismatch MVA	0.0001	0.0002		

B.4

denl2



General Electric International, Inc. PSLF Program MW/MVAR Tue Mar 19 14:35:22 2002

PEAK POWER ENGINEERING, INC. 303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

1000 MW GAS
AT GREAT FALLS

mts\g2\g2den.drw
c:\uwk\mts\g2\model\g2den_l2.s
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------									rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------		loading	
54611	RUTH LK8	69	54	54839	RUTH LK1	138	54	1	57.9	13.8	59.5	45.0M		132.3	T
64026	CARSON	120	64	64027	CARSON T	120	64	1	-55.6	-6.5	56.0	216.5A		130.6	F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-57.3	-4.6	57.5	45.0M		128.6	T
64194	DAYTON	120	64	64254	DAYTON	25	64	1	16.6	6.5	17.8	14.0M		127.5	F
79026	FLAMGORG	138	73	79029	FLAMGORG	69	73	1	22.1	6.0	22.9	19.0M		120.4	F
64099	SPAN SPG	120	64	64114	TRACY	120	64	1	-128.0	-2.9	128.0	514.8A		118.6	F
64091	RENO	120	64	64263	RENO	25	64	1	50.3	20.5	54.3	46.7M		116.3	F
70249	LAJUNTAW	115	70	70250	LAJUNTAW	69	70	1	26.3	12.4	29.0	25.0M		116.1	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	1	50.2	20.3	54.2	46.7M		116.0	F
64091	RENO	120	64	64263	RENO	25	64	2	50.2	20.4	54.2	46.7M		116.0	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	2	47.8	19.3	51.6	46.7M		110.4	F
64202	HAN CRTP	120	64	64203	TWN CRTP	120	64	1	74.2	19.8	76.8	356.0A		109.1	F
64201	PINSN TP	120	64	64202	HAN CRTP	120	64	1	74.6	20.6	77.4	356.0A		109.1	F
64200	REDHOUSE	120	64	64201	PINSN TP	120	64	1	75.9	23.6	79.5	356.0A		109.0	T
64129	VALMY	120	64	64200	REDHOUSE	120	64	1	77.0	26.3	81.4	356.0A		108.6	T
54234	CASTLE R	138	54	55972	CASTLE-1	25	54	1	-50.0	21.0	54.2	50.0M		108.4	F
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	24.1	83.8	79.0M		106.1	F
54232	PANCAN 9	138	54	55386	EMPRESS9	25	54	T1	15.7	1.0	15.7	15.0M		104.7	F
64114	TRACY	120	64	64118	TRACY G2	14	64	1	-82.5	-4.0	82.6	81.0M		104.0	T
48319	PLEASANT	115	40	48355	RATHDRUM	115	40	1	-84.1	-16.2	85.6	430.8A		103.4	F
43017	BEAVER	14	40	43021	BEAVER	230	40	1	356.8	44.3	359.6	348.0M		103.3	F
54052	BLUERIDG	138	54	55281	BLUERDGE	14	54	T1	20.8	15.2	25.7	25.0M		102.9	F
54154	E CALGAR	240	54	54189	ENMX2SD9	138	54	T1	234.1	-169.4	289.0	300.0M		102.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	9A	155.0	-10.1	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	BC	155.0	-10.1	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	78	155.0	-10.1	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	56	155.0	-10.1	155.3	155.0M		101.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	155.0	-10.1	155.3	155.0M		101.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	DE	155.0	-10.1	155.3	155.0M		101.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	155.0	-10.1	155.3	155.0M		101.8	T
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-8.5	29.3	30.0M		101.6	T
46733	LAGRND5	14	40	46735	LGBK5	115	40	1	40.0	6.8	40.6	40.0M		101.4	F

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Processing file c:\uwk\mts\base\rvolthsbs.out
Processing file c:\uwk\mts\g2\rvoltdenl2.out

Compvolt found the following for comparisons:
     349 Voltage Violations read from c:\uwk\mts\base\rvolthsbs.out
     347 Voltage Violations read from c:\uwk\mts\g2\rvoltdenl2.out


**** VOLTS:  NEW ****
Component                   w/o Prj         w/ Prj  Rating
65155 BIGGRASS  161   0.95 <= pu <= 1.05    0.9482  1.00 pu kV

**** VOLTS: WORSE ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS: BETTER ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS:  AWAY ****
Component             w/o Prj      w/ Prj          Rating
50343 KSH132-2  132   1.0501  0.95 <= pu <= 1.05   1.00 pu kV
50691 NIC230    230   1.0502  0.95 <= pu <= 1.05   1.00 pu kV
40091 BELL BPA  500   1.0665  0.95 <= pu <= 1.05   1.00 pu kV
45337 WEED JPS  115   1.0507  0.95 <= pu <= 1.05   1.00 pu kV
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54090	BICKERD4	240	1.1047	54153	BRAZEAU4	240	1.1053	54329	KEEPHIL4	240	1.1117
54524	GENESEE4	240	1.1086	54681	NEVIS 7	138	1.1101	54802	STURGEO9	138	1.1003
55969	770S701T	138	1.1052	51017	KMS230	230	1.1079				

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
90200	MTSDAVEJ	500	1.0790	90300	MTSDAN	500	1.0577	90400	MTSGFALL	500	1.0705
54012	FOX CREE	138	1.0510	54013	KAYBOB 9	138	1.0517	54014	GULF RO9	138	1.0592
54021	WESGEN 7	138	1.0507	54050	RBCUPIL7	138	1.0507	54054	LAMOURE4	240	1.0795
54073	IPPL ST9	138	1.0575	54077	BIGSTON4	240	1.0600	54078	CHEVRON7	138	1.0515
54081	METIS644	240	1.0853	54082	BICKERD7	138	1.0557	54090	BICKERD4	240	1.1047
54097	BIG HOR9	138	1.0817	54098	STRACHA9	138	1.0577	54103	DEERLAN4	240	1.0820
54121	ELLERSLI	240	1.0759	54125	SUNDANL9	138	1.0543	54126	WABAMUN4	240	1.0869
54128	SUNDANM9	240	1.0965	54129	E EDMON4	240	1.0709	54130	N CALDE4	240	1.0645
54131	N BARRH4	240	1.0836	54139	GAETZ 4	240	1.0597	54141	HIGHVAL9	138	1.0538
54142	WILLESD4	240	1.0961	54144	RED DEE4	240	1.0636	54147	BENALTO4	240	1.0767
54148	E CROSS4	240	1.0585	54150	LANGDON2	500	1.0533	54152	JANET 4	240	1.0533
54153	BRAZEAU4	240	1.1053	54157	PEIGAN 4	240	1.0748	54159	N LETHB4	240	1.0648
54184	SARCEE 7	138	1.0530	54195	RUNDLE S	138	1.0504	54223	WARE JCT	240	1.0511
54249	RP05103S	138	1.0669	54261	SPRAY S	138	1.0508	54269	COALSPU7	138	1.0609
54281	MILO 2	240	1.0605	54285	LEISMER9	240	1.0749	54287	GREGG R9	138	1.0701
54302	MARIONA9	138	1.0540	54325	CHEV KG9	138	1.0515	54326	COAL VA9	138	1.0582
54329	KEEPHIL4	240	1.1117	54335	W BROOK4	240	1.0550	54384	ENMX28S9	138	1.0523
54412	BENBOW 9	138	1.0517	54441	946/947X	240	1.0759	54444	SPRINGB9	138	1.0505
54505	JASPER 4	240	1.0658	54506	BELLAMY4	240	1.0757	54509	ARGYLL W	240	1.0758
54512	DOME T29	240	1.0764	54513	LAMBTON4	240	1.0705	54514	CLOVERB4	240	1.0694
54518	ARGYLL E	240	1.0760	54519	CASTLTX2	240	1.0705	54521	PETROLIA	240	1.0746
54524	GENESEE4	240	1.1086	54542	RBW LAK7	138	1.0505	54546	CHINCHA7	138	1.0575
54547	KEG RVR7	138	1.0561	54548	KEMP RV9	138	1.0578	54549	HOTCHKS7	138	1.0596
54552	CADOTTE9	138	1.0585	54553	NORCEN 9	138	1.0552	54554	LUBICON7	138	1.0582
54555	CRANBER9	138	1.0591	54558	WESLY C7	138	1.0791	54559	CARMON 9	138	1.0767
54560	PEACE/29	138	1.0753	54561	DIASHOW7	138	1.0736	54589	DOME CU7	138	1.0672
54593	DONNELL9	138	1.0669	54594	TAP7L487	138	1.0686	54595	TRIANGL7	138	1.0619
54596	VALLEYV9	138	1.0782	54600	L.SMOKY7	138	1.0848	54601	STURGEO7	138	1.0844
54606	SIMONET9	138	1.0846	54607	FOXCRK/2	138	1.0515	54608	GOOSE R9	138	1.0666
54612	RUTH LA7	138	1.0600	54613	RUTH LK7	138	1.0603	54618	PARS CR7	138	1.0508
54621	MITS E.4	240	1.0565	54622	MITS E.7	138	1.0892	54623	AEC MILL	138	1.0881
54624	OTAUWAU7	138	1.0890	54633	LOU CR.7	138	1.0570	54634	SARHLK/2	138	1.0511
54636	ESSO JU7	138	1.0519	54637	MORSE RV	138	1.0524	54639	VIRGINI9	138	1.0529
54643	WOLF LK9	138	1.0709	54646	MARG LK4	240	1.0740	54647	MARG LK7	138	1.0861
54648	LACOREY9	138	1.0683	54652	BONNY 9	138	1.0544	54654	BONN SVC	138	1.0544
54655	WHITFISH	240	1.0857	54675	PAINTRT7	240	1.0896	54680	NEVIS 4	240	1.0748
54681	NEVIS 7	138	1.1101	54685	3HILLS/3	138	1.0581	54691	MICH. C9	138	1.0735
54693	WINT HI9	138	1.0749	54694	BULLPON9	138	1.0750	54707	SHEER 14	240	1.0625
54709	ANDERSO4	240	1.0630	54710	ANDERSON	138	1.0850	54711	SHEER 24	240	1.0625
54715	BAT. RV7	138	1.0821	54721	BAT RV79	240	1.0926	54723	CORDEL 4	240	1.0926
54729	PRIM TAP	138	1.0652	54730	PRIMROSE	138	1.0712	54796	791S701T	138	1.0628
54802	STURGEO9	138	1.1003	54806	946/947N	240	1.0709	54809	732S901T	240	1.0667
54818	VERMILA9	138	1.0798	54822	766S901T	240	1.0628	54823	NEVIS 9	138	1.0878

54835	791S702T	138	1.0631	54836	MILNERB9	138	1.0779	54844	709S702T	138	1.0732
54847	BAT RV80	240	1.0926	54848	791S703T	138	1.0530	54962	KAYBOBTP	138	1.0517
54963	CANMORE9	138	1.0506	54978	EAST IN4	240	1.0705	54983	MARION T	138	1.0541
54984	HIGHVL T	138	1.0538	54988	CROSSF T	240	1.0585	54995	W.GRN TP	240	1.0961
55012	BASSET 7	138	1.0562	55013	HAIGRIVE	138	1.0572	55067	FTNELSON	138	1.0665
55072	SYNC_D04	240	1.0563	55073	AURORA 4	240	1.0619	55075	SEAL LK9	138	1.0643
55147	MILNERC9	138	1.0880	55226	WABASCA9	240	1.0532	55272	FIELDGA9	138	1.0513
55280	BRINTNEL	240	1.0504	55515	PRIMROSE	138	1.0565	55763	BC BORDE	138	1.0627
55891	904AL TP	240	1.0705	55894	SARCEE M	138	1.0512	55912	740L JNC	138	1.0609
55913	G.ROBB T	138	1.0600	55924	CH KGT T	138	1.0515	55943	MILO 1	240	1.0605
55969	770S701T	138	1.1052	50010	COM132	132	1.0724	50020	CMS230	230	1.0500
50036	RBW230	230	1.0548	50037	PEM230	230	1.0585	50038	RBW230-1	230	1.0534
50182	ARN132	132	1.0818	50185	ALZ230	230	1.0518	50186	ROS230	230	1.0617
50187	BRT230	230	1.0698	50188	BUT230	230	1.0500	50193	BRT360	360	1.0500
50313	VIT132	132	1.0517	50314	PVO133	132	1.0505	50315	PVO132	132	1.0511
50323	DMR132	132	1.0555	50330	LDR132	132	1.0504	50331	GLD132	132	1.0517
50334	KGH132	132	1.0527	50335	UTA132	132	1.0530	50342	SCA132	132	1.0500
50346	SHA2	132	1.0503	50347	GOW132	132	1.0517	50348	GTP132	132	1.0551
50349	CLD132	132	1.0569	50350	SOO132	132	1.0576	50351	JOR132	132	1.0612
50352	PML132	132	1.0517	50353	WOS132	132	1.0535	50354	GLSTP17	132	1.0561
50355	GLSTP18	132	1.0547	50356	DND132	132	1.0520	50391	KSHTP14	132	1.0503
50394	SHATP14	132	1.0503	50395	SALTP17	132	1.0546	50396	SALTP18	132	1.0548
50447	TKW138	138	1.0534	50463	SKA500	500	1.0631	50464	TKW500	500	1.0687
50540	GMS230	230	1.0548	50541	KDS230	230	1.0543	50545	BLW230	230	1.0655
50546	SCK230	230	1.0596	50547	HMH230	230	1.0579	50548	BLM230	230	1.0587
50549	QNT230	230	1.0579	50550	QRP230	230	1.0652	50551	TLR230	230	1.0585
50553	BCR230	230	1.0585	50554	RBF230	230	1.0664	50556	LAP230	230	1.0569
50557	SNK230	230	1.0589	50558	GMS500	500	1.0500	50560	KDS500	500	1.0618
50561	WSN500	500	1.0501	50562	GLN500	500	1.0680	50653	NIC138	138	1.0526
50655	VVW138	138	1.0507	50656	SVA138	138	1.0518	50659	BDM138	138	1.0510
50660	WGS138	138	1.0609	50661	MON138	138	1.0581	50672	BKL138	138	1.0517
50679	BLU138	138	1.0535	50680	VLM138	138	1.0588	50686	SCO138	138	1.0676
50687	ABA138	138	1.0582	50700	MCA500	500	1.0500	50701	REV500	500	1.0500
50729	PRI138TP	138	1.0675	50776	NTL138	138	1.0539	50783	SEL230	230	1.0590
50785	SEV230	230	1.0581	50792	SEL500	500	1.0500	50899	ABA138TP	138	1.0582
50902	BDM138TP	138	1.0510	50922	DNDTAP	132	1.0527	50923	HSY-PH	132	1.0554
50924	ESQ-PH	132	1.0520	50928	SCG IPP	132	1.0683	50934	JULTP130	132	1.0527
51017	KMS230	230	1.1079	51045	ALH230	230	1.0579	60085	BRIDGER	345	1.0500
60240	MIDPOINT	500	1.0685	90100	MTSGFL2	500	1.0800	62012	TOWN2	500	1.0939
62013	TOWN1	500	1.0939	62033	ANA BPA	115	1.0511	62046	BROADVU	500	1.0800
62053	BROADV&2	500	1.0697	62054	BROADV&1	500	1.0702	62057	COLSTRP	500	1.0800
40045	ALLSTON	500	1.0725	40051	ALVEY	500	1.0795	40061	ASHE	500	1.0800
40111	BIG EDDY	500	1.0768	43049	BOARD F	500	1.0840	40139	BONNVILE	115	1.0500
47013	BRIDGPRT	115	1.0537	40155	BUCKLEY	500	1.0774	45029	BURNS	500	1.0542
45035	CAPTJACK	500	1.0764	46209	CARMEN	115	1.0617	41311	CELILO1	500	1.0767
41312	CELILO2	500	1.0767	40233	CHIEF JO	500	1.0800	40287	COULEE	500	1.0810
40302	COVINGT4	500	1.0753	40306	COVINGT5	500	1.0759	43115	COYO M1	500	1.0556
43123	COYOTE	500	1.0846	45095	DIXONVLE	500	1.0799	40369	DWORSHAK	500	1.0701
40381	ECHOLAKE	500	1.0784	40451	GAR1EAST	500	1.0755	40453	GAR2EAST	500	1.0755
40459	GARRISON	500	1.0692	40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0740
40499	HANFORD	500	1.0816	40521	HATWAI	500	1.0699	45137	HERMIST	230	1.0509
41212	HILLS CR	115	1.0500	40553	HOT SPR	500	1.0619	40585	JOHN DAY	500	1.0850
40601	KEELER	500	1.0821	45262	KFALLS	500	1.0791	40629	LANE	500	1.0736
40665	LIT GOOS	500	1.0800	40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800
40687	MALIN	500	1.0749	40693	MAPLE VL	500	1.0775	40699	MARION	500	1.0806

40711	MCLOUGLN	500	1.0698	40721	MCNARY	345	1.0510	40723	MCNARY	500	1.0798
45197	MERIDINP	500	1.0777	40749	MONROE	500	1.0794	40797	OLYMPIA	500	1.0791
40809	OSTRNDER	500	1.0721	40821	PAUL	500	1.0800	40827	PEARL	500	1.0787
40837	PONDROSA	500	1.0791	40869	RAVER	500	1.0796	43485	ROUND BU	500	1.0706
40913	SACJAWEA	500	1.0754	40917	SACJWA T	500	1.0767	40941	SANTIAM	500	1.0798
40949	SATSOP	500	1.0799	40957	SCHULTZ	500	1.0843	40973	SICKLER	500	1.0795
40989	SLATT	500	1.0810	41043	SUMMER L	500	1.0777	45289	SWIFT	230	1.0500
41051	TACOMA	500	1.0794	41057	TAFT	500	1.0741	41095	TROUTDAL	500	1.0644
41113	VANTAGE	500	1.0749	47099	WELLS	115	1.0628	66225	PINTO	345	1.0512
66235	PINTO PS	345	1.0502	52226	PRI138	138	1.0676	52229	KER138	138	1.0711
52230	HED138	138	1.0701	52426	MAS138	138	1.0700	52815	PRI-T2	138	1.0683

undervoltage summary < 0.900000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)

undervoltage summary < 0.950000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
50781	NTL VR	138	0.9499	48069	CHESTER	115	0.9444	48165	IRVIN	115	0.9486
48310	OPORTUNE	115	0.9491	48299	OPPORTUN	115	0.9465	48306	OTIS	230	0.9381
65155	BIGGRASS	161	0.9482	70249	LAJUNTAW	115	0.9335	64072	MEYERS	120	0.9484
64092	RND HILL	120	0.9466	64102	STATELIN	120	0.9457	64203	TWN CRTP	120	0.9452

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G2 SCHEDULED TO DENVER, LINE 2

	generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name ALBERTA										
mw	10743.6	7862.7	7899.2	0.0	0.0	0.0	0.0	-399.4	363.0	59.3
54 mvar	4916.5	857.2	2641.0	0.0	0.0	-22.5	-1851.9	-37.1	127.7	11.7
area name B.C.HYDRO										
mw	14693.0	10252.0	6889.1	0.0	0.0	0.0	0.0	2849.6	513.2	198.4
50 mvar	6719.0	942.2	2565.8	0.0	0.0	2956.9	2142.6	-272.2	-6450.9	9.3
area name IDAHO										
mw	4676.4	4109.7	2984.0	0.0	0.0	0.0	0.0	919.9	205.8	142.3
60 mvar	2192.5	452.0	711.6	0.0	0.0	-595.5	0.0	-295.7	631.6	1.0
area name MONTANA										
mw	4501.2	3907.3	1422.9	0.0	0.0	0.3	0.0	2328.1	155.9	696.3
62 mvar	1909.0	638.6	610.2	0.0	0.0	-120.5	1177.4	-328.0	-467.6	191.8
area name NORTHWEST										
mw	43502.3	27343.1	22671.3	0.0	0.0	0.0	0.0	3514.7	1157.1	581.1
40 mvar	15475.0	3850.4	6850.3	0.0	0.0	-1861.9	-4066.8	973.8	1955.1	31.5
area name PACE										
mw	6212.0	5582.7	6293.7	0.0	0.0	0.0	0.0	-981.4	270.4	161.7
65 mvar	3201.9	746.0	1960.1	0.0	0.0	-1763.1	-48.8	-181.9	546.8	30.8
area name PSCOLORADO										
mw	5806.0	4219.3	6332.7	0.0	0.0	0.0	0.0	-2293.3	179.9	124.5
70 mvar	3667.3	1387.4	2372.6	0.0	0.0	0.0	-1663.2	491.6	186.4	36.5
area name SIERRA										
mw	1901.7	1375.0	1719.1	0.0	0.0	0.0	0.0	-399.9	55.8	109.0
64 mvar	925.4	126.6	458.7	0.0	0.0	-188.0	69.3	58.5	-271.9	24.3
area name W KOOTENAY										
mw	763.5	596.5	722.4	0.0	0.0	0.0	0.0	-150.5	24.6	104.6
52 mvar	450.0	99.2	210.2	0.0	0.0	-77.8	-130.7	-8.9	106.4	25.1
area name WAPA R.M.										
mw	6091.6	5374.1	3608.3	0.0	0.0	0.0	0.0	1611.9	153.9	491.7
73 mvar	2883.8	103.0	1237.0	0.0	0.0	-296.3	-298.9	-428.3	-110.4	48.6

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	inter	net losses	slack bus
area name		WAPA U.M.									
	mw	61.8	56.2	-102.1	0.0	0.0	0.0	0.0	147.6	10.6	56.2
63	mvar	34.0	5.6	123.6	0.0	0.0	-79.0	-14.2	-29.9	5.1	5.6
TOTL	mw	98953.1	70678.6	60440.6	0.0	0.0	0.3	0.0	7147.3	3090.4	
	mvar	42374.4	9208.2	19741.2	0.0	0.0	-2047.7	-4685.3	-58.1	-3741.8	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	-399.4	-37.1
TOTAL		-399.4	-37.1
FROM AREA	50 B.C.HYDRO		
TO AREA	54 ALBERTA	399.4	37.1
TO AREA	40 NORTHWEST	2299.7	-318.3
TO AREA	52 W KOOTENAY	150.5	8.9
TOTAL		2849.6	-272.2
FROM AREA	60 IDAHO		
TO AREA	40 NORTHWEST	-83.5	-279.0
TO AREA	65 PACE	871.2	35.2
TO AREA	64 SIERRA	132.3	-51.9
TOTAL		919.9	-295.7
FROM AREA	62 MONTANA		
TO AREA	40 NORTHWEST	1173.4	-323.1
TO AREA	65 PACE	1144.6	-11.4
TO AREA	63 WAPA U.M.	10.1	6.4
TOTAL		2328.1	-328.0
FROM AREA	40 NORTHWEST		
TO AREA	50 B.C.HYDRO	-2299.7	318.3
TO AREA	60 IDAHO	83.5	279.0
TO AREA	26 LADWP	2806.7	606.8
TO AREA	62 MONTANA	-1173.4	323.1
TO AREA	30 PG AND E	3911.2	-503.9
TO AREA	64 SIERRA	186.5	-49.4
TOTAL		3514.7	973.8
FROM AREA	65 PACE		
TO AREA	14 ARIZONA	-38.4	92.9
TO AREA	60 IDAHO	-871.2	-35.2
TO AREA	26 LADWP	-29.1	-163.5
TO AREA	62 MONTANA	-1144.6	11.4
TO AREA	18 NEVADA	249.6	-58.1
TO AREA	70 PSCOLORADO	920.7	-145.6
TO AREA	64 SIERRA	35.3	13.3
TO AREA	19 WAPA L.C.	41.0	32.0
TO AREA	73 WAPA R.M.	-144.6	70.8
TOTAL		-981.4	-181.9
FROM AREA	70 PSCOLORADO		
TO AREA	65 PACE	-920.7	145.6
TO AREA	73 WAPA R.M.	-1372.6	346.1
TOTAL		-2293.3	491.6
FROM AREA	64 SIERRA		
TO AREA	60 IDAHO	-132.3	51.9
TO AREA	26 LADWP	-50.0	1.9
TO AREA	40 NORTHWEST	-186.5	49.4
TO AREA	65 PACE	-35.3	-13.3

TO AREA	30 PG AND E	-8.2	-29.0
TO AREA	24 SOCALIF	12.3	-2.5
TOTAL		-399.9	58.5

FROM AREA	52 W KOOTENAY	mw	mvar
TO AREA	50 B.C.HYDRO	-150.5	-8.9
TOTAL		-150.5	-8.9

FROM AREA	73 WAPA R.M.	mw	mvar
TO AREA	10 NEW MEXICO	172.4	-11.8
TO AREA	65 PACE	144.6	-70.8
TO AREA	70 PSCOLORADO	1372.6	-346.1
TO AREA	19 WAPA L.C.	79.9	-23.1
TO AREA	63 WAPA U.M.	-157.7	23.4
TOTAL		1611.9	-428.3

FROM AREA	63 WAPA U.M.	mw	mvar
TO AREA	62 MONTANA	-10.1	-6.4
TO AREA	73 WAPA R.M.	157.7	-23.4
TOTAL		147.6	-29.9

AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

---------from--------				---------- to --------						
--no.--	--name--	-kv-		--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
54150	LANGDON2	500		50791	CBK500	500	1	-359.34	-36.35	f
54205	COLEMAN7	138		50776	NTL138	138	1	-14.12	-8.92	t
54273	POCATER7	138		50830	FRO T274	138	1	-25.97	8.19	t
from area 54 to area 50 B.C.HYDRO								-399.43	-37.07	
Total from area 54 ALBERTA								-399.43	-37.07	

---------from--------				---------- to --------						
--no.--	--name--	-kv-		--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
62004	ANACOND	230		40457	GARRISON	230	1	-190.67	-25.80	f
62004	ANACOND	230		40457	GARRISON	230	2	-205.10	-36.98	f
62009	RATTLE S	161		40867	RATTLE S	230	1	-116.19	-41.92	t
62012	TOWN2	500		40453	GAR2EAST	500	2	721.05	-79.17	t
62013	TOWN1	500		40451	GAR1EAST	500	1	721.05	-79.17	t
62066	KERR	115		40391	ELMO	115	1	2.01	-13.14	f
62072	OVANDO	230		40457	GARRISON	230	1	97.57	-20.81	t
62072	OVANDO	230		40551	HOT SPR	230	1	81.63	-1.50	t
62085	CROWCR B	115		48055	BURKAVAB	115	1	28.12	-11.99	t
62086	THOMSON	115		48053	BURKAVAA	115	1	33.95	-12.58	t
from area 62 to area 40 NORTHWEST								1173.41	-323.06	
62030	PTRSNFLT	230		65025	AMPS	230	1	222.97	-56.01	t
62045	BLGS PHA	230		66750	YELOWTLP	230	1	-15.02	5.06	t
62057	COLSTRP	500		90200	MTSDAVEJ	500	1	849.64	90.43	t
62061	RMRK PHA	161		66755	YELOWTLP	161	1	-12.33	-3.81	f
62084	DILLON S	161		65155	BIGGRASS	161	1	99.37	-47.03	t
from area 62 to area 65 PACE								1144.63	-11.36	
62023	GT FALLS	161		63008	HAVRE	161	1	12.06	-12.06	f
62024	RAINBOW	161		63015	VERONA	161	1	11.21	-11.79	f
62027	SHELBY	115		63014	TIBERTAP	115	1	3.11	-3.05	f
62051	HARDIN	230		63002	CRSOVRUM	230	1	96.30	16.49	t
62056	HUNTLEY	230		63002	CRSOVRUM	230	1	-112.59	16.85	t
from area 62 to area 63 WAPA U.M.								10.09	6.43	
Total from area 62 MONTANA								2328.13	-327.98	

---------from--------				---------- to --------						
--no.--	--name--	-kv-		--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
40145	BOUNDARY	230		50822	NLYPHS	230	1	-288.71	-3.76	f
40323	CUSTER W	500		50194	ING500	500	1	-1013.90	161.81	t
40323	CUSTER W	500		50194	ING500	500	2	-997.09	160.20	t
from area 40 to area 50 B.C.HYDRO								-2299.70	318.25	
45029	BURNS	500		60240	MIDPOINT	500	1	-224.13	364.36	t
45103	ENTERPRS	230		60150	HELLSCYN	230	1	29.70	-38.09	f
40507	HARNEY	115		61826	HINES	115	1	-13.35	15.54	f
40621	LAGRANDE	230		60192	LADD	230	1	71.00	-29.36	f
48197	LOLO	230		60278	IMNAHA	230	1	220.31	-33.43	t
from area 40 to area 60 IDAHO								83.52	279.03	
41311	CELILO1	500		26097	SYLMAR1	230	1	529.61	58.87	f
41313	CELILO3	230		26098	SYLMAR3	230	1	873.72	244.34	f
41312	CELILO2	500		26099	SYLMAR2	230	1	529.61	58.79	f
41314	CELILO4	230		26100	SYLMAR4	230	1	873.72	244.78	f
from area 40 to area 26 LADWP								2806.66	606.78	
48053	BURKAVAA	115		62086	THOMSON	115	1	-33.95	12.58	f
48055	BURKAVAB	115		62085	CROWCR B	115	1	-28.12	11.99	f
40391	ELMO	115		62066	KERR	115	1	-2.01	13.14	t
40451	GAR1EAST	500		62013	TOWN1	500	1	-721.05	79.17	f
40453	GAR2EAST	500		62012	TOWN2	500	2	-721.05	79.17	f
40457	GARRISON	230		62072	OVANDO	230	1	-97.57	20.81	f
40457	GARRISON	230		62004	ANACOND	230	1	190.67	25.80	t
40457	GARRISON	230		62004	ANACOND	230	2	205.10	36.98	t
40551	HOT SPR	230		62072	OVANDO	230	1	-81.63	1.50	f
40867	RATTLE S	230		62009	RATTLE S	161	1	116.19	41.92	f
from area 40 to area 62 MONTANA								-1173.41	323.06	
45035	CAPTJACK	500		30020	OLINDA	500	1	1382.63	-223.93	f
45087	DELTA	115		31468	CASCADE	115	1	71.63	-15.53	f

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   40687 MALIN     500        30005 ROUND MT  500  1            1223.04   -123.23   f
   40687 MALIN     500        30005 ROUND MT  500  2            1233.90   -141.22   f
from area  40 to area  30 PG AND E                              3911.20   -503.92

   40537 HIL TOP   230        64058 HIL TOP   345  1             186.46    -49.44   f
from area  40 to area  64 SIERRA                                 186.46    -49.44

Total from area  40 NORTHWEST                                   3514.74    973.76

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1             -38.37     92.89   t
from area  65 to area  14 ARIZONA                                -38.37     92.89

   65075 ANTLOPE   230        60073 BRADY     230  1             111.84    -44.40   f
   65135 BENLOMND  345        60060 BORAH     345  1            -352.73     16.89   t
   65220 BRIDGER   230        60085 BRIDGER   345  1             -51.53     -4.39   t
   65220 BRIDGER   230        60085 BRIDGER   345  2             -52.38     -4.44   t
   65220 BRIDGER   230        60085 BRIDGER   345  3             -51.53     -4.39   t
   65665 GOSHEN    345        60085 BRIDGER   345  1            -584.03    -60.68   f
   65665 GOSHEN    345        60190 KINPORT   345  1             219.78     27.60   t
   65670 GOSHEN    161        60030 BLACKFT   161  1             100.72     11.41   f
   65920 MALAD     138        60020 AMFLS     138  1             -67.23      2.48   t
   66565 TREASTON  230        60073 BRADY     230  1            -144.08     24.72   t
from area  65 to area  60 IDAHO                                 -871.17    -35.20

   65995 MONA      345        26043 INTERMT   345  1             -14.55    -81.73   f
   65995 MONA      345        26043 INTERMT   345  2             -14.55    -81.73   f
from area  65 to area  26 LADWP                                  -29.10   -163.46

   90200 MTSDAVEJ  500        62057 COLSTRP   500  1            -849.64    -90.43   f
   65025 AMPS      230        62030 PTRSNFLT  230  1            -222.97     56.01   f
   65155 BIGGRASS  161        62084 DILLON S  161  1             -99.37     47.03   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1              15.02     -5.06   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1              12.33      3.81   t
from area  65 to area  62 MONTANA                               -1144.63     11.36

   66280 REDBUTTE  345        18002 HA PS     345  1             249.55    -58.07   f
from area  65 to area  18 NEVADA                                 249.55    -58.07

   90200 MTSDAVEJ  500        90300 MTSDAN    500  1             920.67   -145.56   f
from area  65 to area  70 PSCOLORADO                             920.67   -145.56

   66210 PAVANT    230        64124 UTAH-NEV  230  1              35.31     13.29   t
from area  65 to area  64 SIERRA                                  35.31     13.29

   66355 SIGURDPS  230        79031 GLENCANY  230  1              40.98     32.02   t
from area  65 to area  19 WAPA L.C.                               40.98     32.02

   65060 ANT MINE  230        73276 TEKLA     230  1              22.39     19.72   f
   65085 ASHLEY    138        79067 VERNAL    138  1             -79.96      5.86   t
   65192 BONANZA   138        79067 VERNAL    138  1              48.16      5.94   t
   65193 BONANZA   345        79005 BEARS     345  1            -337.22     -0.23   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1             -32.52     -4.55   f
   65305 CASPERPP  115        73042 CASPERLM  115  1              -4.85     -4.69   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1              86.85    -19.21   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1              94.80    -14.91   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1              70.44      2.40   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1              81.54      6.26   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1             -44.63      6.33   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2             -44.63      6.33   f
   66278 RANGELY   138        79001 ARTESIA   138  1              -7.66     -5.09   f
   66278 RANGELY   138        79046 MEEKER    138  1              -6.21     -1.61   f
   66305 RIVERTON  230        73170 RIVERTON  115  1               6.25     10.54   f
   66535 THERMOPL  230        73197 THERMOPL  115  1               0.18      9.45   t
   66540 THERPACE  115        73197 THERMOPL  115  1              12.23      8.75   t
   66720 WORLAND   115        73222 WORLANTP  115  1             -13.92      9.82   t
   66725 WYODAK    230        73148 OSAGE     230  1             123.83    -16.78   t
   66725 WYODAK    230        73168 RENO      230  1              98.84      6.08   f
   66725 WYODAK    230        73294 HUGHES    230  1             118.34     -1.44   f
   66725 WYODAK    230        73282 WYODAK     69  1             -10.56     15.21   f
   66725 WYODAK    230        73282 WYODAK     69  2              -7.14     10.28   f
   66725 WYODAK    230        74016 WYGEN      14  1               0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1            -319.16     16.36   t
from area  65 to area  73 WAPA R.M.                              -144.63     70.81

Total from area  65 PACE                                         -981.40   -181.93

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter
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   90300 MTSDAN    500        90200 MTSDAVEJ  500  1            -920.67    145.56   t
from area  70 to area  65 PACE                                 -920.67    145.56

   70005 BRUSHCPP  115        73013 B.CK PS   115  1              95.62     29.00   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2             100.39     35.32   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1             -15.32     -1.45   f
   70122 COMANCHE  230        73477 FULLER    230  1              58.33     34.15   t
   70139 DANIELPK  230        73477 FULLER    230  1             -26.19     -1.85   t
   70193 FTN VALL  115        73412 MIDWAYBR  115  1              -6.76      1.50   t
   70205 GRANDJCT  230        79036 GRANDJCT  345  1             -52.75    -24.41   f
   70256 LAPORTPS  115        73105 LAPORTE   115  1             -14.73     -6.27   t
   70274 MALTA     230        73138 MT.ELBRT  230  1            -145.53      3.70   f
   70285 MIDWAYPS  115        73412 MIDWAYBR  115  1               2.39    -21.20   f
   70286 MIDWAYPS  230        73413 MIDWAYBR  230  1              89.79     92.45   t
   70287 MILL      115        73296 FRASER    115  1             -39.74     10.27   f
   70308 PALMER    115        73414 MONUMENT  115  1             -30.02     10.19   t
   70311 PAWNEE    230        73192 STORY     230  1            -214.82    -23.57   t
   70327 PONCHA    115        79037 GUNNISON  115  1             -25.04     10.85   f
   70350 RAWHIDE    24        73165 RAWHIDE   230  1             207.75     81.30   t
   70358 RIFLE PS  230        79059 RIFLE WA  230  1             -86.86      4.51   f
   70358 RIFLE PS  230        79250 AMATLAS   230  1             -75.90     -3.05   f
   70375 SAN LUIS  230        79054 PONCHABR  230  1             -83.40      5.22   t
   70410 ST.VRAIN  230        73116 LONGPEAK  230  1             -25.09     68.25   f
   70470 WELD  PS  115        73211 WELD  LM  115  1             -31.31     86.61   f
   70471 WELD  PS  230        73212 WELD  LM  230  1            -350.94    -19.95   f
   70474 WINDSOR   230        73011 AULT      230  1            -286.87      5.34   t
   70476 WOODLAND  115        73400 EMIL AND  115  1              19.99     -1.68   f
   70525 MTHARRIS  138        79038 HAYDEN    138  1              -7.21     -1.37   t
   79033 GOREPASS  230        79039 HAYDEN    230  1            -245.48    -14.39   t
   79033 GOREPASS  230        73072 GOREPASS  138  1               4.47      3.94   f
   79034 GRANDJCT  115        79048 MONTROSE  115  1              20.29     -5.52   t
   79056 RIFLE CU  138        79046 MEEKER    138  1             -20.46     -1.41   f
   79057 RIFLE CU  230        79059 RIFLE WA  230  1               6.61    -18.57   t
   79058 RIFLE CU  345        79014 CRAIG     345  1            -332.52      2.45   f
   79058 RIFLE CU  345        79036 GRANDJCT  345  1             303.66    -11.03   f
   79091 WOLCOTTP  230        79039 HAYDEN    230  1            -175.89     -0.36   f
   79173 COLBRAN   115        79174 MOLINA-L  115  1               0.00     -0.54   f
   70351 RAWHIDEA   14        73165 RAWHIDE   230  1              40.98     38.48   t
   70550 W CANON   115        73551 W CANON   230  1             -30.03    -20.84   t
from area  70 to area  73 WAPA R.M.                            -1372.60    346.10

Total from area  70 PSCOLORADO                                 -2293.27    491.67

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   79060 SANJN PS  345        10292 SAN_JUAN  345  1             172.40    -11.77   t
from area  73 to area  10 NEW MEXICO                             172.40    -11.77

   73042 CASPERLM  115        65305 CASPERPP  115  1               4.85      4.69   f
   73070 GLENRCKN  115        65425 DAVEJOHN  115  1             -70.44     -2.40   t
   73071 GLENRCKS  115        65425 DAVEJOHN  115  1             -81.54     -6.26   t
   73107 LAR.RIVR  230        65420 DAVEJOHN  230  1             -86.85     19.21   t
   73148 OSAGE     230        66725 WYODAK    230  1            -123.83     16.78   f
   73167 REFNRYTP  115        65305 CASPERPP  115  1              32.52      4.55   t
   73168 RENO      230        66725 WYODAK    230  1             -98.84     -6.08   t
   73170 RIVERTON  115        66305 RIVERTON  230  1              -6.25    -10.54   t
   73190 STEGALL   230        65420 DAVEJOHN  230  1             -94.80     14.91   t
   73197 THERMOPL  115        66540 THERPACE  115  1             -12.23     -8.75   f
   73197 THERMOPL  115        66535 THERMOPL  230  1              -0.18     -9.45   f
   73222 WORLANTP  115        66720 WORLAND   115  1              13.92     -9.82   f
   73229 YELLOWBR  230        66750 YELOWTLP  230  1             319.16    -16.36   f
   73276 TEKLA     230        65060 ANT MINE  230  1             -22.39    -19.72   t
   73282 WYODAK     69        66725 WYODAK    230  1              10.56    -15.21   t
   73282 WYODAK     69        66725 WYODAK    230  2               7.14    -10.28   t
   73294 HUGHES    230        66725 WYODAK    230  1            -118.34      1.44   t
   79001 ARTESIA   138        66278 RANGELY   138  1               7.66      5.09   t
   79005 BEARS     345        65193 BONANZA   345  1             337.22      0.23   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  1              44.63     -6.33   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  2              44.63     -6.33   t
   79046 MEEKER    138        66278 RANGELY   138  1               6.21      1.61   t
   79067 VERNAL    138        65085 ASHLEY    138  1              79.96     -5.86   f
   79067 VERNAL    138        65192 BONANZA   138  1             -48.16     -5.94   f
   74016 WYGEN      14        66725 WYODAK    230  1               0.00      0.00   t
from area  73 to area  65 PACE                                   144.63    -70.81

   73011 AULT      230        70474 WINDSOR   230  1             286.87     -5.34   f
   73013 B.CK PS   115        70005 BRUSHCPP  115  1             -95.62    -29.00   t
   73013 B.CK PS   115        70005 BRUSHCPP  115  2            -100.39    -35.32   t
   73044 COBBLKTP  115        70116 COBBLAKE  115  1              15.32      1.45   t
   73072 GOREPASS  138        79033 GOREPASS  230  1              -4.47     -3.94   t
   73105 LAPORTE   115        70256 LAPORTPS  115  1              14.73      6.27   f
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   73116 LONGPEAK  230        70410 ST.VRAIN  230  1             25.09    -68.25   t
   73138 MT.ELBRT  230        70274 MALTA     230  1            145.53     -3.70   t
   73165 RAWHIDE   230        70350 RAWHIDE    24  1           -207.75    -81.30   f
   73165 RAWHIDE   230        70351 RAWHIDEA   14  1            -40.98    -38.48   f
   73192 STORY     230        70311 PAWNEE    230  1            214.82     23.57   f
   73211 WELD  LM  115        70470 WELD  PS  115  1             31.31    -86.61   t
   73212 WELD  LM  230        70471 WELD  PS  230  1            350.94     19.95   t
   73296 FRASER    115        70287 MILL      115  1             39.74    -10.27   t
   73400 EMIL AND  115        70476 WOODLAND  115  1            -19.99      1.68   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1              6.76     -1.50   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1             -2.39     21.20   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1            -89.79    -92.45   f
   73414 MONUMENT  115        70308 PALMER    115  1             30.02    -10.19   f
   73477 FULLER    230        70122 COMANCHE  230  1            -58.33    -34.15   f
   73477 FULLER    230        70139 DANIELPK  230  1             26.19      1.85   f
   79014 CRAIG     345        79058 RIFLE CU  345  1            332.52     -2.45   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1           -303.66     11.03   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1             52.75     24.41   t
   79037 GUNNISON  115        70327 PONCHA    115  1             25.04    -10.85   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1              7.21      1.37   f
   79039 HAYDEN    230        79033 GOREPASS  230  1            245.48     14.39   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1            175.89      0.36   t
   79046 MEEKER    138        79056 RIFLE CU  138  1             20.46      1.41   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1            -20.29      5.52   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1             83.40     -5.22   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1             86.86     -4.51   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1             -6.61     18.57   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1             -0.00      0.54   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1             75.90      3.05   t
   73551 W CANON   230        70550 W CANON   115  1             30.03     20.84   f
from area  73 to area  70 PSCOLORADO                           1372.60   -346.10

   79061 SHIP PS   230        79063 SHIPROCK  230  1             81.45    -13.97   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1             -1.55     -9.08   t
from area  73 to area  19 WAPA L.C.                              79.89    -23.05

   73229 YELLOWBR  230        63001 CROS PHA  230  1           -157.71     23.43   f
from area  73 to area  63 WAPA U.M.                            -157.71     23.43

Total from area  73 WAPA R.M.                                  1611.81   -428.30

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1            -96.30    -16.49   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1            112.59    -16.85   f
   63008 HAVRE     161        62023 GT FALLS  161  1            -12.06     12.06   t
   63014 TIBERTAP  115        62027 SHELBY    115  1             -3.11      3.05   t
   63015 VERONA    161        62024 RAINBOW   161  1            -11.21     11.79   t
from area  63 to area  62 MONTANA                               -10.09     -6.43

   63001 CROS PHA  230        73229 YELLOWBR  230  1            157.71    -23.43   t
from area  63 to area  73 WAPA R.M.                             157.71    -23.43

Total from area  63 WAPA U.M.                                   147.62    -29.87
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Summation of selected system

	-----MW----	----MVAR---		
Generation	70678.570	9208.226	Generators	2565
Actual Load	60440.602	19741.215	Loads	6822
Net actual shunt	0.308	-2047.679	Shunts	1297
Net actual svd	0.000	-4685.307	Svd	589
Loss	3090.351	-3741.835	Buses	13198
			Lines	10964
			Transformers	5151
MVA-miles	6321575.5	971321.7	DC buses	6
Miles	46985.316		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	7862.734	857.154	Generators	142
Actual Load	7899.199	2641.000	Loads	512
Net actual shunt	0.000	-22.487	Shunts	9
Net actual svd	0.000	-1851.935	Svd	76
Net Interchange	-399.429	-37.075	Buses	992
Sched Interchange	-400.000		Lines	781
Loss	362.962	127.657	Transformers	406
MVA-miles	1111697.3	226120.0	DC buses	0
Miles	18637.697		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.733	25.322		
Loss at 13.80 Kv	3.367	88.111		
Loss at 14.40 Kv	0.019	2.275		
Loss at 25.00 Kv	1.931	27.273		
Loss at 34.00 Kv	0.053	0.877		
Loss at 69.00 Kv	18.964	-3.364		
Loss at 138.00 Kv	151.491	-263.412		
Loss at 240.00 Kv	167.689	-572.763		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	17.714	823.337		
Largest mismatch MVA	0.0143	0.0798		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	10251.965	942.242	Generators	112
Actual Load	6889.125	2565.790	Loads	395
Net actual shunt	0.000	2956.950	Shunts	104
Net actual svd	0.000	2142.647	Svd	125
Net Interchange	2849.615	-272.229	Buses	1054
Sched Interchange	2849.900		Lines	718
Loss	513.222	-6450.918	Transformers	645
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.307	7.918		
Loss at 13.80 Kv	10.053	491.587		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.302	0.084		
Loss at 132.00 Kv	36.986	105.922		
Loss at 138.00 Kv	15.103	-120.801		
Loss at 230.00 Kv	52.991	-616.005		
Loss at 500.00 Kv	340.237	-6985.188		
Loss at other Kv	57.243	665.567		
Largest mismatch MVA	0.0458	0.0434		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	4109.695	451.996	Generators	62
Actual Load	2984.000	711.600	Loads	64
Net actual shunt	0.000	-595.471	Shunts	15
Net actual svd	0.000	0.000	Svd	0
Net Interchange	919.908	-295.709	Buses	157
Sched Interchange	920.000		Lines	120
Loss	205.787	631.578	Transformers	96
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.272	5.839		
Loss at 13.80 Kv	3.363	115.551		
Loss at 14.40 Kv	0.879	34.194		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.585	26.884		
Loss at 115.00 Kv	0.438	0.378		
Loss at 138.00 Kv	19.670	-4.928		
Loss at 161.00 Kv	1.801	2.738		
Loss at 230.00 Kv	73.884	-25.208		
Loss at 345.00 Kv	99.644	306.689		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	5.251	169.441		
Largest mismatch MVA	0.0030	0.0144		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	3907.251	638.620	Generators	24
Actual Load	1422.895	610.184	Loads	200
Net actual shunt	0.308	-120.543	Shunts	56
Net actual svd	0.000	1177.396	Svd	15
Net Interchange	2328.131	-328.012	Buses	314
Sched Interchange	2328.000		Lines	318
Loss	155.917	-467.574	Transformers	90
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.000	36.475		
Loss at 69.00 Kv	0.452	2.543		
Loss at 100.00 Kv	35.637	1.646		
Loss at 115.00 Kv	1.927	-18.926		
Loss at 161.00 Kv	31.765	-10.984		
Loss at 230.00 Kv	29.565	-31.474		
Loss at 500.00 Kv	54.591	-701.569		
Loss at other Kv	1.979	254.714		
Largest mismatch MVA	0.0054	0.0233		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	27343.146	3850.432	Generators	384
Actual Load	22671.295	6850.328	Loads	1652
Net actual shunt	0.000	-1861.934	Shunts	43
Net actual svd	0.000	-4066.823	Svd	159
Net Interchange	3514.737	973.785	Buses	2740
Sched Interchange	3514.000		Lines	2710
Loss	1157.099	1955.068	Transformers	654
MVA-miles	4621420.5	610297.9	DC buses	4
Miles	18469.418		DC converters	4
			DC lines	2
Loss at 11.00 Kv	0.000	0.606		
Loss at 13.20 Kv	0.000	4.940		
Loss at 13.80 Kv	4.801	207.582		
Loss at 14.40 Kv	0.284	13.036		
Loss at 25.00 Kv	3.164	165.530		
Loss at 34.50 Kv	0.348	6.272		
Loss at 69.00 Kv	15.032	42.851		
Loss at 100.00 Kv	0.120	-0.147		
Loss at 115.00 Kv	219.128	506.133		
Loss at 230.00 Kv	341.980	1663.205		
Loss at 345.00 Kv	16.053	-175.495		

Loss at 500.00 Kv	431.237	-1791.318
Loss at other Kv	124.951	1311.875
Largest mismatch MVA	0.0340	0.0592

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 65 [PACE]

	-----MW----	----MVAR---		
Generation	5582.736	745.984	Generators	52
Actual Load	6293.716	1960.150	Loads	274
Net actual shunt	0.000	-1763.064	Shunts	74
Net actual svd	0.000	-48.840	Svd	2
Net Interchange	-981.398	-181.926	Buses	566
Sched Interchange	-981.200		Lines	409
Loss	270.420	546.843	Transformers	338
MVA-miles	5.0	1.6	DC buses	0
Miles	1.900		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.877	28.344		
Loss at 34.50 Kv	1.001	7.477		
Loss at 46.00 Kv	6.339	137.393		
Loss at 69.00 Kv	1.657	22.613		
Loss at 100.00 Kv	0.056	1.037		
Loss at 115.00 Kv	3.018	-5.621		
Loss at 138.00 Kv	70.658	195.699		
Loss at 161.00 Kv	15.876	6.542		
Loss at 230.00 Kv	79.061	44.771		
Loss at 345.00 Kv	87.802	6.376		
Loss at 500.00 Kv	0.008	3.720		
Loss at other Kv	4.069	98.492		
Largest mismatch MVA	0.0051	0.0525		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 70 [PSCOLORADO]

	-----MW----	----MVAR---		
Generation	4219.324	1387.446	Generators	66
Actual Load	6332.696	2372.604	Loads	362
Net actual shunt	0.000	0.000	Shunts	0
Net actual svd	0.000	-1663.181	Svd	43
Net Interchange	-2293.317	491.638	Buses	501
Sched Interchange	-2293.000		Lines	461
Loss	179.922	186.358	Transformers	148
MVA-miles	27773.6	6148.7	DC buses	0
Miles	564.500		DC converters	0
			DC lines	0
Loss at 13.80 Kv	3.105	91.124		
Loss at 14.40 Kv	0.052	0.520		
Loss at 25.00 Kv	0.014	0.177		
Loss at 46.00 Kv	0.195	0.008		
Loss at 69.00 Kv	6.873	-1.123		
Loss at 100.00 Kv	0.018	-0.279		
Loss at 115.00 Kv	31.210	-49.480		
Loss at 138.00 Kv	0.274	-5.486		
Loss at 230.00 Kv	102.153	137.970		
Loss at 345.00 Kv	0.002	0.115		
Loss at 500.00 Kv	30.297	-151.488		
Loss at other Kv	5.730	164.300		
Largest mismatch MVA	0.0114	0.0189		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area 64 [SIERRA]

	-----MW----	----MVAR---		
Generation	1374.951	126.616	Generators	22
Actual Load	1719.091	458.744	Loads	121
Net actual shunt	0.000	-188.035	Shunts	30
Net actual svd	0.000	69.309	Svd	5
Net Interchange	-399.949	58.465	Buses	275
Sched Interchange	-399.000		Lines	197
Loss	55.809	-271.854	Transformers	117

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MVA-miles                 65866.2      38610.7        DC buses              0
Miles                    1042.600                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           2.540       51.405
Loss at  69.00 Kv           0.000        0.000
Loss at 115.00 Kv           0.479       -6.144
Loss at 230.00 Kv           1.789     -100.826
Loss at 345.00 Kv           9.144     -440.416
Loss at other Kv           41.857      224.128

Largest mismatch MVA       0.0110       0.0128

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area  52 [W KOOTENAY                      ]

                       -----MW----  ----MVAR---
Generation                596.550       99.158        Generators           20
Actual Load               722.400      210.200        Loads                64
Net actual shunt            0.000      -77.803        Shunts               27
Net actual svd              0.000     -130.683        Svd                   4
Net Interchange          -150.488       -8.948        Buses               260
Sched Interchange        -149.900                     Lines               165
Loss                       24.638      106.391        Transformers        117

MVA-miles                 30813.2       4868.5        DC buses              0
Miles                     986.000                     DC converters         0
                                                      DC lines              0
Loss at  13.20 Kv           0.000        8.258
Loss at  13.80 Kv           0.000        0.000
Loss at  14.40 Kv          -0.000       29.963
Loss at  25.00 Kv           0.000        0.000
Loss at 138.00 Kv           0.397       -0.481
Loss at 161.00 Kv           9.043       11.279
Loss at 230.00 Kv           1.522       -8.747
Loss at other Kv           13.676       66.120

Largest mismatch MVA       0.0008       0.0036

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area  73 [WAPA R.M.                       ]

                       -----MW----  ----MVAR---
Generation               5374.056      102.980        Generators           80
Actual Load              3608.290     1237.018        Loads               355
Net actual shunt            0.000     -296.342        Shunts                4
Net actual svd              0.000     -298.949        Svd                  53
Net Interchange          1611.853     -428.266        Buses               620
Sched Interchange        1612.000                     Lines               567
Loss                      153.934     -110.449        Transformers        174

MVA-miles                464000.2      85274.2        DC buses              0
Miles                    7283.200                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           6.195       91.249
Loss at  34.50 Kv           0.313        4.051
Loss at  69.00 Kv           5.392      -11.321
Loss at 115.00 Kv          61.870     -129.024
Loss at 138.00 Kv           4.512      -31.204
Loss at 230.00 Kv          34.448     -294.475
Loss at 345.00 Kv          33.988      -62.343
Loss at other Kv            7.217      322.618

Largest mismatch MVA       0.0198       0.0391

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO DENVER, LINE 2

Area  63 [WAPA U.M.                       ]

                       -----MW----  ----MVAR---
Generation                 56.159        5.597        Generators            1
Actual Load              -102.100      123.600        Loads                17
Net actual shunt            0.000      -78.951        Shunts                1
Net actual svd              0.000      -14.249        Svd                   4
Net Interchange           147.617      -29.867        Buses                21
Sched Interchange         147.000                     Lines                12
Loss                       10.642        5.063        Transformers          3
```

MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.227	6.416		
Loss at 115.00 Kv	0.016	-7.055		
Loss at 161.00 Kv	0.897	-47.465		
Loss at 230.00 Kv	9.502	53.168		
Largest mismatch MVA	0.0002	0.0002		

B.5

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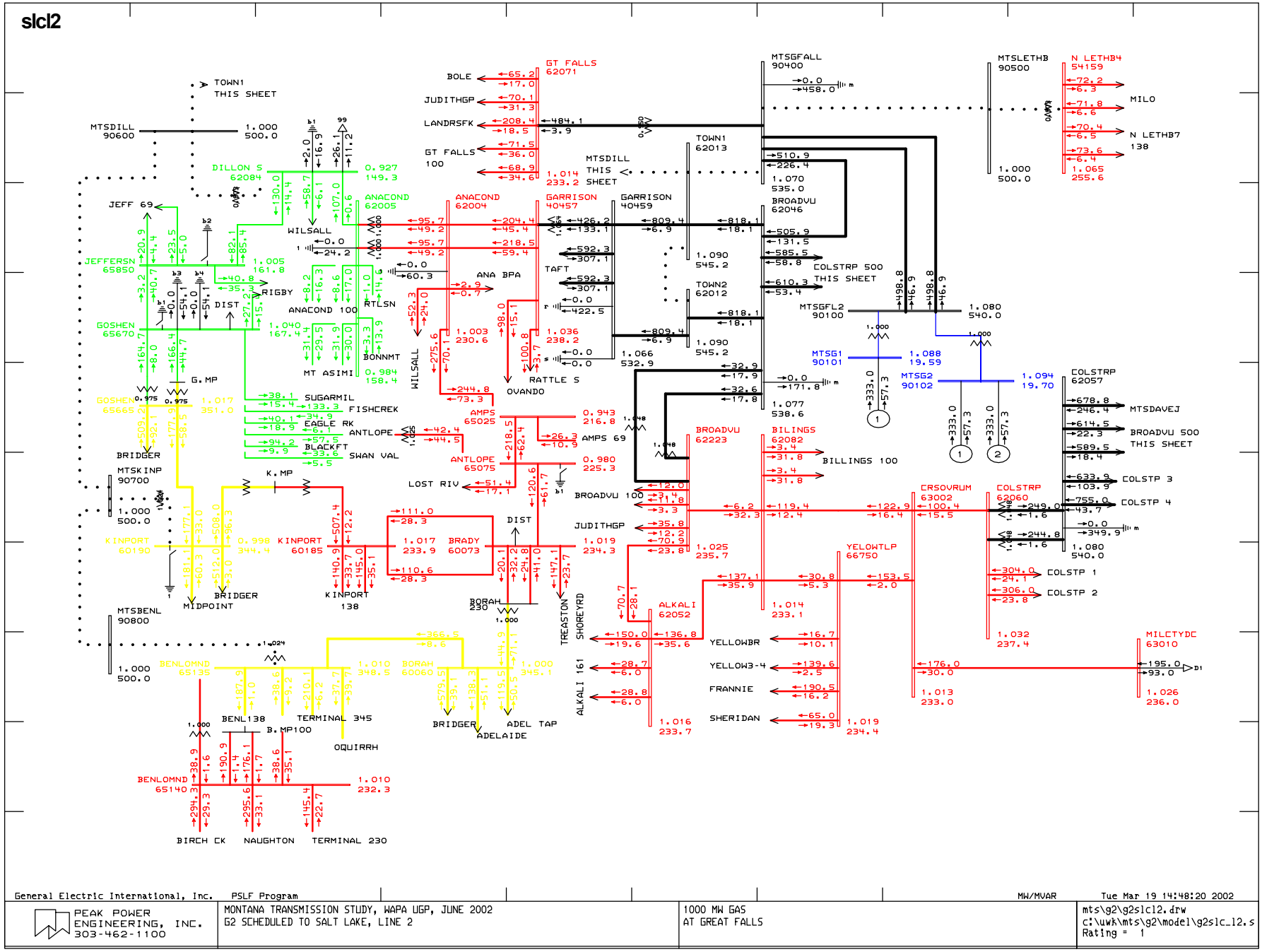

General Electric International, Inc. PSLF Program MW/MVAR Tue Mar 19 14:48:20 2002

PEAK POWER ENGINEERING, INC. 303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

1000 MW GAS
AT GREAT FALLS

mts\g2\g2slcl2.drw
c:\uwk\mts\g2\model\g2slc_l2.s
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------									rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------		loading	
54611	RUTH LK8	69	54	54839	RUTH LK1	138	54	1	57.9	13.8	59.5	45.0M		132.3	T
64026	CARSON	120	64	64027	CARSON T	120	64	1	-56.0	-6.3	56.4	216.5A		131.5	F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-57.3	-4.6	57.5	45.0M		128.6	T
64194	DAYTON	120	64	64254	DAYTON	25	64	1	16.6	6.5	17.8	14.0M		127.5	F
79026	FLAMGORG	138	73	79029	FLAMGORG	69	73	1	22.1	6.1	22.9	19.0M		120.5	F
64099	SPAN SPG	120	64	64114	TRACY	120	64	1	-127.9	-2.8	127.9	514.8A		118.5	F
65850	JEFFERSN	161	65	65860	JFRSNPHA	161	65	1	-82.1	85.4	118.5	100.0M		118.5	F
65193	BONANZA	345	65	65995	MONA	345	65	1	751.9	79.8	756.1	1087.8A		117.7	F
64091	RENO	120	64	64263	RENO	25	64	1	50.3	20.5	54.3	46.7M		116.3	F
70249	LAJUNTAW	115	70	70250	LAJUNTAW	69	70	1	26.3	12.4	29.0	25.0M		116.1	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	1	50.2	20.3	54.2	46.7M		116.0	F
64091	RENO	120	64	64263	RENO	25	64	2	50.2	20.3	54.2	46.7M		116.0	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	2	47.8	19.3	51.6	46.7M		110.4	F
64202	HAN CRTP	120	64	64203	TWN CRTP	120	64	1	74.2	19.8	76.8	356.0A		109.1	F
64201	PINSN TP	120	64	64202	HAN CRTP	120	64	1	74.6	20.6	77.4	356.0A		109.0	F
64200	REDHOUSE	120	64	64201	PINSN TP	120	64	1	75.9	23.6	79.5	356.0A		108.9	T
64129	VALMY	120	64	64200	REDHOUSE	120	64	1	77.0	26.3	81.4	356.0A		108.6	T
54234	CASTLE R	138	54	55972	CASTLE-1	25	54	1	-50.0	21.0	54.2	50.0M		108.4	F
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	24.1	83.8	79.0M		106.1	F
54232	PANCAN 9	138	54	55386	EMPRESS9	25	54	T1	15.7	1.0	15.7	15.0M		104.7	F
64114	TRACY	120	64	64118	TRACY G2	14	64	1	-82.5	-4.0	82.6	81.0M		104.0	T
48319	PLEASANT	115	40	48355	RATHDRUM	115	40	1	-84.1	-16.2	85.6	430.8A		103.4	F
43017	BEAVER	14	40	43021	BEAVER	230	40	1	356.8	44.8	359.6	348.0M		103.3	F
54052	BLUERIDG	138	54	55281	BLUERDGE	14	54	T1	20.8	15.2	25.7	25.0M		102.9	F
54154	E CALGAR	240	54	54189	ENMX2SD9	138	54	T1	234.1	-169.4	289.0	300.0M		102.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	155.0	-9.7	155.3	155.0M		101.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	155.0	-9.7	155.3	155.0M		101.8	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	DE	155.0	-9.7	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	BC	155.0	-9.7	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	9A	155.0	-9.7	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	78	155.0	-9.7	155.3	155.0M		101.8	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	56	155.0	-9.7	155.3	155.0M		101.8	T
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-8.5	29.3	30.0M		101.6	T
46733	LAGRND5	14	40	46735	LGBK5	115	40	1	40.0	7.0	40.6	40.0M		101.5	F

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Processing file c:\uwk\mts\base\rvolthsbs.out
Processing file c:\uwk\mts\g2\rvoltslcl2.out

Compvolt found the following for comparisons:
     349 Voltage Violations read from c:\uwk\mts\base\rvolthsbs.out
     352 Voltage Violations read from c:\uwk\mts\g2\rvoltslcl2.out


**** VOLTS:  NEW ****
Component                   w/o Prj         w/ Prj  Rating
62030 PTRSNFLT  230   0.95 <= pu <= 1.05    0.9247  1.00 pu kV
62065 ENNIS MT  161   0.95 <= pu <= 1.05    0.9437  1.00 pu kV
62084 DILLON S  161   0.95 <= pu <= 1.05    0.9273  1.00 pu kV
62158 SHERDNMT  161   0.95 <= pu <= 1.05    0.9370  1.00 pu kV
65025 AMPS      230   0.95 <= pu <= 1.05    0.9427  1.00 pu kV
65155 BIGGRASS  161   0.95 <= pu <= 1.05    0.9194  1.00 pu kV
65860 JFRSNPHA  161   0.95 <= pu <= 1.05    0.9492  1.00 pu kV

**** VOLTS: WORSE ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS: BETTER ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS:  AWAY ****
Component             w/o Prj      w/ Prj          Rating
50343 KSH132-2  132   1.0501  0.95 <= pu <= 1.05   1.00 pu kV
50561 WSN500    500   1.0502  0.95 <= pu <= 1.05   1.00 pu kV
50691 NIC230    230   1.0502  0.95 <= pu <= 1.05   1.00 pu kV
66225 PINTO     345   1.0511  0.95 <= pu <= 1.05   1.00 pu kV
66235 PINTO PS  345   1.0501  0.95 <= pu <= 1.05   1.00 pu kV
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54090	BICKERD4	240	1.1047	54153	BRAZEAU4	240	1.1053	54329	KEEPHIL4	240	1.1117
54524	GENESEE4	240	1.1086	54681	NEVIS 7	138	1.1101	54802	STURGEO9	138	1.1003
55969	770S701T	138	1.1052	51017	KMS230	230	1.1078				

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
90200	MTSDAVEJ	500	1.0792	90300	MTSDAN	500	1.0865	90400	MTSGFALL	500	1.0700
54012	FOX CREE	138	1.0510	54013	KAYBOB 9	138	1.0517	54014	GULF RO9	138	1.0592
54021	WESGEN 7	138	1.0507	54050	RBCUPIL7	138	1.0507	54054	LAMOURE4	240	1.0795
54073	IPPL ST9	138	1.0575	54077	BIGSTON4	240	1.0600	54078	CHEVRON7	138	1.0515
54081	METIS644	240	1.0853	54082	BICKERD7	138	1.0557	54090	BICKERD4	240	1.1047
54097	BIG HOR9	138	1.0817	54098	STRACHA9	138	1.0577	54103	DEERLAN4	240	1.0820
54121	ELLERSLI	240	1.0759	54125	SUNDANL9	138	1.0543	54126	WABAMUN4	240	1.0869
54128	SUNDANM9	240	1.0965	54129	E EDMON4	240	1.0709	54130	N CALDE4	240	1.0645
54131	N BARRH4	240	1.0836	54139	GAETZ 4	240	1.0597	54141	HIGHVAL9	138	1.0538
54142	WILLESD4	240	1.0961	54144	RED DEE4	240	1.0636	54147	BENALTO4	240	1.0767
54148	E CROSS4	240	1.0585	54150	LANGDON2	500	1.0533	54152	JANET 4	240	1.0533
54153	BRAZEAU4	240	1.1053	54157	PEIGAN 4	240	1.0748	54159	N LETHB4	240	1.0648
54184	SARCEE 7	138	1.0530	54195	RUNDLE S	138	1.0504	54223	WARE JCT	240	1.0511
54249	RP05103S	138	1.0669	54261	SPRAY S	138	1.0508	54269	COALSPU7	138	1.0609
54281	MILO 2	240	1.0605	54285	LEISMER9	240	1.0749	54287	GREGG R9	138	1.0701
54302	MARIONA9	138	1.0540	54325	CHEV KG9	138	1.0515	54326	COAL VA9	138	1.0582
54329	KEEPHIL4	240	1.1117	54335	W BROOK4	240	1.0550	54384	ENMX28S9	138	1.0523
54412	BENBOW 9	138	1.0517	54441	946/947X	240	1.0759	54444	SPRINGB9	138	1.0505
54505	JASPER 4	240	1.0658	54506	BELLAMY4	240	1.0757	54509	ARGYLL W	240	1.0758
54512	DOME T29	240	1.0764	54513	LAMBTON4	240	1.0705	54514	CLOVERB4	240	1.0694
54518	ARGYLL E	240	1.0760	54519	CASTLTX2	240	1.0705	54521	PETROLIA	240	1.0746
54524	GENESEE4	240	1.1086	54542	RBW LAK7	138	1.0505	54546	CHINCHA7	138	1.0575
54547	KEG RVR7	138	1.0561	54548	KEMP RV9	138	1.0578	54549	HOTCHKS7	138	1.0596
54552	CADOTTE9	138	1.0585	54553	NORCEN 9	138	1.0552	54554	LUBICON7	138	1.0582
54555	CRANBER9	138	1.0591	54558	WESLY C7	138	1.0791	54559	CARMON 9	138	1.0767
54560	PEACE/29	138	1.0753	54561	DIASHOW7	138	1.0736	54589	DOME CU7	138	1.0672
54593	DONNELL9	138	1.0669	54594	TAP7L487	138	1.0686	54595	TRIANGL7	138	1.0619
54596	VALLEYV9	138	1.0782	54600	L.SMOKY7	138	1.0848	54601	STURGEO7	138	1.0844
54606	SIMONET9	138	1.0846	54607	FOXCRK/2	138	1.0515	54608	GOOSE R9	138	1.0666
54612	RUTH LA7	138	1.0600	54613	RUTH LK7	138	1.0603	54618	PARS CR7	138	1.0508
54621	MITS E.4	240	1.0565	54622	MITS E.7	138	1.0892	54623	AEC MILL	138	1.0881
54624	OTAUWAU7	138	1.0890	54633	LOU CR.7	138	1.0570	54634	SARHLK/2	138	1.0511
54636	ESSO JU7	138	1.0519	54637	MORSE RV	138	1.0524	54639	VIRGINI9	138	1.0529
54643	WOLF LK9	138	1.0709	54646	MARG LK4	240	1.0740	54647	MARG LK7	138	1.0861
54648	LACOREY9	138	1.0683	54652	BONNY 9	138	1.0544	54654	BONN SVC	138	1.0544
54655	WHITFISH	240	1.0857	54675	PAINTRT7	240	1.0896	54680	NEVIS 4	240	1.0748
54681	NEVIS 7	138	1.1101	54685	3HILLS/3	138	1.0581	54691	MICH. C9	138	1.0735
54693	WINT HI9	138	1.0749	54694	BULLPON9	138	1.0750	54707	SHEER 14	240	1.0625
54709	ANDERSO4	240	1.0630	54710	ANDERSON	138	1.0850	54711	SHEER 24	240	1.0625
54715	BAT. RV7	138	1.0821	54721	BAT RV79	240	1.0926	54723	CORDEL 4	240	1.0926
54729	PRIM TAP	138	1.0652	54730	PRIMROSE	138	1.0712	54796	791S701T	138	1.0628
54802	STURGEO9	138	1.1003	54806	946/947N	240	1.0709	54809	732S901T	240	1.0667
54818	VERMILA9	138	1.0798	54822	766S901T	240	1.0628	54823	NEVIS 9	138	1.0878

54835	791S702T	138	1.0631	54836	MILNERB9	138	1.0779	54844	709S702T	138	1.0732
54847	BAT RV80	240	1.0926	54848	791S703T	138	1.0530	54962	KAYBOBTP	138	1.0517
54963	CANMORE9	138	1.0506	54978	EAST IN4	240	1.0705	54983	MARION T	138	1.0541
54984	HIGHVL T	138	1.0538	54988	CROSSF T	240	1.0585	54995	W.GRN TP	240	1.0961
55012	BASSET 7	138	1.0562	55013	HAIGRIVE	138	1.0572	55067	FTNELSON	138	1.0665
55072	SYNC_D04	240	1.0563	55073	AURORA 4	240	1.0619	55075	SEAL LK9	138	1.0643
55147	MILNERC9	138	1.0880	55226	WABASCA9	240	1.0532	55272	FIELDGA9	138	1.0513
55280	BRINTNEL	240	1.0504	55515	PRIMROSE	138	1.0565	55763	BC BORDE	138	1.0627
55891	904AL TP	240	1.0705	55894	SARCEE M	138	1.0512	55912	740L JNC	138	1.0609
55913	G.ROBB T	138	1.0600	55924	CH KGT T	138	1.0515	55943	MILO 1	240	1.0605
55969	770S701T	138	1.1052	50010	COM132	132	1.0722	50020	CMS230	230	1.0500
50036	RBW230	230	1.0548	50037	PEM230	230	1.0585	50038	RBW230-1	230	1.0533
50182	ARN132	132	1.0814	50185	ALZ230	230	1.0515	50186	ROS230	230	1.0615
50187	BRT230	230	1.0697	50188	BUT230	230	1.0500	50193	BRT360	360	1.0500
50313	VIT132	132	1.0516	50314	PVO133	132	1.0504	50315	PVO132	132	1.0510
50323	DMR132	132	1.0554	50330	LDR132	132	1.0504	50331	GLD132	132	1.0517
50334	KGH132	132	1.0526	50335	UTA132	132	1.0529	50342	SCA132	132	1.0500
50346	SHA2	132	1.0502	50347	GOW132	132	1.0515	50348	GTP132	132	1.0550
50349	CLD132	132	1.0567	50350	SOO132	132	1.0574	50351	JOR132	132	1.0611
50352	PML132	132	1.0515	50353	WOS132	132	1.0534	50354	GLSTP17	132	1.0560
50355	GLSTP18	132	1.0546	50356	DND132	132	1.0518	50391	KSHTP14	132	1.0502
50394	SHATP14	132	1.0502	50395	SALTP17	132	1.0545	50396	SALTP18	132	1.0547
50447	TKW138	138	1.0533	50463	SKA500	500	1.0631	50464	TKW500	500	1.0687
50540	GMS230	230	1.0548	50541	KDS230	230	1.0542	50545	BLW230	230	1.0653
50546	SCK230	230	1.0595	50547	HMH230	230	1.0578	50548	BLM230	230	1.0587
50549	QNT230	230	1.0579	50550	QRP230	230	1.0650	50551	TLR230	230	1.0585
50553	BCR230	230	1.0585	50554	RBF230	230	1.0662	50556	LAP230	230	1.0569
50557	SNK230	230	1.0589	50558	GMS500	500	1.0500	50560	KDS500	500	1.0617
50562	GLN500	500	1.0679	50653	NIC138	138	1.0524	50655	VVW138	138	1.0505
50656	SVA138	138	1.0516	50659	BDM138	138	1.0507	50660	WGS138	138	1.0608
50661	MON138	138	1.0581	50672	BKL138	138	1.0514	50679	BLU138	138	1.0532
50680	VLM138	138	1.0585	50686	SCO138	138	1.0673	50687	ABA138	138	1.0579
50700	MCA500	500	1.0500	50701	REV500	500	1.0500	50729	PRI138TP	138	1.0672
50776	NTL138	138	1.0539	50783	SEL230	230	1.0590	50785	SEV230	230	1.0582
50792	SEL500	500	1.0500	50899	ABA138TP	138	1.0579	50902	BDM138TP	138	1.0507
50922	DNDTAP	132	1.0526	50923	HSY-PH	132	1.0552	50924	ESQ-PH	132	1.0518
50928	SCG IPP	132	1.0681	50934	JULTP130	132	1.0526	51017	KMS230	230	1.1078
51045	ALH230	230	1.0579	60085	BRIDGER	345	1.0500	60240	MIDPOINT	500	1.0700
90100	MTSGFL2	500	1.0800	62012	TOWN2	500	1.0905	62013	TOWN1	500	1.0905
62033	ANA BPA	115	1.0530	62046	BROADVU	500	1.0773	62053	BROADV&2	500	1.0668
62054	BROADV&1	500	1.0673	62057	COLSTRP	500	1.0800	40045	ALLSTON	500	1.0722
40051	ALVEY	500	1.0789	40061	ASHE	500	1.0800	40091	BELL BPA	500	1.0539
40111	BIG EDDY	500	1.0767	43049	BOARD F	500	1.0840	40139	BONNVILE	115	1.0500
47013	BRIDGPRT	115	1.0536	40155	BUCKLEY	500	1.0768	45029	BURNS	500	1.0521
45035	CAPTJACK	500	1.0769	46209	CARMEN	115	1.0616	41311	CELILO1	500	1.0766
41312	CELILO2	500	1.0766	40233	CHIEF JO	500	1.0800	40287	COULEE	500	1.0810
40302	COVINGT4	500	1.0749	40306	COVINGT5	500	1.0755	43115	COYO M1	500	1.0554
43123	COYOTE	500	1.0842	45095	DIXONVLE	500	1.0794	40369	DWORSHAK	500	1.0692
40381	ECHOLAKE	500	1.0780	40451	GAR1EAST	500	1.0769	40453	GAR2EAST	500	1.0769
40459	GARRISON	500	1.0659	40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0738
40499	HANFORD	500	1.0812	40521	HATWAI	500	1.0688	45137	HERMIST	230	1.0509
41212	HILLS CR	115	1.0500	40553	HOT SPR	500	1.0796	40585	JOHN DAY	500	1.0850
40601	KEELER	500	1.0815	45262	KFALLS	500	1.0793	40629	LANE	500	1.0730
40665	LIT GOOS	500	1.0800	40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800
40687	MALIN	500	1.0755	40693	MAPLE VL	500	1.0771	40699	MARION	500	1.0799

40711	MCLOUGLN	500	1.0692	40721	MCNARY	345	1.0510	40723	MCNARY	500	1.0795
45197	MERIDINP	500	1.0774	40749	MONROE	500	1.0790	40797	OLYMPIA	500	1.0791
40809	OSTRNDER	500	1.0716	40821	PAUL	500	1.0800	40827	PEARL	500	1.0781
40837	PONDROSA	500	1.0794	40869	RAVER	500	1.0792	43485	ROUND BU	500	1.0704
40913	SACJAWEA	500	1.0752	40917	SACJWA T	500	1.0764	40941	SANTIAM	500	1.0792
40949	SATSOP	500	1.0798	40957	SCHULTZ	500	1.0839	40973	SICKLER	500	1.0793
40989	SLATT	500	1.0807	41043	SUMMER L	500	1.0785	45289	SWIFT	230	1.0500
41051	TACOMA	500	1.0789	41057	TAFT	500	1.0781	41095	TROUTDAL	500	1.0639
41113	VANTAGE	500	1.0743	45337	WEED JPS	115	1.0501	47099	WELLS	115	1.0627
52226	PRI138	138	1.0673	52229	KER138	138	1.0708	52230	HED138	138	1.0698
52426	MAS138	138	1.0698	52815	PRI-T2	138	1.0681				

undervoltage summary < 0.900000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)

undervoltage summary < 0.950000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
50781	NTL VR	138	0.9499	62030	PTRSNFLT	230	0.9247	62065	ENNIS MT	161	0.9437
62084	DILLON S	161	0.9273	62158	SHERDNMT	161	0.9370	48069	CHESTER	115	0.9439
48165	IRVIN	115	0.9481	48310	OPORTUNE	115	0.9486	48299	OPPORTUN	115	0.9460
48306	OTIS	230	0.9376	65025	AMPS	230	0.9427	65155	BIGGRASS	161	0.9194
65860	JFRSNPHA	161	0.9492	70249	LAJUNTAW	115	0.9347	64072	MEYERS	120	0.9484
64092	RND HILL	120	0.9466	64102	STATELIN	120	0.9457	64203	TWN CRTP	120	0.9455

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

	generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name ALBERTA										
mw	10743.6	7862.7	7899.2	0.0	0.0	0.0	0.0	-399.4	363.0	59.3
54 mvar	4916.5	857.1	2641.0	0.0	0.0	-22.5	-1851.9	-37.1	127.7	11.7
area name B.C.HYDRO										
mw	14693.0	10253.1	6889.1	0.0	0.0	0.0	0.0	2849.7	514.3	199.6
50 mvar	6719.0	956.0	2565.8	0.0	0.0	2956.2	2141.9	-268.4	-6439.5	9.5
area name IDAHO										
mw	4676.4	3591.3	2984.0	0.0	0.0	0.0	0.0	420.4	186.9	169.0
60 mvar	2192.5	387.3	711.6	0.0	0.0	-594.2	0.0	-130.0	400.0	5.6
area name MONTANA										
mw	4501.2	3904.9	1422.9	0.0	0.0	0.3	0.0	2308.0	173.8	693.9
62 mvar	1909.0	629.0	610.2	0.0	0.0	-118.6	1363.2	-382.7	-377.2	180.1
area name NORTHWEST										
mw	43502.3	27363.5	22671.3	0.0	0.0	0.0	0.0	3514.7	1177.5	601.5
40 mvar	15475.0	4015.3	6850.3	0.0	0.0	-1863.5	-4237.9	1040.2	2226.2	36.2
area name PACE										
mw	6212.0	5185.9	6293.7	0.0	0.0	0.0	0.0	-1420.9	313.1	164.9
65 mvar	3201.9	948.7	1960.1	0.0	0.0	-1757.9	-93.4	-570.1	944.0	36.4
area name PSCOLORADO										
mw	5806.0	5162.2	6332.7	0.0	0.0	0.0	0.0	-1331.9	161.4	83.2
70 mvar	3667.3	1204.0	2372.6	0.0	0.0	0.0	-1687.1	593.5	-75.0	27.8
area name SIERRA										
mw	1901.7	1376.0	1719.1	0.0	0.0	0.0	0.0	-398.8	55.7	110.0
64 mvar	925.4	124.3	458.7	0.0	0.0	-188.1	69.4	56.8	-272.6	24.2
area name W KOOTENAY										
mw	763.5	596.5	722.4	0.0	0.0	0.0	0.0	-150.5	24.6	104.6
52 mvar	450.0	98.5	210.2	0.0	0.0	-77.8	-130.7	-9.5	106.3	24.9
area name WAPA R.M.										
mw	6091.6	5384.9	3608.3	0.0	0.0	0.0	0.0	1612.6	164.0	502.5
73 mvar	2883.8	128.6	1237.0	0.0	0.0	-298.2	-379.8	-464.5	34.0	20.1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	inter	net losses	slack bus
area name		WAPA U.M.									
	mw	61.8	55.8	-102.1	0.0	0.0	0.0	0.0	147.4	10.5	55.8
63	mvar	34.0	5.6	123.6	0.0	0.0	-79.0	-14.6	-26.8	2.3	5.6
TOTL	mw	98953.1	70737.0	60440.6	0.0	0.0	0.3	0.0	7151.2	3144.9	
	mvar	42374.4	9354.5	19741.2	0.0	0.0	-2043.5	-4820.9	-198.6	-3323.7	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	-399.4	-37.1
TOTAL		-399.4	-37.1
FROM AREA	50 B.C.HYDRO		
TO AREA	54 ALBERTA	399.4	37.1
TO AREA	40 NORTHWEST	2299.8	-315.0
TO AREA	52 W KOOTENAY	150.5	9.5
TOTAL		2849.7	-268.4
FROM AREA	60 IDAHO		
TO AREA	40 NORTHWEST	-287.2	-248.3
TO AREA	65 PACE	574.7	168.4
TO AREA	64 SIERRA	133.0	-50.2
TOTAL		420.4	-130.0
FROM AREA	62 MONTANA		
TO AREA	40 NORTHWEST	1330.4	-428.7
TO AREA	65 PACE	973.4	41.1
TO AREA	63 WAPA U.M.	4.2	4.9
TOTAL		2308.0	-382.7
FROM AREA	40 NORTHWEST		
TO AREA	50 B.C.HYDRO	-2299.8	315.0
TO AREA	60 IDAHO	287.2	248.3
TO AREA	26 LADWP	2806.6	606.6
TO AREA	62 MONTANA	-1330.4	428.7
TO AREA	30 PG AND E	3863.3	-509.2
TO AREA	64 SIERRA	187.7	-49.2
TOTAL		3514.7	1040.2
FROM AREA	65 PACE		
TO AREA	14 ARIZONA	-134.6	92.5
TO AREA	60 IDAHO	-574.7	-168.4
TO AREA	26 LADWP	-29.7	-219.2
TO AREA	62 MONTANA	-973.4	-41.1
TO AREA	18 NEVADA	258.0	-59.9
TO AREA	70 PSCOLORADO	692.4	-297.7
TO AREA	64 SIERRA	31.6	12.9
TO AREA	19 WAPA L.C.	3.5	38.0
TO AREA	73 WAPA R.M.	-694.1	72.7
TOTAL		-1420.9	-570.1
FROM AREA	70 PSCOLORADO		
TO AREA	65 PACE	-692.4	297.7
TO AREA	73 WAPA R.M.	-639.6	295.8
TOTAL		-1331.9	593.5
FROM AREA	64 SIERRA		
TO AREA	60 IDAHO	-133.0	50.2
TO AREA	26 LADWP	-49.3	1.8
TO AREA	40 NORTHWEST	-187.7	49.2
TO AREA	65 PACE	-31.6	-12.9

TO AREA	30 PG AND E	-9.7	-28.8
TO AREA	24 SOCALIF	12.5	-2.6
TOTAL		-398.8	56.8
FROM AREA	52 W KOOTENAY	mw	mvar
TO AREA	50 B.C.HYDRO	-150.5	-9.5
TOTAL		-150.5	-9.5
FROM AREA	73 WAPA R.M.	mw	mvar
TO AREA	10 NEW MEXICO	283.3	-65.9
TO AREA	65 PACE	694.1	-72.7
TO AREA	70 PSCOLORADO	639.6	-295.8
TO AREA	19 WAPA L.C.	147.2	-52.0
TO AREA	63 WAPA U.M.	-151.6	21.9
TOTAL		1612.6	-464.5
FROM AREA	63 WAPA U.M.	mw	mvar
TO AREA	62 MONTANA	-4.2	-4.9
TO AREA	73 WAPA R.M.	151.6	-21.9
TOTAL		147.4	-26.8

AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
54150	LANGDON2	500	50791	CBK500	500	1	-359.32	-36.38	f
54205	COLEMAN7	138	50776	NTL138	138	1	-14.13	-8.92	t
54273	POCATER7	138	50830	FRO T274	138	1	-25.98	8.19	t
from area 54 to area 50 B.C.HYDRO							-399.43	-37.10	
Total from area 54 ALBERTA							-399.43	-37.10	
---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
62004	ANACOND	230	40457	GARRISON	230	1	-201.38	-35.43	f
62004	ANACOND	230	40457	GARRISON	230	2	-216.20	-47.93	f
62009	RATTLE S	161	40867	RATTLE S	230	1	-120.57	-39.60	t
62012	TOWN2	500	40453	GAR2EAST	500	2	805.33	-119.62	t
62013	TOWN1	500	40451	GAR1EAST	500	1	805.33	-119.62	t
62066	KERR	115	40391	ELMO	115	1	2.29	-13.42	f
62072	OVANDO	230	40457	GARRISON	230	1	98.01	-15.06	t
62072	OVANDO	230	40551	HOT SPR	230	1	92.06	-14.11	t
62085	CROWCR B	115	48055	BURKAVAB	115	1	30.10	-11.49	t
62086	THOMSON	115	48053	BURKAVAA	115	1	35.43	-12.36	t
from area 62 to area 40 NORTHWEST							1330.39	-428.64	
62030	PTRSNFLT	230	65025	AMPS	230	1	244.78	-73.33	t
62045	BLGS PHA	230	66750	YELOWTLP	230	1	-30.76	5.26	t
62057	COLSTRP	500	90200	MTSDAVEJ	500	1	666.44	172.70	t
62061	RMRK PHA	161	66755	YELOWTLP	161	1	-18.06	-3.19	f
62084	DILLON S	161	65155	BIGGRASS	161	1	110.99	-60.36	t
from area 62 to area 65 PACE							973.40	41.09	
62023	GT FALLS	161	63008	HAVRE	161	1	12.16	-12.09	f
62024	RAINBOW	161	63015	VERONA	161	1	11.30	-11.82	f
62027	SHELBY	115	63014	TIBERTAP	115	1	3.31	-3.12	f
62051	HARDIN	230	63002	CRSOVRUM	230	1	100.36	15.55	t
62056	HUNTLEY	230	63002	CRSOVRUM	230	1	-122.92	16.37	t
from area 62 to area 63 WAPA U.M.							4.21	4.88	
Total from area 62 MONTANA							2308.00	-382.67	
---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
40145	BOUNDARY	230	50822	NLYPHS	230	1	-276.50	-6.01	f
40323	CUSTER W	500	50194	ING500	500	1	-1020.11	161.32	t
40323	CUSTER W	500	50194	ING500	500	2	-1003.20	159.72	t
from area 40 to area 50 B.C.HYDRO							-2299.81	315.04	
45029	BURNS	500	60240	MIDPOINT	500	1	-70.25	345.87	t
45103	ENTERPRS	230	60150	HELLSCYN	230	1	47.52	-42.62	f
40507	HARNEY	115	61826	HINES	115	1	-12.24	15.04	f
40621	LAGRANDE	230	60192	LADD	230	1	81.49	-31.21	f
48197	LOLO	230	60278	IMNAHA	230	1	240.71	-38.83	t
from area 40 to area 60 IDAHO							287.24	248.26	
41311	CELILO1	500	26097	SYLMAR1	230	1	529.54	58.87	f
41313	CELILO3	230	26098	SYLMAR3	230	1	873.78	244.25	f
41312	CELILO2	500	26099	SYLMAR2	230	1	529.54	58.79	f
41314	CELILO4	230	26100	SYLMAR4	230	1	873.78	244.70	f
from area 40 to area 26 LADWP							2806.64	606.61	
48053	BURKAVAA	115	62086	THOMSON	115	1	-35.43	12.36	f
48055	BURKAVAB	115	62085	CROWCR B	115	1	-30.10	11.49	f
40391	ELMO	115	62066	KERR	115	1	-2.29	13.42	t
40451	GAR1EAST	500	62013	TOWN1	500	1	-805.33	119.62	f
40453	GAR2EAST	500	62012	TOWN2	500	2	-805.33	119.62	f
40457	GARRISON	230	62072	OVANDO	230	1	-98.01	15.06	f
40457	GARRISON	230	62004	ANACOND	230	1	201.38	35.43	t
40457	GARRISON	230	62004	ANACOND	230	2	216.20	47.93	t
40551	HOT SPR	230	62072	OVANDO	230	1	-92.06	14.11	f
40867	RATTLE S	230	62009	RATTLE S	161	1	120.57	39.60	f
from area 40 to area 62 MONTANA							-1330.39	428.64	
45035	CAPTJACK	500	30020	OLINDA	500	1	1366.80	-226.64	f
45087	DELTA	115	31468	CASCADE	115	1	71.59	-15.57	f

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   40687 MALIN     500        30005 ROUND MT  500  1            1207.14   -124.52   f
   40687 MALIN     500        30005 ROUND MT  500  2            1217.81   -142.45   f
from area  40 to area  30 PG AND E                              3863.34   -509.18

   40537 HIL TOP   230        64058 HIL TOP   345  1             187.71    -49.23   f
from area  40 to area  64 SIERRA                                 187.71    -49.23

Total from area  40 NORTHWEST                                   3514.72   1040.13

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1            -134.61     92.48   t
from area  65 to area  14 ARIZONA                               -134.61     92.48

   65075 ANTLOPE   230        60073 BRADY     230  1             120.57    -61.75   f
   65135 BENLOMND  345        60060 BORAH     345  1            -366.55      8.56   t
   65220 BRIDGER   230        60085 BRIDGER   345  1              40.94    -31.29   t
   65220 BRIDGER   230        60085 BRIDGER   345  2              41.60    -31.82   t
   65220 BRIDGER   230        60085 BRIDGER   345  3              40.94    -31.29   t
   65665 GOSHEN    345        60085 BRIDGER   345  1            -509.19    -92.09   f
   65665 GOSHEN    345        60190 KINPORT   345  1             177.06     32.96   t
   65670 GOSHEN    161        60030 BLACKFT   161  1              95.80     12.17   f
   65920 MALAD     138        60020 AMFLS     138  1             -68.76      2.51   t
   66565 TREASTON  230        60073 BRADY     230  1            -147.10     23.66   t
from area  65 to area  60 IDAHO                                 -574.68   -168.37

   65995 MONA      345        26043 INTERMT   345  1             -14.83   -109.61   f
   65995 MONA      345        26043 INTERMT   345  2             -14.83   -109.61   f
from area  65 to area  26 LADWP                                  -29.66   -219.22

   90200 MTSDAVEJ  500        62057 COLSTRP   500  1            -666.44   -172.70   f
   65025 AMPS      230        62030 PTRSNFLT  230  1            -244.78     73.33   f
   65155 BIGGRASS  161        62084 DILLON S  161  1            -110.99     60.36   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1              30.76     -5.26   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1              18.06      3.19   t
from area  65 to area  62 MONTANA                               -973.40    -41.09

   66280 REDBUTTE  345        18002 HA PS     345  1             258.03    -59.87   f
from area  65 to area  18 NEVADA                                 258.03    -59.87

   90200 MTSDAVEJ  500        90300 MTSDAN    500  1             692.36   -297.71   f
from area  65 to area  70 PSCOLORADO                             692.36   -297.71

   66210 PAVANT    230        64124 UTAH-NEV  230  1              31.61     12.95   t
from area  65 to area  64 SIERRA                                  31.61     12.95

   66355 SIGURDPS  230        79031 GLENCANY  230  1               3.49     38.03   t
from area  65 to area  19 WAPA L.C.                                3.49     38.03

   65060 ANT MINE  230        73276 TEKLA     230  1              20.05     20.06   f
   65085 ASHLEY    138        79067 VERNAL    138  1             -88.53      6.08   t
   65192 BONANZA   138        79067 VERNAL    138  1              64.36     11.56   t
   65193 BONANZA   345        79005 BEARS     345  1            -572.72     29.80   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1             -40.42     -4.82   f
   65305 CASPERPP  115        73042 CASPERLM  115  1             -20.35     -8.44   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1             -24.89    -13.51   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1              40.34    -19.79   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1              64.00      3.16   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1              76.90      7.28   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1             -68.31      6.30   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2             -68.31      6.30   f
   66278 RANGELY   138        79001 ARTESIA   138  1              -1.01     -4.98   f
   66278 RANGELY   138        79046 MEEKER    138  1             -45.43     11.03   f
   66305 RIVERTON  230        73170 RIVERTON  115  1               0.57     -0.18   f
   66535 THERMOPL  230        73197 THERMOPL  115  1              -5.82     -3.82   t
   66540 THERPACE  115        73197 THERMOPL  115  1               7.79      1.14   t
   66720 WORLAND   115        73222 WORLANTP  115  1             -15.14      5.08   t
   66725 WYODAK    230        73148 OSAGE     230  1             103.74    -16.40   t
   66725 WYODAK    230        73168 RENO      230  1             101.21      6.02   f
   66725 WYODAK    230        73294 HUGHES    230  1             104.44     -3.84   f
   66725 WYODAK    230        73282 WYODAK     69  1             -11.17     15.18   f
   66725 WYODAK    230        73282 WYODAK     69  2              -7.55     10.27   f
   66725 WYODAK    230        74016 WYGEN      14  1               0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1            -307.82      9.25   t
from area  65 to area  73 WAPA R.M.                              -694.06     72.73

Total from area  65 PACE                                        -1420.92   -570.07

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter
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   90300 MTSDAN    500        90200 MTSDAVEJ  500  1            -692.36    297.71   t
from area  70 to area  65 PACE                                 -692.36    297.71

   70005 BRUSHCPP  115        73013 B.CK PS   115  1             118.31     23.51   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2             124.80     30.55   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1             -15.32     -1.46   f
   70122 COMANCHE  230        73477 FULLER    230  1              86.94     26.01   t
   70139 DANIELPK  230        73477 FULLER    230  1             -66.13     17.24   t
   70193 FTN VALL  115        73412 MIDWAYBR  115  1               1.18     -1.13   t
   70205 GRANDJCT  230        79036 GRANDJCT  345  1             -32.99    -21.52   f
   70256 LAPORTPS  115        73105 LAPORTE   115  1             -14.73     -6.26   t
   70274 MALTA     230        73138 MT.ELBRT  230  1            -145.53     17.74   f
   70285 MIDWAYPS  115        73412 MIDWAYBR  115  1              13.33    -24.34   f
   70286 MIDWAYPS  230        73413 MIDWAYBR  230  1             177.24     87.97   t
   70287 MILL      115        73296 FRASER    115  1             -27.88      7.27   f
   70308 PALMER    115        73414 MONUMENT  115  1             -35.74     12.65   t
   70311 PAWNEE    230        73192 STORY     230  1            -126.67    -40.44   t
   70327 PONCHA    115        79037 GUNNISON  115  1              -7.00      4.22   f
   70350 RAWHIDE    24        73165 RAWHIDE   230  1             262.19     66.33   t
   70358 RIFLE PS  230        79059 RIFLE WA  230  1             -18.99      8.71   f
   70358 RIFLE PS  230        79250 AMATLAS   230  1             -75.89     -6.74   f
   70375 SAN LUIS  230        79054 PONCHABR  230  1             -79.85      6.81   t
   70410 ST.VRAIN  230        73116 LONGPEAK  230  1              13.47     58.46   f
   70470 WELD  PS  115        73211 WELD  LM  115  1             -22.20     80.08   f
   70471 WELD  PS  230        73212 WELD  LM  230  1            -263.13    -35.39   f
   70474 WINDSOR   230        73011 AULT      230  1            -212.50     -6.73   t
   70476 WOODLAND  115        73400 EMIL AND  115  1               8.69      2.98   f
   70525 MTHARRIS  138        79038 HAYDEN    138  1              -7.21     -1.37   t
   79033 GOREPASS  230        79039 HAYDEN    230  1            -168.10      4.71   t
   79033 GOREPASS  230        73072 GOREPASS  138  1               4.90      4.16   f
   79034 GRANDJCT  115        79048 MONTROSE  115  1              27.05     -5.85   t
   79056 RIFLE CU  138        79046 MEEKER    138  1              -1.03     -5.61   f
   79057 RIFLE CU  230        79059 RIFLE WA  230  1             -60.35    -26.47   t
   79058 RIFLE CU  345        79014 CRAIG     345  1            -344.09    -15.91   f
   79058 RIFLE CU  345        79036 GRANDJCT  345  1             366.37     17.24   f
   79091 WOLCOTTP  230        79039 HAYDEN    230  1            -147.02      4.86   f
   79173 COLBRAN   115        79174 MOLINA-L  115  1              -0.00     -0.53   f
   70351 RAWHIDEA   14        73165 RAWHIDE   230  1              50.83     33.86   t
   70550 W CANON   115        73551 W CANON   230  1             -22.51    -19.85   t
from area  70 to area  73 WAPA R.M.                            -639.58    295.77

Total from area  70 PSCOLORADO                                -1331.93    593.48

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   79060 SANJN PS  345        10292 SAN_JUAN  345  1             283.31    -65.87   t
from area  73 to area  10 NEW MEXICO                             283.31    -65.87

   73042 CASPERLM  115        65305 CASPERPP  115  1              20.35      8.44   f
   73070 GLENRCKN  115        65425 DAVEJOHN  115  1             -64.00     -3.16   t
   73071 GLENRCKS  115        65425 DAVEJOHN  115  1             -76.90     -7.28   t
   73107 LAR.RIVR  230        65420 DAVEJOHN  230  1              24.89     13.51   t
   73148 OSAGE     230        66725 WYODAK    230  1            -103.74     16.40   f
   73167 REFNRYTP  115        65305 CASPERPP  115  1              40.42      4.82   t
   73168 RENO      230        66725 WYODAK    230  1            -101.21     -6.02   t
   73170 RIVERTON  115        66305 RIVERTON  230  1              -0.57      0.18   t
   73190 STEGALL   230        65420 DAVEJOHN  230  1             -40.34     19.79   t
   73197 THERMOPL  115        66540 THERPACE  115  1              -7.79     -1.14   f
   73197 THERMOPL  115        66535 THERMOPL  230  1               5.82      3.82   f
   73222 WORLANTP  115        66720 WORLAND   115  1              15.14     -5.08   f
   73229 YELLOWBR  230        66750 YELOWTLP  230  1             307.82     -9.25   f
   73276 TEKLA     230        65060 ANT MINE  230  1             -20.05    -20.06   t
   73282 WYODAK     69        66725 WYODAK    230  1              11.17    -15.18   t
   73282 WYODAK     69        66725 WYODAK    230  2               7.55    -10.27   t
   73294 HUGHES    230        66725 WYODAK    230  1            -104.44      3.84   t
   79001 ARTESIA   138        66278 RANGELY   138  1               1.01      4.98   t
   79005 BEARS     345        65193 BONANZA   345  1             572.72    -29.80   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  1              68.31     -6.30   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  2              68.31     -6.30   t
   79046 MEEKER    138        66278 RANGELY   138  1              45.43    -11.03   t
   79067 VERNAL    138        65085 ASHLEY    138  1              88.53     -6.08   f
   79067 VERNAL    138        65192 BONANZA   138  1             -64.36    -11.56   f
   74016 WYGEN      14        66725 WYODAK    230  1               0.00      0.00   t
from area  73 to area  65 PACE                                   694.06    -72.73

   73011 AULT      230        70474 WINDSOR   230  1             212.50      6.73   f
   73013 B.CK PS   115        70005 BRUSHCPP  115  1            -118.31    -23.51   t
   73013 B.CK PS   115        70005 BRUSHCPP  115  2            -124.80    -30.55   t
   73044 COBBLKTP  115        70116 COBBLAKE  115  1              15.32      1.46   t
   73072 GOREPASS  138        79033 GOREPASS  230  1              -4.90     -4.16   t
   73105 LAPORTE   115        70256 LAPORTPS  115  1              14.73      6.26   f
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   73116 LONGPEAK  230        70410 ST.VRAIN  230  1            -13.47    -58.46   t
   73138 MT.ELBRT  230        70274 MALTA     230  1            145.53    -17.74   t
   73165 RAWHIDE   230        70350 RAWHIDE    24  1           -262.19    -66.33   f
   73165 RAWHIDE   230        70351 RAWHIDEA   14  1            -50.83    -33.86   f
   73192 STORY     230        70311 PAWNEE    230  1            126.67     40.44   f
   73211 WELD  LM  115        70470 WELD  PS  115  1             22.20    -80.08   t
   73212 WELD  LM  230        70471 WELD  PS  230  1            263.13     35.39   t
   73296 FRASER    115        70287 MILL      115  1             27.88     -7.27   t
   73400 EMIL AND  115        70476 WOODLAND  115  1             -8.69     -2.98   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1             -1.18      1.13   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1            -13.33     24.34   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1           -177.24    -87.97   f
   73414 MONUMENT  115        70308 PALMER    115  1             35.74    -12.65   f
   73477 FULLER    230        70122 COMANCHE  230  1            -86.94    -26.01   f
   73477 FULLER    230        70139 DANIELPK  230  1             66.13    -17.24   f
   79014 CRAIG     345        79058 RIFLE CU  345  1            344.09     15.91   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1           -366.37    -17.24   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1             32.99     21.52   t
   79037 GUNNISON  115        70327 PONCHA    115  1              7.00     -4.22   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1              7.21      1.37   f
   79039 HAYDEN    230        79033 GOREPASS  230  1            168.10     -4.71   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1            147.02     -4.86   t
   79046 MEEKER    138        79056 RIFLE CU  138  1              1.03      5.61   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1            -27.05      5.85   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1             79.85     -6.81   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1             18.99     -8.71   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1             60.35     26.47   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1              0.00      0.53   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1             75.89      6.74   t
   73551 W CANON   230        70550 W CANON   115  1             22.51     19.85   f
from area  73 to area  70 PSCOLORADO                            639.58   -295.77

   79061 SHIP PS   230        79063 SHIPROCK  230  1            135.61    -36.81   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1             11.61    -15.15   t
from area  73 to area  19 WAPA L.C.                             147.22    -51.96

   73229 YELLOWBR  230        63001 CROS PHA  230  1           -151.59     21.88   f
from area  73 to area  63 WAPA U.M.                            -151.59     21.88

Total from area  73 WAPA R.M.                                  1612.58   -464.46

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1           -100.36    -15.55   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1            122.92    -16.37   f
   63008 HAVRE     161        62023 GT FALLS  161  1            -12.16     12.09   t
   63014 TIBERTAP  115        62027 SHELBY    115  1             -3.31      3.12   t
   63015 VERONA    161        62024 RAINBOW   161  1            -11.30     11.82   t
from area  63 to area  62 MONTANA                                -4.21     -4.88

   63001 CROS PHA  230        73229 YELLOWBR  230  1            151.59    -21.88   t
from area  63 to area  73 WAPA R.M.                             151.59    -21.88

Total from area  63 WAPA U.M.                                   147.38    -26.76
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Summation of selected system

	-----MW----	----MVAR---		
Generation	70737.016	9354.464	Generators	2565
Actual Load	60440.602	19741.215	Loads	6822
Net actual shunt	0.275	-2043.539	Shunts	1297
Net actual svd	0.000	-4820.926	Svd	589
Loss	3144.862	-3323.701	Buses	13198
			Lines	10964
			Transformers	5151
MVA-miles	6368027.0	981335.5	DC buses	6
Miles	46985.316		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	7862.734	857.129	Generators	142
Actual Load	7899.199	2641.000	Loads	512
Net actual shunt	0.000	-22.487	Shunts	9
Net actual svd	0.000	-1851.935	Svd	76
Net Interchange	-399.430	-37.099	Buses	992
Sched Interchange	-400.000		Lines	781
Loss	362.963	127.655	Transformers	406
MVA-miles	1111697.1	226119.9	DC buses	0
Miles	18637.697		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.733	25.322		
Loss at 13.80 Kv	3.367	88.111		
Loss at 14.40 Kv	0.019	2.275		
Loss at 25.00 Kv	1.931	27.273		
Loss at 34.00 Kv	0.053	0.877		
Loss at 69.00 Kv	18.965	-3.363		
Loss at 138.00 Kv	151.492	-263.410		
Loss at 240.00 Kv	167.689	-572.768		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	17.714	823.337		
Largest mismatch MVA	0.0124	0.0592		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	10253.139	955.962	Generators	112
Actual Load	6889.125	2565.790	Loads	395
Net actual shunt	0.000	2956.239	Shunts	104
Net actual svd	0.000	2141.866	Svd	125
Net Interchange	2849.714	-268.401	Buses	1054
Sched Interchange	2849.900		Lines	718
Loss	514.296	-6439.538	Transformers	645
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.306	7.914		
Loss at 13.80 Kv	10.050	491.457		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.302	0.084		
Loss at 132.00 Kv	36.990	105.976		
Loss at 138.00 Kv	15.122	-120.690		
Loss at 230.00 Kv	52.916	-617.042		
Loss at 500.00 Kv	341.354	-6973.145		
Loss at other Kv	57.257	665.908		
Largest mismatch MVA	0.0188	0.0363		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	3591.338	387.336	Generators	62
Actual Load	2984.000	711.600	Loads	64
Net actual shunt	0.000	-594.248	Shunts	15
Net actual svd	0.000	0.000	Svd	0
Net Interchange	420.430	-130.041	Buses	157
Sched Interchange	420.000		Lines	120
Loss	186.908	400.023	Transformers	96
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.272	5.839		
Loss at 13.80 Kv	3.425	119.127		
Loss at 14.40 Kv	0.880	34.250		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.539	22.654		
Loss at 115.00 Kv	0.434	0.352		
Loss at 138.00 Kv	19.432	-6.782		
Loss at 161.00 Kv	1.636	2.229		
Loss at 230.00 Kv	83.001	19.668		
Loss at 345.00 Kv	73.093	69.721		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	4.196	132.966		
Largest mismatch MVA	0.0031	0.0236		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	3904.945	629.018	Generators	24
Actual Load	1422.895	610.184	Loads	200
Net actual shunt	0.275	-118.649	Shunts	56
Net actual svd	0.000	1363.245	Svd	15
Net Interchange	2307.997	-382.705	Buses	314
Sched Interchange	2308.000		Lines	318
Loss	173.777	-377.174	Transformers	90
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	-0.000	36.528		
Loss at 69.00 Kv	0.461	2.548		
Loss at 100.00 Kv	38.554	8.629		
Loss at 115.00 Kv	2.032	-18.610		
Loss at 161.00 Kv	40.961	22.587		
Loss at 230.00 Kv	36.169	31.788		
Loss at 500.00 Kv	53.617	-714.659		
Loss at other Kv	1.984	254.015		
Largest mismatch MVA	0.0030	0.0086		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	27363.506	4015.276	Generators	384
Actual Load	22671.295	6850.328	Loads	1652
Net actual shunt	0.000	-1863.473	Shunts	43
Net actual svd	0.000	-4237.949	Svd	159
Net Interchange	3514.721	1040.164	Buses	2740
Sched Interchange	3514.000		Lines	2710
Loss	1177.474	2226.220	Transformers	654
MVA-miles	4708758.5	612898.6	DC buses	4
Miles	18469.418		DC converters	4
			DC lines	2
Loss at 11.00 Kv	0.000	0.607		
Loss at 13.20 Kv	-0.000	4.939		
Loss at 13.80 Kv	4.797	207.727		
Loss at 14.40 Kv	0.287	13.152		
Loss at 25.00 Kv	3.152	164.694		
Loss at 34.50 Kv	0.351	6.352		
Loss at 69.00 Kv	15.219	43.083		
Loss at 100.00 Kv	0.120	-0.108		
Loss at 115.00 Kv	220.576	510.864		
Loss at 230.00 Kv	348.443	1716.073		
Loss at 345.00 Kv	16.099	-174.719		

Loss at 500.00 Kv	443.233	-1581.114
Loss at other Kv	125.197	1314.671
Largest mismatch MVA	0.0308	0.0483

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 65 [PACE]

	-----MW----	----MVAR---		
Generation	5185.916	948.744	Generators	52
Actual Load	6293.716	1960.150	Loads	274
Net actual shunt	0.000	-1757.882	Shunts	74
Net actual svd	0.000	-93.364	Svd	2
Net Interchange	-1420.924	-570.071	Buses	566
Sched Interchange	-1421.000		Lines	409
Loss	313.124	944.032	Transformers	338
MVA-miles	5.0	1.6	DC buses	0
Miles	1.900		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.886	29.136		
Loss at 34.50 Kv	1.023	7.674		
Loss at 46.00 Kv	6.347	137.681		
Loss at 69.00 Kv	1.665	22.749		
Loss at 100.00 Kv	0.056	1.043		
Loss at 115.00 Kv	3.243	-4.715		
Loss at 138.00 Kv	78.794	224.012		
Loss at 161.00 Kv	17.107	13.589		
Loss at 230.00 Kv	105.150	297.295		
Loss at 345.00 Kv	94.759	113.363		
Loss at 500.00 Kv	0.001	3.261		
Loss at other Kv	4.093	98.942		
Largest mismatch MVA	0.0075	0.0349		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 70 [PSCOLORADO]

	-----MW----	----MVAR---		
Generation	5162.195	1204.046	Generators	66
Actual Load	6332.696	2372.604	Loads	362
Net actual shunt	0.000	0.000	Shunts	0
Net actual svd	0.000	-1687.120	Svd	43
Net Interchange	-1331.923	593.539	Buses	501
Sched Interchange	-1332.800		Lines	461
Loss	161.434	-74.955	Transformers	148
MVA-miles	22162.5	6394.7	DC buses	0
Miles	564.500		DC converters	0
			DC lines	0
Loss at 13.80 Kv	3.859	127.483		
Loss at 14.40 Kv	0.080	0.801		
Loss at 25.00 Kv	0.012	0.162		
Loss at 46.00 Kv	0.192	0.004		
Loss at 69.00 Kv	7.112	1.832		
Loss at 100.00 Kv	0.030	-0.481		
Loss at 115.00 Kv	31.619	-48.261		
Loss at 138.00 Kv	0.287	-5.445		
Loss at 230.00 Kv	94.680	61.527		
Loss at 345.00 Kv	0.001	0.064		
Loss at 500.00 Kv	16.366	-444.024		
Loss at other Kv	7.194	231.382		
Largest mismatch MVA	0.0175	0.0295		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area 64 [SIERRA]

	-----MW----	----MVAR---		
Generation	1376.023	124.281	Generators	22
Actual Load	1719.091	458.744	Loads	121
Net actual shunt	0.000	-188.081	Shunts	30
Net actual svd	0.000	69.373	Svd	5
Net Interchange	-398.810	56.830	Buses	275
Sched Interchange	-399.000		Lines	197
Loss	55.741	-272.603	Transformers	117

```
MVA-miles                 64796.9      38913.3        DC buses              0
Miles                    1042.600                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           2.546       51.528
Loss at  69.00 Kv           0.000        0.000
Loss at 115.00 Kv           0.479       -6.149
Loss at 230.00 Kv           1.601     -102.068
Loss at 345.00 Kv           9.214     -439.999
Loss at other Kv           41.901      224.084

Largest mismatch MVA       0.0053       0.0249

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area  52 [W KOOTENAY                      ]

                       -----MW----  ----MVAR---
Generation                596.550       98.488        Generators           20
Actual Load               722.400      210.200        Loads                64
Net actual shunt            0.000      -77.790        Shunts               27
Net actual svd              0.000     -130.678        Svd                   4
Net Interchange          -150.473       -9.539        Buses               260
Sched Interchange        -149.900                     Lines               165
Loss                       24.622      106.295        Transformers        117

MVA-miles                 30797.6       4871.8        DC buses              0
Miles                     986.000                     DC converters         0
                                                      DC lines              0
Loss at  13.20 Kv          -0.000        8.258
Loss at  13.80 Kv           0.000        0.000
Loss at  14.40 Kv          -0.000       29.947
Loss at  25.00 Kv           0.000        0.000
Loss at 138.00 Kv           0.397       -0.474
Loss at 161.00 Kv           9.043       11.278
Loss at 230.00 Kv           1.520       -8.788
Loss at other Kv           13.662       66.074

Largest mismatch MVA       0.0014       0.0089

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

Area  73 [WAPA R.M.                       ]

                       -----MW----  ----MVAR---
Generation               5384.916      128.562        Generators           80
Actual Load              3608.290     1237.018        Loads               355
Net actual shunt            0.000     -298.216        Shunts                4
Net actual svd              0.000     -379.759        Svd                  53
Net Interchange          1612.564     -464.507        Buses               620
Sched Interchange        1612.000                     Lines               567
Loss                      164.049       34.004        Transformers        174

MVA-miles                429809.5      92135.5        DC buses              0
Miles                    7283.200                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           6.185       91.138
Loss at  34.50 Kv           0.312        4.063
Loss at  69.00 Kv           5.189      -11.952
Loss at 115.00 Kv          62.404     -128.220
Loss at 138.00 Kv           9.318       -5.331
Loss at 230.00 Kv          31.359     -308.342
Loss at 345.00 Kv          42.049       68.331
Loss at other Kv            7.232      324.318

Largest mismatch MVA       0.0131       0.0440

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 2

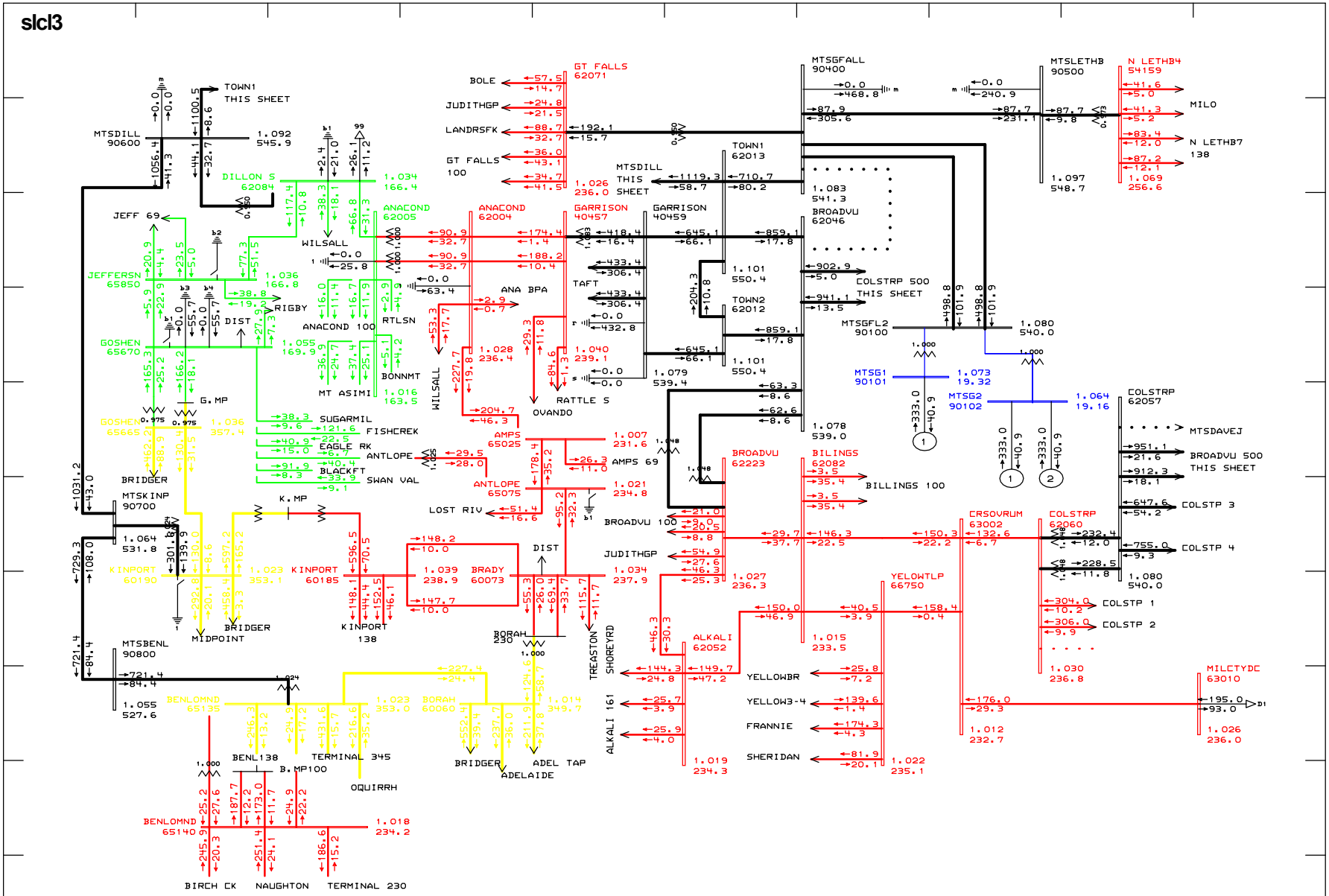
Area  63 [WAPA U.M.                       ]

                       -----MW----  ----MVAR---
Generation                 55.753        5.620        Generators            1
Actual Load              -102.100      123.600        Loads                17
Net actual shunt            0.000      -78.951        Shunts                1
Net actual svd              0.000      -14.606        Svd                   4
Net Interchange           147.379      -26.760        Buses                21
Sched Interchange         147.000                     Lines                12
Loss                       10.474        2.339        Transformers          3
```

MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.223	6.302		
Loss at 115.00 Kv	0.017	-7.038		
Loss at 161.00 Kv	0.886	-47.476		
Loss at 230.00 Kv	9.349	50.552		
Largest mismatch MVA	0.0002	0.0025		

B.6

slcl3



General Electric International, Inc. PSLF Program MW/MVAR Tue Mar 19 14:40:57 2002

PEAK POWER ENGINEERING, INC.
303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

1000 MW GAS
AT GREAT FALLS

mts\g2\g2slc.drw
c:\uwk\mts\g2\model\g2slc_l3.s
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------									rate	per cent	
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------	loading		
54611	RUTH LK8	69	54	54839	RUTH LK1	138	54	1	57.9	13.8	59.5	45.0M	132.3	T
64026	CARSON	120	64	64027	CARSON T	120	64	1	-55.6	-6.6	56.0	216.5A	130.5	F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-57.3	-4.6	57.5	45.0M	128.6	T
64194	DAYTON	120	64	64254	DAYTON	25	64	1	16.6	6.5	17.8	14.0M	127.4	F
79026	FLAMGORG	138	73	79029	FLAMGORG	69	73	1	22.1	6.0	22.9	19.0M	120.3	F
64099	SPAN SPG	120	64	64114	TRACY	120	64	1	-127.6	-2.2	127.6	514.8A	118.1	F
64091	RENO	120	64	64263	RENO	25	64	1	50.3	20.4	54.3	46.7M	116.3	F
70249	LAJUNTAW	115	70	70250	LAJUNTAW	69	70	1	26.2	12.4	29.0	25.0M	116.0	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	1	50.2	20.3	54.2	46.7M	116.0	F
64091	RENO	120	64	64263	RENO	25	64	2	50.2	20.3	54.1	46.7M	115.9	F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	2	47.8	19.3	51.6	46.7M	110.4	F
64202	HAN CRTP	120	64	64203	TWN CRTP	120	64	1	74.2	19.8	76.8	356.0A	109.0	F
64201	PINSN TP	120	64	64202	HAN CRTP	120	64	1	74.6	20.6	77.4	356.0A	108.9	F
64200	REDHOUSE	120	64	64201	PINSN TP	120	64	1	75.9	23.6	79.4	356.0A	108.8	T
64129	VALMY	120	64	64200	REDHOUSE	120	64	1	77.0	26.3	81.4	356.0A	108.5	T
54234	CASTLE R	138	54	55972	CASTLE-1	25	54	1	-50.0	21.0	54.2	50.0M	108.4	F
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	24.1	83.8	79.0M	106.1	F
54232	PANCAN 9	138	54	55386	EMPRESS9	25	54	T1	15.7	1.1	15.7	15.0M	104.7	F
64114	TRACY	120	64	64118	TRACY G2	14	64	1	-82.5	-3.6	82.6	81.0M	103.9	T
48319	PLEASANT	115	40	48355	RATHDRUM	115	40	1	-84.1	-16.2	85.6	430.8A	103.3	F
43017	BEAVER	14	40	43021	BEAVER	230	40	1	356.8	44.0	359.5	348.0M	103.3	F
54052	BLUERIDG	138	54	55281	BLUERDGE	14	54	T1	20.8	15.2	25.7	25.0M	102.9	F
54154	E CALGAR	240	54	54189	ENMX2SD9	138	54	T1	234.2	-168.0	288.2	300.0M	102.5	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	9A	155.0	-10.8	155.4	155.0M	101.9	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	BC	155.0	-10.8	155.4	155.0M	101.9	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	78	155.0	-10.8	155.4	155.0M	101.9	T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	56	155.0	-10.8	155.4	155.0M	101.9	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	155.0	-10.8	155.4	155.0M	101.9	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	DE	155.0	-10.8	155.4	155.0M	101.9	T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	155.0	-10.8	155.4	155.0M	101.9	T
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-8.5	29.3	30.0M	101.7	T
46733	LAGRND5	14	40	46735	LGBK5	115	40	1	40.0	6.8	40.6	40.0M	101.4	F

```
Processing file c:\uwk\mts\base\rvolthsbs.out
Processing file c:\uwk\mts\g2\rvoltslcl3.out

Compvolt found the following for comparisons:
     349 Voltage Violations read from c:\uwk\mts\base\rvolthsbs.out
     350 Voltage Violations read from c:\uwk\mts\g2\rvoltslcl3.out


**** VOLTS:  NEW ****
Component                   w/o Prj         w/ Prj  Rating
54948 802S701T  138   0.95 <= pu <= 1.05    1.0506  1.00 pu kV
55525 163ST2    240   0.95 <= pu <= 1.05    1.0576  1.00 pu kV
50791 CBK500    500   0.95 <= pu <= 1.05    1.0518  1.00 pu kV
65670 GOSHEN    161   0.95 <= pu <= 1.05    1.0553  1.00 pu kV
66465 SWAN VAL  161   0.95 <= pu <= 1.05    1.0582  1.00 pu kV

**** VOLTS: WORSE ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS: BETTER ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS:  AWAY ****
Component             w/o Prj      w/ Prj          Rating
54195 RUNDLE S  138   1.0504  0.95 <= pu <= 1.05   1.00 pu kV
54223 WARE JCT  240   1.0511  0.95 <= pu <= 1.05   1.00 pu kV
54444 SPRINGB9  138   1.0505  0.95 <= pu <= 1.05   1.00 pu kV
54963 CANMORE9  138   1.0506  0.95 <= pu <= 1.05   1.00 pu kV
55894 SARCEE M  138   1.0512  0.95 <= pu <= 1.05   1.00 pu kV
50343 KSH132-2  132   1.0501  0.95 <= pu <= 1.05   1.00 pu kV
50561 WSN500    500   1.0502  0.95 <= pu <= 1.05   1.00 pu kV
50691 NIC230    230   1.0502  0.95 <= pu <= 1.05   1.00 pu kV
50776 NTL138    138   1.0539  0.95 <= pu <= 1.05   1.00 pu kV
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54090	BICKERD4	240	1.1045	54153	BRAZEAU4	240	1.1050	54329	KEEPHIL4	240	1.1114
54524	GENESEE4	240	1.1084	54681	NEVIS 7	138	1.1083	54802	STURGEO9	138	1.1001
55969	770S701T	138	1.1070	51017	KMS230	230	1.1076	62012	TOWN2	500	1.1007
62013	TOWN1	500	1.1007								

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
90400	MTSGFALL	500	1.0825	90500	MTSLETHB	500	1.0975	90600	MTSDILL	500	1.0918
90700	MTSKINP	500	1.0636	90800	MTSBENL	500	1.0551	54012	FOX CREE	138	1.0507
54013	KAYBOB 9	138	1.0515	54014	GULF RO9	138	1.0590	54021	WESGEN 7	138	1.0505
54050	RBCUPIL7	138	1.0506	54054	LAMOURE4	240	1.0791	54073	IPPL ST9	138	1.0554
54077	BIGSTON4	240	1.0594	54078	CHEVRON7	138	1.0513	54081	METIS644	240	1.0815
54082	BICKERD7	138	1.0555	54090	BICKERD4	240	1.1045	54097	BIG HOR9	138	1.0814
54098	STRACHA9	138	1.0570	54103	DEERLAN4	240	1.0816	54121	ELLERSLI	240	1.0756
54125	SUNDANL9	138	1.0541	54126	WABAMUN4	240	1.0867	54128	SUNDANM9	240	1.0963
54129	E EDMON4	240	1.0705	54130	N CALDE4	240	1.0642	54131	N BARRH4	240	1.0834
54139	GAETZ 4	240	1.0589	54141	HIGHVAL9	138	1.0536	54142	WILLESD4	240	1.0956
54144	RED DEE4	240	1.0625	54147	BENALTO4	240	1.0759	54148	E CROSS4	240	1.0574
54150	LANGDON2	500	1.0551	54152	JANET 4	240	1.0523	54153	BRAZEAU4	240	1.1050
54157	PEIGAN 4	240	1.0679	54159	N LETHB4	240	1.0691	54184	SARCEE 7	138	1.0515
54249	RP05103S	138	1.0667	54261	SPRAY S	138	1.0502	54269	COALSPU7	138	1.0607
54281	MILO 2	240	1.0621	54285	LEISMER9	240	1.0745	54287	GREGG R9	138	1.0698
54302	MARIONA9	138	1.0539	54325	CHEV KG9	138	1.0513	54326	COAL VA9	138	1.0580
54329	KEEPHIL4	240	1.1114	54335	W BROOK4	240	1.0551	54384	ENMX28S9	138	1.0509
54412	BENBOW 9	138	1.0515	54441	946/947X	240	1.0756	54505	JASPER 4	240	1.0655
54506	BELLAMY4	240	1.0754	54509	ARGYLL W	240	1.0755	54512	DOME T29	240	1.0761
54513	LAMBTON4	240	1.0702	54514	CLOVERB4	240	1.0690	54518	ARGYLL E	240	1.0756
54519	CASTLTX2	240	1.0702	54521	PETROLIA	240	1.0742	54524	GENESEE4	240	1.1084
54542	RBW LAK7	138	1.0504	54546	CHINCHA7	138	1.0574	54547	KEG RVR7	138	1.0559
54548	KEMP RV9	138	1.0576	54549	HOTCHKS7	138	1.0594	54552	CADOTTE9	138	1.0582
54553	NORCEN 9	138	1.0550	54554	LUBICON7	138	1.0580	54555	CRANBER9	138	1.0588
54558	WESLY C7	138	1.0789	54559	CARMON 9	138	1.0765	54560	PEACE/29	138	1.0751
54561	DIASHOW7	138	1.0734	54589	DOME CU7	138	1.0671	54593	DONNELL9	138	1.0667
54594	TAP7L487	138	1.0683	54595	TRIANGL7	138	1.0616	54596	VALLEYV9	138	1.0780
54600	L.SMOKY7	138	1.0845	54601	STURGEO7	138	1.0842	54606	SIMONET9	138	1.0844
54607	FOXCRK/2	138	1.0513	54608	GOOSE R9	138	1.0664	54612	RUTH LA7	138	1.0599
54613	RUTH LK7	138	1.0603	54618	PARS CR7	138	1.0508	54621	MITS E.4	240	1.0563
54622	MITS E.7	138	1.0890	54623	AEC MILL	138	1.0879	54624	OTAUWAU7	138	1.0888
54633	LOU CR.7	138	1.0568	54634	SARHLK/2	138	1.0509	54636	ESSO JU7	138	1.0517
54637	MORSE RV	138	1.0521	54639	VIRGINI9	138	1.0526	54643	WOLF LK9	138	1.0700
54646	MARG LK4	240	1.0734	54647	MARG LK7	138	1.0852	54648	LACOREY9	138	1.0670
54652	BONNY 9	138	1.0526	54654	BONN SVC	138	1.0526	54655	WHITFISH	240	1.0851
54675	PAINTRT7	240	1.0861	54680	NEVIS 4	240	1.0726	54681	NEVIS 7	138	1.1083
54685	3HILLS/3	138	1.0583	54691	MICH. C9	138	1.0728	54693	WINT HI9	138	1.0760
54694	BULLPON9	138	1.0776	54707	SHEER 14	240	1.0555	54709	ANDERSO4	240	1.0558
54710	ANDERSON	138	1.0896	54711	SHEER 24	240	1.0549	54715	BAT. RV7	138	1.0799
54721	BAT RV79	240	1.0892	54723	CORDEL 4	240	1.0892	54729	PRIM TAP	138	1.0644
54730	PRIMROSE	138	1.0705	54796	791S701T	138	1.0628	54802	STURGEO9	138	1.1001
54806	946/947N	240	1.0705	54809	732S901T	240	1.0665	54818	VERMILA9	138	1.0765

54822	766S901T	240	1.0612	54823	NEVIS 9	138	1.0864	54835	791S702T	138	1.0631
54836	MILNERB9	138	1.0778	54844	709S702T	138	1.0709	54847	BAT RV80	240	1.0892
54848	791S703T	138	1.0530	54948	802S701T	138	1.0506	54962	KAYBOBTP	138	1.0515
54978	EAST IN4	240	1.0702	54983	MARION T	138	1.0539	54984	HIGHVL T	138	1.0536
54988	CROSSF T	240	1.0574	54995	W.GRN TP	240	1.0956	55012	BASSET 7	138	1.0561
55013	HAIGRIVE	138	1.0570	55067	FTNELSON	138	1.0665	55072	SYNC_D04	240	1.0563
55073	AURORA 4	240	1.0619	55075	SEAL LK9	138	1.0640	55147	MILNERC9	138	1.0879
55226	WABASCA9	240	1.0530	55272	FIELDGA9	138	1.0511	55280	BRINTNEL	240	1.0502
55515	PRIMROSE	138	1.0561	55525	163ST2	240	1.0576	55763	BC BORDE	138	1.0626
55891	904AL TP	240	1.0702	55912	740L JNC	138	1.0607	55913	G.ROBB T	138	1.0598
55924	CH KGT T	138	1.0513	55943	MILO 1	240	1.0620	55969	770S701T	138	1.1070
50010	COM132	132	1.0721	50020	CMS230	230	1.0500	50036	RBW230	230	1.0548
50037	PEM230	230	1.0584	50038	RBW230-1	230	1.0533	50182	ARN132	132	1.0811
50185	ALZ230	230	1.0512	50186	ROS230	230	1.0612	50187	BRT230	230	1.0696
50188	BUT230	230	1.0500	50193	BRT360	360	1.0500	50313	VIT132	132	1.0515
50314	PVO133	132	1.0503	50315	PVO132	132	1.0509	50323	DMR132	132	1.0552
50330	LDR132	132	1.0503	50331	GLD132	132	1.0516	50334	KGH132	132	1.0525
50335	UTA132	132	1.0528	50342	SCA132	132	1.0500	50346	SHA2	132	1.0500
50347	GOW132	132	1.0514	50348	GTP132	132	1.0548	50349	CLD132	132	1.0566
50350	SOO132	132	1.0572	50351	JOR132	132	1.0609	50352	PML132	132	1.0514
50353	WOS132	132	1.0533	50354	GLSTP17	132	1.0558	50355	GLSTP18	132	1.0545
50356	DND132	132	1.0517	50391	KSHTP14	132	1.0500	50394	SHATP14	132	1.0500
50395	SALTP17	132	1.0544	50396	SALTP18	132	1.0545	50447	TKW138	138	1.0532
50463	SKA500	500	1.0630	50464	TKW500	500	1.0686	50540	GMS230	230	1.0548
50541	KDS230	230	1.0540	50545	BLW230	230	1.0652	50546	SCK230	230	1.0593
50547	HMH230	230	1.0576	50548	BLM230	230	1.0587	50549	QNT230	230	1.0579
50550	QRP230	230	1.0648	50551	TLR230	230	1.0585	50553	BCR230	230	1.0585
50554	RBF230	230	1.0661	50556	LAP230	230	1.0569	50557	SNK230	230	1.0589
50558	GMS500	500	1.0500	50560	KDS500	500	1.0616	50562	GLN500	500	1.0678
50653	NIC138	138	1.0521	50655	VVW138	138	1.0502	50656	SVA138	138	1.0513
50659	BDM138	138	1.0504	50660	WGS138	138	1.0607	50661	MON138	138	1.0580
50672	BKL138	138	1.0511	50679	BLU138	138	1.0529	50680	VLM138	138	1.0581
50686	SCO138	138	1.0670	50687	ABA138	138	1.0575	50700	MCA500	500	1.0500
50701	REV500	500	1.0500	50729	PRI138TP	138	1.0669	50783	SEL230	230	1.0579
50785	SEV230	230	1.0569	50791	CBK500	500	1.0518	50792	SEL500	500	1.0500
50899	ABA138TP	138	1.0576	50902	BDM138TP	138	1.0504	50922	DNDTAP	132	1.0524
50923	HSY-PH	132	1.0551	50924	ESQ-PH	132	1.0517	50928	SCG IPP	132	1.0680
50934	JULTP130	132	1.0525	51017	KMS230	230	1.1076	51045	ALH230	230	1.0573
60085	BRIDGER	345	1.0500	60240	MIDPOINT	500	1.0771	90100	MTSGFL2	500	1.0800
62012	TOWN2	500	1.1007	62013	TOWN1	500	1.1007	62033	ANA BPA	115	1.0536
62046	BROADVU	500	1.0779	62053	BROADV&2	500	1.0733	62054	BROADV&1	500	1.0741
62057	COLSTRP	500	1.0800	40045	ALLSTON	500	1.0728	40051	ALVEY	500	1.0810
40061	ASHE	500	1.0800	40091	BELL BPA	500	1.0631	40111	BIG EDDY	500	1.0769
43049	BOARD F	500	1.0840	40139	BONNVILE	115	1.0500	47013	BRIDGPRT	115	1.0541
40155	BUCKLEY	500	1.0788	45029	BURNS	500	1.0573	45035	CAPTJACK	500	1.0782
46209	CARMEN	115	1.0618	41311	CELILO1	500	1.0768	41312	CELILO2	500	1.0768
40233	CHIEF JO	500	1.0800	40287	COULEE	500	1.0810	40302	COVINGT4	500	1.0752
40306	COVINGT5	500	1.0758	43115	COYO M1	500	1.0559	43123	COYOTE	500	1.0850
45095	DIXONVLE	500	1.0816	40369	DWORSHAK	500	1.0778	40381	ECHOLAKE	500	1.0782
40451	GAR1EAST	500	1.0948	40453	GAR2EAST	500	1.0948	40459	GARRISON	500	1.0788
40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0758	40499	HANFORD	500	1.0817
40521	HATWAI	500	1.0747	45137	HERMIST	230	1.0509	41212	HILLS CR	115	1.0500
40553	HOT SPR	500	1.0759	40585	JOHN DAY	500	1.0850	40601	KEELER	500	1.0831
45262	KFALLS	500	1.0808	40629	LANE	500	1.0754	40665	LIT GOOS	500	1.0800
40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800	40687	MALIN	500	1.0768

40693	MAPLE VL	500	1.0773	40699	MARION	500	1.0820	40711	MCLOUGLN	500	1.0703
40721	MCNARY	345	1.0510	40723	MCNARY	500	1.0802	45197	MERIDINP	500	1.0794
40749	MONROE	500	1.0790	40797	OLYMPIA	500	1.0791	40809	OSTRNDER	500	1.0729
40821	PAUL	500	1.0800	40827	PEARL	500	1.0803	40837	PONDROSA	500	1.0812
40869	RAVER	500	1.0795	43485	ROUND BU	500	1.0724	40913	SACJAWEA	500	1.0756
40917	SACJWA T	500	1.0769	40941	SANTIAM	500	1.0812	40949	SATSOP	500	1.0799
40957	SCHULTZ	500	1.0843	40973	SICKLER	500	1.0795	40989	SLATT	500	1.0815
41043	SUMMER L	500	1.0803	45289	SWIFT	230	1.0500	41051	TACOMA	500	1.0793
41057	TAFT	500	1.0874	41095	TROUTDAL	500	1.0649	41113	VANTAGE	500	1.0750
45337	WEED JPS	115	1.0507	47099	WELLS	115	1.0631	65670	GOSHEN	161	1.0553
66225	PINTO	345	1.0511	66235	PINTO PS	345	1.0503	66465	SWAN VAL	161	1.0582
52226	PRI138	138	1.0670	52229	KER138	138	1.0705	52230	HED138	138	1.0695
52426	MAS138	138	1.0694	52815	PRI-T2	138	1.0677				

undervoltage summary < 0.900000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)

undervoltage summary < 0.950000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
50781	NTL VR	138	0.9426	48069	CHESTER	115	0.9446	48165	IRVIN	115	0.9488
48310	OPORTUNE	115	0.9493	48299	OPPORTUN	115	0.9468	48306	OTIS	230	0.9383
70249	LAJUNTAW	115	0.9285	64072	MEYERS	120	0.9492	64092	RND HILL	120	0.9474
64102	STATELIN	120	0.9465	64203	TWN CRTP	120	0.9464				

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

	generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name ALBERTA										
mw	10743.6	7863.2	7899.2	0.0	0.0	0.0	0.0	-399.9	363.9	59.8
54 mvar	4916.5	871.4	2641.0	0.0	0.0	-22.5	-1599.7	246.8	-394.3	12.1
area name B.C.HYDRO										
mw	14693.0	10253.5	6889.1	0.0	0.0	0.0	0.0	2850.8	513.6	199.9
50 mvar	6719.0	948.7	2565.8	0.0	0.0	2957.1	2141.2	-266.7	-6448.6	9.7
area name IDAHO										
mw	4676.4	3569.2	2984.0	0.0	0.0	0.0	0.0	420.8	164.4	146.8
60 mvar	2192.5	-8.3	711.6	0.0	0.0	-591.8	0.0	-404.5	276.3	-4.6
area name MONTANA										
mw	4501.2	3918.6	1422.9	0.0	0.0	0.4	0.0	2328.3	167.0	707.6
62 mvar	1909.0	176.6	610.2	0.0	0.0	-126.8	430.4	-673.1	-64.1	131.6
area name NORTHWEST										
mw	43502.3	27325.1	22671.3	0.0	0.0	0.0	0.0	3514.6	1139.2	658.1
40 mvar	15475.0	3633.7	6850.3	0.0	0.0	-1854.2	-4065.2	1013.6	1689.2	34.5
area name PACE										
mw	6212.0	5087.9	6293.7	0.0	0.0	0.0	0.0	-1440.1	234.3	166.9
65 mvar	3201.9	212.3	1960.1	0.0	0.0	-1782.5	-49.5	166.9	-82.6	12.7
area name PSCOLORADO										
mw	5806.0	5190.5	6332.7	0.0	0.0	0.0	0.0	-1333.0	190.8	111.5
70 mvar	3667.3	1765.4	2372.6	0.0	0.0	0.0	-1672.2	281.9	783.1	33.1
area name SIERRA										
mw	1901.7	1375.1	1719.1	0.0	0.0	0.0	0.0	-398.7	54.7	109.1
64 mvar	925.4	110.8	458.7	0.0	0.0	-188.7	69.5	55.7	-284.4	23.2
area name W KOOTENAY										
mw	763.5	596.5	722.4	0.0	0.0	0.0	0.0	-150.6	24.7	104.6
52 mvar	450.0	104.1	210.2	0.0	0.0	-77.8	-130.7	-4.6	107.0	26.1
area name WAPA R.M.										
mw	6091.6	5377.5	3608.3	0.0	0.0	0.0	0.0	1612.0	157.2	495.1
73 mvar	2883.8	170.6	1237.0	0.0	0.0	-296.3	-289.3	-389.6	-91.3	56.0

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	inter	net losses	slack bus
area name		WAPA U.M.									
	mw	61.8	56.0	-102.1	0.0	0.0	0.0	0.0	147.5	10.6	56.0
63	mvar	34.0	4.9	123.6	0.0	0.0	-79.0	-15.3	-28.5	4.1	4.9
TOTL	mw	98953.1	70613.3	60440.6	0.0	0.0	0.4	0.0	7151.9	3020.4	
	mvar	42374.4	7990.2	19741.2	0.0	0.0	-2062.4	-5180.8	-2.2	-4505.7	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	-312.0	-58.8
TO AREA	62 MONTANA	-87.9	305.6
TOTAL		-399.9	246.8
FROM AREA	50 B.C.HYDRO		
TO AREA	54 ALBERTA	312.0	58.8
TO AREA	40 NORTHWEST	2388.3	-330.2
TO AREA	52 W KOOTENAY	150.6	4.6
TOTAL		2850.8	-266.7
FROM AREA	60 IDAHO		
TO AREA	62 MONTANA	-1031.2	-43.0
TO AREA	40 NORTHWEST	33.4	-280.4
TO AREA	65 PACE	1287.0	-35.5
TO AREA	64 SIERRA	131.5	-45.5
TOTAL		420.8	-404.5
FROM AREA	62 MONTANA		
TO AREA	54 ALBERTA	87.9	-305.6
TO AREA	60 IDAHO	1031.2	43.0
TO AREA	40 NORTHWEST	952.6	-333.0
TO AREA	65 PACE	247.8	-79.7
TO AREA	63 WAPA U.M.	8.9	2.2
TOTAL		2328.3	-673.1
FROM AREA	40 NORTHWEST		
TO AREA	50 B.C.HYDRO	-2388.3	330.2
TO AREA	60 IDAHO	-33.4	280.4
TO AREA	26 LADWP	2806.7	607.3
TO AREA	62 MONTANA	-952.6	333.0
TO AREA	30 PG AND E	3904.8	-487.4
TO AREA	64 SIERRA	177.5	-49.8
TOTAL		3514.6	1013.6
FROM AREA	65 PACE		
TO AREA	14 ARIZONA	-34.9	92.7
TO AREA	60 IDAHO	-1287.0	35.5
TO AREA	26 LADWP	-25.2	-119.6
TO AREA	62 MONTANA	-247.8	79.7
TO AREA	18 NEVADA	258.6	-56.4
TO AREA	64 SIERRA	32.0	14.7
TO AREA	19 WAPA L.C.	46.8	31.7
TO AREA	73 WAPA R.M.	-182.6	88.6
TOTAL		-1440.1	166.9
FROM AREA	70 PSCOLORADO		
TO AREA	73 WAPA R.M.	-1333.0	281.9
TOTAL		-1333.0	281.9
FROM AREA	64 SIERRA		
TO AREA	60 IDAHO	-131.5	45.5
TO AREA	26 LADWP	-53.9	3.4

TO AREA	40 NORTHWEST	-177.5	49.8
TO AREA	65 PACE	-32.0	-14.7
TO AREA	30 PG AND E	-15.7	-26.2
TO AREA	24 SOCALIF	11.8	-2.2
TOTAL		-398.7	55.7

FROM AREA	52 W KOOTENAY	mw	mvar
TO AREA	50 B.C.HYDRO	-150.6	-4.6
TOTAL		-150.6	-4.6

FROM AREA	73 WAPA R.M.	mw	mvar
TO AREA	10 NEW MEXICO	173.0	-20.8
TO AREA	65 PACE	182.6	-88.6
TO AREA	70 PSCOLORADO	1333.0	-281.9
TO AREA	19 WAPA L.C.	79.8	-24.7
TO AREA	63 WAPA U.M.	-156.4	26.3
TOTAL		1612.0	-389.6

FROM AREA	63 WAPA U.M.	mw	mvar
TO AREA	62 MONTANA	-8.9	-2.2
TO AREA	73 WAPA R.M.	156.4	-26.3
TOTAL		147.5	-28.5

AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

```
  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    54150 LANGDON2  500        50791 CBK500    500  1            -283.65    -55.03   f
    54205 COLEMAN7  138        50776 NTL138    138  1              -6.03    -12.84   t
    54273 POCATER7  138        50830 FRO T274  138  1             -22.31      9.06   t
 from area  54 to area  50 B.C.HYDRO                              -312.00    -58.81

    90500 MTSLETHB  500        90400 MTSGFALL  500  1             -87.89    305.65   t
 from area  54 to area  62 MONTANA                                 -87.89    305.65

 Total from area  54 ALBERTA                                      -399.89    246.84

  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    90400 MTSGFALL  500        90500 MTSLETHB  500  1              87.89   -305.65   f
 from area  62 to area  54 ALBERTA                                 87.89   -305.65

    90600 MTSDILL   500        90700 MTSKINP   500  1            1031.18     43.04   t
 from area  62 to area  60 IDAHO                                  1031.18     43.04

    62004 ANACOND   230        40457 GARRISON  230  1            -172.36      2.20   f
    62004 ANACOND   230        40457 GARRISON  230  2            -186.69     -5.80   f
    62009 RATTLE S  161        40867 RATTLE S  230  1            -113.07    -35.00   t
    62012 TOWN2     500        40453 GAR2EAST  500  2             642.64   -138.80   t
    62013 TOWN1     500        40451 GAR1EAST  500  1             642.64   -138.80   t
    62066 KERR      115        40391 ELMO      115  1               6.17    -15.34   f
    62072 OVANDO    230        40457 GARRISON  230  1              29.27     11.77   t
    62072 OVANDO    230        40551 HOT SPR   230  1              48.20     11.13   t
    62085 CROWCR B  115        48055 BURKAVAB  115  1              24.75    -11.60   t
    62086 THOMSON   115        48053 BURKAVAA  115  1              31.01    -12.73   t
 from area  62 to area  40 NORTHWEST                              952.56   -332.98

    62030 PTRSNFLT  230        65025 AMPS      230  1             204.71    -46.28   t
    62045 BLGS PHA  230        66750 YELOWTLP  230  1             -40.51      3.95   t
    62061 RMRK PHA  161        66755 YELOWTLP  161  1             -21.32     -2.84   f
    62084 DILLON S  161        65155 BIGGRASS  161  1             104.95    -34.49   t
 from area  62 to area  65 PACE                                   247.83    -79.67

    62023 GT FALLS  161        63008 HAVRE     161  1              13.05    -12.49   f
    62024 RAINBOW   161        63015 VERONA    161  1              12.07    -12.22   f
    62027 SHELBY    115        63014 TIBERTAP  115  1               1.40     -2.04   f
    62051 HARDIN    230        63002 CRSOVRUM  230  1             132.60      6.74   t
    62056 HUNTLEY   230        63002 CRSOVRUM  230  1            -150.27     22.21   t
 from area  62 to area  63 WAPA U.M.                                8.86      2.20

 Total from area  62 MONTANA                                     2328.32   -673.06

  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    40145 BOUNDARY  230        50822 NLYPHS    230  1            -347.12      8.08   f
    40323 CUSTER W  500        50194 ING500    500  1           -1029.11    161.84   t
    40323 CUSTER W  500        50194 ING500    500  2           -1012.05    160.24   t
 from area  40 to area  50 B.C.HYDRO                             -2388.28    330.17

    45029 BURNS     500        60240 MIDPOINT  500  1            -300.38    352.96   t
    45103 ENTERPRS  230        60150 HELLSCYN  230  1              16.19    -33.69   f
    40507 HARNEY    115        61826 HINES     115  1             -13.88     15.87   f
    40621 LAGRANDE  230        60192 LADD      230  1              63.89    -28.09   f
    48197 LOLO      230        60278 IMNAHA    230  1             200.74    -26.64   t
 from area  40 to area  60 IDAHO                                  -33.43    280.41

    41311 CELILO1   500        26097 SYLMAR1   230  1             529.62     58.91   f
    41313 CELILO3   230        26098 SYLMAR3   230  1             873.71    244.54   f
    41312 CELILO2   500        26099 SYLMAR2   230  1             529.62     58.83   f
    41314 CELILO4   230        26100 SYLMAR4   230  1             873.71    244.98   f
 from area  40 to area  26 LADWP                                  2806.67    607.27

    48053 BURKAVAA  115        62086 THOMSON   115  1             -31.01     12.73   f
    48055 BURKAVAB  115        62085 CROWCR B  115  1             -24.75     11.60   f
    40391 ELMO      115        62066 KERR      115  1              -6.17     15.34   t
    40451 GAR1EAST  500        62013 TOWN1     500  1            -642.64    138.80   f
    40453 GAR2EAST  500        62012 TOWN2     500  2            -642.64    138.80   f
    40457 GARRISON  230        62072 OVANDO    230  1             -29.27    -11.77   f
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   40457 GARRISON  230        62004 ANACOND   230  1            172.36     -2.20   t
   40457 GARRISON  230        62004 ANACOND   230  2            186.69      5.80   t
   40551 HOT SPR   230        62072 OVANDO    230  1            -48.20    -11.13   f
   40867 RATTLE S  230        62009 RATTLE S  161  1            113.07     35.00   f
from area  40 to area  62 MONTANA                              -952.56    332.98

   45035 CAPTJACK  500        30020 OLINDA    500  1           1379.40   -219.22   f
   45087 DELTA     115        31468 CASCADE   115  1             71.57    -15.45   f
   40687 MALIN     500        30005 ROUND MT  500  1           1221.48   -117.40   f
   40687 MALIN     500        30005 ROUND MT  500  2           1232.35   -135.35   f
from area  40 to area  30 PG AND E                             3904.79   -487.42

   40537 HIL TOP   230        64058 HIL TOP   345  1            177.45    -49.80   f
from area  40 to area  64 SIERRA                                177.45    -49.80

Total from area  40 NORTHWEST                                  3514.63   1013.60

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1            -34.88     92.69   t
from area  65 to area  14 ARIZONA                               -34.88     92.69

   90800 MTSBENL   500        90700 MTSKINP   500  1           -729.32    108.03   t
   65075 ANTLOPE   230        60073 BRADY     230  1             95.17    -32.28   f
   65135 BENLOMND  345        60060 BORAH     345  1           -227.35     24.36   t
   65220 BRIDGER   230        60085 BRIDGER   345  1             -5.52     -2.65   t
   65220 BRIDGER   230        60085 BRIDGER   345  2             -5.62     -2.69   t
   65220 BRIDGER   230        60085 BRIDGER   345  3             -5.52     -2.65   t
   65665 GOSHEN    345        60085 BRIDGER   345  1           -462.20    -88.91   f
   65665 GOSHEN    345        60190 KINPORT   345  1            130.02      8.60   t
   65670 GOSHEN    161        60030 BLACKFT   161  1             93.39     10.00   f
   65920 MALAD     138        60020 AMFLS     138  1            -54.34      1.96   t
   66565 TREASTON  230        60073 BRADY     230  1           -115.71     11.71   t
from area  65 to area  60 IDAHO                               -1287.01     35.47

   65995 MONA      345        26043 INTERMT   345  1            -12.59    -59.78   f
   65995 MONA      345        26043 INTERMT   345  2            -12.59    -59.78   f
from area  65 to area  26 LADWP                                 -25.19   -119.56

   65025 AMPS      230        62030 PTRSNFLT  230  1           -204.71     46.28   f
   65155 BIGGRASS  161        62084 DILLON S  161  1           -104.95     34.49   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1             40.51     -3.95   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1             21.32      2.84   t
from area  65 to area  62 MONTANA                              -247.83     79.67

   66280 REDBUTTE  345        18002 HA PS     345  1            258.65    -56.38   f
from area  65 to area  18 NEVADA                                258.65    -56.38

   66210 PAVANT    230        64124 UTAH-NEV  230  1             31.95     14.69   t
from area  65 to area  64 SIERRA                                 31.95     14.69

   66355 SIGURDPS  230        79031 GLENCANY  230  1             46.80     31.69   t
from area  65 to area  19 WAPA L.C.                              46.80     31.69

   65060 ANT MINE  230        73276 TEKLA     230  1             29.07     18.74   f
   65085 ASHLEY    138        79067 VERNAL    138  1            -74.93      5.56   t
   65192 BONANZA   138        79067 VERNAL    138  1             36.03      6.19   t
   65193 BONANZA   345        79005 BEARS     345  1           -354.58     13.50   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1            -35.37     -3.40   f
   65305 CASPERPP  115        73042 CASPERLM  115  1             -5.76     -4.51   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1             82.60    -19.13   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1             93.77    -14.70   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1             72.51      1.83   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1             84.03      5.56   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1            -41.02      9.50   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2            -41.02      9.50   f
   66278 RANGELY   138        79001 ARTESIA   138  1            -10.80     -5.03   f
   66278 RANGELY   138        79046 MEEKER    138  1            -12.11      0.17   f
   66305 RIVERTON  230        73170 RIVERTON  115  1              6.40     10.03   f
   66535 THERMOPL  230        73197 THERMOPL  115  1              0.38      5.41   t
   66540 THERPACE  115        73197 THERMOPL  115  1             11.27     10.15   t
   66720 WORLAND   115        73222 WORLANTP  115  1            -12.75      5.09   t
   66725 WYODAK    230        73148 OSAGE     230  1            120.88    -16.52   t
   66725 WYODAK    230        73168 RENO      230  1             92.08      6.31   f
   66725 WYODAK    230        73294 HUGHES    230  1            116.30     -1.70   f
   66725 WYODAK    230        73282 WYODAK     69  1            -10.65     15.21   f
   66725 WYODAK    230        73282 WYODAK     69  2             -7.20     10.28   f
   66725 WYODAK    230        74016 WYGEN      14  1              0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1           -321.70     20.55   t
from area  65 to area  73 WAPA R.M.                            -182.58     88.60
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Total from area 65 PACE -1440.08 166.86

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
70005	BRUSHCPP	115	73013	B.CK PS	115	1	118.30	22.86	f
70005	BRUSHCPP	115	73013	B.CK PS	115	2	124.81	29.85	f
70116	COBBLAKE	115	73044	COBBLKTP	115	1	-15.33	-1.44	f
70122	COMANCHE	230	73477	FULLER	230	1	95.77	31.31	t
70139	DANIELPK	230	73477	FULLER	230	1	-116.28	-18.17	t
70193	FTN VALL	115	73412	MIDWAYBR	115	1	4.59	-0.19	t
70205	GRANDJCT	230	79036	GRANDJCT	345	1	-48.69	-23.44	f
70256	LAPORTPS	115	73105	LAPORTE	115	1	-14.74	-6.26	t
70274	MALTA	230	73138	MT.ELBRT	230	1	-145.52	-6.81	f
70285	MIDWAYPS	115	73412	MIDWAYBR	115	1	18.61	-22.67	f
70286	MIDWAYPS	230	73413	MIDWAYBR	230	1	130.95	79.17	t
70287	MILL	115	73296	FRASER	115	1	-41.69	9.48	f
70308	PALMER	115	73414	MONUMENT	115	1	-47.86	17.84	t
70311	PAWNEE	230	73192	STORY	230	1	-226.10	-31.28	t
70327	PONCHA	115	79037	GUNNISON	115	1	-24.76	11.30	f
70350	RAWHIDE	24	73165	RAWHIDE	230	1	262.16	80.61	t
70358	RIFLE PS	230	79059	RIFLE WA	230	1	-92.25	9.97	f
70358	RIFLE PS	230	79250	AMATLAS	230	1	-75.90	-3.02	f
70375	SAN LUIS	230	79054	PONCHABR	230	1	-80.76	6.65	t
70410	ST.VRAIN	230	73116	LONGPEAK	230	1	-51.26	65.95	f
70470	WELD PS	115	73211	WELD LM	115	1	-20.36	61.41	f
70471	WELD PS	230	73212	WELD LM	230	1	-368.08	0.50	f
70474	WINDSOR	230	73011	AULT	230	1	-306.15	0.92	t
70476	WOODLAND	115	73400	EMIL AND	115	1	14.74	2.49	f
70525	MTHARRIS	138	79038	HAYDEN	138	1	-7.21	-1.37	t
79033	GOREPASS	230	79039	HAYDEN	230	1	-251.40	-22.44	t
79033	GOREPASS	230	73072	GOREPASS	138	1	2.90	3.36	f
79034	GRANDJCT	115	79048	MONTROSE	115	1	21.77	-4.40	t
79056	RIFLE CU	138	79046	MEEKER	138	1	-15.62	-2.67	f
79057	RIFLE CU	230	79059	RIFLE WA	230	1	9.88	-22.69	t
79058	RIFLE CU	345	79014	CRAIG	345	1	-328.40	0.23	f
79058	RIFLE CU	345	79036	GRANDJCT	345	1	296.33	-5.72	f
79091	WOLCOTTP	230	79039	HAYDEN	230	1	-182.49	0.12	f
79173	COLBRAN	115	79174	MOLINA-L	115	1	-0.00	-0.54	f
70351	RAWHIDEA	14	73165	RAWHIDE	230	1	50.81	40.09	t
70550	W CANON	115	73551	W CANON	230	1	-23.80	-19.10	t

from area 70 to area 73 WAPA R.M. -1333.02 281.89

Total from area 70 PSCOLORADO -1333.02 281.89

---------from--------			--------- to --------						
--no.--	--name--	-kv-	--no.--	--name--	-kv-	ck	---mw----	---mvar--	meter
79060	SANJN PS	345	10292	SAN_JUAN	345	1	172.99	-20.78	t

from area 73 to area 10 NEW MEXICO 172.99 -20.78

73042	CASPERLM	115	65305	CASPERPP	115	1	5.76	4.51	f
73070	GLENRCKN	115	65425	DAVEJOHN	115	1	-72.51	-1.83	t
73071	GLENRCKS	115	65425	DAVEJOHN	115	1	-84.03	-5.56	t
73107	LAR.RIVR	230	65420	DAVEJOHN	230	1	-82.60	19.13	t
73148	OSAGE	230	66725	WYODAK	230	1	-120.88	16.52	f
73167	REFNRYTP	115	65305	CASPERPP	115	1	35.37	3.40	t
73168	RENO	230	66725	WYODAK	230	1	-92.08	-6.31	t
73170	RIVERTON	115	66305	RIVERTON	230	1	-6.40	-10.03	t
73190	STEGALL	230	65420	DAVEJOHN	230	1	-93.77	14.70	t
73197	THERMOPL	115	66540	THERPACE	115	1	-11.27	-10.15	f
73197	THERMOPL	115	66535	THERMOPL	230	1	-0.38	-5.41	f
73222	WORLANTP	115	66720	WORLAND	115	1	12.75	-5.09	f
73229	YELLOWBR	230	66750	YELOWTLP	230	1	321.70	-20.55	f
73276	TEKLA	230	65060	ANT MINE	230	1	-29.07	-18.74	t
73282	WYODAK	69	66725	WYODAK	230	1	10.65	-15.21	t
73282	WYODAK	69	66725	WYODAK	230	2	7.20	-10.28	t
73294	HUGHES	230	66725	WYODAK	230	1	-116.30	1.70	t
79001	ARTESIA	138	66278	RANGELY	138	1	10.80	5.03	t
79005	BEARS	345	65193	BONANZA	345	1	354.58	-13.50	t
79026	FLAMGORG	138	65565	FLAMGORG	230	1	41.02	-9.50	t
79026	FLAMGORG	138	65565	FLAMGORG	230	2	41.02	-9.50	t
79046	MEEKER	138	66278	RANGELY	138	1	12.11	-0.17	t
79067	VERNAL	138	65085	ASHLEY	138	1	74.93	-5.56	f
79067	VERNAL	138	65192	BONANZA	138	1	-36.03	-6.19	f
74016	WYGEN	14	66725	WYODAK	230	1	0.00	0.00	t

from area 73 to area 65 PACE 182.58 -88.60

73011	AULT	230	70474	WINDSOR	230	1	306.15	-0.92	f
73013	B.CK PS	115	70005	BRUSHCPP	115	1	-118.30	-22.86	t
73013	B.CK PS	115	70005	BRUSHCPP	115	2	-124.81	-29.85	t
73044	COBBLKTP	115	70116	COBBLAKE	115	1	15.33	1.44	t

```
   73072 GOREPASS  138        79033 GOREPASS  230  1              -2.90     -3.36   t
   73105 LAPORTE   115        70256 LAPORTPS  115  1              14.74      6.26   f
   73116 LONGPEAK  230        70410 ST.VRAIN  230  1              51.26    -65.95   t
   73138 MT.ELBRT  230        70274 MALTA     230  1             145.52      6.81   t
   73165 RAWHIDE   230        70350 RAWHIDE    24  1            -262.16    -80.61   f
   73165 RAWHIDE   230        70351 RAWHIDEA   14  1             -50.81    -40.09   f
   73192 STORY     230        70311 PAWNEE    230  1             226.10     31.28   f
   73211 WELD  LM  115        70470 WELD  PS  115  1              20.36    -61.41   t
   73212 WELD  LM  230        70471 WELD  PS  230  1             368.08     -0.50   t
   73296 FRASER    115        70287 MILL      115  1              41.69     -9.48   t
   73400 EMIL AND  115        70476 WOODLAND  115  1             -14.74     -2.49   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1              -4.59      0.19   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1             -18.61     22.67   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1            -130.95    -79.17   f
   73414 MONUMENT  115        70308 PALMER    115  1              47.86    -17.84   f
   73477 FULLER    230        70122 COMANCHE  230  1             -95.77    -31.31   f
   73477 FULLER    230        70139 DANIELPK  230  1             116.28     18.17   f
   79014 CRAIG     345        79058 RIFLE CU  345  1             328.40     -0.23   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1            -296.33      5.72   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1              48.69     23.44   t
   79037 GUNNISON  115        70327 PONCHA    115  1              24.76    -11.30   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1               7.21      1.37   f
   79039 HAYDEN    230        79033 GOREPASS  230  1             251.40     22.44   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1             182.49     -0.12   t
   79046 MEEKER    138        79056 RIFLE CU  138  1              15.62      2.67   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1             -21.77      4.40   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1              80.76     -6.65   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1              92.25     -9.97   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1              -9.88     22.69   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1               0.00      0.54   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1              75.90      3.02   t
   73551 W CANON   230        70550 W CANON   115  1              23.80     19.10   f
from area  73 to area  70 PSCOLORADO                            1333.02   -281.89

   79061 SHIP PS   230        79063 SHIPROCK  230  1              81.83    -12.46   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1              -2.03    -12.23   t
from area  73 to area  19 WAPA L.C.                                79.80    -24.68

   73229 YELLOWBR  230        63001 CROS PHA  230  1            -156.36     26.31   f
from area  73 to area  63 WAPA U.M.                             -156.36     26.31

Total from area  73 WAPA R.M.                                   1612.04   -389.64

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1            -132.60     -6.74   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1             150.27    -22.21   f
   63008 HAVRE     161        62023 GT FALLS  161  1             -13.05     12.49   t
   63014 TIBERTAP  115        62027 SHELBY    115  1              -1.40      2.04   t
   63015 VERONA    161        62024 RAINBOW   161  1             -12.07     12.22   t
from area  63 to area  62 MONTANA                                 -8.86     -2.20

   63001 CROS PHA  230        73229 YELLOWBR  230  1             156.36    -26.31   t
from area  63 to area  73 WAPA R.M.                              156.36    -26.31

Total from area  63 WAPA U.M.                                    147.49    -28.51
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Summation of selected system

	-----MW----	----MVAR---		
Generation	70613.273	7990.167	Generators	2565
Actual Load	60440.602	19741.215	Loads	6822
Net actual shunt	0.424	-2062.373	Shunts	1297
Net actual svd	0.000	-5180.760	Svd	588
Loss	3020.366	-4505.749	Buses	13198
			Lines	10967
			Transformers	5151
MVA-miles	6216016.0	983606.0	DC buses	6
Miles	46985.316		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	7863.222	871.382	Generators	142
Actual Load	7899.199	2641.000	Loads	512
Net actual shunt	0.000	-22.463	Shunts	9
Net actual svd	0.000	-1599.668	Svd	78
Net Interchange	-399.888	246.838	Buses	992
Sched Interchange	-400.000		Lines	781
Loss	363.909	-394.320	Transformers	407
MVA-miles	1107997.9	228149.9	DC buses	0
Miles	18637.697		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.732	25.315		
Loss at 13.80 Kv	3.377	88.628		
Loss at 14.40 Kv	0.019	2.277		
Loss at 25.00 Kv	1.937	27.501		
Loss at 34.00 Kv	0.051	0.842		
Loss at 69.00 Kv	18.849	-3.734		
Loss at 138.00 Kv	152.187	-253.323		
Loss at 240.00 Kv	167.803	-574.239		
Loss at 500.00 Kv	0.215	-532.611		
Loss at other Kv	17.739	825.023		
Largest mismatch MVA	0.0072	0.1016		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	10253.526	948.704	Generators	112
Actual Load	6889.125	2565.790	Loads	395
Net actual shunt	0.000	2957.051	Shunts	104
Net actual svd	0.000	2141.189	Svd	125
Net Interchange	2850.840	-266.743	Buses	1054
Sched Interchange	2849.900		Lines	718
Loss	513.558	-6448.577	Transformers	645
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.306	7.911		
Loss at 13.80 Kv	10.094	492.981		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.302	0.084		
Loss at 132.00 Kv	36.994	106.038		
Loss at 138.00 Kv	14.950	-121.113		
Loss at 230.00 Kv	53.152	-608.382		
Loss at 500.00 Kv	340.610	-6991.333		
Loss at other Kv	57.151	665.233		
Largest mismatch MVA	0.0211	0.0355		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	3569.191	-8.342	Generators	62
Actual Load	2984.000	711.600	Loads	64
Net actual shunt	0.000	-591.789	Shunts	15
Net actual svd	0.000	0.000	Svd	0
Net Interchange	420.781	-404.458	Buses	157
Sched Interchange	420.000		Lines	122
Loss	164.411	276.306	Transformers	97
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.261	5.606		
Loss at 13.80 Kv	3.393	116.825		
Loss at 14.40 Kv	0.878	34.168		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.584	30.513		
Loss at 115.00 Kv	0.440	0.392		
Loss at 138.00 Kv	19.591	-5.643		
Loss at 161.00 Kv	1.502	1.731		
Loss at 230.00 Kv	69.301	-49.482		
Loss at 345.00 Kv	64.259	9.005		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	4.200	133.192		
Largest mismatch MVA	0.0046	0.0177		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	3918.639	176.598	Generators	23
Actual Load	1422.895	610.184	Loads	200
Net actual shunt	0.424	-126.836	Shunts	56
Net actual svd	0.000	430.426	Svd	12
Net Interchange	2328.322	-673.056	Buses	314
Sched Interchange	2328.000		Lines	321
Loss	166.997	-64.121	Transformers	91
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	-0.000	36.448		
Loss at 69.00 Kv	0.456	2.467		
Loss at 100.00 Kv	19.088	-37.696		
Loss at 115.00 Kv	2.066	-18.860		
Loss at 161.00 Kv	27.259	-34.875		
Loss at 230.00 Kv	21.493	-114.662		
Loss at 500.00 Kv	94.603	-154.723		
Loss at other Kv	2.033	257.781		
Largest mismatch MVA	0.0059	0.0216		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	27325.127	3633.702	Generators	383
Actual Load	22671.295	6850.328	Loads	1652
Net actual shunt	0.000	-1854.208	Shunts	43
Net actual svd	0.000	-4065.222	Svd	159
Net Interchange	3514.633	1013.601	Buses	2740
Sched Interchange	3514.000		Lines	2710
Loss	1139.183	1689.186	Transformers	654
MVA-miles	4520369.0	619121.5	DC buses	4
Miles	18469.418		DC converters	4
			DC lines	2
Loss at 11.00 Kv	0.000	0.607		
Loss at 13.20 Kv	0.000	4.938		
Loss at 13.80 Kv	4.814	207.757		
Loss at 14.40 Kv	0.285	13.067		
Loss at 25.00 Kv	3.176	166.336		
Loss at 34.50 Kv	0.345	6.190		
Loss at 69.00 Kv	14.832	42.525		
Loss at 100.00 Kv	0.122	-0.238		
Loss at 115.00 Kv	218.443	506.509		
Loss at 230.00 Kv	337.218	1621.099		
Loss at 345.00 Kv	15.812	-179.143		

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Loss at 500.00 Kv         419.410    -2009.810
Loss at other Kv          124.725     1309.350

Largest mismatch MVA       0.0307       0.0481

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  65 [PACE                            ]

                      -----MW----  ----MVAR---
Generation               5087.919      212.319        Generators           52
Actual Load              6293.716     1960.150        Loads               274
Net actual shunt            0.000    -1782.497        Shunts               74
Net actual svd              0.000      -49.539        Svd                   2
Net Interchange         -1440.082      166.863        Buses               566
Sched Interchange       -1441.000                     Lines               407
Loss                      234.289      -82.640        Transformers        338

MVA-miles                     5.0          1.6        DC buses              0
Miles                       1.900                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           0.971       32.834
Loss at  34.50 Kv           0.990        7.429
Loss at  46.00 Kv           6.322      136.799
Loss at  69.00 Kv           1.655       22.602
Loss at 100.00 Kv           0.056        1.037
Loss at 115.00 Kv           3.077       -9.429
Loss at 138.00 Kv          61.727      143.633
Loss at 161.00 Kv          12.249       -7.480
Loss at 230.00 Kv          67.558      -59.387
Loss at 345.00 Kv          67.713     -256.627
Loss at 500.00 Kv           7.899     -192.472
Loss at other Kv            4.073       98.421

Largest mismatch MVA       0.0036       0.0241

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  70 [PSCOLORADO                      ]

                      -----MW----  ----MVAR---
Generation               5190.475     1765.417        Generators           66
Actual Load              6332.696     2372.604        Loads               362
Net actual shunt            0.000        0.000        Shunts                0
Net actual svd              0.000    -1672.164        Svd                  43
Net Interchange         -1333.024      281.892        Buses               501
Sched Interchange       -1332.800                     Lines               461
Loss                      190.796      783.079        Transformers        147

MVA-miles                30611.4       6180.2        DC buses              0
Miles                    564.500                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           4.006      136.135
Loss at  14.40 Kv           0.080        0.798
Loss at  25.00 Kv           0.010        0.140
Loss at  46.00 Kv           0.196        0.009
Loss at  69.00 Kv           7.175        1.618
Loss at 100.00 Kv           0.031       -0.498
Loss at 115.00 Kv          33.001      -38.074
Loss at 138.00 Kv           0.199       -5.849
Loss at 230.00 Kv         138.680      447.972
Loss at 345.00 Kv           0.002        0.134
Loss at 500.00 Kv           0.000        0.000
Loss at other Kv            7.417      240.694

Largest mismatch MVA       0.0083       0.0222

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  64 [SIERRA                          ]

                      -----MW----  ----MVAR---
Generation               1375.078      110.826        Generators           22
Actual Load              1719.091      458.744        Loads               121
Net actual shunt            0.000     -188.651        Shunts               30
Net actual svd              0.000       69.488        Svd                   5
Net Interchange          -398.704       55.657        Buses               275
Sched Interchange        -399.000                     Lines               197
Loss                       54.691     -284.414        Transformers        117
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MVA-miles                 65666.0      39896.8        DC buses              0
Miles                    1042.600                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           2.537       51.308
Loss at  69.00 Kv           0.000        0.000
Loss at 115.00 Kv           0.479       -6.168
Loss at 230.00 Kv           1.781     -101.147
Loss at 345.00 Kv           8.504     -448.858
Loss at other Kv           41.391      220.451

Largest mismatch MVA       0.0099       0.0325

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  52 [W KOOTENAY                      ]

                       -----MW----  ----MVAR---
Generation                596.550      104.102        Generators           20
Actual Load               722.400      210.200        Loads                64
Net actual shunt            0.000      -77.771        Shunts               27
Net actual svd              0.000     -130.668        Svd                   4
Net Interchange          -150.560       -4.613        Buses               260
Sched Interchange        -149.900                     Lines               165
Loss                       24.710      106.955        Transformers        117

MVA-miles                 30873.4       4841.6        DC buses              0
Miles                     986.000                     DC converters         0
                                                      DC lines              0
Loss at  13.20 Kv           0.000        8.260
Loss at  13.80 Kv           0.000        0.000
Loss at  14.40 Kv           0.000       30.064
Loss at  25.00 Kv           0.000        0.000
Loss at 138.00 Kv           0.397       -0.465
Loss at 161.00 Kv           9.043       11.293
Loss at 230.00 Kv           1.531       -8.531
Loss at other Kv           13.740       66.335

Largest mismatch MVA       0.0010       0.0043

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  73 [WAPA R.M.                       ]

                       -----MW----  ----MVAR---
Generation               5377.508      170.558        Generators           80
Actual Load              3608.290     1237.018        Loads               355
Net actual shunt            0.000     -296.256        Shunts                4
Net actual svd              0.000     -289.268        Svd                  53
Net Interchange          1612.042     -389.640        Buses               620
Sched Interchange        1612.000                     Lines               567
Loss                      157.179      -91.302        Transformers        174

MVA-miles                460493.1      85414.3        DC buses              0
Miles                    7283.200                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           6.221       91.882
Loss at  34.50 Kv           0.315        4.024
Loss at  69.00 Kv           5.349      -11.246
Loss at 115.00 Kv          63.949     -119.783
Loss at 138.00 Kv           4.902      -29.810
Loss at 230.00 Kv          35.278     -287.795
Loss at 345.00 Kv          33.923      -62.277
Loss at other Kv            7.242      323.704

Largest mismatch MVA       0.0204       0.0284

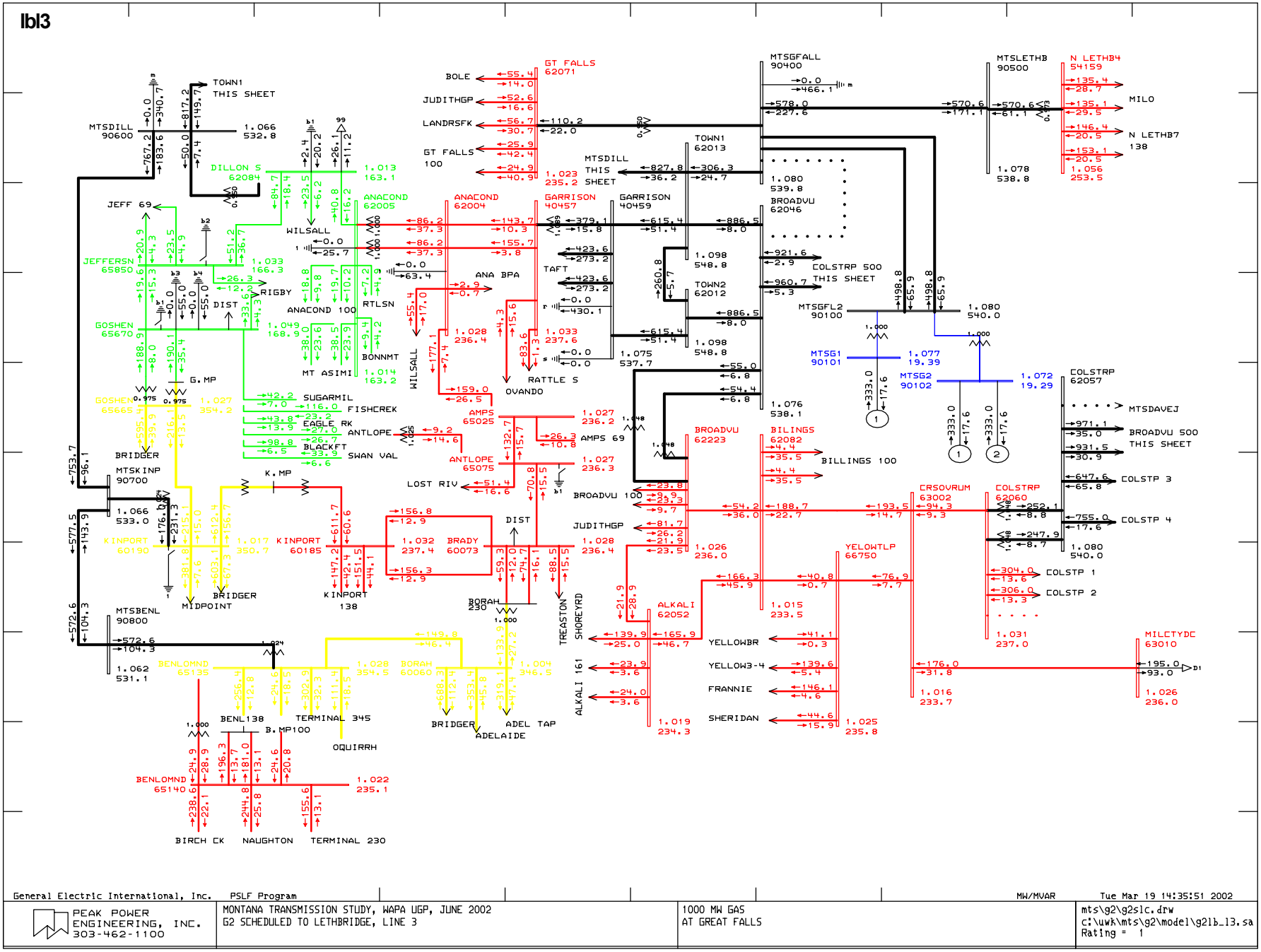
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO SALT LAKE, LINE 3

Area  63 [WAPA U.M.                       ]

                       -----MW----  ----MVAR---
Generation                 56.038        4.901        Generators            1
Actual Load              -102.100      123.600        Loads                17
Net actual shunt            0.000      -78.951        Shunts                1
Net actual svd              0.000      -15.333        Svd                   4
Net Interchange           147.495      -28.514        Buses                21
Sched Interchange         147.000                     Lines                12
Loss                       10.644        4.100        Transformers          3
```

MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.226	6.381		
Loss at 115.00 Kv	0.019	-7.145		
Loss at 161.00 Kv	0.921	-47.884		
Loss at 230.00 Kv	9.478	52.748		
Largest mismatch MVA	0.0001	0.0014		

B.7 **lbl3**



General Electric International, Inc. PSLF Program MW/MVAR Tue Mar 19 14:35:51 2002

PEAK POWER ENGINEERING, INC.
303-462-1100

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

1000 MW GAS
AT GREAT FALLS

mts\g2\g2slc.drw
c:\uwk\mts\g2\model\g21b_13.sa
Rating = 1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Percent Loading Summary -- using rating 1 - 100.0 percent of rating

----------from----------				---------- to ----------								rate	per cent
--no.--	--name--	-kv-	-ar-	--no.--	--name--	-kv-	-ar-	ck	---mw---	-mvar-	-mva--	------	loading
54611	RUTH LK8	69	54	54839	RUTH LK1	138	54	1	57.9	13.8	59.5	45.0M	132.4 T
64026	CARSON	120	64	64027	CARSON T	120	64	1	-55.9	-6.4	56.2	216.5A	131.1 F
64194	DAYTON	120	64	64254	DAYTON	25	64	1	16.6	6.5	17.8	14.0M	127.5 F
79026	FLAMGORG	138	73	79029	FLAMGORG	69	73	1	22.1	6.0	22.9	19.0M	120.4 F
64099	SPAN SPG	120	64	64114	TRACY	120	64	1	-127.5	-2.7	127.5	514.8A	118.1 F
64091	RENO	120	64	64263	RENO	25	64	1	50.3	20.4	54.3	46.7M	116.3 F
70249	LAJUNTAW	115	70	70250	LAJUNTAW	69	70	1	26.2	12.4	29.0	25.0M	116.0 F
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	1	50.2	20.3	54.2	46.7M	116.0 F
64091	RENO	120	64	64263	RENO	25	64	2	50.2	20.3	54.2	46.7M	116.0 F
55015	DOME EA9	14	54	55525	163ST2	240	54	T2	-51.0	-4.6	51.2	45.0M	114.4 T
54110	RED DEE9	138	54	54144	RED DEE4	240	54	T1	-57.2	-192.1	200.5	200.0M	113.8 T
64127	VAL ROAD	120	64	64274	VAL ROAD	25	64	2	47.8	19.3	51.6	46.7M	110.4 F
64202	HAN CRTP	120	64	64203	TWN CRTP	120	64	1	74.2	19.8	76.8	356.0A	109.1 F
64201	PINSN TP	120	64	64202	HAN CRTP	120	64	1	74.6	20.6	77.4	356.0A	109.0 F
64200	REDHOUSE	120	64	64201	PINSN TP	120	64	1	75.9	23.6	79.5	356.0A	108.9 T
64129	VALMY	120	64	64200	REDHOUSE	120	64	1	77.0	26.3	81.4	356.0A	108.6 T
50459	KIT287	287	50	51075	KIT B5	13	50	5	80.3	24.1	83.8	79.0M	106.1 F
54232	PANCAN 9	138	54	55386	EMPRESS9	25	54	T1	15.7	1.0	15.7	15.0M	104.7 F
54154	E CALGAR	240	54	54189	ENMX2SD9	138	54	T1	240.9	-168.1	293.8	300.0M	104.4 T
64114	TRACY	120	64	64118	TRACY G2	14	64	1	-82.5	-3.9	82.6	81.0M	104.0 T
48319	PLEASANT	115	40	48355	RATHDRUM	115	40	1	-84.1	-16.2	85.6	430.8A	103.3 F
43017	BEAVER	14	40	43021	BEAVER	230	40	1	356.8	41.0	359.2	348.0M	103.2 F
41304	COUGAR T	7	40	46211	COUGAR T	115	40	1	28.0	-8.8	29.4	30.0M	102.1 T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	BC	155.0	-10.8	155.4	155.0M	101.9 T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	9A	155.0	-10.8	155.4	155.0M	101.9 T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	56	155.0	-10.8	155.4	155.0M	101.9 T
40221	CHIEF J2	14	40	40231	CHIEF JO	230	40	78	155.0	-10.8	155.4	155.0M	101.9 T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	12	155.0	-10.8	155.4	155.0M	101.9 T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	DE	155.0	-10.8	155.4	155.0M	101.9 T
40229	CHIEF JO	14	40	40231	CHIEF JO	230	40	34	155.0	-10.8	155.4	155.0M	101.9 T
54200	848S901T	240	54	54610	RUTH LK4	240	54	1	-92.7	-26.7	96.5	100.0M	101.2 T
46733	LAGRND5	14	40	46735	LGBK5	115	40	1	40.0	5.7	40.4	40.0M	101.0 F
54012	FOX CREE	138	54	54412	BENBOW 9	138	54	20	-82.2	36.3	89.8	359.8A	100.5 T
54071	METIS649	138	54	55814	KILRY TP	138	54	49	87.1	-19.7	89.3	355.6A	100.5 F

```
Processing file c:\uwk\mts\base\rvolthsbs.out
Processing file c:\uwk\mts\g2\rvoltlbl3.out

Compvolt found the following for comparisons:
     349 Voltage Violations read from c:\uwk\mts\base\rvolthsbs.out
     356 Voltage Violations read from c:\uwk\mts\g2\rvoltlbl3.out


**** VOLTS:  NEW ****
Component                    w/o Prj         w/ Prj  Rating
54154 E CALGAR  240   0.95 <= pu <= 1.05    1.0542  1.00 pu kV
54162 COCHRAN9  138   0.95 <= pu <= 1.05    1.0500  1.00 pu kV
54173 BEARSPAW  138   0.95 <= pu <= 1.05    1.0528  1.00 pu kV
54182 SHELL J7  138   0.95 <= pu <= 1.05    1.0516  1.00 pu kV
54183 JUMPPND9  138   0.95 <= pu <= 1.05    1.0517  1.00 pu kV
54388 ENMX14S9  138   0.95 <= pu <= 1.05    1.0516  1.00 pu kV
54395 ENMX36S7  138   0.95 <= pu <= 1.05    1.0543  1.00 pu kV
54586 ENMX30S9  138   0.95 <= pu <= 1.05    1.0514  1.00 pu kV
54828 767S701T  138   0.95 <= pu <= 1.05    1.0551  1.00 pu kV
54831 801S901T  240   0.95 <= pu <= 1.05    1.0505  1.00 pu kV
54948 802S701T  138   0.95 <= pu <= 1.05    1.0621  1.00 pu kV
55525 163ST2    240   0.95 <= pu <= 1.05    1.0689  1.00 pu kV
55900 JUMP TP1  138   0.95 <= pu <= 1.05    1.0517  1.00 pu kV
55925 JUMP TP2  138   0.95 <= pu <= 1.05    1.0517  1.00 pu kV
50190 CBN230    230   0.95 <= pu <= 1.05    1.0501  1.00 pu kV
50390 KSHTP11   132   0.95 <= pu <= 1.05    1.0501  1.00 pu kV
50657 TMT138    138   0.95 <= pu <= 1.05    1.0518  1.00 pu kV
50658 WBK138    138   0.95 <= pu <= 1.05    1.0522  1.00 pu kV
50669 DUG138    138   0.95 <= pu <= 1.05    1.0511  1.00 pu kV
50670 KWD138    138   0.95 <= pu <= 1.05    1.0523  1.00 pu kV
50671 AON138    138   0.95 <= pu <= 1.05    1.0527  1.00 pu kV
50673 HFY138    138   0.95 <= pu <= 1.05    1.0505  1.00 pu kV
50677 MCK138    138   0.95 <= pu <= 1.05    1.0505  1.00 pu kV
50678 AVO138    138   0.95 <= pu <= 1.05    1.0522  1.00 pu kV
50702 ACK500    500   0.95 <= pu <= 1.05    1.0512  1.00 pu kV
50703 NIC500    500   0.95 <= pu <= 1.05    1.0528  1.00 pu kV
50726 TMT138TP  138   0.95 <= pu <= 1.05    1.0519  1.00 pu kV
50784 NLY230    230   0.95 <= pu <= 1.05    1.0511  1.00 pu kV
50788 KCL230    230   0.95 <= pu <= 1.05    1.0710  1.00 pu kV
50860 CBN500    500   0.95 <= pu <= 1.05    1.0506  1.00 pu kV
50900 AON138TP  138   0.95 <= pu <= 1.05    1.0527  1.00 pu kV
50929 TOK138    138   0.95 <= pu <= 1.05    1.0507  1.00 pu kV
50933 JUL132    132   0.95 <= pu <= 1.05    1.0503  1.00 pu kV
90100 MTSGFL2   500   0.95 <= pu <= 1.05    1.0800  1.00 pu kV
40323 CUSTER W  500   0.95 <= pu <= 1.05    1.0538  1.00 pu kV
66465 SWAN VAL  161   0.95 <= pu <= 1.05    1.0555  1.00 pu kV
52391 30L-LK-W  161   0.95 <= pu <= 1.05    1.0507  1.00 pu kV
52392 30L-LK-E  161   0.95 <= pu <= 1.05    1.0514  1.00 pu kV
52400 CRA161    161   0.95 <= pu <= 1.05    1.0517  1.00 pu kV
52407 COF161    161   0.95 <= pu <= 1.05    1.0506  1.00 pu kV
52409 KIM161    161   0.95 <= pu <= 1.05    1.0564  1.00 pu kV
52814 KIM-T3    161   0.95 <= pu <= 1.05    1.0564  1.00 pu kV

**** VOLTS: WORSE ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS: BETTER ****
Component             w/o Prj  w/ Prj  Rating

**** VOLTS:  AWAY ****
Component             w/o Prj      w/ Prj          Rating
54012 FOX CREE  138   1.0510  0.95 <= pu <= 1.05   1.00 pu kV
54013 KAYBOB 9  138   1.0517  0.95 <= pu <= 1.05   1.00 pu kV
54021 WESGEN 7  138   1.0507  0.95 <= pu <= 1.05   1.00 pu kV
54078 CHEVRON7  138   1.0515  0.95 <= pu <= 1.05   1.00 pu kV
54150 LANGDON2  500   1.0533  0.95 <= pu <= 1.05   1.00 pu kV
54249 RP05103S  138   1.0669  0.95 <= pu <= 1.05   1.00 pu kV
54325 CHEV KG9  138   1.0515  0.95 <= pu <= 1.05   1.00 pu kV
54412 BENBOW 9  138   1.0517  0.95 <= pu <= 1.05   1.00 pu kV
54546 CHINCHA7  138   1.0575  0.95 <= pu <= 1.05   1.00 pu kV
54547 KEG RVR7  138   1.0561  0.95 <= pu <= 1.05   1.00 pu kV
54548 KEMP RV9  138   1.0578  0.95 <= pu <= 1.05   1.00 pu kV
54549 HOTCHKS7  138   1.0596  0.95 <= pu <= 1.05   1.00 pu kV
54552 CADOTTE9  138   1.0585  0.95 <= pu <= 1.05   1.00 pu kV
54553 NORCEN 9  138   1.0552  0.95 <= pu <= 1.05   1.00 pu kV
54554 LUBICON7  138   1.0582  0.95 <= pu <= 1.05   1.00 pu kV
54555 CRANBER9  138   1.0591  0.95 <= pu <= 1.05   1.00 pu kV
54607 FOXCRK/2  138   1.0515  0.95 <= pu <= 1.05   1.00 pu kV
54618 PARS CR7  138   1.0508  0.95 <= pu <= 1.05   1.00 pu kV
54621 MITS E.4  240   1.0565  0.95 <= pu <= 1.05   1.00 pu kV
54634 SARHLK/2  138   1.0511  0.95 <= pu <= 1.05   1.00 pu kV
54636 ESSO JU7  138   1.0519  0.95 <= pu <= 1.05   1.00 pu kV
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54637 MORSE RV  138   1.0524  0.95 <= pu <= 1.05   1.00 pu kV
54639 VIRGINI9  138   1.0529  0.95 <= pu <= 1.05   1.00 pu kV
54652 BONNY  9  138   1.0544  0.95 <= pu <= 1.05   1.00 pu kV
54654 BONN SVC  138   1.0544  0.95 <= pu <= 1.05   1.00 pu kV
54962 KAYBOBTP  138   1.0517  0.95 <= pu <= 1.05   1.00 pu kV
55012 BASSET 7  138   1.0562  0.95 <= pu <= 1.05   1.00 pu kV
55013 HAIGRIVE  138   1.0572  0.95 <= pu <= 1.05   1.00 pu kV
55075 SEAL LK9  138   1.0643  0.95 <= pu <= 1.05   1.00 pu kV
55226 WABASCA9  240   1.0532  0.95 <= pu <= 1.05   1.00 pu kV
55272 FIELDGA9  138   1.0513  0.95 <= pu <= 1.05   1.00 pu kV
55280 BRINTNEL  240   1.0504  0.95 <= pu <= 1.05   1.00 pu kV
55924 CH KGT T  138   1.0515  0.95 <= pu <= 1.05   1.00 pu kV
50776 NTL138    138   1.0539  0.95 <= pu <= 1.05   1.00 pu kV
45337 WEED JPS  115   1.0507  0.95 <= pu <= 1.05   1.00 pu kV
66225 PINTO     345   1.0511  0.95 <= pu <= 1.05   1.00 pu kV
66235 PINTO PS  345   1.0501  0.95 <= pu <= 1.05   1.00 pu kV
48310 OPORTUNE  115   0.9493  0.95 <= pu <= 1.05   1.00 pu kV
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GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

overvoltage summary > 1.100000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
54090	BICKERD4	240	1.1039	54142	WILLESD4	240	1.1056	54153	BRAZEAU4	240	1.1116
54329	KEEPHIL4	240	1.1176	54524	GENESEE4	240	1.1136	54681	NEVIS 7	138	1.1186
54995	W.GRN TP	240	1.1056	55969	770S701T	138	1.1155	51017	KMS230	230	1.1098

overvoltage summary > 1.050000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
90400	MTSGFALL	500	1.0795	90500	MTSLETHB	500	1.0775	90600	MTSDILL	500	1.0656
90700	MTSKINP	500	1.0659	90800	MTSBENL	500	1.0622	54014	GULF RO9	138	1.0577
54050	RBCUPIL7	138	1.0515	54054	LAMOURE4	240	1.0804	54073	IPPL ST9	138	1.0580
54077	BIGSTON4	240	1.0693	54081	METIS644	240	1.0888	54082	BICKERD7	138	1.0542
54090	BICKERD4	240	1.1039	54097	BIG HOR9	138	1.0839	54098	STRACHA9	138	1.0626
54103	DEERLAN4	240	1.0821	54121	ELLERSLI	240	1.0803	54125	SUNDANL9	138	1.0549
54126	WABAMUN4	240	1.0884	54128	SUNDANM9	240	1.0971	54129	E EDMON4	240	1.0745
54130	N CALDE4	240	1.0670	54131	N BARRH4	240	1.0769	54139	GAETZ 4	240	1.0802
54141	HIGHVAL9	138	1.0544	54142	WILLESD4	240	1.1056	54144	RED DEE4	240	1.0778
54147	BENALTO4	240	1.0911	54148	E CROSS4	240	1.0679	54152	JANET 4	240	1.0574
54153	BRAZEAU4	240	1.1116	54154	E CALGAR	240	1.0542	54157	PEIGAN 4	240	1.0638
54159	N LETHB4	240	1.0564	54162	COCHRAN9	138	1.0500	54173	BEARSPAW	138	1.0528
54182	SHELL J7	138	1.0516	54183	JUMPPND9	138	1.0517	54184	SARCEE 7	138	1.0588
54195	RUNDLE S	138	1.0503	54223	WARE JCT	240	1.0525	54261	SPRAY S	138	1.0508
54269	COALSPU7	138	1.0594	54281	MILO 2	240	1.0595	54285	LEISMER9	240	1.0690
54287	GREGG R9	138	1.0685	54302	MARIONA9	138	1.0547	54326	COAL VA9	138	1.0567
54329	KEEPHIL4	240	1.1176	54335	W BROOK4	240	1.0573	54384	ENMX28S9	138	1.0582
54388	ENMX14S9	138	1.0516	54395	ENMX36S7	138	1.0543	54441	946/947X	240	1.0803
54444	SPRINGB9	138	1.0544	54505	JASPER 4	240	1.0688	54506	BELLAMY4	240	1.0799
54509	ARGYLL W	240	1.0800	54512	DOME T29	240	1.0807	54513	LAMBTON4	240	1.0744
54514	CLOVERB4	240	1.0724	54518	ARGYLL E	240	1.0802	54519	CASTLTX2	240	1.0723
54521	PETROLIA	240	1.0785	54524	GENESEE4	240	1.1136	54542	RBW LAK7	138	1.0513
54558	WESLY C7	138	1.0605	54559	CARMON 9	138	1.0580	54560	PEACE/29	138	1.0584
54561	DIASHOW7	138	1.0581	54586	ENMX30S9	138	1.0514	54589	DOME CU7	138	1.0626
54593	DONNELL9	138	1.0552	54594	TAP7L487	138	1.0591	54595	TRIANGL7	138	1.0523
54596	VALLEYV9	138	1.0730	54600	L.SMOKY7	138	1.0815	54601	STURGEO7	138	1.0812
54606	SIMONET9	138	1.0809	54608	GOOSE R9	138	1.0630	54612	RUTH LA7	138	1.0560
54613	RUTH LK7	138	1.0564	54622	MITS E.7	138	1.0859	54623	AEC MILL	138	1.0849
54624	OTAUWAU7	138	1.0857	54633	LOU CR.7	138	1.0537	54643	WOLF LK9	138	1.0668
54646	MARG LK4	240	1.0708	54647	MARG LK7	138	1.0819	54648	LACOREY9	138	1.0638
54655	WHITFISH	240	1.0827	54675	PAINTRT7	240	1.0931	54680	NEVIS 4	240	1.0833
54681	NEVIS 7	138	1.1186	54685	3HILLS/3	138	1.0701	54691	MICH. C9	138	1.0818
54693	WINT HI9	138	1.0843	54694	BULLPON9	138	1.0848	54707	SHEER 14	240	1.0595
54709	ANDERSO4	240	1.0598	54710	ANDERSON	138	1.0959	54711	SHEER 24	240	1.0589
54715	BAT. RV7	138	1.0858	54721	BAT RV79	240	1.0961	54723	CORDEL 4	240	1.0961
54729	PRIM TAP	138	1.0613	54730	PRIMROSE	138	1.0668	54796	791S701T	138	1.0639
54802	STURGEO9	138	1.0962	54806	946/947N	240	1.0745	54809	732S901T	240	1.0637
54818	VERMILA9	138	1.0756	54822	766S901T	240	1.0710	54823	NEVIS 9	138	1.0944
54828	767S701T	138	1.0551	54831	801S901T	240	1.0505	54835	791S702T	138	1.0642
54836	MILNERB9	138	1.0743	54844	709S702T	138	1.0699	54847	BAT RV80	240	1.0961
54848	791S703T	138	1.0534	54948	802S701T	138	1.0621	54963	CANMORE9	138	1.0506
54978	EAST IN4	240	1.0743	54983	MARION T	138	1.0547	54984	HIGHVL T	138	1.0544

54988	CROSSF T	240	1.0679	54995	W.GRN TP	240	1.1056	55067	FTNELSON	138	1.0666
55072	SYNC_D04	240	1.0583	55073	AURORA 4	240	1.0637	55147	MILNERC9	138	1.0846
55515	PRIMROSE	138	1.0551	55525	163ST2	240	1.0689	55763	BC BORDE	138	1.0630
55891	904AL TP	240	1.0743	55894	SARCEE M	138	1.0605	55900	JUMP TP1	138	1.0517
55912	740L JNC	138	1.0594	55913	G.ROBB T	138	1.0584	55925	JUMP TP2	138	1.0517
55943	MILO 1	240	1.0597	55969	770S701T	138	1.1155	50010	COM132	132	1.0742
50020	CMS230	230	1.0500	50036	RBW230	230	1.0555	50037	PEM230	230	1.0592
50038	RBW230-1	230	1.0540	50182	ARN132	132	1.0816	50185	ALZ230	230	1.0543
50186	ROS230	230	1.0639	50187	BRT230	230	1.0705	50188	BUT230	230	1.0500
50190	CBN230	230	1.0501	50193	BRT360	360	1.0500	50313	VIT132	132	1.0526
50314	PVO133	132	1.0515	50315	PVO132	132	1.0521	50323	DMR132	132	1.0573
50330	LDR132	132	1.0507	50331	GLD132	132	1.0529	50334	KGH132	132	1.0541
50335	UTA132	132	1.0544	50342	SCA132	132	1.0500	50343	KSH132-2	132	1.0507
50346	SHA2	132	1.0510	50347	GOW132	132	1.0519	50348	GTP132	132	1.0555
50349	CLD132	132	1.0572	50350	SOO132	132	1.0578	50351	JOR132	132	1.0615
50352	PML132	132	1.0530	50353	WOS132	132	1.0547	50354	GLSTP17	132	1.0570
50355	GLSTP18	132	1.0556	50356	DND132	132	1.0524	50390	KSHTP11	132	1.0501
50391	KSHTP14	132	1.0511	50394	SHATP14	132	1.0510	50395	SALTP17	132	1.0555
50396	SALTP18	132	1.0557	50447	TKW138	138	1.0544	50463	SKA500	500	1.0639
50464	TKW500	500	1.0698	50540	GMS230	230	1.0548	50541	KDS230	230	1.0559
50545	BLW230	230	1.0674	50546	SCK230	230	1.0615	50547	HMH230	230	1.0599
50548	BLM230	230	1.0587	50549	QNT230	230	1.0579	50550	QRP230	230	1.0670
50551	TLR230	230	1.0585	50553	BCR230	230	1.0585	50554	RBF230	230	1.0682
50556	LAP230	230	1.0569	50557	SNK230	230	1.0589	50558	GMS500	500	1.0500
50560	KDS500	500	1.0634	50561	WSN500	500	1.0516	50562	GLN500	500	1.0692
50653	NIC138	138	1.0563	50655	VVW138	138	1.0546	50656	SVA138	138	1.0555
50657	TMT138	138	1.0518	50658	WBK138	138	1.0522	50659	BDM138	138	1.0545
50660	WGS138	138	1.0618	50661	MON138	138	1.0592	50669	DUG138	138	1.0511
50670	KWD138	138	1.0523	50671	AON138	138	1.0527	50672	BKL138	138	1.0556
50673	HFY138	138	1.0505	50677	MCK138	138	1.0505	50678	AVO138	138	1.0522
50679	BLU138	138	1.0584	50680	VLM138	138	1.0637	50686	SCO138	138	1.0715
50687	ABA138	138	1.0631	50691	NIC230	230	1.0535	50700	MCA500	500	1.0500
50701	REV500	500	1.0500	50702	ACK500	500	1.0512	50703	NIC500	500	1.0528
50726	TMT138TP	138	1.0519	50729	PRI138TP	138	1.0714	50783	SEL230	230	1.0685
50784	NLY230	230	1.0511	50785	SEV230	230	1.0691	50788	KCL230	230	1.0710
50792	SEL500	500	1.0500	50860	CBN500	500	1.0506	50899	ABA138TP	138	1.0631
50900	AON138TP	138	1.0527	50902	BDM138TP	138	1.0545	50922	DNDTAP	132	1.0532
50923	HSY-PH	132	1.0557	50924	ESQ-PH	132	1.0524	50928	SCG IPP	132	1.0701
50929	TOK138	138	1.0507	50933	JUL132	132	1.0503	50934	JULTP130	132	1.0541
51017	KMS230	230	1.1098	51045	ALH230	230	1.0633	60085	BRIDGER	345	1.0500
60240	MIDPOINT	500	1.0717	90100	MTSGFL2	500	1.0800	62012	TOWN2	500	1.0976
62013	TOWN1	500	1.0976	62033	ANA BPA	115	1.0535	62046	BROADVU	500	1.0762
62053	BROADV&2	500	1.0711	62054	BROADV&1	500	1.0719	62057	COLSTRP	500	1.0800
40045	ALLSTON	500	1.0749	40051	ALVEY	500	1.0854	40061	ASHE	500	1.0800
40091	BELL BPA	500	1.0637	40111	BIG EDDY	500	1.0772	43049	BOARD F	500	1.0840
40139	BONNVILE	115	1.0500	47013	BRIDGPRT	115	1.0545	40155	BUCKLEY	500	1.0825
45029	BURNS	500	1.0650	45035	CAPTJACK	500	1.0826	46209	CARMEN	115	1.0625
41311	CELILO1	500	1.0771	41312	CELILO2	500	1.0771	40233	CHIEF JO	500	1.0800
40287	COULEE	500	1.0810	40302	COVINGT4	500	1.0781	40306	COVINGT5	500	1.0787
43115	COYO M1	500	1.0565	43123	COYOTE	500	1.0861	40323	CUSTER W	500	1.0538
45095	DIXONVLE	500	1.0864	40369	DWORSHAK	500	1.0765	40381	ECHOLAKE	500	1.0820
40451	GAR1EAST	500	1.0888	40453	GAR2EAST	500	1.0888	40459	GARRISON	500	1.0754
40485	GREEN PT	115	1.0520	40489	GRIZZLY	500	1.0798	40499	HANFORD	500	1.0839
40521	HATWAI	500	1.0750	45137	HERMIST	230	1.0509	41212	HILLS CR	115	1.0500
40553	HOT SPR	500	1.0708	40585	JOHN DAY	500	1.0850	40601	KEELER	500	1.0864

45262	KFALLS	500	1.0850	40629	LANE	500	1.0791	40665	LIT GOOS	500	1.0800
40679	LOW GRAN	500	1.0800	40683	LOW MON	500	1.0800	40687	MALIN	500	1.0810
40693	MAPLE VL	500	1.0809	40699	MARION	500	1.0855	40711	MCLOUGLN	500	1.0730
40721	MCNARY	345	1.0511	40723	MCNARY	500	1.0810	45197	MERIDINP	500	1.0843
40749	MONROE	500	1.0841	40797	OLYMPIA	500	1.0794	40809	OSTRNDER	500	1.0756
40821	PAUL	500	1.0800	40827	PEARL	500	1.0835	40837	PONDROSA	500	1.0843
40869	RAVER	500	1.0825	43485	ROUND BU	500	1.0764	40913	SACJAWEA	500	1.0762
40917	SACJWA T	500	1.0775	40941	SANTIAM	500	1.0848	40949	SATSOP	500	1.0803
40957	SCHULTZ	500	1.0862	40973	SICKLER	500	1.0803	40989	SLATT	500	1.0828
41043	SUMMER L	500	1.0826	45289	SWIFT	230	1.0500	41051	TACOMA	500	1.0822
41057	TAFT	500	1.0772	41095	TROUTDAL	500	1.0673	41113	VANTAGE	500	1.0781
47099	WELLS	115	1.0634	66465	SWAN VAL	161	1.0555	52226	PRI138	138	1.0715
52229	KER138	138	1.0750	52230	HED138	138	1.0740	52391	30L-LK-W	161	1.0507
52392	30L-LK-E	161	1.0514	52400	CRA161	161	1.0517	52407	COF161	161	1.0506
52409	KIM161	161	1.0564	52426	MAS138	138	1.0740	52814	KIM-T3	161	1.0564
52815	PRI-T2	138	1.0723								

undervoltage summary < 0.900000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)

undervoltage summary < 0.950000

--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)	--no.--	--name--	-kv-	(v pu)
50781	NTL VR	138	0.9326	48069	CHESTER	115	0.9454	48165	IRVIN	115	0.9496
48299	OPPORTUN	115	0.9476	48306	OTIS	230	0.9391	70249	LAJUNTAW	115	0.9285
64072	MEYERS	120	0.9486	64092	RND HILL	120	0.9468	64102	STATELIN	120	0.9459
64203	TWN CRTP	120	0.9456								

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

	generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	net inter	losses	slack bus
area name	ALBERTA									
mw	10743.6	6859.5	7899.2	0.0	0.0	0.0	0.0	-1399.1	359.4	58.3
54 mvar	4916.5	906.0	2641.0	0.0	0.0	-22.8	-1273.8	354.7	-452.4	4.4
area name	B.C.HYDRO									
mw	14693.0	10255.0	6889.1	0.0	0.0	0.0	0.0	2850.2	515.7	201.4
50 mvar	6719.0	1004.1	2565.8	0.0	0.0	2955.1	2263.0	-420.8	-6358.9	7.3
area name	IDAHO									
mw	4676.4	4105.2	2984.0	0.0	0.0	0.0	0.0	920.1	201.1	137.9
60 mvar	2192.5	176.8	711.6	0.0	0.0	-594.8	0.0	-623.7	683.6	-9.6
area name	MONTANA									
mw	4501.2	3918.6	1422.9	0.0	0.0	0.4	0.0	2368.0	127.4	707.6
62 mvar	1909.0	282.3	610.2	0.0	0.0	-125.7	427.5	-450.5	-519.7	143.3
area name	NORTHWEST									
mw	43502.3	27243.2	22671.3	0.0	0.0	0.0	0.0	3513.7	1058.2	576.1
40 mvar	15475.0	2806.6	6850.3	0.0	0.0	-1862.5	-3788.1	1010.2	596.6	13.9
area name	PACE									
mw	6212.0	5546.9	6293.7	0.0	0.0	0.0	0.0	-980.8	234.0	125.9
65 mvar	3201.9	329.9	1960.1	0.0	0.0	-1779.9	0.0	176.3	-26.6	13.9
area name	PSCOLORADO									
mw	5806.0	5191.5	6332.7	0.0	0.0	0.0	0.0	-1333.0	191.8	112.5
70 mvar	3667.3	1773.1	2372.6	0.0	0.0	0.0	-1672.1	280.4	792.2	33.3
area name	SIERRA									
mw	1901.7	1375.4	1719.1	0.0	0.0	0.0	0.0	-399.5	55.8	109.4
64 mvar	925.4	121.2	458.7	0.0	0.0	-188.2	69.2	56.3	-274.8	23.9
area name	W KOOTENAY									
mw	763.5	596.5	722.4	0.0	0.0	0.0	0.0	-150.4	24.5	104.6
52 mvar	450.0	69.9	210.2	0.0	0.0	-78.0	-130.8	-37.2	105.6	19.8
area name	WAPA R.M.									
mw	6091.6	5378.5	3608.3	0.0	0.0	0.0	0.0	1612.7	157.5	496.1
73 mvar	2883.8	205.8	1237.0	0.0	0.0	-296.4	-271.4	-407.7	-55.6	55.1

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

		generation capacity	generation on-line	--- load categories ---- power	current	imped.	shunt	-- svd --	inter	net losses	slack bus
area name		WAPA U.M.									
	mw	61.8	54.2	-102.1	0.0	0.0	0.0	0.0	147.3	9.1	54.2
63	mvar	34.0	4.8	123.6	0.0	0.0	-79.0	-12.6	-4.1	-23.2	4.8
TOTL	mw	98953.1	70524.6	60440.6	0.0	0.0	0.4	0.0	7149.2	2934.5	
	mvar	42374.4	7680.5	19741.2	0.0	0.0	-2072.1	-4389.1	-66.2	-5533.3	

Area Interchange Summary

		mw	mvar
FROM AREA	54 ALBERTA		
TO AREA	50 B.C.HYDRO	-821.1	127.1
TO AREA	62 MONTANA	-578.0	227.6
TOTAL		-1399.1	354.7
FROM AREA	50 B.C.HYDRO	mw	mvar
TO AREA	54 ALBERTA	821.1	-127.1
TO AREA	40 NORTHWEST	1878.7	-330.9
TO AREA	52 W KOOTENAY	150.4	37.2
TOTAL		2850.2	-420.8
FROM AREA	60 IDAHO	mw	mvar
TO AREA	62 MONTANA	-753.7	-96.1
TO AREA	40 NORTHWEST	369.0	-340.3
TO AREA	65 PACE	1175.7	-137.0
TO AREA	64 SIERRA	129.2	-50.3
TOTAL		920.1	-623.7
FROM AREA	62 MONTANA	mw	mvar
TO AREA	54 ALBERTA	578.0	-227.6
TO AREA	60 IDAHO	753.7	96.1
TO AREA	40 NORTHWEST	933.1	-260.7
TO AREA	65 PACE	174.1	-55.1
TO AREA	63 WAPA U.M.	-70.9	-3.2
TOTAL		2368.0	-450.5
FROM AREA	40 NORTHWEST	mw	mvar
TO AREA	50 B.C.HYDRO	-1878.7	330.9
TO AREA	60 IDAHO	-369.0	340.3
TO AREA	26 LADWP	2806.6	611.2
TO AREA	62 MONTANA	-933.1	260.7
TO AREA	30 PG AND E	3701.4	-485.0
TO AREA	64 SIERRA	186.5	-48.0
TOTAL		3513.7	1010.2
FROM AREA	65 PACE	mw	mvar
TO AREA	14 ARIZONA	59.5	80.7
TO AREA	60 IDAHO	-1175.7	137.0
TO AREA	26 LADWP	-27.5	-127.6
TO AREA	62 MONTANA	-174.1	55.1
TO AREA	18 NEVADA	253.1	-57.3
TO AREA	64 SIERRA	32.7	14.0
TO AREA	19 WAPA L.C.	90.3	18.2
TO AREA	73 WAPA R.M.	-39.0	56.2
TOTAL		-980.8	176.3
FROM AREA	70 PSCOLORADO	mw	mvar
TO AREA	73 WAPA R.M.	-1333.0	280.4
TOTAL		-1333.0	280.4
FROM AREA	64 SIERRA	mw	mvar
TO AREA	60 IDAHO	-129.2	50.3
TO AREA	26 LADWP	-51.6	2.2

TO AREA	40 NORTHWEST	-186.5	48.0
TO AREA	65 PACE	-32.7	-14.0
TO AREA	30 PG AND E	-13.0	-27.2
TO AREA	24 SOCALIF	13.4	-3.1
TOTAL		-399.5	56.3
FROM AREA	52 W KOOTENAY	mw	mvar
TO AREA	50 B.C.HYDRO	-150.4	-37.2
TOTAL		-150.4	-37.2
FROM AREA	73 WAPA R.M.	mw	mvar
TO AREA	10 NEW MEXICO	216.1	-42.9
TO AREA	65 PACE	39.0	-56.2
TO AREA	70 PSCOLORADO	1333.0	-280.4
TO AREA	19 WAPA L.C.	100.9	-35.4
TO AREA	63 WAPA U.M.	-76.4	7.3
TOTAL		1612.7	-407.7
FROM AREA	63 WAPA U.M.	mw	mvar
TO AREA	62 MONTANA	70.9	3.2
TO AREA	73 WAPA R.M.	76.4	-7.3
TOTAL		147.3	-4.1

AREA TIE LINE SUMMARY

GENERAL ELECTRIC INTERNATIONAL, INC. - PSLF - V11.1
MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

```
  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    54150 LANGDON2  500        50791 CBK500    500  1            -739.38    112.73   f
    54205 COLEMAN7  138        50776 NTL138    138  1             -23.22     -7.96   t
    54273 POCATER7  138        50830 FRO T274  138  1             -58.55     22.31   t
 from area  54 to area  50 B.C.HYDRO                              -821.15    127.08

    90500 MTSLETHB  500        90400 MTSGFALL  500  1            -577.99    227.59   t
 from area  54 to area  62 MONTANA                                -577.99    227.59

 Total from area  54 ALBERTA                                     -1399.13    354.67

  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    90400 MTSGFALL  500        90500 MTSLETHB  500  1             577.99   -227.59   f
 from area  62 to area  54 ALBERTA                                577.99   -227.59

    90600 MTSDILL   500        90700 MTSKINP   500  1             753.75     96.11   t
 from area  62 to area  60 IDAHO                                  753.75     96.11

    62004 ANACOND   230        40457 GARRISON  230  1            -142.32      9.87   f
    62004 ANACOND   230        40457 GARRISON  230  2            -154.59      3.97   f
    62009 RATTLE S  161        40867 RATTLE S  230  1            -106.42    -29.63   t
    62012 TOWN2     500        40453 GAR2EAST  500  2             613.14   -118.01   t
    62013 TOWN1     500        40451 GAR1EAST  500  1             613.14   -118.01   t
    62066 KERR      115        40391 ELMO      115  1               7.37    -15.80   f
    62072 OVANDO    230        40457 GARRISON  230  1               4.27     15.61   t
    62072 OVANDO    230        40551 HOT SPR   230  1              41.97     16.19   t
    62085 CROWCR B  115        48055 BURKAVAB  115  1              25.16    -12.02   t
    62086 THOMSON   115        48053 BURKAVAA  115  1              31.36    -12.91   t
 from area  62 to area  40 NORTHWEST                              933.08   -260.74

    62030 PTRSNFLT  230        65025 AMPS      230  1             158.97    -26.52   t
    62045 BLGS PHA  230        66750 YELOWTLP  230  1             -40.84      0.72   t
    62061 RMRK PHA  161        66755 YELOWTLP  161  1             -21.89     -3.89   f
    62084 DILLON S  161        65155 BIGGRASS  161  1              77.84    -25.43   t
 from area  62 to area  65 PACE                                   174.07    -55.12

    62023 GT FALLS  161        63008 HAVRE     161  1              14.16    -12.69   f
    62024 RAINBOW   161        63015 VERONA    161  1              13.03    -12.43   f
    62027 SHELBY    115        63014 TIBERTAP  115  1               1.12     -2.10   f
    62051 HARDIN    230        63002 CRSOVRUM  230  1              94.27      9.32   t
    62056 HUNTLEY   230        63002 CRSOVRUM  230  1            -193.46     14.70   t
 from area  62 to area  63 WAPA U.M.                              -70.88     -3.19

 Total from area  62 MONTANA                                     2368.01   -450.54

  ---------from--------      --------- to --------
  --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

    40145 BOUNDARY  230        50822 NLYPHS    230  1            -188.16    -27.79   f
    40323 CUSTER W  500        50194 ING500    500  1            -852.34    180.38   t
    40323 CUSTER W  500        50194 ING500    500  2            -838.17    178.32   t
 from area  40 to area  50 B.C.HYDRO                             -1878.67    330.91

    45029 BURNS     500        60240 MIDPOINT  500  1            -530.21    388.64   t
    45103 ENTERPRS  230        60150 HELLSCYN  230  1             -23.05    -24.34   f
    40507 HARNEY    115        61826 HINES     115  1             -15.62     16.86   f
    40621 LAGRANDE  230        60192 LADD      230  1              40.63    -23.92   f
    48197 LOLO      230        60278 IMNAHA    230  1             159.22    -16.94   t
 from area  40 to area  60 IDAHO                                  -369.03    340.30

    41311 CELILO1   500        26097 SYLMAR1   230  1             529.42     59.20   f
    41313 CELILO3   230        26098 SYLMAR3   230  1             873.88    246.26   f
    41312 CELILO2   500        26099 SYLMAR2   230  1             529.42     59.13   f
    41314 CELILO4   230        26100 SYLMAR4   230  1             873.88    246.66   f
 from area  40 to area  26 LADWP                                  2806.60    611.25

    48053 BURKAVAA  115        62086 THOMSON   115  1             -31.36     12.91   f
    48055 BURKAVAB  115        62085 CROWCR B  115  1             -25.16     12.02   f
    40391 ELMO      115        62066 KERR      115  1              -7.37     15.80   t
    40451 GAR1EAST  500        62013 TOWN1     500  1            -613.14    118.01   f
    40453 GAR2EAST  500        62012 TOWN2     500  2            -613.14    118.01   f
    40457 GARRISON  230        62072 OVANDO    230  1              -4.27    -15.61   f
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   40457 GARRISON  230        62004 ANACOND   230  1            142.32     -9.87   t
   40457 GARRISON  230        62004 ANACOND   230  2            154.59     -3.97   t
   40551 HOT SPR   230        62072 OVANDO    230  1            -41.97    -16.19   f
   40867 RATTLE S  230        62009 RATTLE S  161  1            106.42     29.63   f
from area  40 to area  62 MONTANA                              -933.08    260.74

   45035 CAPTJACK  500        30020 OLINDA    500  1           1308.36   -221.29   f
   45087 DELTA     115        31468 CASCADE   115  1             68.97    -17.40   f
   40687 MALIN     500        30005 ROUND MT  500  1           1156.95   -114.33   f
   40687 MALIN     500        30005 ROUND MT  500  2           1167.16   -131.96   f
from area  40 to area  30 PG AND E                             3701.44   -484.98

   40537 HIL TOP   230        64058 HIL TOP   345  1            186.46    -48.02   f
from area  40 to area  64 SIERRA                                186.46    -48.02

Total from area  40 NORTHWEST                                  3513.72   1010.21

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   66235 PINTO PS  345        14101 FOURCORN  345  1             59.48     80.67   t
from area  65 to area  14 ARIZONA                                59.48     80.67

   90800 MTSBENL   500        90700 MTSKINP   500  1           -577.49    143.86   t
   65075 ANTLOPE   230        60073 BRADY     230  1             70.81    -15.50   f
   65135 BENLOMND  345        60060 BORAH     345  1           -149.79     46.42   t
   65220 BRIDGER   230        60085 BRIDGER   345  1            -35.43     -3.00   t
   65220 BRIDGER   230        60085 BRIDGER   345  2            -36.01     -3.03   t
   65220 BRIDGER   230        60085 BRIDGER   345  3            -35.43     -3.00   t
   65665 GOSHEN    345        60085 BRIDGER   345  1           -595.40    -39.94   f
   65665 GOSHEN    345        60190 KINPORT   345  1            215.10    -14.99   t
   65670 GOSHEN    161        60030 BLACKFT   161  1            100.60      9.04   f
   65920 MALAD     138        60020 AMFLS     138  1            -44.17      1.61   t
   66565 TREASTON  230        60073 BRADY     230  1            -88.45     15.48   t
from area  65 to area  60 IDAHO                               -1175.68    136.97

   65995 MONA      345        26043 INTERMT   345  1            -13.76    -63.81   f
   65995 MONA      345        26043 INTERMT   345  2            -13.76    -63.81   f
from area  65 to area  26 LADWP                                 -27.52   -127.63

   65025 AMPS      230        62030 PTRSNFLT  230  1           -158.97     26.52   f
   65155 BIGGRASS  161        62084 DILLON S  161  1            -77.84     25.43   f
   66750 YELOWTLP  230        62045 BLGS PHA  230  1             40.84     -0.72   f
   66755 YELOWTLP  161        62061 RMRK PHA  161  1             21.89      3.89   t
from area  65 to area  62 MONTANA                              -174.07     55.12

   66280 REDBUTTE  345        18002 HA PS     345  1            253.07    -57.32   f
from area  65 to area  18 NEVADA                                253.07    -57.32

   66210 PAVANT    230        64124 UTAH-NEV  230  1             32.71     14.04   t
from area  65 to area  64 SIERRA                                 32.71     14.04

   66355 SIGURDPS  230        79031 GLENCANY  230  1             90.26     18.19   t
from area  65 to area  19 WAPA L.C.                              90.26     18.19

   65060 ANT MINE  230        73276 TEKLA     230  1             39.04     17.27   f
   65085 ASHLEY    138        79067 VERNAL    138  1            -73.19      5.26   t
   65192 BONANZA   138        79067 VERNAL    138  1             51.56      4.41   t
   65193 BONANZA   345        79005 BEARS     345  1           -295.78      0.95   f
   65305 CASPERPP  115        73167 REFNRYTP  115  1            -37.37     -4.08   f
   65305 CASPERPP  115        73042 CASPERLM  115  1             -6.94     -5.90   t
   65420 DAVEJOHN  230        73107 LAR.RIVR  230  1             80.05    -19.18   f
   65420 DAVEJOHN  230        73190 STEGALL   230  1             93.26    -14.98   f
   65425 DAVEJOHN  115        73070 GLENRCKN  115  1             73.97      2.56   f
   65425 DAVEJOHN  115        73071 GLENRCKS  115  1             85.81      6.49   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  1            -47.81      7.93   f
   65565 FLAMGORG  230        79026 FLAMGORG  138  2            -47.81      7.93   f
   66278 RANGELY   138        79001 ARTESIA   138  1             -7.44     -5.59   f
   66278 RANGELY   138        79046 MEEKER    138  1              0.37     -2.08   f
   66305 RIVERTON  230        73170 RIVERTON  115  1              8.72      6.93   f
   66535 THERMOPL  230        73197 THERMOPL  115  1              4.68      6.30   t
   66540 THERPACE  115        73197 THERMOPL  115  1             11.28      9.01   t
   66720 WORLAND   115        73222 WORLANTP  115  1             -8.65      6.84   t
   66725 WYODAK    230        73148 OSAGE     230  1            116.84    -16.33   t
   66725 WYODAK    230        73168 RENO      230  1             81.99      6.81   f
   66725 WYODAK    230        73294 HUGHES    230  1            113.51     -2.13   f
   66725 WYODAK    230        73282 WYODAK     69  1            -10.77     15.20   f
   66725 WYODAK    230        73282 WYODAK     69  2             -7.29     10.28   f
   66725 WYODAK    230        74016 WYGEN      14  1              0.00      0.00   f
   66750 YELOWTLP  230        73229 YELLOWBR  230  1           -257.04     12.33   t
from area  65 to area  73 WAPA R.M.                              -39.02     56.23
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Total from area  65 PACE                                          -980.77    176.28

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   70005 BRUSHCPP  115        73013 B.CK PS   115  1             118.30     22.80   f
   70005 BRUSHCPP  115        73013 B.CK PS   115  2             124.82     29.79   f
   70116 COBBLAKE  115        73044 COBBLKTP  115  1             -15.33     -1.45   f
   70122 COMANCHE  230        73477 FULLER    230  1              95.15     31.43   t
   70139 DANIELPK  230        73477 FULLER    230  1            -113.58    -18.38   t
   70193 FTN VALL  115        73412 MIDWAYBR  115  1               4.36     -0.13   t
   70205 GRANDJCT  230        79036 GRANDJCT  345  1             -43.25    -22.00   f
   70256 LAPORTPS  115        73105 LAPORTE   115  1             -14.73     -6.25   t
   70274 MALTA     230        73138 MT.ELBRT  230  1            -145.52     -8.43   f
   70285 MIDWAYPS  115        73412 MIDWAYBR  115  1              18.24    -22.64   f
   70286 MIDWAYPS  230        73413 MIDWAYBR  230  1             133.62     79.63   t
   70287 MILL      115        73296 FRASER    115  1             -42.47      9.80   f
   70308 PALMER    115        73414 MONUMENT  115  1             -47.02     17.67   t
   70311 PAWNEE    230        73192 STORY     230  1            -224.86    -31.46   t
   70327 PONCHA    115        79037 GUNNISON  115  1             -22.58     10.13   f
   70350 RAWHIDE    24        73165 RAWHIDE   230  1             262.16     80.58   t
   70358 RIFLE PS  230        79059 RIFLE WA  230  1             -93.63     14.03   f
   70358 RIFLE PS  230        79250 AMATLAS   230  1             -75.90     -5.41   f
   70375 SAN LUIS  230        79054 PONCHABR  230  1             -80.16      6.80   t
   70410 ST.VRAIN  230        73116 LONGPEAK  230  1             -52.02     65.96   f
   70470 WELD  PS  115        73211 WELD  LM  115  1             -20.20     61.34   f
   70471 WELD  PS  230        73212 WELD  LM  230  1            -369.73      0.51   f
   70474 WINDSOR   230        73011 AULT      230  1            -307.57      0.78   t
   70476 WOODLAND  115        73400 EMIL AND  115  1              15.08      2.31   f
   70525 MTHARRIS  138        79038 HAYDEN    138  1              -7.21     -1.37   t
   79033 GOREPASS  230        79039 HAYDEN    230  1            -256.42    -23.96   t
   79033 GOREPASS  230        73072 GOREPASS  138  1               2.42      3.50   f
   79034 GRANDJCT  115        79048 MONTROSE  115  1              25.63     -5.30   t
   79056 RIFLE CU  138        79046 MEEKER    138  1             -25.64     -1.43   f
   79057 RIFLE CU  230        79059 RIFLE WA  230  1              12.91    -27.52   t
   79058 RIFLE CU  345        79014 CRAIG     345  1            -360.30     -5.18   f
   79058 RIFLE CU  345        79036 GRANDJCT  345  1             331.30      4.59   f
   79091 WOLCOTTP  230        79039 HAYDEN    230  1            -186.66     -0.91   f
   79173 COLBRAN   115        79174 MOLINA-L  115  1              -0.00     -0.53   f
   70351 RAWHIDEA   14        73165 RAWHIDE   230  1              50.81     40.08   t
   70550 W CANON   115        73551 W CANON   230  1             -23.03    -18.94   t
from area  70 to area  73 WAPA R.M.                              -1333.01    280.40

Total from area  70 PSCOLORADO                                   -1333.01    280.40

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   79060 SANJN PS  345        10292 SAN_JUAN  345  1             216.11    -42.94   t
from area  73 to area  10 NEW MEXICO                              216.11    -42.94

   73042 CASPERLM  115        65305 CASPERPP  115  1               6.94      5.90   f
   73070 GLENRCKN  115        65425 DAVEJOHN  115  1             -73.97     -2.56   t
   73071 GLENRCKS  115        65425 DAVEJOHN  115  1             -85.81     -6.49   t
   73107 LAR.RIVR  230        65420 DAVEJOHN  230  1             -80.05     19.18   t
   73148 OSAGE     230        66725 WYODAK    230  1            -116.84     16.33   f
   73167 REFNRYTP  115        65305 CASPERPP  115  1              37.37      4.08   t
   73168 RENO      230        66725 WYODAK    230  1             -81.99     -6.81   t
   73170 RIVERTON  115        66305 RIVERTON  230  1              -8.72     -6.93   t
   73190 STEGALL   230        65420 DAVEJOHN  230  1             -93.26     14.98   t
   73197 THERMOPL  115        66540 THERPACE  115  1             -11.28     -9.01   f
   73197 THERMOPL  115        66535 THERMOPL  230  1              -4.68     -6.30   f
   73222 WORLANTP  115        66720 WORLAND   115  1               8.65     -6.84   f
   73229 YELLOWBR  230        66750 YELOWTLP  230  1             257.04    -12.33   f
   73276 TEKLA     230        65060 ANT MINE  230  1             -39.04    -17.27   t
   73282 WYODAK     69        66725 WYODAK    230  1              10.77    -15.20   t
   73282 WYODAK     69        66725 WYODAK    230  2               7.29    -10.28   t
   73294 HUGHES    230        66725 WYODAK    230  1            -113.51      2.13   t
   79001 ARTESIA   138        66278 RANGELY   138  1               7.44      5.59   t
   79005 BEARS     345        65193 BONANZA   345  1             295.78     -0.95   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  1              47.81     -7.93   t
   79026 FLAMGORG  138        65565 FLAMGORG  230  2              47.81     -7.93   t
   79046 MEEKER    138        66278 RANGELY   138  1              -0.37      2.08   t
   79067 VERNAL    138        65085 ASHLEY    138  1              73.19     -5.26   f
   79067 VERNAL    138        65192 BONANZA   138  1             -51.56     -4.41   f
   74016 WYGEN      14        66725 WYODAK    230  1               0.00      0.00   t
from area  73 to area  65 PACE                                     39.02    -56.23

   73011 AULT      230        70474 WINDSOR   230  1             307.57     -0.78   f
   73013 B.CK PS   115        70005 BRUSHCPP  115  1            -118.30    -22.80   t
   73013 B.CK PS   115        70005 BRUSHCPP  115  2            -124.82    -29.79   t
   73044 COBBLKTP  115        70116 COBBLAKE  115  1              15.33      1.45   t
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   73072 GOREPASS  138        79033 GOREPASS  230  1              -2.42     -3.50   t
   73105 LAPORTE   115        70256 LAPORTPS  115  1              14.73      6.25   f
   73116 LONGPEAK  230        70410 ST.VRAIN  230  1              52.02    -65.96   t
   73138 MT.ELBRT  230        70274 MALTA     230  1             145.52      8.43   t
   73165 RAWHIDE   230        70350 RAWHIDE    24  1            -262.16    -80.58   f
   73165 RAWHIDE   230        70351 RAWHIDEA   14  1             -50.81    -40.08   f
   73192 STORY     230        70311 PAWNEE    230  1             224.86     31.46   f
   73211 WELD  LM  115        70470 WELD  PS  115  1              20.20    -61.34   t
   73212 WELD  LM  230        70471 WELD  PS  230  1             369.73     -0.51   t
   73296 FRASER    115        70287 MILL      115  1              42.47     -9.80   t
   73400 EMIL AND  115        70476 WOODLAND  115  1             -15.08     -2.31   t
   73412 MIDWAYBR  115        70193 FTN VALL  115  1              -4.36      0.13   f
   73412 MIDWAYBR  115        70285 MIDWAYPS  115  1             -18.24     22.64   t
   73413 MIDWAYBR  230        70286 MIDWAYPS  230  1            -133.62    -79.63   f
   73414 MONUMENT  115        70308 PALMER    115  1              47.02    -17.67   f
   73477 FULLER    230        70122 COMANCHE  230  1             -95.15    -31.43   f
   73477 FULLER    230        70139 DANIELPK  230  1             113.58     18.38   f
   79014 CRAIG     345        79058 RIFLE CU  345  1             360.30      5.18   t
   79036 GRANDJCT  345        79058 RIFLE CU  345  1            -331.30     -4.59   t
   79036 GRANDJCT  345        70205 GRANDJCT  230  1              43.25     22.00   t
   79037 GUNNISON  115        70327 PONCHA    115  1              22.58    -10.13   t
   79038 HAYDEN    138        70525 MTHARRIS  138  1               7.21      1.37   f
   79039 HAYDEN    230        79033 GOREPASS  230  1             256.42     23.96   f
   79039 HAYDEN    230        79091 WOLCOTTP  230  1             186.66      0.91   t
   79046 MEEKER    138        79056 RIFLE CU  138  1              25.64      1.43   t
   79048 MONTROSE  115        79034 GRANDJCT  115  1             -25.63      5.30   f
   79054 PONCHABR  230        70375 SAN LUIS  230  1              80.16     -6.80   f
   79059 RIFLE WA  230        70358 RIFLE PS  230  1              93.63    -14.03   t
   79059 RIFLE WA  230        79057 RIFLE CU  230  1             -12.91     27.52   f
   79174 MOLINA-L  115        79173 COLBRAN   115  1               0.00      0.53   t
   79250 AMATLAS   230        70358 RIFLE PS  230  1              75.90      5.41   t
   73551 W CANON   230        70550 W CANON   115  1              23.03     18.94   f
from area  73 to area  70 PSCOLORADO                            1333.01   -280.40

   79061 SHIP PS   230        79063 SHIPROCK  230  1              98.68    -20.25   t
   79260 ELPASOTP  115        79105 GLADETAP  115  1               2.25    -15.17   t
from area  73 to area  19 WAPA L.C.                              100.94    -35.42

   73229 YELLOWBR  230        63001 CROS PHA  230  1             -76.38      7.30   f
from area  73 to area  63 WAPA U.M.                              -76.38      7.30

Total from area  73 WAPA R.M.                                   1612.68   -407.70

 ---------from--------      --------- to --------
 --no.-- --name-- -kv-      --no.-- --name-- -kv- ck          ---mw---- ---mvar-- meter

   63002 CRSOVRUM  230        62051 HARDIN    230  1             -94.27     -9.32   f
   63002 CRSOVRUM  230        62056 HUNTLEY   230  1             193.46    -14.70   f
   63008 HAVRE     161        62023 GT FALLS  161  1             -14.16     12.69   t
   63014 TIBERTAP  115        62027 SHELBY    115  1              -1.12      2.10   t
   63015 VERONA    161        62024 RAINBOW   161  1             -13.03     12.43   t
from area  63 to area  62 MONTANA                                 70.88      3.19

   63001 CROS PHA  230        73229 YELLOWBR  230  1              76.38     -7.30   t
from area  63 to area  73 WAPA R.M.                               76.38     -7.30

Total from area  63 WAPA U.M.                                    147.27     -4.11
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MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Summation of selected system

	-----MW----	----MVAR---		
Generation	70524.602	7680.525	Generators	2565
Actual Load	60440.602	19741.215	Loads	6822
Net actual shunt	0.375	-2072.080	Shunts	1297
Net actual svd	0.000	-4389.094	Svd	588
Loss	2934.473	-5533.294	Buses	13198
			Lines	10967
			Transformers	5151
MVA-miles	5947442.0	994825.1	DC buses	6
Miles	46985.316		DC converters	10
			DC lines	3

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 54 [ALBERTA]

	-----MW----	----MVAR---		
Generation	6859.468	905.991	Generators	142
Actual Load	7899.199	2641.000	Loads	512
Net actual shunt	0.000	-22.766	Shunts	9
Net actual svd	0.000	-1273.799	Svd	78
Net Interchange	-1399.135	354.675	Buses	992
Sched Interchange	-1400.000		Lines	781
Loss	359.401	-452.436	Transformers	407
MVA-miles	1037805.8	264691.9	DC buses	0
Miles	18637.697		DC converters	0
			DC lines	0
Loss at 13.20 Kv	1.542	21.020		
Loss at 13.80 Kv	2.868	71.834		
Loss at 14.40 Kv	0.019	2.253		
Loss at 25.00 Kv	1.856	27.210		
Loss at 34.00 Kv	0.035	0.581		
Loss at 69.00 Kv	17.304	-9.635		
Loss at 138.00 Kv	171.292	-194.491		
Loss at 240.00 Kv	142.126	-646.820		
Loss at 500.00 Kv	7.932	-360.600		
Loss at other Kv	14.427	636.212		
Largest mismatch MVA	0.0444	0.0814		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 50 [B.C.HYDRO]

	-----MW----	----MVAR---		
Generation	10255.028	1004.144	Generators	112
Actual Load	6889.125	2565.790	Loads	395
Net actual shunt	0.000	2955.075	Shunts	104
Net actual svd	0.000	2263.037	Svd	125
Net Interchange	2850.172	-420.821	Buses	1054
Sched Interchange	2849.900		Lines	718
Loss	515.729	-6358.938	Transformers	645
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.308	7.949		
Loss at 13.80 Kv	9.828	483.853		
Loss at 34.00 Kv	0.000	0.002		
Loss at 46.00 Kv	0.302	0.084		
Loss at 132.00 Kv	36.911	105.253		
Loss at 138.00 Kv	17.734	-114.502		
Loss at 230.00 Kv	55.739	-607.902		
Loss at 500.00 Kv	337.256	-6901.547		
Loss at other Kv	57.652	667.871		
Largest mismatch MVA	0.0339	0.0323		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 60 [IDAHO]

-----MW---- ----MVAR---

Generation	4105.208	176.759	Generators	62
Actual Load	2984.000	711.600	Loads	64
Net actual shunt	0.000	-594.769	Shunts	15
Net actual svd	0.000	0.000	Svd	0
Net Interchange	920.123	-623.700	Buses	157
Sched Interchange	920.000		Lines	122
Loss	201.085	683.627	Transformers	97
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.20 Kv	0.264	5.678		
Loss at 13.80 Kv	3.394	116.447		
Loss at 14.40 Kv	0.878	34.173		
Loss at 34.50 Kv	0.000	0.000		
Loss at 100.00 Kv	0.751	44.250		
Loss at 115.00 Kv	0.448	0.441		
Loss at 138.00 Kv	20.832	0.699		
Loss at 161.00 Kv	1.756	2.544		
Loss at 230.00 Kv	57.126	-110.598		
Loss at 345.00 Kv	110.397	420.876		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	5.239	169.115		
Largest mismatch MVA	0.0056	0.0087		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 62 [MONTANA]

	-----MW----	----MVAR---		
Generation	3918.642	282.336	Generators	23
Actual Load	1422.895	610.184	Loads	200
Net actual shunt	0.375	-125.718	Shunts	56
Net actual svd	0.000	427.466	Svd	12
Net Interchange	2368.006	-450.540	Buses	314
Sched Interchange	2368.000		Lines	321
Loss	127.366	-519.736	Transformers	91
MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	-0.000	36.525		
Loss at 69.00 Kv	0.479	2.501		
Loss at 100.00 Kv	15.611	-45.082		
Loss at 115.00 Kv	1.869	-19.520		
Loss at 161.00 Kv	18.190	-63.906		
Loss at 230.00 Kv	16.584	-156.231		
Loss at 500.00 Kv	72.633	-529.888		
Loss at other Kv	2.001	255.865		
Largest mismatch MVA	0.0072	0.0235		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 40 [NORTHWEST]

	-----MW----	----MVAR---		
Generation	27243.156	2806.558	Generators	383
Actual Load	22671.295	6850.328	Loads	1652
Net actual shunt	0.000	-1862.489	Shunts	43
Net actual svd	0.000	-3788.052	Svd	159
Net Interchange	3513.723	1010.206	Buses	2740
Sched Interchange	3514.000		Lines	2710
Loss	1058.170	596.555	Transformers	654
MVA-miles	4312565.0	595164.9	DC buses	4
Miles	18469.418		DC converters	4
			DC lines	2
Loss at 11.00 Kv	-0.000	0.606		
Loss at 13.20 Kv	0.000	4.824		
Loss at 13.80 Kv	4.812	207.622		
Loss at 14.40 Kv	0.286	13.129		
Loss at 25.00 Kv	3.270	172.551		
Loss at 34.50 Kv	0.353	6.430		
Loss at 69.00 Kv	14.487	42.363		
Loss at 100.00 Kv	0.121	-0.248		
Loss at 115.00 Kv	209.466	462.509		
Loss at 230.00 Kv	305.593	1331.017		
Loss at 345.00 Kv	16.767	-165.052		

Loss at 500.00 Kv	378.849	-2784.219
Loss at other Kv	124.165	1305.023
Largest mismatch MVA	0.0367	0.0508

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 65 [PACE]

	-----MW----	----MVAR---		
Generation	5546.941	329.937	Generators	52
Actual Load	6293.716	1960.150	Loads	274
Net actual shunt	0.000	-1779.917	Shunts	74
Net actual svd	0.000	0.000	Svd	2
Net Interchange	-980.774	176.284	Buses	566
Sched Interchange	-981.200		Lines	407
Loss	234.004	-26.580	Transformers	338
MVA-miles	5.0	1.6	DC buses	0
Miles	1.900		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.971	32.808		
Loss at 34.50 Kv	1.004	7.504		
Loss at 46.00 Kv	6.324	136.919		
Loss at 69.00 Kv	1.678	22.830		
Loss at 100.00 Kv	0.056	1.047		
Loss at 115.00 Kv	2.988	-9.573		
Loss at 138.00 Kv	61.697	159.976		
Loss at 161.00 Kv	10.622	-15.442		
Loss at 230.00 Kv	63.511	-94.222		
Loss at 345.00 Kv	76.194	-118.453		
Loss at 500.00 Kv	4.907	-248.169		
Loss at other Kv	4.051	98.196		
Largest mismatch MVA	0.0102	0.0413		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 70 [PSCOLORADO]

	-----MW----	----MVAR---		
Generation	5191.508	1773.130	Generators	66
Actual Load	6332.696	2372.604	Loads	362
Net actual shunt	0.000	0.000	Shunts	0
Net actual svd	0.000	-1672.112	Svd	43
Net Interchange	-1333.005	280.404	Buses	501
Sched Interchange	-1332.800		Lines	461
Loss	191.821	792.222	Transformers	147
MVA-miles	31157.2	6502.0	DC buses	0
Miles	564.500		DC converters	0
			DC lines	0
Loss at 13.80 Kv	4.008	136.263		
Loss at 14.40 Kv	0.080	0.798		
Loss at 25.00 Kv	0.010	0.140		
Loss at 46.00 Kv	0.196	0.009		
Loss at 69.00 Kv	7.186	1.820		
Loss at 100.00 Kv	0.032	-0.505		
Loss at 115.00 Kv	33.383	-36.721		
Loss at 138.00 Kv	0.289	-5.385		
Loss at 230.00 Kv	139.214	454.842		
Loss at 345.00 Kv	0.002	0.108		
Loss at 500.00 Kv	0.000	0.000		
Loss at other Kv	7.422	240.851		
Largest mismatch MVA	0.0080	0.0298		

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area 64 [SIERRA]

	-----MW----	----MVAR---		
Generation	1375.351	121.186	Generators	22
Actual Load	1719.091	458.744	Loads	121
Net actual shunt	0.000	-188.202	Shunts	30
Net actual svd	0.000	69.190	Svd	5
Net Interchange	-399.533	56.260	Buses	275
Sched Interchange	-399.000		Lines	197
Loss	55.793	-274.832	Transformers	117

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MVA-miles                 64772.7      38937.4        DC buses              0
Miles                    1042.600                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           2.541       51.408
Loss at  69.00 Kv           0.000        0.000
Loss at 115.00 Kv           0.479       -6.154
Loss at 230.00 Kv           1.754     -100.881
Loss at 345.00 Kv           9.106     -442.485
Loss at other Kv           41.913      223.280

Largest mismatch MVA       0.0030       0.0244

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area  52 [W KOOTENAY                      ]

                       -----MW----  ----MVAR---
Generation                596.550       69.888        Generators           20
Actual Load               722.400      210.200        Loads                64
Net actual shunt            0.000      -77.991        Shunts               27
Net actual svd              0.000     -130.786        Svd                   4
Net Interchange          -150.356      -37.173        Buses               260
Sched Interchange        -149.900                     Lines               165
Loss                       24.506      105.639        Transformers        117

MVA-miles                 30747.6       5055.5        DC buses              0
Miles                     986.000                     DC converters         0
                                                      DC lines              0
Loss at  13.20 Kv           0.000        8.244
Loss at  13.80 Kv           0.000        0.000
Loss at  14.40 Kv           0.000       29.621
Loss at  25.00 Kv           0.000        0.000
Loss at 138.00 Kv           0.395       -0.590
Loss at 161.00 Kv           9.043       11.117
Loss at 230.00 Kv           1.519       -8.892
Loss at other Kv           13.549       66.138

Largest mismatch MVA       0.0016       0.0062

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area  73 [WAPA R.M.                       ]

                       -----MW----  ----MVAR---
Generation               5378.529      205.831        Generators           80
Actual Load              3608.290     1237.018        Loads               355
Net actual shunt            0.000     -296.352        Shunts                4
Net actual svd              0.000     -271.442        Svd                  53
Net Interchange          1612.682     -407.699        Buses               620
Sched Interchange        1612.000                     Lines               567
Loss                      157.549      -55.635        Transformers        174

MVA-miles                470388.9      84471.8        DC buses              0
Miles                    7283.200                     DC converters         0
                                                      DC lines              0
Loss at  13.80 Kv           6.220       91.935
Loss at  34.50 Kv           0.315        4.024
Loss at  69.00 Kv           5.290      -11.426
Loss at 115.00 Kv          62.195     -124.827
Loss at 138.00 Kv           4.533      -31.022
Loss at 230.00 Kv          36.432     -271.868
Loss at 345.00 Kv          35.328      -35.866
Loss at other Kv            7.235      323.414

Largest mismatch MVA       0.0127       0.0464

MONTANA TRANSMISSION STUDY, WAPA UGP, JUNE 2002
G2 SCHEDULED TO LETHBRIDGE, LINE 3

Area  63 [WAPA U.M.                       ]

                       -----MW----  ----MVAR---
Generation                 54.217        4.765        Generators            1
Actual Load              -102.100      123.600        Loads                17
Net actual shunt            0.000      -78.951        Shunts                1
Net actual svd              0.000      -12.596        Svd                   4
Net Interchange           147.265       -4.107        Buses                21
Sched Interchange         147.000                     Lines                12
Loss                        9.051      -23.180        Transformers          3
```

MVA-miles	0.0	0.0	DC buses	0
Miles	0.000		DC converters	0
			DC lines	0
Loss at 13.80 Kv	0.206	5.880		
Loss at 115.00 Kv	0.020	-7.097		
Loss at 161.00 Kv	0.896	-48.033		
Loss at 230.00 Kv	7.929	26.069		
Largest mismatch MVA	0.0001	0.0002		

C. CATEGORY B (CONTINGENCY) DATA

Contingency Analysis Summaries for Viable Projects

Continuous Rating (Rate 1) Reports

Emergency Rating (Rate 2) Reports

Light Summer and Heavy Summer Contingency Lists

Contingency Analysis Summary - Project 2 Line 1 Scheduled to Spokane

Component	Rate 1			Rate 2			Contingency		Recommendation
Area, Bus Name, kV	Without Project [pu]	With Project [pu]	Continuous Rating	Without Project [pu]	With Project [pu]	Emergency Rating	#	Description	
New or Worse by 5%									
40 BELL BPA 500 to 40 BELL SO 230 CKT 1	<0.95	1.49	1220.00	<0.95	1.21	1512.00	413	LINE 40 DWORSHAK 500.0 to 41 TAFT 500.0 CKT 1	Extend Project Line
40 BELL MI 230 to 40 BELL BPA 115 CKT 1	<0.95	1.13	249.00				413	LINE 40 DWORSHAK 500.0 to 41 TAFT 500.0 CKT 1	Extend Project Line
40 POSTSTRT 115 to 40 THIRHACH 115 CKT 1	<0.95	1.07	110.90	<0.95	1.07	110.90	279	LINE 40 BELL NO 230.0 to 41 WESTBPA1 230.0 CKT 1	Reconductor
40 BURKE 115 to 40 HECLA 115 CKT 1	<0.95	1.05	92.80	<0.95	1.05	92.80	316	LINE 48 BURKE 115.0 to 48 LUCKYFTP 115.0 CKT 1	Reconductor
40 BEACON N 230 to 40 BELL SO 230 CKT 5	<0.95	1.04	366.50	<0.95	1.04	366.50	265	LINE 48 BEACON S 230.0 to 40 BELL SO 230.0 CKT 4	Extend Project Line
40 HATWAI 230 to 40 N LEWIST 230 CKT 1	<0.95	1.04	425.10	<0.95	1.04	425.10	464	LINE 40 HATWAI 500.0 to 40 LOW GRAN 500.0 CKT 1	Extend Project Line
40 OSBURN 115 to 40 PINE CRK 115 CKT 1	<0.95	1.02	85.80	<0.95	1.02	85.80	316	LINE 48 BURKE 115.0 to 48 LUCKYFTP 115.0 CKT 1	Reconductor
40 CLARKSTN 115 to 40 POMEROY 115 CKT 1	<0.95	1.02	63.70	<0.95	1.02	63.70	464	LINE 40 HATWAI 500.0 to 40 LOW GRAN 500.0 CKT 1	Review Rating
40 PLUMMER 115 to 40 OGARA 115 CKT 1	<0.95	1.01	61.30	<0.95	1.01	61.30	285	LINE 48 BENEWAH 230.0 to 48 PINE CRK 230.0 CKT 1	Review Rating
40 WALLACE 115 to 40 OSBURN 115 CKT 1	<0.95	1.01	92.80	<0.95	1.01	92.80	316	LINE 48 BURKE 115.0 to 48 LUCKYFTP 115.0 CKT 1	Review Rating
40 HATWAI 230 to 40 MOSCOW 230 CKT 1	<0.95	1.01	372.10	<0.95	1.01	372.10	412	LINE 40 DWORSHAK 500.0 to 40 HATWAI 500.0 CKT 1	Review Rating
40 BIGCREEK 115 to 40 BUNKRHIL 115 CKT 1	<0.95	1.00	85.80	<0.95	1.00	85.80	315	LINE 48 BURKE 115.0 to 48 HECLA 115.0 CKT 1	Review Rating
40 POMEROY 115 to 40 WALAWALA 115 CKT 1	<0.95	0.98	63.70	<0.95	0.98	63.70	464	LINE 40 HATWAI 500.0 to 40 LOW GRAN 500.0 CKT 1	None
40 BUNKRHIL 115 to 40 PINE CRK 115 CKT 1	<0.95	0.97	85.80	<0.95	0.97	85.80	315	LINE 48 BURKE 115.0 to 48 HECLA 115.0 CKT 1	None
40 GAR2EAST 500 to 40 GARRISON 500 CKT 1	<0.95	0.95	1732.10	<0.95	0.95	1732.10	441	LINE 40 GAR1EAST 500.0 to 40 GARRISON 500.0 CKT 1	None
40 GAR1EAST 500 to 40 GARRISON 500 CKT 1	<0.95	0.95	1732.10	<0.95	0.95	1732.10	442	LINE 40 GAR2EAST 500.0 to 40 GARRISON 500.0 CKT 1	None
40 BEACON S 115 to 40 BELL BPA 115 CKT 1	<0.95	0.95	85.80	<0.95	0.95	85.80	1731	TRANSFORMER 40 BELL MI 230.0 to 40 BELL BPA 115.0 CKT 1	None
40 GARRISON 500 to 40 TAFT 500 CKT 1	<0.95	0.95	944.00	<0.95	0.95	944.00	1748	TRANSFORMER 40 GARRISON 500.0 to 40 GARRISON 230.0 CKT 1	None
40 GARRISON 500 to 40 TAFT 500 CKT 2	<0.95	0.95	944.00	<0.95	0.95	944.00	1748	TRANSFORMER 40 GARRISON 500.0 to 40 GARRISON 230.0 CKT 1	None
65 CARBON 138 to 65 SPAN F&1 138 CKT 1				<0.95	0.95	113.00	723	LINE 65 CARBON 138.0 to 66 SPAN FRK 138.0 CKT 2	None
40 OROFINO 115 to 40 AHSAHKA 115 CKT 1	1.94	2.37	113.70	1.94	2.37	113.70	412	LINE 40 DWORSHAK 500.0 to 40 HATWAI 500.0 CKT 1	Extend Project Line
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1	1.31	1.43	113.70	1.31	1.43	113.70	460	LINE 40 HATWAI 230.0 to 48 LOLO 230.0 CKT 1	Extend Project Line
40 BURKE 115 to 40 BURKAVAA 115 CKT 1	1.25	1.36	73.90	1.25	1.36	73.90	174	LINE 62 THOMSON 115.0 to 62 CROWCR B 115.0 CKT 1	Reconductor
40 BURKE 115 to 40 BURKAVAB 115 CKT 1	1.20	1.34	73.90	1.20	1.34	73.90	313	LINE 48 BURKE 115.0 to 48 BURKAVAA 115.0 CKT 1	Reconductor
40 BEACON N 115 to 40 ROSSPARK 115 CKT 1	1.18	1.42	138.20	1.18	1.42	138.20	279	LINE 40 BELL NO 230.0 to 41 WESTBPA1 230.0 CKT 1	Reconductor
40 AHSAHKA 115 to 40 DWORSHAK 115 CKT 1	1.04	1.27	213.10	1.04	1.27	213.10	412	LINE 40 DWORSHAK 500.0 to 40 HATWAI 500.0 CKT 1	Extend Project Line
40 BEACON S 115 to 40 NINTHCNT 115 CKT 1	1.02	1.09	91.00	1.02	1.09	91.00	252	LINE 48 BEACON N 115.0 to 48 NINTHCNT 115.0 CKT 1	Reconductor
40 BURKE 115 to 40 LUCKYFTP 115 CKT 1	1.01	1.13	85.80	1.01	1.13	85.80	315	LINE 48 BURKE 115.0 to 48 HECLA 115.0 CKT 1	Reconductor
40 HECLAT 115 to 40 BIGCREEK 115 CKT 1	0.95	1.06	85.80	0.95	1.06	85.80	315	LINE 48 BURKE 115.0 to 48 HECLA 115.0 CKT 1	Reconductor
40 LUCKYFTP 115 to 40 HECLAT 115 CKT 1	0.95	1.06	85.80	0.95	1.06	85.80	315	LINE 48 BURKE 115.0 to 48 HECLA 115.0 CKT 1	Reconductor
Better by 5% or Corrected									
40 CHELAN 115 to 40 HEADWORK 115 CKT 1	1.06	1.00	91.00	1.06	1.00	91.00	637	LINE 48 WILSNCKT 115.0 to 40 IRBY 115.0 CKT 1	None

Contingency Analysis Summary - Project 2 Line 3 Scheduled to Salt Lake City

Component	Rate 1			Rate 2			Contingency		Recommendation
Area, Bus Name, kV	Without Project [pu]	With Project [pu]	Continuous Rating	Without Project [pu]	With Project [pu]	Emergency Rating	#	Description	
New or Worse by 5%									
62 ANACOND 161 to 62 DILLON S 161 CKT 1	<0.95	1.98	165.00				10	LINE 62 TOWN1 500.0 to 90 MTSDILL 500.0 CKT 1	Upgrade
65 BIGGRASS 161 to 65 JFRSNPHA 161 CKT 1	<0.95	1.46	148.10	<0.95	1.23	176.00	12	LINE 90 MTSKINP 500.0 to 90 MTSDILL 500.0 CKT 1	Upgrade
62 DILLON S 161 to 65 BIGGRASS 161 CKT 1	<0.95	1.45	164.50				12	LINE 90 MTSKINP 500.0 to 90 MTSDILL 500.0 CKT 1	Upgrade
60 MTSKINP 500 to 60 KINPORT 345 CKT 1	<0.95	1.27	840.00				1656	TRANSFORMER 90 MTSBENL 500.0 to 65 BENLOMND 345.0 CKT 1	Upgrade
65 MTSBENL 500 to 65 BENLOMND 345 CKT 1	<0.95	1.16	840.00				1655	TRANSFORMER 90 MTSKINP 500.0 to 60 KINPORT 345.0 CKT 1	Upgrade
62 ENNIS MT 161 to 62 BRADLEYC 161 CKT 1	<0.95	1.00	203.60				10	LINE 62 TOWN1 500.0 to 90 MTSDILL 500.0 CKT 1	Reconductor
60 KINPORT 345 to 60 KINPT MP 230 CKT 1	<0.95	0.98	1000.00				1656	TRANSFORMER 90 MTSBENL 500.0 to 65 BENLOMND 345.0 CKT 1	None
62 SHERDNMT 161 to 62 ENNIS MT 161 CKT 1	<0.95	0.97	203.60				10	LINE 62 TOWN1 500.0 to 90 MTSDILL 500.0 CKT 1	None
62 BROADV&2 500 to 62 BROADVU 500 CKT 2	<0.95	0.95	1732.00				152	LINE 62 BROADV&1 500.0 to 62 BROADVU 500.0 CKT 1	None
40 COLUMBIA 230 to 40 ROCKYRH2 230 CKT 1	<0.95	0.95	478.00	<0.95	0.95	478.00	523	LINE 46 MCKENZIE 230.0 to 46 ROCKYRH1 230.0 CKT 1	None
18 HA PS 345 to 65 REDBUTTE 345 CKT 1	<0.95	0.95	300.00	<0.95	0.95	300.00	1609	LINE 45 BURNS 500.0 to 60 MIDPOINT 500.0 CKT 1	None
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1	1.16	2.11	100.00	1.16	2.11	100.00	12	LINE 90 MTSKINP 500.0 to 90 MTSDILL 500.0 CKT 1	Upgrade
65 BENLOMND 230 to 65 BENLOMND 138 CKT 1	1.06	1.14	267.00	1.06	1.14	267.00	1784	TRANSFORMER 65 BENLOMND 345.0 to 65 BENLOMND 138.0 CKT 1	Upgrade
Better by 5% or Corrected									
40 OROFINO 115 to 40 AHSAHKA 115 CKT 1	1.94	1.75	113.70	1.94	1.75	113.70	421	LINE 40 DWORSHAK 500.0 to 40 HATWAI 500.0 CKT 1	None
65 CARBON 138 to 65 SPAN F&1 138 CKT 1	1.55	1.43	75.10				732	LINE 65 CARBON 138.0 to 66 SPAN FRK 138.0 CKT 2	None
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1	1.55	1.42	75.00				732	LINE 65 CARBON 138.0 to 66 SPAN FRK 138.0 CKT 2	None
65 EMMAPARK 138 to 65 UPALCO 138 CKT 1	1.43	1.25	136.00	1.20	1.04	163.00	703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
65 EMMAPARK 138 to 65 PANTHER 138 CKT 1	1.42	1.23	136.00	1.19	1.03	163.00	703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
65 CARBON 138 to 65 PANTHER 138 CKT 1	1.38	1.20	136.00	1.15	1.00	163.00	703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
65 TREASTON 230 to 65 TREASTON 138 CKT 1	1.29	1.18	200.00	1.29	1.18	200.00	1831	TRANSFORMER 66 TREASTON 138.0 to 66 TRSTN MP 100.0 CKT 2	None
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1	1.26	1.18	113.70	1.26	1.18	113.70	469	LINE 40 HATWAI 230.0 to 48 LOLO 230.0 CKT 1	None
65 BONANZA 345 to 65 BONANZA 138 CKT 1	1.20	1.04	392.00	1.20	1.04	392.00	1475	LINE 79 BEARS 345.0 to 79 CRAIG 345.0 CKT 1	None
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 1	1.16	1.05	100.00				703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 2	1.16	1.05	100.00				703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
65 BONANZA 345 to 65 MONA 345 CKT 1	1.07	0.96	650.00				1512	LINE 79 MONTROSE 345.0 to 79 HESPERUS 345.0 CKT 1	None
65 BONANZA 138 to 65 RANGELY 138 CKT 1	1.19	<= 0.95	115.00				1789	TRANSFORMER 65 BONANZA 345.0 to 65 BONANZA 138.0 CKT 1	None
65 PALISADE 230 to 65 ROCKSPGS 230 CKT 1	1.11	<= 0.95	423.90				707	LINE 65 BRDGR PP 230.0 to 65 FIREHOLE 230.0 CKT 1	None
65 BRIDGER 230 to 65 ROCKSPGS 230 CKT 1	1.10	<= 0.95	423.90				52	LINE 60 BRIDGER 345.0 to 60 BORAH 345.0 CKT 1	None
40 AHSAHKA 115 to 40 DWORSHAK 115 CKT 1	1.05	<= 0.95	213.10	1.05	<= 0.95	213.10	421	LINE 40 DWORSHAK 500.0 to 40 HATWAI 500.0 CKT 1	None
60 BRIDGER 345 to 60 BORAH 345 CKT 1	1.03	<= 0.95	892.20				53	LINE 60 BRIDGER 345.0 to 60 KINPORT 345.0 CKT 1	None
65 BRDGR PP 230 to 65 FIREHOLE 230 CKT 1	1.03	<= 0.95	424.00				890	LINE 66 PALISADE 230.0 to 66 RAVEN 230.0 CKT 1	None
65 PALISADE 230 to 65 RAVEN 230 CKT 1	1.02	<= 0.95	461.00				707	LINE 65 BRDGR PP 230.0 to 65 FIREHOLE 230.0 CKT 1	None
65 CARBON 138 to 65 SPAN FRK 138 CKT 2	1.02	<= 0.95	208.00				703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
40 GARRISON 500 to 40 TAFT 500 CKT 2	1.00	<= 0.95	944.00	1.00	<= 0.95	944.00	455	LINE 40 GARRISON 500.0 to 41 TAFT 500.0 CKT 1	None
40 GARRISON 500 to 40 TAFT 500 CKT 1	1.00	<= 0.95	944.00	1.00	<= 0.95	944.00	456	LINE 40 GARRISON 500.0 to 41 TAFT 500.0 CKT 2	None
60 BRIDGER 345 to 60 KINPORT 345 CKT 1	0.99	<= 0.95	892.20				1612	LINE 60 BRIDGER 345.0 to 65 GOSHEN 345.0 CKT 1	None
65 BLUE RIM 230 to 65 BRDGR PP 230 CKT 1	0.99	<= 0.95	423.90				890	LINE 66 PALISADE 230.0 to 66 RAVEN 230.0 CKT 1	None
65 BLUE RIM 230 to 65 S. TRONA 230 CKT 1	0.99	<= 0.95	423.90				890	LINE 66 PALISADE 230.0 to 66 RAVEN 230.0 CKT 1	None
60 BRIDGER 345 to 65 GOSHEN 345 CKT 1	0.97	<= 0.95	892.20				53	LINE 60 BRIDGER 345.0 to 60 KINPORT 345.0 CKT 1	None
60 MCCALL 138 to 60 WEISER 138 CKT 1	0.97	<= 0.95	32.30				96	LINE 60 OXBOW 230.0 to 60 BROWNLEE 230.0 CKT 1	None
65 ASHLEY 138 to 73 VERNAL 138 CKT 1	0.97	<= 0.95	136.00				701	LINE 65 BONANZA 138.0 to 65 DG UPLCO 138.0 CKT 1	None
73 VERNAL 138 to 65 BONANZA 138 CKT 1	0.96	<= 0.95	192.00				703	LINE 65 BONANZA 345.0 to 65 MONA 345.0 CKT 1	None
60 PINGREE 138 to 60 DON 138 CKT 1	0.96	<= 0.95	141.00				1610	LINE 60 BLACKFT 161.0 to 65 GOSHEN 161.0 CKT 1	None
65 BENLOMND 138 to 65 EL MONTE 138 CKT 2	0.95	<= 0.95	205.10				684	LINE 65 BENLOMND 138.0 to 65 EL MONTE 138.0 CKT 1	None
65 BENLOMND 138 to 65 EL MONTE 138 CKT 1	0.95	<= 0.95	205.10				685	LINE 65 BENLOMND 138.0 to 65 EL MONTE 138.0 CKT 2	None
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1				1.03	<= 0.95	113.00	732	LINE 65 CARBON 138.0 to 66 SPAN FRK 138.0 CKT 2	None
65 CARBON 138 to 65 SPAN F&1 138 CKT 1				1.03	<= 0.95	113.00	732	LINE 65 CARBON 138.0 to 66 SPAN FRK 138.0 CKT 2	None

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Compost found the following for comparisons:
     60 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\lsbs\plsbs-1.out
     129 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\lsbs\plsbs-1.out
     79 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\spl1\pspl1-1.out
     182 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\spl1\pspl1-1.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
40 BELL BPA 500 to 40 BELL SO  230 CKT 1    <0.95     1.49   1220.00   413
40 BELL MI  230 to 40 BELL BPA 115 CKT 1    <0.95     1.13   249.00   413
40 POSTSTRT 115 to 40 THIRHACH 115 CKT 1    <0.95     1.07   110.90   279
40 BURKE    115 to 40 HECLA    115 CKT 1    <0.95     1.05   92.80   316
40 BEACON N 230 to 40 BELL SO  230 CKT 5    <0.95     1.04   366.50   265
40 HATWAI   230 to 40 N LEWIST 230 CKT 1    <0.95     1.04   425.10   464
40 OSBURN   115 to 40 PINE CRK 115 CKT 1    <0.95     1.02   85.80   316
40 CLARKSTN 115 to 40 POMEROY  115 CKT 1    <0.95     1.02   63.70   464
40 PLUMMER  115 to 40 OGARA    115 CKT 1    <0.95     1.01   61.30   285
40 WALLACE  115 to 40 OSBURN   115 CKT 1    <0.95     1.01   92.80   316
40 HATWAI   230 to 40 MOSCOW   230 CKT 1    <0.95     1.01   372.10   412
40 BIGCREEK 115 to 40 BUNKRHIL 115 CKT 1    <0.95     1.00   85.80   315
40 POMEROY  115 to 40 WALAWALA 115 CKT 1    <0.95     0.98   63.70   464
40 BUNKRHIL 115 to 40 PINE CRK 115 CKT 1    <0.95     0.97   85.80   315
40 GAR2EAST 500 to 40 GARRISON 500 CKT 1    <0.95     0.95   1732.10   441
40 GAR1EAST 500 to 40 GARRISON 500 CKT 1    <0.95     0.95   1732.10   442
40 BEACON S 115 to 40 BELL BPA 115 CKT 1    <0.95     0.95   85.80   1731
40 GARRISON 500 to 40 TAFT     500 CKT 1    <0.95     0.95   944.00   1748
40 GARRISON 500 to 40 TAFT     500 CKT 2    <0.95     0.95   944.00   1748

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   2.37   113.70   412
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.31   1.43   113.70   460
40 BURKE    115 to 40 BURKAVAA 115 CKT 1    1.25   1.36   73.90   174
40 BURKE    115 to 40 BURKAVAB 115 CKT 1    1.20   1.34   73.90   313
40 BEACON N 115 to 40 ROSSPARK 115 CKT 1    1.18   1.42   138.20   279
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.04   1.27   213.10   412
40 BEACON S 115 to 40 NINTHCNT 115 CKT 1    1.02   1.09   91.00   252
40 BURKE    115 to 40 LUCKYFTP 115 CKT 1    1.01   1.13   85.80   315
40 HECLAT   115 to 40 BIGCREEK 115 CKT 1    0.95   1.06   85.80   315
40 LUCKYFTP 115 to 40 HECLAT   115 CKT 1    0.95   1.06   85.80   315

Area Count, Rates new and worse:
Area 40: 29

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
40 4LAKE TP 115.0  >0.95    0.938  1.00 pu kV  413
40 ARMSTRNG 115.0  >0.95    0.942  1.00 pu kV  412
40 BRINKENS 115.0  >0.95    0.936  1.00 pu kV  412
40 CHAMBERS 115.0  >0.95    0.943  1.00 pu kV  412
40 EGRANVIL 115.0  >0.95    0.933  1.00 pu kV  412
40 HANGMAN  115.0  >0.95    0.938  1.00 pu kV  413
40 HAYFORD  115.0  >0.95    0.928  1.00 pu kV  413
40 HOPKINSB 115.0  >0.95    0.947  1.00 pu kV  413
40 MICA     115.0  >0.95    0.947  1.00 pu kV  413
40 MICA TAP 115.0  >0.95    0.947  1.00 pu kV  413
40 PLUMMER  115.0  >0.95    0.946  1.00 pu kV  413
40 RALSTONB 115.0  >0.95    0.927  1.00 pu kV  413
40 SCOTPAPR 115.0  >0.95    0.939  1.00 pu kV  412
40 STMARIES 115.0  >0.95    0.941  1.00 pu kV  413
62 PTRSNFLT 230.0  >0.95    0.973  1.00 pu kV  413
40 4TH&HRLD 115.0  >0.95    0.946  1.00 pu kV  413
40 4TH&HRTP 115.0  >0.95    0.946  1.00 pu kV  413
40 AIRWAYHT 115.0  >0.95    0.940  1.00 pu kV  413
40 BELL BPA 500.0  >0.95    1.010  1.00 pu kV  413
40 BIGELOW  115.0  >0.95    0.947  1.00 pu kV  413
40 COLLWALN 115.0  >0.95    0.941  1.00 pu kV  413
40 FAIRCHLD 115.0  >0.95    0.939  1.00 pu kV  413
40 FRANCEDR 115.0  >0.95    0.946  1.00 pu kV  413
40 FTWRIGHT 115.0  >0.95    0.943  1.00 pu kV  413
40 GARDENSP 115.0  >0.95    0.942  1.00 pu kV  413
40 GLENROSE 115.0  >0.95    0.943  1.00 pu kV  413
40 GLENTAP  115.0  >0.95    0.943  1.00 pu kV  413
40 GREEN BL 115.0  >0.95    0.946  1.00 pu kV  413
40 I.E.PAPR 115.0  >0.95    0.946  1.00 pu kV  413
40 INLD EMP 115.0  >0.95    0.947  1.00 pu kV  413
40 LYONSTND 115.0  >0.95    0.946  1.00 pu kV  413
40 METRO    115.0  >0.95    0.941  1.00 pu kV  413
40 MILLWOOD 115.0  >0.95    0.947  1.00 pu kV  413
40 NINTHCNT 115.0  >0.95    0.947  1.00 pu kV  413
40 NORTHWES 115.0  >0.95    0.949  1.00 pu kV  413
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40 OPORTUNW 115.0  >0.95    0.949  1.00 pu kV  413
40 PINE CRK 230.0  >0.95    0.962  1.00 pu kV  413
40 POSTSTRT 115.0  >0.95    0.941  1.00 pu kV  413
40 ROSSPARK 115.0  >0.95    0.947  1.00 pu kV  413
40 SEVENTAP 115.0  >0.95    0.948  1.00 pu kV  413
40 SOUTHEAS 115.0  >0.95    0.941  1.00 pu kV  413
40 SPKINDPK 115.0  >0.95    0.940  1.00 pu kV  413
40 SPKWASTE 115.0  >0.95    0.943  1.00 pu kV  413
40 SULLIVNB 115.0  >0.95    0.940  1.00 pu kV  413
40 SUNSET   115.0  >0.95    0.940  1.00 pu kV  413
40 THIRHACH 115.0  >0.95    0.944  1.00 pu kV  413
40 TRENTWOD 115.0  >0.95    0.942  1.00 pu kV  413
40 VALY WAY 115.0  >0.95    0.941  1.00 pu kV  413
40 VERA     115.0  >0.95    0.939  1.00 pu kV  413
40 VERA TAP 115.0  >0.95    0.941  1.00 pu kV  413
73 GRANDJCT 345.0  >0.95    0.948  1.00 pu kV  694
73 HAPPYCAN 115.0  >0.95    0.949  1.00 pu kV  1490
73 GARNETAP 115.0  >0.95    0.949  1.00 pu kV  1490
73 SPRCKTAP 115.0  >0.95    0.948  1.00 pu kV  1490

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 49
Area 62: 1
Area 73: 4

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
40 CHELAN   115 to 40 HEADWORK 115 CKT 1    1.06   1.00   91.00   637

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#

Area Count, Rates better and away:
Area 40: 1

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
63 RUDYARD  115.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1886

Area Count, Volts better and away:
Area 63: 1
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Compost found the following for comparisons:
     32 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\lsbs\plsbs-2.out
     129 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\lsbs\plsbs-2.out
     51 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\spl1\pspl1-2.out
     182 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\spl1\pspl1-2.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
40 BELL BPA 500 to 40 BELL SO  230 CKT 1    <0.95     1.21   1512.00   413
40 POSTSTRT 115 to 40 THIRHACH 115 CKT 1    <0.95     1.07   110.90   279
40 BURKE    115 to 40 HECLA    115 CKT 1    <0.95     1.05   92.80   316
40 BEACON N 230 to 40 BELL SO  230 CKT 5    <0.95     1.04   366.50   265
40 HATWAI   230 to 40 N LEWIST 230 CKT 1    <0.95     1.04   425.10   464
40 OSBURN   115 to 40 PINE CRK 115 CKT 1    <0.95     1.02   85.80   316
40 CLARKSTN 115 to 40 POMEROY  115 CKT 1    <0.95     1.02   63.70   464
40 PLUMMER  115 to 40 OGARA    115 CKT 1    <0.95     1.01   61.30   285
40 WALLACE  115 to 40 OSBURN   115 CKT 1    <0.95     1.01   92.80   316
40 HATWAI   230 to 40 MOSCOW   230 CKT 1    <0.95     1.01   372.10   412
40 BIGCREEK 115 to 40 BUNKRHIL 115 CKT 1    <0.95     1.00   85.80   315
40 POMEROY  115 to 40 WALAWALA 115 CKT 1    <0.95     0.98   63.70   464
40 BUNKRHIL 115 to 40 PINE CRK 115 CKT 1    <0.95     0.97   85.80   315
40 GAR2EAST 500 to 40 GARRISON 500 CKT 1    <0.95     0.95   1732.10   441
40 GAR1EAST 500 to 40 GARRISON 500 CKT 1    <0.95     0.95   1732.10   442
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    <0.95     0.95   113.00   723
40 BEACON S 115 to 40 BELL BPA 115 CKT 1    <0.95     0.95   85.80   1731
40 GARRISON 500 to 40 TAFT     500 CKT 1    <0.95     0.95   944.00   1748
40 GARRISON 500 to 40 TAFT     500 CKT 2    <0.95     0.95   944.00   1748

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   2.37   113.70   412
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.31   1.43   113.70   460
40 BURKE    115 to 40 BURKAVAA 115 CKT 1    1.25   1.36   73.90   174
40 BURKE    115 to 40 BURKAVAB 115 CKT 1    1.20   1.34   73.90   313
40 BEACON N 115 to 40 ROSSPARK 115 CKT 1    1.18   1.42   138.20   279
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.04   1.27   213.10   412
40 BEACON S 115 to 40 NINTHCNT 115 CKT 1    1.02   1.09   91.00   252
40 BURKE    115 to 40 LUCKYFTP 115 CKT 1    1.01   1.13   85.80   315
40 HECLAT   115 to 40 BIGCREEK 115 CKT 1    0.95   1.06   85.80   315
40 LUCKYFTP 115 to 40 HECLAT   115 CKT 1    0.95   1.06   85.80   315

Area Count, Rates new and worse:
Area 40: 28
Area 65: 1

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
40 4LAKE TP 115.0  >0.95    0.938  1.00 pu kV  413
40 ARMSTRNG 115.0  >0.95    0.942  1.00 pu kV  412
40 BRINKENS 115.0  >0.95    0.936  1.00 pu kV  412
40 CHAMBERS 115.0  >0.95    0.943  1.00 pu kV  412
40 EGRANVIL 115.0  >0.95    0.933  1.00 pu kV  412
40 HANGMAN  115.0  >0.95    0.938  1.00 pu kV  413
40 HAYFORD  115.0  >0.95    0.928  1.00 pu kV  413
40 HOPKINSB 115.0  >0.95    0.947  1.00 pu kV  413
40 MICA     115.0  >0.95    0.947  1.00 pu kV  413
40 MICA TAP 115.0  >0.95    0.947  1.00 pu kV  413
40 PLUMMER  115.0  >0.95    0.946  1.00 pu kV  413
40 RALSTONB 115.0  >0.95    0.927  1.00 pu kV  413
40 SCOTPAPR 115.0  >0.95    0.939  1.00 pu kV  412
40 STMARIES 115.0  >0.95    0.941  1.00 pu kV  413
62 PTRSNFLT 230.0  >0.95    0.973  1.00 pu kV  413
40 4TH&HRLD 115.0  >0.95    0.946  1.00 pu kV  413
40 4TH&HRTP 115.0  >0.95    0.946  1.00 pu kV  413
40 AIRWAYHT 115.0  >0.95    0.940  1.00 pu kV  413
40 BELL BPA 500.0  >0.95    1.010  1.00 pu kV  413
40 BIGELOW  115.0  >0.95    0.947  1.00 pu kV  413
40 COLLWALN 115.0  >0.95    0.941  1.00 pu kV  413
40 FAIRCHLD 115.0  >0.95    0.939  1.00 pu kV  413
40 FRANCEDR 115.0  >0.95    0.946  1.00 pu kV  413
40 FTWRIGHT 115.0  >0.95    0.943  1.00 pu kV  413
40 GARDENSP 115.0  >0.95    0.942  1.00 pu kV  413
40 GLENROSE 115.0  >0.95    0.943  1.00 pu kV  413
40 GLENTAP  115.0  >0.95    0.943  1.00 pu kV  413
40 GREEN BL 115.0  >0.95    0.946  1.00 pu kV  413
40 I.E.PAPR 115.0  >0.95    0.946  1.00 pu kV  413
40 INLD EMP 115.0  >0.95    0.947  1.00 pu kV  413
40 LYONSTND 115.0  >0.95    0.946  1.00 pu kV  413
40 METRO    115.0  >0.95    0.941  1.00 pu kV  413
40 MILLWOOD 115.0  >0.95    0.947  1.00 pu kV  413
40 NINTHCNT 115.0  >0.95    0.947  1.00 pu kV  413
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40 NORTHWES 115.0  >0.95    0.949  1.00 pu kV  413
40 OPORTUNW 115.0  >0.95    0.949  1.00 pu kV  413
40 PINE CRK 230.0  >0.95    0.962  1.00 pu kV  413
40 POSTSTRT 115.0  >0.95    0.941  1.00 pu kV  413
40 ROSSPARK 115.0  >0.95    0.947  1.00 pu kV  413
40 SEVENTAP 115.0  >0.95    0.948  1.00 pu kV  413
40 SOUTHEAS 115.0  >0.95    0.941  1.00 pu kV  413
40 SPKINDPK 115.0  >0.95    0.940  1.00 pu kV  413
40 SPKWASTE 115.0  >0.95    0.943  1.00 pu kV  413
40 SULLIVNB 115.0  >0.95    0.940  1.00 pu kV  413
40 SUNSET   115.0  >0.95    0.940  1.00 pu kV  413
40 THIRHACH 115.0  >0.95    0.944  1.00 pu kV  413
40 TRENTWOD 115.0  >0.95    0.942  1.00 pu kV  413
40 VALY WAY 115.0  >0.95    0.941  1.00 pu kV  413
40 VERA     115.0  >0.95    0.939  1.00 pu kV  413
40 VERA TAP 115.0  >0.95    0.941  1.00 pu kV  413
73 GRANDJCT 345.0  >0.95    0.948  1.00 pu kV  694
73 HAPPYCAN 115.0  >0.95    0.949  1.00 pu kV  1490
73 GARNETAP 115.0  >0.95    0.949  1.00 pu kV  1490
73 SPRCKTAP 115.0  >0.95    0.948  1.00 pu kV  1490

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 49
Area 62: 1
Area 73: 4

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
40 CHELAN   115 to 40 HEADWORK 115 CKT 1    1.06   1.00   91.00   637

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#

Area Count, Rates better and away:
Area 40: 1

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
63 RUDYARD  115.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1886

Area Count, Volts better and away:
Area 63: 1
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Compost found the following for comparisons:
     142 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     139 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\denl2\pdenl2-1.out
     299 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\denl2\pdenl2-1.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
65 DAVEJOHN 230 to 73 LAR.RIVR 230 CKT 1    <0.95     1.44   265.70   4
70 DANIELPK 230 to 70 PRAIRIE  230 CKT 1    <0.95     1.07   494.80   983
70 DANIELPK 230 to 70 GREENWD  230 CKT 1    <0.95     1.04   494.80   987
73 STEGALDC 230 to 73 STEGALL  230 CKT 1    <0.95     1.03   150.00   4
70 RIDGE    115 to 70 RIDGE    230 CKT 2    <0.95     0.99   100.00   1849
40 NEWPORTB 115 to 40 PINE ST  115 CKT 1    <0.95     0.96   120.10   287
70 CASTLRCK 115 to 70 DANIELPK 115 CKT 1    <0.95     0.95   134.80   1097

**** RATES: WORSE ****
Component                                   w/o Prj  w/ Prj Rating   Cont#
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.22   100.00   421
73 WELD  LM 115 to 73 WELD  LM 230 CKT 1    1.04   1.11   150.00   1628
70 SMOKYHIL 115 to 70 SMOKYHIL 230 CKT 1    1.04   1.16   150.00   1852
70 WATERTON 115 to 70 WATERTON 230 CKT 2    1.00   1.19   100.00   1854
70 WATERTON 115 to 70 WATERTON 230 CKT 1    0.99   1.18   100.00   1855

Area Count, Rates new and worse:
Area 40: 1
Area 65: 2
Area 70: 7
Area 73: 2

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
62 ANACOND  161.0  >0.95    0.933  1.00 pu kV  1759
62 MT ASIMI 161.0  >0.95    0.916  1.00 pu kV  1759
62 SHELBY   230.0  >0.95    0.950  1.00 pu kV  6
62 JUDITHGP 230.0  >0.95    0.944  1.00 pu kV  6
62 CNRDWAPA 115.0  >0.95    0.954  1.00 pu kV  6
62 GT FALLS 230.0  >0.95    0.949  1.00 pu kV  6
62 OVANDO   230.0  >0.95    0.959  1.00 pu kV  6
62 LANDRSFK 230.0  >0.95    0.919  1.00 pu kV  6
62 CNRD-SRA 115.0  >0.95    0.953  1.00 pu kV  6
63 TIBERTAP 115.0  >0.95    0.955  1.00 pu kV  6
40 EGRANVIL 115.0  >0.95    0.947  1.00 pu kV  235
40 AIRWAYTP 115.0  >0.95    0.947  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.948  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.947  1.00 pu kV  282
40 HOT SPR  500.0  >0.95    1.004  1.00 pu kV  482
65 LOST RIV 230.0  >0.95    0.948  1.00 pu kV  665
73 HOVENWEP 115.0  >0.95    0.949  1.00 pu kV  1542
62 ANACOND  230.0  >0.95    0.951  1.00 pu kV  1759
62 ANA BPA  115.0  >0.95    0.987  1.00 pu kV  1759
40 GARRISON 230.0  >0.95    0.963  1.00 pu kV  1759
62 BONNERMT 161.0  >0.95    0.949  1.00 pu kV  1902
62 RATTLE S 161.0  >0.95    0.949  1.00 pu kV  1902
62 RESERVST 161.0  >0.95    0.944  1.00 pu kV  1902
62 MISSLA 7 161.0  >0.95    0.943  1.00 pu kV  1902

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 7
Area 62: 15
Area 63: 1
Area 65: 1
Area 73: 1

**** RATES: BETTER ****
Component                                   w/o Prj  w/ Prj Rating  Cont#
70 BRUSHCPP 115 to 73 B.CK PS  115 CKT 1    1.48   1.22   162.00   1632
73 EFMORGTP 115 to 73 FMWEST   115 CKT 1    1.29   1.20   80.00   1170
70 BRUSHCPP 115 to 73 B.CK PS  115 CKT 2    1.28   1.06   187.00   1631
73 BEAVERCK 115 to 73 ADENA    115 CKT 1    1.24   1.17   85.10   1182
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 1    1.16   1.09   100.00   703
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 2    1.16   1.09   100.00   703
73 MIDWAYBR 230 to 73 MIDWAYBR 115 CKT 1    1.11   1.01   100.00   1461
70 CHEROKEN 115 to 70 DERBY 2  115 CKT 1    1.10   0.95   135.00   966
73 BEAVERCK 115 to 73 BRUSHTAP 115 CKT 1    1.06   1.00   122.10   1170
70 HOPKINS  115 to 70 BASALT   115 CKT 1    1.02   0.96   66.90   1648
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**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
70 CHEROKEN 115 to 70 DERBY 1  115 CKT 1    1.06    <= 0.95  135.00   967
73 B.CK PS  115 to 73 B.CK PS  230 CKT 1    1.06    <= 0.95  224.00   1172
62 ANACOND  230 to 62 ANACOND  161 CKT 2    1.02    <= 0.95  200.00   1690
62 ANACOND  230 to 62 ANACOND  161 CKT 1    1.02    <= 0.95  200.00   1691
73 BIJOUTAP 115 to 73 FMWEST   115 CKT 1    0.99    <= 0.95  80.00   1170
73 BRUSHTAP 115 to 73 EFMORGTP 115 CKT 1    0.98    <= 0.95  121.70   1170
60 BRIDGER  345 to 65 GOSHEN   345 CKT 1    0.97    <= 0.95  892.20   53
70 FTLUPTON 230 to 70 PAWNEE   230 CKT 1    0.97    <= 0.95  413.50   1070
73 VERNAL   138 to 65 BONANZA  138 CKT 1    0.96    <= 0.95  192.00   703
70 LOOKOUT  115 to 70 HOGBACK  115 CKT 1    0.96    <= 0.95  192.00   1038
62 BROADV&1 500 to 62 BROADVU  500 CKT 1    0.95    <= 0.95  1732.00   154

Area Count, Rates better and away:
Area 60: 1
Area 62: 3
Area 65: 2
Area 70: 7
Area 73: 8

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
65 BIGGRASS 161.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  422
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
70 JEWELL2  230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 TOLGATE  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BARRLAKE 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  943
70 SKYRANCH 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  944
70 TOWER    230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  944
70 DERBY 2  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  967
70 MARCY    230.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  984
70 WATERTON 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  984
70 SURREYRG 230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  985
70 MURPHY   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  985
70 LEETSDAL 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY2 230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY1 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 ELATI1   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 ELATI2   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MONACO   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MEADOWHL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 MONROEPS 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 SULLIVN  230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 TECH CTR 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 JEWELL1  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 RIVERDAL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1013
70 CHEROKEE 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 DENVTM   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GLENN PS 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 LACOMBE  230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 WASHINGT 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 CLARK    230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 JORDAN   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 CHATFLD  230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1053
70 RIDGE    230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1056
70 WESTPS   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1057
70 QUINCY   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 SMOKYHIL 230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 GREENWD  230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GUNBARRE 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 LEGGETT  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 NIWOT    230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
73 BETHELLM 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1405
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
73 MANCOSTP 115.0 0.951  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 AMES     115.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 SUNSH SM 115.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1898

Area Count, Volts better and away:
Area 40: 2
Area 54: 1
Area 65: 3
Area 70: 38
Area 73: 5
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Compost found the following for comparisons:
     86 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     89 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\denl2\pdenl2-2.out
     299 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\denl2\pdenl2-2.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
70 DANIELPK 230 to 70 PRAIRIE  230 CKT 1    <0.95     1.07   494.80   983
70 DANIELPK 230 to 70 GREENWD  230 CKT 1    <0.95     1.04   494.80   987
70 RIDGE    115 to 70 RIDGE    230 CKT 2    <0.95     0.99   100.00   1849
40 NEWPORTB 115 to 40 PINE ST  115 CKT 1    <0.95     0.96   120.10   287
70 CASTLRCK 115 to 70 DANIELPK 115 CKT 1    <0.95     0.95   134.80   1097

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.22   100.00   421
70 SMOKYHIL 115 to 70 SMOKYHIL 230 CKT 1    1.04   1.16   150.00   1852
70 WATERTON 115 to 70 WATERTON 230 CKT 2    1.00   1.19   100.00   1854
70 WATERTON 115 to 70 WATERTON 230 CKT 1    0.99   1.18   100.00   1855

Area Count, Rates new and worse:
Area 40: 1
Area 65: 1
Area 70: 7

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
62 ANACOND  161.0  >0.95    0.933  1.00 pu kV  1759
62 MT ASIMI 161.0  >0.95    0.916  1.00 pu kV  1759
62 SHELBY   230.0  >0.95    0.950  1.00 pu kV  6
62 JUDITHGP 230.0  >0.95    0.944  1.00 pu kV  6
62 CNRDWAPA 115.0  >0.95    0.954  1.00 pu kV  6
62 GT FALLS 230.0  >0.95    0.949  1.00 pu kV  6
62 OVANDO   230.0  >0.95    0.959  1.00 pu kV  6
62 LANDRSFK 230.0  >0.95    0.919  1.00 pu kV  6
62 CNRD-SRA 115.0  >0.95    0.953  1.00 pu kV  6
63 TIBERTAP 115.0  >0.95    0.955  1.00 pu kV  6
40 EGRANVIL 115.0  >0.95    0.947  1.00 pu kV  235
40 AIRWAYTP 115.0  >0.95    0.947  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.948  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.947  1.00 pu kV  282
40 HOT SPR  500.0  >0.95    1.004  1.00 pu kV  482
65 LOST RIV 230.0  >0.95    0.948  1.00 pu kV  665
73 HOVENWEP 115.0  >0.95    0.949  1.00 pu kV  1542
62 ANACOND  230.0  >0.95    0.951  1.00 pu kV  1759
62 ANA BPA  115.0  >0.95    0.987  1.00 pu kV  1759
40 GARRISON 230.0  >0.95    0.963  1.00 pu kV  1759
62 BONNERMT 161.0  >0.95    0.949  1.00 pu kV  1902
62 RATTLE S 161.0  >0.95    0.949  1.00 pu kV  1902
62 RESERVST 161.0  >0.95    0.944  1.00 pu kV  1902
62 MISSLA 7 161.0  >0.95    0.943  1.00 pu kV  1902

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 7
Area 62: 15
Area 63: 1
Area 65: 1
Area 73: 1

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
70 BRUSHCPP 115 to 73 B.CK PS  115 CKT 1    1.48   1.22   162.00   1632
70 BRUSHCPP 115 to 73 B.CK PS  115 CKT 2    1.28   1.06   187.00   1631
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.19   1.13   163.00   703
70 CHEROKEN 115 to 70 DERBY 2  115 CKT 1    1.10   0.95   135.00   966
70 HOPKINS  115 to 70 BASALT   115 CKT 1    1.02   0.96   66.90   1648

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
70 CHEROKEN 115 to 70 DERBY 1  115 CKT 1    1.06    <= 0.95  135.00   967
70 FTLUPTON 230 to 70 PAWNEE   230 CKT 1    0.97    <= 0.95  413.50   1070
70 LOOKOUT  115 to 70 HOGBACK  115 CKT 1    0.96    <= 0.95  192.00   1038

Area Count, Rates better and away:
Area 65: 1
Area 70: 7
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**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
65 BIGGRASS 161.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  422
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
70 JEWELL2  230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 TOLGATE  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BARRLAKE 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  943
70 SKYRANCH 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  944
70 TOWER    230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  944
70 DERBY 2  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  967
70 MARCY    230.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  984
70 WATERTON 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  984
70 SURREYRG 230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  985
70 MURPHY   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  985
70 LEETSDAL 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY2 230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY1 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 ELATI1   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 ELATI2   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MONACO   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MEADOWHL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 MONROEPS 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 SULLIVN  230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 TECH CTR 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 JEWELL1  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 RIVERDAL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1013
70 CHEROKEE 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 DENVTM   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GLENN PS 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 LACOMBE  230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 WASHINGT 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 CLARK    230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 JORDAN   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 CHATFLD  230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1053
70 RIDGE    230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1056
70 WESTPS   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1057
70 QUINCY   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 SMOKYHIL 230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 GREENWD  230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GUNBARRE 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 LEGGETT  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 NIWOT    230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
73 BETHELLM 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1405
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
73 MANCOSTP 115.0 0.951  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 AMES     115.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 SUNSH SM 115.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1898

Area Count, Volts better and away:
Area 40: 2
Area 54: 1
Area 65: 3
Area 70: 38
Area 73: 5
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Compost found the following for comparisons:
     142 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     156 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\slcl2\pslcl2-1.out
     335 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\slcl2\pslcl2-1.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
73 ARTESIA  138 to 73 HAYDEN   138 CKT 1    <0.95     1.58   90.00   1606
73 MEEKER   138 to 65 RANGELY  138 CKT 1    <0.95     1.41   115.00   1606
73 HOTCHKIS 115 to 73 GARNETAP 115 CKT 1    <0.95     1.21   85.00   1499
73 ARTESIA  138 to 73 VERNAL   138 CKT 1    <0.95     1.16   96.00   1606
73 LOSTCANY 230 to 73 LOSTCANY 115 CKT 1    <0.95     1.15   112.00   1913
73 DURANGO  115 to 73 COYOTE G 115 CKT 1    <0.95     1.15   85.00   1908
65 PLATTE   230 to 65 PLATTE   115 CKT 1    <0.95     1.10   100.00   674
73 BEARS    345 to 65 BONANZA  345 CKT 1    <0.95     1.07   650.00   1789
73 FLAMGORG 138 to 73 VERNAL   138 CKT 1    <0.95     1.04   96.00   703
62 DILLON S 161 to 65 BIGGRASS 161 CKT 1    <0.95     1.02   164.50   421
65 MONUMENT 230 to 65 NAUGHTON 230 CKT 1    <0.95     1.02   423.90   703
62 ANACOND  161 to 62 DILLON S 161 CKT 1    <0.95     1.01   165.00   162
65 BIGGRASS 161 to 65 JFRSNPHA 161 CKT 1    <0.95     1.00   148.10   421
73 CURECANT 115 to 73 SOCANAL  115 CKT 1    <0.95     1.00   120.00   1499
73 STEGALL  230 to 73 STEGALL  115 CKT 1    <0.95     1.00   100.00   1876
70 MIDWAYPS 115 to 70 MIDWAYPS 230 CKT 1    <0.95     0.99   100.00   1638
40 CLARKSTN 115 to 40 POMEROY  115 CKT 1    <0.95     0.98   63.70   473
73 MONTROSE 115 to 73 SOCANAL  115 CKT 1    <0.95     0.98   120.00   1499
70 GRANDJCT 115 to 73 MONTROSE 115 CKT 1    <0.95     0.98   76.50   1499
62 ANACOND  230 to 40 GARRISON 230 CKT 1    <0.95     0.98   358.50   1575
65 BONANZA  138 to 65 DG UPLCO 138 CKT 1    <0.95     0.97   192.00   703
73 KIOWA CK 115 to 73 WIGGINS  115 CKT 1    <0.95     0.97   59.60   1182
73 COYOTE G 115 to 73 ELPASOTP 115 CKT 1    <0.95     0.97   85.00   1517
19 GLADETAP 115 to 73 ELPASOTP 115 CKT 1    <0.95     0.97   85.00   1517
70 COMANCHE 115 to 70 READER   115 CKT 1    <0.95     0.97   216.90   1638
40 BURKE    115 to 40 BURKAVAA 115 CKT 1    <0.95     0.96   73.90   183
40 NEWPORTB 115 to 40 PINE ST  115 CKT 1    <0.95     0.96   120.10   287
73 CURECANT 230 to 73 CURECANT 115 CKT 1    <0.95     0.96   75.00   1487
73 HAYDEN   230 to 73 HAYDEN   138 CKT 1    <0.95     0.96   150.00   1606
70 DANIELPK 230 to 70 PRAIRIE  230 CKT 1    <0.95     0.95   494.80   983

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   2.09   113.70   421
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.55   1.71   75.10   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.55   1.71   75.00   732
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.43   1.67   136.00   703
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.42   1.66   136.00   703
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.38   1.62   136.00   703
40 BEACON N 115 to 40 ROSSPARK 115 CKT 1    1.27   1.34   138.20   288
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26   1.41   113.70   469
65 BONANZA  138 to 65 RANGELY  138 CKT 1    1.19   1.32   115.00   1606
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.45   100.00   422
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 1    1.16   1.47   100.00   703
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 2    1.16   1.47   100.00   703
65 BONANZA  345 to 65 MONA     345 CKT 1    1.07   1.33   650.00   1512
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05   1.13   213.10   421
70 SMOKYHIL 115 to 70 SMOKYHIL 230 CKT 1    1.04   1.12   150.00   1852
65 CARBON   138 to 65 SPAN FRK 138 CKT 2    1.02   1.14   208.00   703
60 OXBOW    230 to 60 BROWNLEE 230 CKT 1    1.00   1.05   478.00   66
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00   1.11   944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00   1.11   944.00   456
70 WATERTON 115 to 70 WATERTON 230 CKT 2    1.00   1.12   100.00   1854
70 WATERTON 115 to 70 WATERTON 230 CKT 1    0.99   1.11   100.00   1855
60 MCCALL   138 to 60 WEISER   138 CKT 1    0.97   1.03   32.30   96
65 ASHLEY   138 to 73 VERNAL   138 CKT 1    0.97   1.11   136.00   701
73 VERNAL   138 to 65 BONANZA  138 CKT 1    0.96   1.18   192.00   703

Area Count, Rates new and worse:
Area 19: 1
Area 40: 9
Area 60: 2
Area 62: 3
Area 65: 16
Area 70: 7
Area 73: 16

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
70 MTSDAN   500.0  >0.95    1.025  1.00 pu kV  4
62 MTSGFALL 500.0  >0.95    1.007  1.00 pu kV  6
62 ANACOND  161.0  >0.95    0.917  1.00 pu kV  1759
62 MT ASIMI 161.0  >0.95    0.900  1.00 pu kV  1759
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62 GT FALLS 161.0  >0.95    0.945  1.00 pu kV  6
62 RAINBOW  161.0  >0.95    0.944  1.00 pu kV  6
62 SHELBY   230.0  >0.95    0.937  1.00 pu kV  6
62 JUDITHGP 230.0  >0.95    0.937  1.00 pu kV  6
62 CNRDWAPA 115.0  >0.95    0.940  1.00 pu kV  6
62 GT FALLS 115.0  >0.95    0.981  1.00 pu kV  6
62 GT FALLS 230.0  >0.95    0.937  1.00 pu kV  6
62 OVANDO   230.0  >0.95    0.952  1.00 pu kV  6
62 LANDRSFK 230.0  >0.95    0.908  1.00 pu kV  6
62 DUTTON   115.0  >0.95    0.966  1.00 pu kV  6
62 CNRD-SRA 115.0  >0.95    0.940  1.00 pu kV  6
63 HAVRE    115.0  >0.95    0.951  1.00 pu kV  6
63 RUDYARD  115.0  >0.95    0.945  1.00 pu kV  6
63 TIBERTAP 115.0  >0.95    0.942  1.00 pu kV  6
60 ONTARIO  138.0  >0.95    0.977  1.00 pu kV  126
40 EGRANVIL 115.0  >0.95    0.943  1.00 pu kV  421
40 AIRWAYTP 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.949  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.949  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.948  1.00 pu kV  282
65 ANTLOPE  230.0  >0.95    0.936  1.00 pu kV  665
65 LOST RIV 230.0  >0.95    0.927  1.00 pu kV  665
65 ASHLEY   138.0  >0.95    0.934  1.00 pu kV  703
65 ATLANTIC 230.0  >0.95    0.944  1.00 pu kV  703
65 BRDGR PP 230.0  >0.95    0.948  1.00 pu kV  703
65 COLUMBIA 138.0  >0.95    0.913  1.00 pu kV  703
65 FIREHOLE 230.0  >0.95    0.946  1.00 pu kV  703
65 FLAMGORG 230.0  >0.95    0.934  1.00 pu kV  703
65 JERUSALM 138.0  >0.95    0.946  1.00 pu kV  703
65 LITTLEMT 230.0  >0.95    0.934  1.00 pu kV  703
65 MART MAR 138.0  >0.95    0.946  1.00 pu kV  703
65 SUNNYSID 138.0  >0.95    0.916  1.00 pu kV  703
70 CAMEO    230.0  >0.95    0.945  1.00 pu kV  703
73 CAHONE   115.0  >0.95    0.940  1.00 pu kV  1512
73 FLAMGORG 138.0  >0.95    0.936  1.00 pu kV  703
73 GRANDJCT 345.0  >0.95    0.942  1.00 pu kV  703
73 MONTROSE 115.0  >0.95    0.944  1.00 pu kV  703
73 MONTROSE 345.0  >0.95    0.932  1.00 pu kV  703
73 BULLOCK  115.0  >0.95    0.941  1.00 pu kV  703
73 HAPPYCAN 115.0  >0.95    0.942  1.00 pu kV  703
73 JUANITA  115.0  >0.95    0.949  1.00 pu kV  703
73 NORTHMSA 115.0  >0.95    0.941  1.00 pu kV  703
73 GARNET M 115.0  >0.95    0.937  1.00 pu kV  703
73 GARNETAP 115.0  >0.95    0.942  1.00 pu kV  703
73 HOVEN NO 115.0  >0.95    0.940  1.00 pu kV  1512
73 HOVENWEP 115.0  >0.95    0.934  1.00 pu kV  1512
73 MAIN  CO 115.0  >0.95    0.941  1.00 pu kV  1512
73 SPRCKTAP 115.0  >0.95    0.942  1.00 pu kV  703
73 Y.JACK 2 115.0  >0.95    0.939  1.00 pu kV  1512
73 Y.JACK W 115.0  >0.95    0.939  1.00 pu kV  1512
73 MOQUI C  115.0  >0.95    0.940  1.00 pu kV  1512
73 SANDCANY 115.0  >0.95    0.938  1.00 pu kV  703
73 CEMNT CK 115.0  >0.95    0.942  1.00 pu kV  1512
73 TOWAOC   115.0  >0.95    0.949  1.00 pu kV  1506
65 RANGELY  138.0  >0.95    0.937  1.00 pu kV  1606
73 ARTESIA  138.0  >0.95    0.943  1.00 pu kV  1606
73 AXIAL    138.0  >0.95    0.953  1.00 pu kV  1606
73 MEEKER   138.0  >0.95    0.938  1.00 pu kV  1606
62 ANACOND  230.0  >0.95    0.935  1.00 pu kV  1759
62 WILSALL  161.0  >0.95    0.958  1.00 pu kV  1759
62 WILSALL  230.0  >0.95    0.970  1.00 pu kV  1759
62 ANA BPA  115.0  >0.95    0.982  1.00 pu kV  1759
40 GARRISON 230.0  >0.95    0.951  1.00 pu kV  1759
65 BONANZA  345.0  >0.95    0.946  1.00 pu kV  1789
65 BAIROIL  115.0  >0.95    0.947  1.00 pu kV  1820
65 WHISKEYP 115.0  >0.95    0.945  1.00 pu kV  1820
62 MISSLA 7 161.0  >0.95    0.949  1.00 pu kV  1902

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#
62 BUTTEMHD 161.0  0.947   0.895  1.00 pu kV  1759
62 BUTTE MT 161.0  0.946   0.893  1.00 pu kV  1759
62 GLDNSNLT 161.0  0.944   0.894  1.00 pu kV  6
65 CARBON   138.0  0.944   0.875  1.00 pu kV  703
65 DG UPLCO 138.0  0.940   0.888  1.00 pu kV  703
65 EMMAPARK 138.0  0.931   0.858  1.00 pu kV  703
65 HELPER   138.0  0.942   0.873  1.00 pu kV  703
65 HELPER T 138.0  0.946   0.877  1.00 pu kV  703
65 MOUND SW 138.0  0.974   0.905  1.00 pu kV  703
65 PANTHER  138.0  0.942   0.872  1.00 pu kV  703
65 SPHINX T 138.0  0.976   0.907  1.00 pu kV  703
65 UPALCO   138.0  0.940   0.888  1.00 pu kV  703
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65 WILLOW C 138.0  0.942   0.872  1.00 pu kV  703

Area Count, Volts new and worse:
Area 40: 6
Area 60: 1
Area 62: 22
Area 63: 3
Area 65: 26
Area 70: 2
Area 73: 24

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
73 CARTERLK 115 to 73 FLATIRON 115 CKT 1    1.37   1.24   80.00   1279
70 LOOKOUT  115 to 70 LOOKOUT  230 CKT 1    1.17   1.06   150.00   1848
70 LOOKOUT  115 to 70 LOOKOUT  230 CKT 2    1.15   1.04   150.00   1847
73 MIDWAYBR 230 to 73 MIDWAYBR 115 CKT 1    1.11   1.00   100.00   1461
70 CHEROKEN 115 to 70 DERBY 2  115 CKT 1    1.10   0.99   135.00   966
70 CHEROKEN 115 to 70 DERBY 1  115 CKT 1    1.06   0.95   135.00   967
40 DIAM LAK 115 to 40 SACHEEN  115 CKT 1    1.05   0.99   131.50   287
60 AMFLS    138 to 60 BRADY    138 CKT 1    1.03   0.96   236.60   27

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
73 GOREPASS 138 to 73 HAYDEN   138 CKT 1    1.18    <= 0.95  96.00   1646
65 BRIDGER  230 to 65 ROCKSPGS 230 CKT 1    1.10    <= 0.95  423.90   52
70 CABINCRK 115 to 70 CABINCRK 230 CKT 2    1.10    <= 0.95  50.00   991
70 CABINCRK 115 to 70 CABINCRK 230 CKT 1    1.08    <= 0.95  50.00   991
70 WELD  PS 230 to 73 WELD  LM 230 CKT 1    1.06    <= 0.95  500.00   1630
73 WELD  LM 115 to 73 WELD  LM 230 CKT 1    1.04    <= 0.95  150.00   1628
60 BRIDGER  345 to 60 BORAH    345 CKT 1    1.03    <= 0.95  892.20   53
70 HOPKINS  115 to 70 BASALT   115 CKT 1    1.02    <= 0.95  66.90   1648
62 ANACOND  230 to 62 ANACOND  161 CKT 2    1.02    <= 0.95  200.00   1690
62 ANACOND  230 to 62 ANACOND  161 CKT 1    1.02    <= 0.95  200.00   1691
73 SIDNEY   115 to 73 SIDNEY   230 CKT 1    1.00    <= 0.95  167.00   1348
60 BRIDGER  345 to 60 KINPORT  345 CKT 1    0.99    <= 0.95  892.20   1612
73 BRUSHTAP 115 to 73 EFMORGTP 115 CKT 1    0.98    <= 0.95  121.70   1170
60 BRIDGER  345 to 65 GOSHEN   345 CKT 1    0.97    <= 0.95  892.20   53
70 FTLUPTON 230 to 70 PAWNEE   230 CKT 1    0.97    <= 0.95  413.50   1070
70 LOOKOUT  115 to 70 HOGBACK  115 CKT 1    0.96    <= 0.95  192.00   1038
62 BROADV&1 500 to 62 BROADVU  500 CKT 1    0.95    <= 0.95  1732.00   154

Area Count, Rates better and away:
Area 40: 1
Area 60: 4
Area 62: 3
Area 65: 1
Area 70: 10
Area 73: 6

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
65 BIGGRASS 161.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  422
60 NELSN TP 138.0 0.968  0.95 <= pu <= 1.05   1.00 pu kV  104
62 ENNIS MT 161.0 0.932  0.95 <= pu <= 1.05   1.00 pu kV  189
62 SHERDNMT 161.0 0.930  0.95 <= pu <= 1.05   1.00 pu kV  422
62 DILLON S 161.0 0.921  0.95 <= pu <= 1.05   1.00 pu kV  422
40 WAGNERLT 115.0 0.967  0.95 <= pu <= 1.05   1.00 pu kV  388
62 PTRSNFLT 230.0 0.907  0.95 <= pu <= 1.05   1.00 pu kV  422
65 AMPS     230.0 0.929  0.95 <= pu <= 1.05   1.00 pu kV  422
65 JFRSNPHA 161.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1612
70 JEWELL2  230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 TOLGATE  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BARRLAKE 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  943
70 SKYRANCH 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  944
70 TOWER    230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  944
70 DERBY 2  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  967
70 MARCY    230.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  984
70 WATERTON 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  984
70 SURREYRG 230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  985
70 MURPHY   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  985
70 LEETSDAL 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY2 230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY1 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 ELATI1   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 ELATI2   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MONACO   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  994
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70 MEADOWHL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 MONROEPS 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 SULLIVN  230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 TECH CTR 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 JEWELL1  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 RIVERDAL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1013
70 CHEROKEE 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 DENVTM   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GLENN PS 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 LACOMBE  230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 WASHINGT 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 CLARK    230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 JORDAN   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 CHATFLD  230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1053
70 RIDGE    230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1056
70 WESTPS   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1057
70 QUINCY   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 SMOKYHIL 230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 GREENWD  230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 CASTLRCK 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1097
70 GUNBARRE 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 LEGGETT  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 NIWOT    230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 WINDRIVR 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 WINDRIVT 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 TORRNGTN 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1386
73 BETHELLM 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1405
65 WORLAND  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 MCGREW   115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1873
70 PALMER   115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1883
70 WOODLAND 115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1883
73 MANCOSTP 115.0 0.951  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 RIVERTON 115.0 0.960  0.95 <= pu <= 1.05   1.00 pu kV  1905

Area Count, Volts better and away:
Area 40: 1
Area 54: 1
Area 60: 2
Area 62: 4
Area 65: 4
Area 70: 41
Area 73: 10
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Compost found the following for comparisons:
     86 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     91 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\slcl2\pslcl2-2.out
     335 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\slcl2\pslcl2-2.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
65 PLATTE   230 to 65 PLATTE   115 CKT 1    <0.95     1.10   100.00   674
73 MEEKER   138 to 65 RANGELY  138 CKT 1    <0.95     1.01   160.00   1606
70 MIDWAYPS 115 to 70 MIDWAYPS 230 CKT 1    <0.95     0.99   100.00   1638
40 CLARKSTN 115 to 40 POMEROY  115 CKT 1    <0.95     0.98   63.70   473
65 BONANZA  138 to 65 DG UPLCO 138 CKT 1    <0.95     0.97   192.00   703
73 COYOTE G 115 to 73 ELPASOTP 115 CKT 1    <0.95     0.97   85.00   1517
19 GLADETAP 115 to 73 ELPASOTP 115 CKT 1    <0.95     0.97   85.00   1517
70 COMANCHE 115 to 70 READER   115 CKT 1    <0.95     0.97   216.90   1638
40 BURKE    115 to 40 BURKAVAA 115 CKT 1    <0.95     0.96   73.90   183
40 NEWPORTB 115 to 40 PINE ST  115 CKT 1    <0.95     0.96   120.10   287
70 DANIELPK 230 to 70 PRAIRIE  230 CKT 1    <0.95     0.95   494.80   983

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   2.09   113.70   421
40 BEACON N 115 to 40 ROSSPARK 115 CKT 1    1.27   1.34   138.20   288
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26   1.41   113.70   469
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.20   1.39   163.00   703
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.19   1.38   163.00   703
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.45   100.00   422
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.15   1.35   163.00   703
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05   1.13   213.10   421
70 SMOKYHIL 115 to 70 SMOKYHIL 230 CKT 1    1.04   1.12   150.00   1852
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.03   1.14   113.00   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.03   1.14   113.00   732
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00   1.11   944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00   1.11   944.00   456
70 WATERTON 115 to 70 WATERTON 230 CKT 2    1.00   1.12   100.00   1854
70 WATERTON 115 to 70 WATERTON 230 CKT 1    0.99   1.11   100.00   1855

Area Count, Rates new and worse:
Area 19: 1
Area 40: 9
Area 65: 8
Area 70: 6
Area 73: 2

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
70 MTSDAN   500.0  >0.95    1.025  1.00 pu kV  4
62 MTSGFALL 500.0  >0.95    1.007  1.00 pu kV  6
62 ANACOND  161.0  >0.95    0.917  1.00 pu kV  1759
62 MT ASIMI 161.0  >0.95    0.900  1.00 pu kV  1759
62 GT FALLS 161.0  >0.95    0.945  1.00 pu kV  6
62 RAINBOW  161.0  >0.95    0.944  1.00 pu kV  6
62 SHELBY   230.0  >0.95    0.937  1.00 pu kV  6
62 JUDITHGP 230.0  >0.95    0.937  1.00 pu kV  6
62 CNRDWAPA 115.0  >0.95    0.940  1.00 pu kV  6
62 GT FALLS 115.0  >0.95    0.981  1.00 pu kV  6
62 GT FALLS 230.0  >0.95    0.937  1.00 pu kV  6
62 OVANDO   230.0  >0.95    0.952  1.00 pu kV  6
62 LANDRSFK 230.0  >0.95    0.908  1.00 pu kV  6
62 DUTTON   115.0  >0.95    0.966  1.00 pu kV  6
62 CNRD-SRA 115.0  >0.95    0.940  1.00 pu kV  6
63 HAVRE    115.0  >0.95    0.951  1.00 pu kV  6
63 RUDYARD  115.0  >0.95    0.945  1.00 pu kV  6
63 TIBERTAP 115.0  >0.95    0.942  1.00 pu kV  6
60 ONTARIO  138.0  >0.95    0.977  1.00 pu kV  126
40 EGRANVIL 115.0  >0.95    0.943  1.00 pu kV  421
40 AIRWAYTP 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.949  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.949  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.948  1.00 pu kV  282
65 ANTLOPE  230.0  >0.95    0.936  1.00 pu kV  665
65 LOST RIV 230.0  >0.95    0.927  1.00 pu kV  665
65 ASHLEY   138.0  >0.95    0.934  1.00 pu kV  703
65 ATLANTIC 230.0  >0.95    0.944  1.00 pu kV  703
65 BRDGR PP 230.0  >0.95    0.948  1.00 pu kV  703
65 COLUMBIA 138.0  >0.95    0.913  1.00 pu kV  703
65 FIREHOLE 230.0  >0.95    0.946  1.00 pu kV  703
65 FLAMGORG 230.0  >0.95    0.934  1.00 pu kV  703
65 JERUSALM 138.0  >0.95    0.946  1.00 pu kV  703
65 LITTLEMT 230.0  >0.95    0.934  1.00 pu kV  703
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65 MART MAR 138.0  >0.95    0.946  1.00 pu kV  703
65 SUNNYSID 138.0  >0.95    0.916  1.00 pu kV  703
70 CAMEO    230.0  >0.95    0.945  1.00 pu kV  703
73 CAHONE   115.0  >0.95    0.940  1.00 pu kV  1512
73 FLAMGORG 138.0  >0.95    0.936  1.00 pu kV  703
73 GRANDJCT 345.0  >0.95    0.942  1.00 pu kV  703
73 MONTROSE 115.0  >0.95    0.944  1.00 pu kV  703
73 MONTROSE 345.0  >0.95    0.932  1.00 pu kV  703
73 BULLOCK  115.0  >0.95    0.941  1.00 pu kV  703
73 HAPPYCAN 115.0  >0.95    0.942  1.00 pu kV  703
73 JUANITA  115.0  >0.95    0.949  1.00 pu kV  703
73 NORTHMSA 115.0  >0.95    0.941  1.00 pu kV  703
73 GARNET M 115.0  >0.95    0.937  1.00 pu kV  703
73 GARNETAP 115.0  >0.95    0.942  1.00 pu kV  703
73 HOVEN NO 115.0  >0.95    0.940  1.00 pu kV  1512
73 HOVENWEP 115.0  >0.95    0.934  1.00 pu kV  1512
73 MAIN  CO 115.0  >0.95    0.941  1.00 pu kV  1512
73 SPRCKTAP 115.0  >0.95    0.942  1.00 pu kV  703
73 Y.JACK 2 115.0  >0.95    0.939  1.00 pu kV  1512
73 Y.JACK W 115.0  >0.95    0.939  1.00 pu kV  1512
73 MOQUI C  115.0  >0.95    0.940  1.00 pu kV  1512
73 SANDCANY 115.0  >0.95    0.938  1.00 pu kV  703
73 CEMNT CK 115.0  >0.95    0.942  1.00 pu kV  1512
73 TOWAOC   115.0  >0.95    0.949  1.00 pu kV  1506
65 RANGELY  138.0  >0.95    0.937  1.00 pu kV  1606
73 ARTESIA  138.0  >0.95    0.943  1.00 pu kV  1606
73 AXIAL    138.0  >0.95    0.953  1.00 pu kV  1606
73 MEEKER   138.0  >0.95    0.938  1.00 pu kV  1606
62 ANACOND  230.0  >0.95    0.935  1.00 pu kV  1759
62 WILSALL  161.0  >0.95    0.958  1.00 pu kV  1759
62 WILSALL  230.0  >0.95    0.970  1.00 pu kV  1759
62 ANA BPA  115.0  >0.95    0.982  1.00 pu kV  1759
40 GARRISON 230.0  >0.95    0.951  1.00 pu kV  1759
65 BONANZA  345.0  >0.95    0.946  1.00 pu kV  1789
65 BAIROIL  115.0  >0.95    0.947  1.00 pu kV  1820
65 WHISKEYP 115.0  >0.95    0.945  1.00 pu kV  1820
62 MISSLA 7 161.0  >0.95    0.949  1.00 pu kV  1902

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#
62 BUTTEMHD 161.0  0.947   0.895  1.00 pu kV  1759
62 BUTTE MT 161.0  0.946   0.893  1.00 pu kV  1759
62 GLDNSNLT 161.0  0.944   0.894  1.00 pu kV  6
65 CARBON   138.0  0.944   0.875  1.00 pu kV  703
65 DG UPLCO 138.0  0.940   0.888  1.00 pu kV  703
65 EMMAPARK 138.0  0.931   0.858  1.00 pu kV  703
65 HELPER   138.0  0.942   0.873  1.00 pu kV  703
65 HELPER T 138.0  0.946   0.877  1.00 pu kV  703
65 MOUND SW 138.0  0.974   0.905  1.00 pu kV  703
65 PANTHER  138.0  0.942   0.872  1.00 pu kV  703
65 SPHINX T 138.0  0.976   0.907  1.00 pu kV  703
65 UPALCO   138.0  0.940   0.888  1.00 pu kV  703
65 WILLOW C 138.0  0.942   0.872  1.00 pu kV  703

Area Count, Volts new and worse:
Area 40: 6
Area 60: 1
Area 62: 22
Area 63: 3
Area 65: 26
Area 70: 2
Area 73: 24

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
70 LOOKOUT  115 to 70 LOOKOUT  230 CKT 1    1.17   1.06   150.00   1848
70 LOOKOUT  115 to 70 LOOKOUT  230 CKT 2    1.15   1.04   150.00   1847
70 CHEROKEN 115 to 70 DERBY 2  115 CKT 1    1.10   0.99   135.00   966
70 CHEROKEN 115 to 70 DERBY 1  115 CKT 1    1.06   0.95   135.00   967
40 DIAM LAK 115 to 40 SACHEEN  115 CKT 1    1.05   0.99   131.50   287

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
70 CABINCRK 115 to 70 CABINCRK 230 CKT 2    1.10    <= 0.95  50.00   991
70 CABINCRK 115 to 70 CABINCRK 230 CKT 1    1.08    <= 0.95  50.00   991
70 WELD  PS 230 to 73 WELD  LM 230 CKT 1    1.06    <= 0.95  500.00   1630
70 HOPKINS  115 to 70 BASALT   115 CKT 1    1.02    <= 0.95  66.90   1648
70 FTLUPTON 230 to 70 PAWNEE   230 CKT 1    0.97    <= 0.95  413.50   1070
70 LOOKOUT  115 to 70 HOGBACK  115 CKT 1    0.96    <= 0.95  192.00   1038
65 FISHCREK 161 to 65 GRACE    161 CKT 1    0.96    <= 0.95  176.00   1619

Area Count, Rates better and away:
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Area 40: 1
Area 65: 1
Area 70: 10

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
65 BIGGRASS 161.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  422
60 NELSN TP 138.0 0.968  0.95 <= pu <= 1.05   1.00 pu kV  104
62 ENNIS MT 161.0 0.932  0.95 <= pu <= 1.05   1.00 pu kV  189
62 SHERDNMT 161.0 0.930  0.95 <= pu <= 1.05   1.00 pu kV  422
62 DILLON S 161.0 0.921  0.95 <= pu <= 1.05   1.00 pu kV  422
40 WAGNERLT 115.0 0.967  0.95 <= pu <= 1.05   1.00 pu kV  388
62 PTRSNFLT 230.0 0.907  0.95 <= pu <= 1.05   1.00 pu kV  422
65 AMPS     230.0 0.929  0.95 <= pu <= 1.05   1.00 pu kV  422
65 JFRSNPHA 161.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1612
70 JEWELL2  230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 TOLGATE  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BARRLAKE 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  943
70 SKYRANCH 230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  944
70 TOWER    230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  944
70 DERBY 2  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  967
70 MARCY    230.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  984
70 WATERTON 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  984
70 SURREYRG 230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  985
70 MURPHY   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  985
70 LEETSDAL 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY2 230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  994
70 BUCKLEY1 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 ELATI1   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 ELATI2   230.0 0.938  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MONACO   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  994
70 MEADOWHL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 MONROEPS 230.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  994
70 SULLIVN  230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 TECH CTR 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 JEWELL1  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1030
70 RIVERDAL 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1013
70 CHEROKEE 230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 DENVTM   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 GLENN PS 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 LACOMBE  230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 WASHINGT 230.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1014
70 CLARK    230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 JORDAN   230.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1028
70 CHATFLD  230.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1053
70 RIDGE    230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1056
70 WESTPS   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1057
70 QUINCY   230.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 SMOKYHIL 230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1069
70 GREENWD  230.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1070
70 CASTLRCK 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1097
70 GUNBARRE 230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 LEGGETT  230.0 0.945  0.95 <= pu <= 1.05   1.00 pu kV  1110
70 NIWOT    230.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  1110
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 WINDRIVR 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 WINDRIVT 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 TORRNGTN 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1386
73 BETHELLM 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1405
65 WORLAND  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 MCGREW   115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1873
70 PALMER   115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1883
70 WOODLAND 115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  1883
73 MANCOSTP 115.0 0.951  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
73 RIVERTON 115.0 0.960  0.95 <= pu <= 1.05   1.00 pu kV  1905

Area Count, Volts better and away:
Area 40: 1
Area 54: 1
Area 60: 2
Area 62: 4
Area 65: 4
Area 70: 41
Area 73: 10
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Compost found the following for comparisons:
     142 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     133 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\slcl3\pslcl3-1.out
     339 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\slcl3\pslcl3-1.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
62 ANACOND  161 to 62 DILLON S 161 CKT 1    <0.95     1.98   165.00   10
65 BIGGRASS 161 to 65 JFRSNPHA 161 CKT 1    <0.95     1.46   148.10   12
62 DILLON S 161 to 65 BIGGRASS 161 CKT 1    <0.95     1.45   164.50   12
60 MTSKINP  500 to 60 KINPORT  345 CKT 1    <0.95     1.27   840.00   1656
65 MTSBENL  500 to 65 BENLOMND 345 CKT 1    <0.95     1.16   840.00   1655
62 ENNIS MT 161 to 62 BRADLEYC 161 CKT 1    <0.95     1.00   203.60   10
60 KINPORT  345 to 60 KINPT MP 230 CKT 1    <0.95     0.98   1000.00   1656
62 SHERDNMT 161 to 62 ENNIS MT 161 CKT 1    <0.95     0.97   203.60   10
62 BROADV&2 500 to 62 BROADVU  500 CKT 2    <0.95     0.95   1732.00   152
40 COLUMBIA 230 to 40 ROCKYRH2 230 CKT 1    <0.95     0.95   478.00   523
18 HA PS    345 to 65 REDBUTTE 345 CKT 1    <0.95     0.95   300.00   1609

**** RATES: WORSE ****
Component                                 w/o Prj  w/ Prj Rating   Cont#
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   2.11   100.00   12
65 BENLOMND 230 to 65 BENLOMND 138 CKT 1    1.06   1.14   267.00   1784

Area Count, Rates new and worse:
Area 18: 1
Area 40: 1
Area 60: 2
Area 62: 5
Area 65: 4

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
54 N LETHB4 240.0  >0.95    0.977  1.00 pu kV  8
54 TABER A9 138.0  >0.95    0.923  1.00 pu kV  8
54 VAUXHAL9 138.0  >0.95    0.937  1.00 pu kV  8
54 WESTFLD7 138.0  >0.95    0.938  1.00 pu kV  8
54 TEMPEST7 138.0  >0.95    0.952  1.00 pu kV  8
54 CONRAD 9 138.0  >0.95    0.919  1.00 pu kV  8
54 MONARCH9 138.0  >0.95    0.939  1.00 pu kV  8
54 HAYS   7 138.0  >0.95    0.946  1.00 pu kV  8
54 CHIN CH7 138.0  >0.95    0.954  1.00 pu kV  8
54 LTH241S1 138.0  >0.95    0.932  1.00 pu kV  8
54 N LETHB7 138.0  >0.95    0.936  1.00 pu kV  8
54 MAGRATH7 138.0  >0.95    0.949  1.00 pu kV  8
54 LTH 11S3 138.0  >0.95    0.940  1.00 pu kV  8
54 LTH146S2 138.0  >0.95    0.930  1.00 pu kV  8
54 LTH593S2 138.0  >0.95    0.929  1.00 pu kV  8
54 LETH674S 138.0  >0.95    0.945  1.00 pu kV  8
54 RIVERBN9 138.0  >0.95    0.944  1.00 pu kV  8
54 COALDAL9 138.0  >0.95    0.933  1.00 pu kV  8
54 TEPST TP 138.0  >0.95    0.952  1.00 pu kV  8
54 RVBD TAP 138.0  >0.95    0.944  1.00 pu kV  8
54 ENCHANT9 138.0  >0.95    0.945  1.00 pu kV  8
54 FINCAST9 138.0  >0.95    0.923  1.00 pu kV  8
54 BURDETT9 138.0  >0.95    0.940  1.00 pu kV  8
54 MONAR TP 138.0  >0.95    0.940  1.00 pu kV  8
54 ENCH TAP 138.0  >0.95    0.947  1.00 pu kV  8
54 CONR JCN 138.0  >0.95    0.923  1.00 pu kV  8
62 ANACOND  230.0  >0.95    0.948  1.00 pu kV  10
62 ANACOND  161.0  >0.95    0.930  1.00 pu kV  10
62 WILSALL  161.0  >0.95    0.939  1.00 pu kV  10
62 MT ASIMI 161.0  >0.95    0.912  1.00 pu kV  10
62 WILSALL  230.0  >0.95    0.951  1.00 pu kV  10
62 ANA BPA  115.0  >0.95    0.972  1.00 pu kV  10
62 COLRPLJE 161.0  >0.95    0.951  1.00 pu kV  10
62 CLMBUSPM 161.0  >0.95    0.951  1.00 pu kV  10
65 ANTLOPE  230.0  >0.95    0.960  1.00 pu kV  12
65 LOST RIV 230.0  >0.95    0.951  1.00 pu kV  12
60 PINGREE  138.0  >0.95    0.976  1.00 pu kV  99
62 SHELBY   230.0  >0.95    0.966  1.00 pu kV  167
62 CNRDWAPA 115.0  >0.95    0.967  1.00 pu kV  167
62 CNRD-SRA 115.0  >0.95    0.966  1.00 pu kV  167
40 EGRANVIL 115.0  >0.95    0.949  1.00 pu kV  235
40 AIRWAYTP 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.948  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.948  1.00 pu kV  282
40 HOT SPR  500.0  >0.95    1.019  1.00 pu kV  482
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**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#
65 BIGGRASS 161.0  0.919   0.845  1.00 pu kV  12
62 BRADLEYC 161.0  0.929   0.865  1.00 pu kV  10
62 ENNIS MT 161.0  0.932   0.871  1.00 pu kV  10
62 JACKRABT 161.0  0.919   0.871  1.00 pu kV  10
65 JFRSNPHA 161.0  0.943   0.884  1.00 pu kV  12

Area Count, Volts new and worse:
Area 40: 6
Area 54: 26
Area 60: 1
Area 62: 14
Area 65: 4

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   1.75   113.70   421
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.55   1.43   75.10   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.55   1.42   75.00   732
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.43   1.25   136.00   703
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.42   1.23   136.00   703
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.38   1.20   136.00   703
65 TREASTON 230 to 65 TREASTON 138 CKT 1    1.29   1.18   200.00   1831
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26   1.18   113.70   469
65 BONANZA  345 to 65 BONANZA  138 CKT 1    1.20   1.04   392.00   1475
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 1    1.16   1.05   100.00   703
65 FLAMGORG 230 to 73 FLAMGORG 138 CKT 2    1.16   1.05   100.00   703
65 BONANZA  345 to 65 MONA     345 CKT 1    1.07   0.96   650.00   1512

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
65 BONANZA  138 to 65 RANGELY  138 CKT 1    1.19    <= 0.95  115.00   1789
65 PALISADE 230 to 65 ROCKSPGS 230 CKT 1    1.11    <= 0.95  423.90   707
65 BRIDGER  230 to 65 ROCKSPGS 230 CKT 1    1.10    <= 0.95  423.90   52
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05    <= 0.95  213.10   421
60 BRIDGER  345 to 60 BORAH    345 CKT 1    1.03    <= 0.95  892.20   53
65 BRDGR PP 230 to 65 FIREHOLE 230 CKT 1    1.03    <= 0.95  424.00   890
65 PALISADE 230 to 65 RAVEN    230 CKT 1    1.02    <= 0.95  461.00   707
65 CARBON   138 to 65 SPAN FRK 138 CKT 2    1.02    <= 0.95  208.00   703
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00    <= 0.95  944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00    <= 0.95  944.00   456
60 BRIDGER  345 to 60 KINPORT  345 CKT 1    0.99    <= 0.95  892.20   1612
65 BLUE RIM 230 to 65 BRDGR PP 230 CKT 1    0.99    <= 0.95  423.90   890
65 BLUE RIM 230 to 65 S. TRONA 230 CKT 1    0.99    <= 0.95  423.90   890
60 BRIDGER  345 to 65 GOSHEN   345 CKT 1    0.97    <= 0.95  892.20   53
60 MCCALL   138 to 60 WEISER   138 CKT 1    0.97    <= 0.95  32.30   96
65 ASHLEY   138 to 73 VERNAL   138 CKT 1    0.97    <= 0.95  136.00   701
73 VERNAL   138 to 65 BONANZA  138 CKT 1    0.96    <= 0.95  192.00   703
60 PINGREE  138 to 60 DON      138 CKT 1    0.96    <= 0.95  141.00   1610
65 BENLOMND 138 to 65 EL MONTE 138 CKT 2    0.95    <= 0.95  205.10   684
65 BENLOMND 138 to 65 EL MONTE 138 CKT 1    0.95    <= 0.95  205.10   685

Area Count, Rates better and away:
Area 40: 5
Area 60: 5
Area 65: 21
Area 73: 1

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#
62 DILLON S 161.0  0.921   0.977  1.00 pu kV  10

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
40 GAR1EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
40 GAR2EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
65 ANTLOPE  161.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANGEL    138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CARBON   138.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  703
65 DG UPLCO 138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 EMMAPARK 138.0 0.931  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER   138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER T 138.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  703
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 PANTHER  138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
65 UPALCO   138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 WILLOW C 138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SMFLD TP 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
65 SMITHFLD 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
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65 FRANNIE  230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  798
65 GARLAND  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  798
65 OREBASIN 230.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  798
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
40 ARMSTRNG 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CHAMBERS 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
62 MILLERCK 161.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMA 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMB 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902

Area Count, Volts better and away:
Area 40: 6
Area 60: 1
Area 62: 4
Area 65: 17
Area 73: 3
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Compost found the following for comparisons:
     86 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     84 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\slcl3\pslcl3-2.out
     339 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\slcl3\pslcl3-2.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
65 BIGGRASS 161 to 65 JFRSNPHA 161 CKT 1    <0.95     1.23   176.00   12
40 COLUMBIA 230 to 40 ROCKYRH2 230 CKT 1    <0.95     0.95   478.00   523
18 HA PS    345 to 65 REDBUTTE 345 CKT 1    <0.95     0.95   300.00   1609

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   2.11   100.00   12
65 BENLOMND 230 to 65 BENLOMND 138 CKT 1    1.06   1.14   267.00   1784

Area Count, Rates new and worse:
Area 18: 1
Area 40: 1
Area 65: 3

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
54 N LETHB4 240.0  >0.95    0.977  1.00 pu kV  8
54 TABER A9 138.0  >0.95    0.923  1.00 pu kV  8
54 VAUXHAL9 138.0  >0.95    0.937  1.00 pu kV  8
54 WESTFLD7 138.0  >0.95    0.938  1.00 pu kV  8
54 TEMPEST7 138.0  >0.95    0.952  1.00 pu kV  8
54 CONRAD 9 138.0  >0.95    0.919  1.00 pu kV  8
54 MONARCH9 138.0  >0.95    0.939  1.00 pu kV  8
54 HAYS   7 138.0  >0.95    0.946  1.00 pu kV  8
54 CHIN CH7 138.0  >0.95    0.954  1.00 pu kV  8
54 LTH241S1 138.0  >0.95    0.932  1.00 pu kV  8
54 N LETHB7 138.0  >0.95    0.936  1.00 pu kV  8
54 MAGRATH7 138.0  >0.95    0.949  1.00 pu kV  8
54 LTH 11S3 138.0  >0.95    0.940  1.00 pu kV  8
54 LTH146S2 138.0  >0.95    0.930  1.00 pu kV  8
54 LTH593S2 138.0  >0.95    0.929  1.00 pu kV  8
54 LETH674S 138.0  >0.95    0.945  1.00 pu kV  8
54 RIVERBN9 138.0  >0.95    0.944  1.00 pu kV  8
54 COALDAL9 138.0  >0.95    0.933  1.00 pu kV  8
54 TEPST TP 138.0  >0.95    0.952  1.00 pu kV  8
54 RVBD TAP 138.0  >0.95    0.944  1.00 pu kV  8
54 ENCHANT9 138.0  >0.95    0.945  1.00 pu kV  8
54 FINCAST9 138.0  >0.95    0.923  1.00 pu kV  8
54 BURDETT9 138.0  >0.95    0.940  1.00 pu kV  8
54 MONAR TP 138.0  >0.95    0.940  1.00 pu kV  8
54 ENCH TAP 138.0  >0.95    0.947  1.00 pu kV  8
54 CONR JCN 138.0  >0.95    0.923  1.00 pu kV  8
62 ANACOND  230.0  >0.95    0.948  1.00 pu kV  10
62 ANACOND  161.0  >0.95    0.930  1.00 pu kV  10
62 WILSALL  161.0  >0.95    0.939  1.00 pu kV  10
62 MT ASIMI 161.0  >0.95    0.912  1.00 pu kV  10
62 WILSALL  230.0  >0.95    0.951  1.00 pu kV  10
62 ANA BPA  115.0  >0.95    0.972  1.00 pu kV  10
62 COLRPLJE 161.0  >0.95    0.951  1.00 pu kV  10
62 CLMBUSPM 161.0  >0.95    0.951  1.00 pu kV  10
65 ANTLOPE  230.0  >0.95    0.960  1.00 pu kV  12
65 LOST RIV 230.0  >0.95    0.951  1.00 pu kV  12
60 PINGREE  138.0  >0.95    0.976  1.00 pu kV  99
62 SHELBY   230.0  >0.95    0.966  1.00 pu kV  167
62 CNRDWAPA 115.0  >0.95    0.967  1.00 pu kV  167
62 CNRD-SRA 115.0  >0.95    0.966  1.00 pu kV  167
40 EGRANVIL 115.0  >0.95    0.949  1.00 pu kV  235
40 AIRWAYTP 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLBPA 115.0  >0.95    0.948  1.00 pu kV  282
40 FOURLKS  115.0  >0.95    0.948  1.00 pu kV  282
40 HAL&WHIT 115.0  >0.95    0.948  1.00 pu kV  282
40 HOT SPR  500.0  >0.95    1.019  1.00 pu kV  482

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#
65 BIGGRASS 161.0  0.919   0.845  1.00 pu kV  12
62 BRADLEYC 161.0  0.929   0.865  1.00 pu kV  10
62 ENNIS MT 161.0  0.932   0.871  1.00 pu kV  10
62 JACKRABT 161.0  0.919   0.871  1.00 pu kV  10
65 JFRSNPHA 161.0  0.943   0.884  1.00 pu kV  12

Area Count, Volts new and worse:
Area 40: 6
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Area 54: 26
Area 60: 1
Area 62: 14
Area 65: 4

**** RATES: BETTER ****
Component                                   w/o Prj  w/ Prj Rating  Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   1.75   113.70   421
65 TREASTON 230 to 65 TREASTON 138 CKT 1    1.29   1.18   200.00   1831
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26   1.18   113.70   469
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.20   1.04   163.00   703
65 BONANZA  345 to 65 BONANZA  138 CKT 1    1.20   1.04   392.00   1475
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.19   1.03   163.00   703
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.15   1.00   163.00   703

**** RATES:  AWAY ****
Component                                     w/o Prj  w/ Prj  Rating   Cont#
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05    <= 0.95  213.10   421
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.03    <= 0.95  113.00   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.03    <= 0.95  113.00   732
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00    <= 0.95  944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00    <= 0.95  944.00   456

Area Count, Rates better and away:
Area 40: 5
Area 65: 7

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#
62 DILLON S 161.0  0.921   0.977  1.00 pu kV  10

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
40 GAR1EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
40 GAR2EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
65 ANTLOPE  161.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANGEL    138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CARBON   138.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  703
65 DG UPLCO 138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 EMMAPARK 138.0 0.931  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER   138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER T 138.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  703
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 PANTHER  138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
65 UPALCO   138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 WILLOW C 138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SMFLD TP 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
65 SMITHFLD 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
65 FRANNIE  230.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  798
65 GARLAND  230.0 0.941  0.95 <= pu <= 1.05   1.00 pu kV  798
65 OREBASIN 230.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  798
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
40 ARMSTRNG 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CHAMBERS 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
73 COYOTE G 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1898
62 MILLERCK 161.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMA 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMB 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902

Area Count, Volts better and away:
Area 40: 6
Area 60: 1
Area 62: 4
Area 65: 17
Area 73: 3
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Compost found the following for comparisons:
     142 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-1.out
     124 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\lbl3\plbl3-1.out
     290 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\lbl3\plbl3-1.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
62 ANACOND  161 to 62 DILLON S 161 CKT 1    <0.95     1.33   165.00   10
62 DILLON S 161 to 65 BIGGRASS 161 CKT 1    <0.95     1.05   164.50   12
54 COALDAL9 138 to 54 TABER A9 138 CKT 72   <0.95     1.04   85.00   9
65 BIGGRASS 161 to 65 JFRSNPHA 161 CKT 1    <0.95     1.02   148.10   12
54 FOX CREE 138 to 54 BENBOW 9 138 CKT 20   <0.95     1.01   86.00   1
54 METIS649 138 to 54 KILRY TP 138 CKT 49   <0.95     1.01   85.00   1
54 RUTH LK4 240 to 54 848S901T 240 CKT 1    <0.95     1.01   100.00   1
18 HA PS    345 to 65 REDBUTTE 345 CKT 1    <0.95     0.99   300.00   1609
60 MTSKINP  500 to 60 KINPORT  345 CKT 1    <0.95     0.99   840.00   1656
62 BROADV&2 500 to 62 BROADVU  500 CKT 2    <0.95     0.98   1732.00   155
73 HOTCHKIS 115 to 73 GARNETAP 115 CKT 1    <0.95     0.98   85.00   1499

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
65 BONANZA  138 to 65 RANGELY  138 CKT 1    1.19   1.25   115.00   1789
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.50   100.00   12
65 BENLOMND 230 to 65 BENLOMND 138 CKT 1    1.06   1.18   267.00   1784
73 CRAIG    230 to 73 RIFLE WA 230 CKT 1    1.03   1.09   324.00   1651
54 RED DEE9 138 to 54 RED DEE4 240 CKT T1   0.98   1.14   200.00   1

Area Count, Rates new and worse:
Area 18: 1
Area 54: 5
Area 60: 1
Area 62: 3
Area 65: 4
Area 73: 2

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
40 IRVIN    115.0  >0.95    0.864  1.00 pu kV  580
62 MTSDILL  500.0  >0.95    0.976  1.00 pu kV  10
62 WILSALL  161.0  >0.95    0.973  1.00 pu kV  10
62 MT ASIMI 161.0  >0.95    0.944  1.00 pu kV  10
62 WILSALL  230.0  >0.95    0.983  1.00 pu kV  10
40 OPORTUNE 115.0  >0.95    0.863  1.00 pu kV  580
60 PINGREE  138.0  >0.95    0.969  1.00 pu kV  99
62 SHELBY   230.0  >0.95    0.962  1.00 pu kV  167
62 CNRDWAPA 115.0  >0.95    0.963  1.00 pu kV  167
62 CNRD-SRA 115.0  >0.95    0.962  1.00 pu kV  167
40 EGRANVIL 115.0  >0.95    0.944  1.00 pu kV  235
73 HOVENWEP 115.0  >0.95    0.945  1.00 pu kV  1540
73 SANDCANY 115.0  >0.95    0.949  1.00 pu kV  1540
73 ELPASOTP 115.0  >0.95    0.947  1.00 pu kV  1898

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 3
Area 60: 1
Area 62: 7
Area 73: 3

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   1.65   113.70   421
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.55   1.45   75.10   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.55   1.45   75.00   732
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.43   1.27   136.00   703
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.42   1.26   136.00   703
40 BEACON N 230 to 40 BELL SO  230 CKT 5    1.38   1.31   366.50   274
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.38   1.22   136.00   703
65 TREASTON 230 to 65 TREASTON 138 CKT 1    1.29   1.13   200.00   1831
65 BONANZA  345 to 65 BONANZA  138 CKT 1    1.20   1.13   392.00   1475
65 FISHCREK 161 to 65 GOSHEN   161 CKT 1    1.17   1.07   148.10   13
65 FISHCREK 161 to 65 GRACE    161 CKT 1    1.14   1.04   148.00   13
40 ADDY 2   230 to 40 ADDY     115 CKT 1    1.11   1.00   163.00   233
65 PALISADE 230 to 65 ROCKSPGS 230 CKT 1    1.11   0.98   423.90   707
65 BRIDGER  230 to 65 ROCKSPGS 230 CKT 1    1.10   1.01   423.90   52
40 NEWPORTT 115 to 40 BLANCHRD 115 CKT 1    1.08   0.98   113.70   287
65 BONANZA  345 to 65 MONA     345 CKT 1    1.07   0.99   650.00   1512
40 BLANCHRD 115 to 40 HOODOO   115 CKT 1    1.07   0.97   113.70   287
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40 HOODOO   115 to 40 SPIRITLT 115 CKT 1    1.07   0.97   111.90   287
40 MIDWAYB2 230 to 40 VANTAGE  230 CKT 1    1.02   0.96   378.50   465
40 COLUMBIA 115 to 40 GB55     115 CKT 1    1.00   0.95   127.70   245

**** RATES:  AWAY ****
Component                                   w/o Prj  w/ Prj  Rating   Cont#
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26    <= 0.95  113.70   469
40 BOUNDARY 230 to 40 BOUNDARY 115 CKT 1    1.09    <= 0.95  125.00   234
73 GREYBULL 115 to 73 LOVELL   115 CKT 1    1.07    <= 0.95  109.00   1602
40 DIAM LAK 115 to 40 SACHEEN  115 CKT 1    1.05    <= 0.95  131.50   287
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05    <= 0.95  213.10   421
40 SPIRITLT 115 to 40 ATHOLTAP 115 CKT 1    1.04    <= 0.95  113.70   287
40 NEWPORTT 115 to 40 PINE ST  115 CKT 1    1.03    <= 0.95  120.10   287
65 BRDGR PP 230 to 65 FIREHOLE 230 CKT 1    1.03    <= 0.95  424.00   890
65 PALISADE 230 to 65 RAVEN    230 CKT 1    1.02    <= 0.95  461.00   707
65 CARBON   138 to 65 SPAN FRK 138 CKT 2    1.02    <= 0.95  208.00   703
65 GRACE    161 to 65 GRACE    138 CKT 1    1.02    <= 0.95  168.00   1619
62 ANACOND  230 to 62 ANACOND  161 CKT 2    1.02    <= 0.95  200.00   1690
62 ANACOND  230 to 62 ANACOND  161 CKT 1    1.02    <= 0.95  200.00   1691
60 HELLSCYN 230 to 60 BROWNLEE 230 CKT 1    1.01    <= 0.95  478.00   96
54 RBW LAK7 138 to 54 791S701T 138 CKT 1    1.00    <= 0.95  24.00   1
54 RBW LAK7 138 to 54 791S702T 138 CKT 1    1.00    <= 0.95  24.00   1
60 OXBOW    230 to 60 BROWNLEE 230 CKT 1    1.00    <= 0.95  478.00   66
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00    <= 0.95  944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00    <= 0.95  944.00   456
65 BLUE RIM 230 to 65 BRDGR PP 230 CKT 1    0.99    <= 0.95  423.90   890
65 BLUE RIM 230 to 65 S. TRONA 230 CKT 1    0.99    <= 0.95  423.90   890
40 ATHOLTAP 115 to 40 SCARCELO 115 CKT 1    0.98    <= 0.95  113.70   287
40 ANC LK T 230 to 40 COLUMBIA 230 CKT 1    0.98    <= 0.95  415.50   614
60 MCCALL   138 to 60 WEISER   138 CKT 1    0.97    <= 0.95  32.30   96
40 COLUMBIA 115 to 40 VALHALLA 115 CKT 2    0.97    <= 0.95  213.10   373
40 COLUMBIA 115 to 40 VALHALLA 115 CKT 1    0.97    <= 0.95  213.10   374
65 ASHLEY   138 to 73 VERNAL   138 CKT 1    0.97    <= 0.95  136.00   701
73 VERNAL   138 to 65 BONANZA  138 CKT 1    0.96    <= 0.95  192.00   703
65 BENLOMND 138 to 65 EL MONTE 138 CKT 2    0.95    <= 0.95  205.10   684
65 BENLOMND 138 to 65 EL MONTE 138 CKT 1    0.95    <= 0.95  205.10   685

Area Count, Rates better and away:
Area 40: 20
Area 54: 2
Area 60: 3
Area 62: 2
Area 65: 21
Area 73: 2

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
40 CHENEY   115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  282
40 SILVRLAK 115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  282
40 GAR1EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
40 GAR2EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
65 AEC IPC  138.0 0.936  0.95 <= pu <= 1.05   1.00 pu kV  665
65 AEC SCOV 138.0 0.936  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOP 1 138.0 0.937  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOP 2 138.0 0.937  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOPE  161.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANGEL    138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CLINTON  138.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CARBON   138.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  703
65 DG UPLCO 138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 EMMAPARK 138.0 0.931  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER   138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER T 138.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  703
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 PANTHER  138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
65 UPALCO   138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 WILLOW C 138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SMFLD TP 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
65 SMITHFLD 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
73 GREYBULL 115.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 NAHNEJEN 115.0 0.916  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 WINDRIVR 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 WINDRIVT 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
65 WORLAND  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1602
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73 BASIN    115.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 LOVELL   115.0 0.929  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 WORLANTP 115.0 0.953  0.95 <= pu <= 1.05   1.00 pu kV  1602
40 ARMSTRNG 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 BRINKENS 115.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CHAMBERS 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 HATWAI   230.0 0.968  0.95 <= pu <= 1.05   1.00 pu kV  1760
62 MILLERCK 161.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMA 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMB 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
73 RIVERTON 115.0 0.960  0.95 <= pu <= 1.05   1.00 pu kV  1905

Area Count, Volts better and away:
Area 40: 10
Area 54: 1
Area 60: 1
Area 62: 3
Area 65: 20
Area 73: 10
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Compost found the following for comparisons:
     86 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     323 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\hsbs\phsbs-2.out
     74 lines of MVA Rating Violations read from i:\dpb\mts\g2pwrflow\lbl3\plbl3-2.out
     290 lines of kV Voltage Violations read from i:\dpb\mts\g2pwrflow\lbl3\plbl3-2.out


**** RATES:  NEW ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
54 RUTH LK4 240 to 54 848S901T 240 CKT 1    <0.95     1.01   100.00   1
18 HA PS    345 to 65 REDBUTTE 345 CKT 1    <0.95     0.99   300.00   1609
54 COALDAL9 138 to 54 TABER A9 138 CKT 72   <0.95     0.98   90.00   9
54 FOX CREE 138 to 54 BENBOW 9 138 CKT 20   <0.95     0.95   91.00   1

**** RATES: WORSE ****
Component                                  w/o Prj  w/ Prj Rating   Cont#
65 JFRSNPHA 161 to 65 JEFFERSN 161 CKT 1    1.16   1.50   100.00   12
65 BENLOMND 230 to 65 BENLOMND 138 CKT 1    1.06   1.18   267.00   1784
54 RED DEE9 138 to 54 RED DEE4 240 CKT T1   0.98   1.14   200.00   1

Area Count, Rates new and worse:
Area 18: 1
Area 54: 4
Area 65: 2

**** VOLTS:  NEW ****
Component          w/o Prj  w/ Prj  Rating     Cont#
40 IRVIN    115.0  >0.95    0.864  1.00 pu kV  580
62 MTSDILL  500.0  >0.95    0.976  1.00 pu kV  10
62 WILSALL  161.0  >0.95    0.973  1.00 pu kV  10
62 MT ASIMI 161.0  >0.95    0.944  1.00 pu kV  10
62 WILSALL  230.0  >0.95    0.983  1.00 pu kV  10
40 OPORTUNE 115.0  >0.95    0.863  1.00 pu kV  580
60 PINGREE  138.0  >0.95    0.969  1.00 pu kV  99
62 SHELBY   230.0  >0.95    0.962  1.00 pu kV  167
62 CNRDWAPA 115.0  >0.95    0.963  1.00 pu kV  167
62 CNRD-SRA 115.0  >0.95    0.962  1.00 pu kV  167
40 EGRANVIL 115.0  >0.95    0.944  1.00 pu kV  235
73 HOVENWEP 115.0  >0.95    0.945  1.00 pu kV  1540
73 SANDCANY 115.0  >0.95    0.949  1.00 pu kV  1540
73 ELPASOTP 115.0  >0.95    0.947  1.00 pu kV  1898

**** VOLTS: WORSE ****
Component          w/o Prj w/ Prj  Rating     Cont#

Area Count, Volts new and worse:
Area 40: 3
Area 60: 1
Area 62: 7
Area 73: 3

**** RATES: BETTER ****
Component                                  w/o Prj  w/ Prj Rating  Cont#
40 OROFINO  115 to 40 AHSAHKA  115 CKT 1    1.94   1.65   113.70   421
40 BEACON N 230 to 40 BELL SO  230 CKT 5    1.38   1.31   366.50   274
65 TREASTON 230 to 65 TREASTON 138 CKT 1    1.29   1.13   200.00   1831
65 EMMAPARK 138 to 65 UPALCO   138 CKT 1    1.20   1.06   163.00   703
65 BONANZA  345 to 65 BONANZA  138 CKT 1    1.20   1.13   392.00   1475
65 EMMAPARK 138 to 65 PANTHER  138 CKT 1    1.19   1.05   163.00   703
65 CARBON   138 to 65 PANTHER  138 CKT 1    1.15   1.02   163.00   703
40 NEWPORTT 115 to 40 BLANCHRD 115 CKT 1    1.08   0.98   113.70   287
40 BLANCHRD 115 to 40 HOODOO   115 CKT 1    1.07   0.97   113.70   287
40 HOODOO   115 to 40 SPIRITLT 115 CKT 1    1.07   0.97   111.90   287
65 CARBON   138 to 65 SPAN F&1 138 CKT 1    1.03   0.97   113.00   732
65 SPAN F&1 138 to 65 SPAN FRK 138 CKT 1    1.03   0.96   113.00   732
40 MIDWAYB2 230 to 40 VANTAGE  230 CKT 1    1.02   0.96   378.50   465
40 COLUMBIA 115 to 40 GB55     115 CKT 1    1.00   0.95   127.70   245

**** RATES:  AWAY ****
Component                                    w/o Prj  w/ Prj  Rating   Cont#
40 N LEWIST 115 to 40 CLEARWTR 115 CKT 1    1.26    <= 0.95  113.70   469
40 BOUNDARY 230 to 40 BOUNDARY 115 CKT 1    1.09    <= 0.95  125.00   234
40 DIAM LAK 115 to 40 SACHEEN  115 CKT 1    1.05    <= 0.95  131.50   287
40 AHSAHKA  115 to 40 DWORSHAK 115 CKT 1    1.05    <= 0.95  213.10   421
40 SPIRITLT 115 to 40 ATHOLTAP 115 CKT 1    1.04    <= 0.95  113.70   287
40 NEWPORTT 115 to 40 PINE ST  115 CKT 1    1.03    <= 0.95  120.10   287
65 GRACE    161 to 65 GRACE    138 CKT 1    1.02    <= 0.95  168.00   1619
54 RBW LAK7 138 to 54 791S701T 138 CKT 1    1.00    <= 0.95  24.00   1
54 RBW LAK7 138 to 54 791S702T 138 CKT 1    1.00    <= 0.95  24.00   1
40 GARRISON 500 to 40 TAFT     500 CKT 2    1.00    <= 0.95  944.00   455
40 GARRISON 500 to 40 TAFT     500 CKT 1    1.00    <= 0.95  944.00   456
40 ATHOLTAP 115 to 40 SCARCELO 115 CKT 1    0.98    <= 0.95  113.70   287
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40 ANC LK T 230 to 40 COLUMBIA 230 CKT 1    0.98    <= 0.95  415.50   614
65 FISHCREK 161 to 65 GOSHEN   161 CKT 1    0.98    <= 0.95  176.00   1619
40 COLUMBIA 115 to 40 VALHALLA 115 CKT 2    0.97    <= 0.95  213.10   373
40 COLUMBIA 115 to 40 VALHALLA 115 CKT 1    0.97    <= 0.95  213.10   374
65 FISHCREK 161 to 65 GRACE    161 CKT 1    0.96    <= 0.95  176.00   1619

Area Count, Rates better and away:
Area 40: 19
Area 54: 2
Area 65: 10

**** VOLTS: BETTER ****
Component          w/o Prj w/ Prj  Rating     Cont#

**** VOLTS:  AWAY ****
Component         w/o Prj     w/ Prj          Rating  Cont#
54 MTSLETHB 500.0 1.000  0.95 <= pu <= 1.05   1.00 pu kV  1
60 PLST VLY 138.0 0.970  0.95 <= pu <= 1.05   1.00 pu kV  29
40 CHENEY   115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  282
40 SILVRLAK 115.0 0.948  0.95 <= pu <= 1.05   1.00 pu kV  282
40 GAR1EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
40 GAR2EAST 500.0 1.032  0.95 <= pu <= 1.05   1.00 pu kV  455
65 AEC IPC  138.0 0.936  0.95 <= pu <= 1.05   1.00 pu kV  665
65 AEC SCOV 138.0 0.936  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOP 1 138.0 0.937  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOP 2 138.0 0.937  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANTLOPE  161.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  665
65 ANGEL    138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CLINTON  138.0 0.943  0.95 <= pu <= 1.05   1.00 pu kV  688
65 CARBON   138.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  703
65 DG UPLCO 138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 EMMAPARK 138.0 0.931  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER   138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 HELPER T 138.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  703
65 MOUND SW 138.0 0.974  0.95 <= pu <= 1.05   1.00 pu kV  703
65 PANTHER  138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SPHINX T 138.0 0.976  0.95 <= pu <= 1.05   1.00 pu kV  703
65 UPALCO   138.0 0.940  0.95 <= pu <= 1.05   1.00 pu kV  703
65 WILLOW C 138.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  703
65 SMFLD TP 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
65 SMITHFLD 138.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  796
73 GREYBULL 115.0 0.919  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 NAHNEJEN 115.0 0.916  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 LOST CK  115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 LOSTCKTP 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1182
73 WINDRIVR 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
73 WINDRIVT 115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1372
65 WORLAND  115.0 0.958  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 BASIN    115.0 0.935  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 LOVELL   115.0 0.929  0.95 <= pu <= 1.05   1.00 pu kV  1602
73 WORLANTP 115.0 0.953  0.95 <= pu <= 1.05   1.00 pu kV  1602
40 ARMSTRNG 115.0 0.944  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 BRINKENS 115.0 0.939  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CHAMBERS 115.0 0.946  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLARKSTN 115.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 CLEARWTR 115.0 0.947  0.95 <= pu <= 1.05   1.00 pu kV  1760
40 HATWAI   230.0 0.968  0.95 <= pu <= 1.05   1.00 pu kV  1760
62 MILLERCK 161.0 0.949  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMA 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
62 HAMLTNMB 161.0 0.942  0.95 <= pu <= 1.05   1.00 pu kV  1902
73 RIVERTON 115.0 0.960  0.95 <= pu <= 1.05   1.00 pu kV  1905

Area Count, Volts better and away:
Area 40: 10
Area 54: 1
Area 60: 1
Area 62: 3
Area 65: 20
Area 73: 10
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MONTANA TRANSMISSION STUDY WAPA UGP JUNE 2002
G2 WITH LINE UPDATES

FILE made from cont. file : [i:\dpb\mts\g2pwrflow\lsbs\cLSBS-1.out]
DATE REPORT MADE - Tue May 07 15:30:52 2002

Outage 104 failed to converge
Outage 139 failed to converge
Outage 140 failed to converge
Outage 145 failed to converge
Outage 146 failed to converge
Outage 380 failed to converge
Outage 446 failed to converge
Outage 447 failed to converge
Outage 582 failed to converge
Outage 1630 failed to converge
Outage 1666 failed to converge

--------FROM bus--------				---------TO bus---------								base	pu	rating		
#	---name---	-kv-	ar	#	---name---	-kv-	ar	ID	--mw-	-mvar	amps	load	load	[MVA]	Cnt	# freq.
73187	"SPRINGCK"	115	73	73367	"FTSANDER"	115	73	"1 "	0	13333	66939	0.00	166.67	80.00	1250	1
48125	"FOURLBPA"	115	40	48132	"HAL&WHIT"	115	40	"1 "	108	132	857	0.49	2.97	57.40	435	2
48303	"OROFINO "	115	40	40023	"AHSAHKA "	115	40	"1 "	-218	1	1106	0.78	1.94	113.70	412	3
54083	"E EDMON9"	138	54	55938	"STEL TAP"	138	54	"22"	198	1	796	1.70	1.70	112.00	1	1890
54503	"STELCOA9"	138	54	55938	"STEL TAP"	138	54	"22"	-197	0	795	1.60	1.60	119.00	1	1890
79023	"DURANGO "	115	73	79191	"COYOTE G"	115	73	"1 "	119	-18	621	0.50	1.46	85.00	1894	2
48319	"PLEASANT"	115	40	48355	"RATHDRUM"	115	40	"1 "	-110	-42	621	0.72	1.44	85.80	578	4
65280	"CARBON "	138	65	66395	"SPAN F&1"	138	65	"1 "	109	-1	449	0.65	1.43	75.10	723	1
66395	"SPAN F&1"	138	65	66405	"SPAN FRK"	138	65	"1 "	90	-23	446	0.63	1.42	75.00	723	1
65192	"BONANZA "	138	65	66278	"RANGELY "	138	65	"1 "	161	10	660	0.40	1.37	115.00	1778	1
40855	"PRAIRIEB"	115	40	48349	"RAMSEY "	115	40	"1 "	-110	-43	618	0.61	1.35	91.00	571	3
54518	"ARGYLL E"	240	54	54506	"BELLAMY4"	240	54	"04"	-81	-126	322	1.34	1.34	100.00	1	1890
79191	"COYOTE G"	115	73	79260	"ELPASOTP"	115	73	"1 "	97	-44	562	0.39	1.32	85.00	1508	2
79105	"GLADETAP"	115	19	79260	"ELPASOTP"	115	73	"1 "	-95	49	561	0.39	1.32	85.00	1508	2
48253	"N LEWIST"	115	40	48075	"CLEARWTR"	115	40	"1 "	146	29	746	0.43	1.31	113.70	460	1
48311	"OTIS "	115	40	47511	"MOAB "	115	40	"1 "	-97	-34	561	0.59	1.30	85.80	578	2
48051	"BURKE "	115	40	48053	"BURKAVAA"	115	40	"1 "	-85	33	464	0.70	1.25	73.90	174	3
47511	"MOAB "	115	40	48319	"PLEASANT"	115	40	"1 "	-100	-37	570	0.57	1.25	91.00	578	2
79042	"HOTCHKIS"	115	73	79104	"GARNETAP"	115	73	"1 "	102	-9	530	0.47	1.24	85.00	1490	2
48329	"POST FLS"	115	40	40855	"PRAIRIEB"	115	40	"1 "	-93	-35	527	0.44	1.22	85.80	571	3
48051	"BURKE "	115	40	48055	"BURKAVAB"	115	40	"1 "	-82	34	446	0.67	1.20	73.90	313	2
48023	"BEACON N"	115	40	48371	"ROSSPARK"	115	40	"1 "	158	39	821	0.80	1.18	138.20	279	4
79013	"CRAIG "	230	73	79059	"RIFLE WA"	230	73	"1 "	379	73	950	0.64	1.17	324.00	1642	1
54065	"N HOLDE9"	138	54	54062	"BARDO 7"	138	54	"74"	-78	59	392	1.12	1.12	85.00	1	1891
54161	"SARCEE 4"	240	54	54154	"E CALGAR"	240	54	"16"	93	-354	889	1.11	1.11	333.00	1	1890
54681	"NEVIS 7"	138	54	54823	"NEVIS 9"	138	54	"1 "	33	16	37	1.10	1.10	33.30	1	1890
60085	"BRIDGER "	345	60	60060	"BORAH "	345	60	"1 "	992	281	1644	0.84	1.10	892.20	44	2
73088	"HOYT "	115	73	73103	"L.MEADOW"	115	73	"1 "	43	3	220	0.14	1.10	40.00	1173	2
79059	"RIFLE WA"	230	73	79070	"NORTHFRK"	230	73	"1 "	262	18	663	0.59	1.10	239.00	1490	1
79034	"GRANDJCT"	115	70	79048	"MONTROSE"	115	73	"1 "	80	-9	419	0.41	1.09	76.50	1490	1
65193	"BONANZA "	345	65	65192	"BONANZA "	138	65	"1 "	-401	135	423	0.78	1.08	392.00	1466	2
65565	"FLAMGORG"	230	65	79026	"FLAMGORG"	138	73	"1 "	-107	11	107	0.53	1.07	100.00	694	3
65565	"FLAMGORG"	230	65	79026	"FLAMGORG"	138	73	"2 "	-107	11	107	0.53	1.07	100.00	694	3
46805	"CHELAN "	115	40	48149	"HEADWORK"	115	40	"1 "	-92	33	482	0.99	1.06	91.00	637	1888
65520	"EMMAPARK"	138	65	66590	"UPALCO "	138	65	"1 "	-126	67	595	0.45	1.06	136.00	694	1
60085	"BRIDGER "	345	60	60190	"KINPORT "	345	60	"1 "	944	286	1573	0.73	1.05	892.20	43	2
79045	"LOSTCANY"	230	73	79044	"LOSTCANY"	115	73	"1 "	117	9	118	0.38	1.05	112.00	1899	2
40023	"AHSAHKA "	115	40	40367	"DWORSHAK"	115	40	"1 "	-223	-9	1115	0.43	1.04	213.10	412	1
65520	"EMMAPARK"	138	65	66183	"PANTHER "	138	65	"1 "	126	-67	594	0.44	1.04	136.00	694	1
79085	"NORTHMSA"	115	73	79104	"GARNETAP"	115	73	"1 "	-79	27	443	0.28	1.04	85.00	1490	1
62054	"BROADV&1"	500	62	62046	"BROADVU "	500	62	"1 "	1844	-218	2029	0.54	1.02	1732.00	141	1
48029	"BEACON S"	115	40	48271	"NINTHCNT"	115	40	"1 "	90	20	466	0.64	1.02	91.00	252	2
60085	"BRIDGER "	345	60	65665	"GOSHEN "	345	65	"1 "	918	221	1506	0.68	1.01	892.20	44	2
62053	"BROADV&2"	500	62	62046	"BROADVU "	500	62	"2 "	1836	-222	2023	0.52	1.01	1732.00	143	1
48051	"BURKE "	115	40	48217	"LUCKYFTP"	115	40	"1 "	81	-29	437	0.59	1.01	85.80	315	3
65280	"CARBON "	138	65	66183	"PANTHER "	138	65	"1 "	-117	75	572	0.40	1.01	136.00	694	1
62057	"COLSTRP "	500	62	62060	"COLSTRP "	230	62	"1 "	-499	61	503	0.54	1.01	500.00	1707	1
73039	"CARTERLK"	115	73	73058	"FLATIRON"	115	73	"1 "	-80	-14	402	0.64	1.00	80.00	1270	1
79085	"NORTHMSA"	115	73	79115	"SPRCKTAP"	115	73	"1 "	75	-28	426	0.24	1.00	85.00	1490	1
62057	"COLSTRP "	500	62	62060	"COLSTRP "	230	62	"2 "	-498	62	502	0.53	1.00	500.00	1706	1
65145	"BENLOMND"	138	65	66650	"WARREN "	138	65	"1 "	124	24	515	0.56	0.98	126.00	679	1
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"1 "	-108	99	147	0.65	0.98	150.00	1834	1
54156	"SAGITAW7"	138	54	54079	"MILLAR 7"	138	54	"25"	106	58	492	0.97	0.97	121.00	1	1890
48025	"BEACON N"	230	40	48023	"BEACON N"	115	40	"1 "	272	57	277	0.60	0.97	287.00	275	1
48031	"BEACON S"	230	40	48029	"BEACON S"	115	40	"1 "	272	56	278	0.60	0.97	287.00	275	1
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"2 "	-107	98	145	0.63	0.97	150.00	1833	1
54542	"RBW LAK7"	138	54	54835	"791S702T"	138	54	"1 "	20	-9	22	0.96	0.96	24.00	1	1890
73211	"WELD LM"	115	73	73212	"WELD LM"	230	73	"1 "	-118	83	144	0.76	0.96	150.00	1619	1
48153	"HECLAT "	115	40	48041	"BIGCREEK"	115	40	"1 "	74	-31	410	0.53	0.95	85.80	315	2
48217	"LUCKYFTP"	115	40	48153	"HECLAT "	115	40	"1 "	74	-31	410	0.53	0.95	85.80	315	2

low voltage violations								delta voltage violations						high voltage violations						
CNT	freq	---name---	-kv-	ar	-base- pu	vt	-cont- pu	vt	---name---	-kv-	ar	freq	delta V	freq	---name---	-kv-	ar	-base- pu	vt	-cont- pu	vt
93	0		0	0	99.000		99.000		HINES	115	60	3	0.063	0		0	0	99.000		0.000	
177	0		0	0	99.000		99.000		CONRAD	115	62	1	0.057	0		0	0	99.000		0.000	
226	0		0	0	99.000		99.000		AHSAHKA	115	40	1	0.052	0		0	0	99.000		0.000	
242	3	OTIS	230	40	0.950		0.946			0	0	0	0.000	0		0	0	99.000		0.000	
249	3	OTIS	230	40	0.950		0.946			0	0	0	0.000	0		0	0	99.000		0.000	
273	1	CHENEY	115	40	0.966		0.949			0	0	0	0.000	0		0	0	99.000		0.000	
308	0		0	0	99.000		99.000		BRIDGPRT	115	40	2	0.060	0		0	0	99.000		0.000	
322	1	OTIS	230	40	0.950		0.949			0	0	0	0.000	0		0	0	99.000		0.000	
354	0		0	0	99.000		99.000		KALISPEL	115	40	1	0.057	0		0	0	99.000		0.000	
397	3	OTIS	230	40	0.950		0.946			0	0	0	0.000	0		0	0	99.000		0.000	
399	3	OTIS	230	40	0.950		0.947			0	0	0	0.000	0		0	0	99.000		0.000	
412	4	CHENEY	115	40	0.966		0.947			0	0	0	0.000	0		0	0	99.000		0.000	
413	7	CHENEY	115	40	0.966		0.942			0	0	0	0.000	0		0	0	99.000		0.000	
420	8	CHESTER	115	40	0.952		0.930			0	0	0	0.000	0		0	0	99.000		0.000	
440	1	DELIGHT	115	40	0.976		0.941			0	0	0	0.000	0		0	0	99.000		0.000	
457	0		0	0	99.000		99.000		HANNA	115	40	1	0.056	0		0	0	99.000		0.000	
467	3	OTIS	230	40	0.950		0.945			0	0	0	0.000	0		0	0	99.000		0.000	

473	0		0	0	99.000	99.000	HOT SPR	500	40	1	0.054	0		0	0	99.000	0.000
474	3	OTIS	230	40	0.950	0.944		0	0	0	0.000	0		0	0	99.000	0.000
515	0		0	0	99.000	99.000	ROUNDUP	230	40	1	0.069	0		0	0	99.000	0.000
529	13	CHESTER	115	40	0.952	0.912		0	0	0	0.000	0		0	0	99.000	0.000
562	5	CHESTER	115	40	0.952	0.934		0	0	0	0.000	0		0	0	99.000	0.000
563	11	CHESTER	115	40	0.952	0.913		0	0	0	0.000	0		0	0	99.000	0.000
571	14	CHESTER	115	40	0.952	0.903	PLEASANT	115	40	3	0.064	0		0	0	99.000	0.000
575	11	CHESTER	115	40	0.952	0.920		0	0	0	0.000	0		0	0	99.000	0.000
578	14	CHESTER	115	40	0.952	0.904	PRAIRIEB	115	40	5	0.070	0		0	0	99.000	0.000
580	1	OTIS	230	40	0.950	0.949		0	0	0	0.000	0		0	0	99.000	0.000
581	3	OTIS	230	40	0.950	0.946		0	0	0	0.000	0		0	0	99.000	0.000
590	2	GAFFNEY	115	40	0.981	0.930	GAFFNEY	115	40	1	0.051	0		0	0	99.000	0.000
694	11	CLIFTON	230	70	0.958	0.924		0	0	0	0.000	0		0	0	99.000	0.000
723	1	SPAN F&1	138	65	0.968	0.872	SPAN F&1	138	65	1	0.096	0		0	0	99.000	0.000
830	5	CLIFTON	230	70	0.958	0.945		0	0	0	0.000	0		0	0	99.000	0.000
1088	5	PEAKVIEW	115	70	1.006	0.919	PEAKVIEW	115	70	5	0.087	0		0	0	99.000	0.000
1173	8	BRUSHTAP	115	73	1.011	0.929	BRUSHTAP	115	73	8	0.082	0		0	0	99.000	0.000
1197	6	FME	115	73	1.001	0.945	FME	115	73	6	0.056	0		0	0	99.000	0.000
1250	0		0	0	99.000	99.000	FTSANDER	115	73	1	0.060	0		0	0	99.000	0.000
1338	0		0	0	99.000	99.000	REDWILLW	115	73	1	0.054	0		0	0	99.000	0.000
1366	4	SANDHILL	115	73	1.012	0.936	SANDHILL	115	73	3	0.076	0		0	0	99.000	0.000
1375	0		0	0	99.000	99.000	FTSANDER	115	73	1	0.060	0		0	0	99.000	0.000
1380	3	GALIEN	115	73	0.987	0.933	GALIEN	115	73	1	0.054	0		0	0	99.000	0.000
1466	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1480	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1484	1	PAGOSA	115	73	0.962	0.941		0	0	0	0.000	0		0	0	99.000	0.000
1490	3	GARNET M	115	73	0.980	0.947		0	0	0	0.000	0		0	0	99.000	0.000
1498	1	PAGOSA	115	73	0.962	0.945		0	0	0	0.000	0		0	0	99.000	0.000
1503	27	HOVENWEP	115	73	0.979	0.923	LOSTCANY	230	73	22	0.057	0		0	0	99.000	0.000
1508	20	PAGOSA	115	73	0.962	0.931		0	0	0	0.000	0		0	0	99.000	0.000
1511	1	PAGOSA	115	73	0.962	0.940		0	0	0	0.000	0		0	0	99.000	0.000
1515	1	PAGOSA	115	73	0.962	0.943		0	0	0	0.000	0		0	0	99.000	0.000
1540	1	PAGOSA	115	73	0.962	0.949		0	0	0	0.000	0		0	0	99.000	0.000
1553	0		0	0	99.000	99.000	HARLEM	161	63	1	0.050	0		0	0	99.000	0.000
1567	0		0	0	99.000	99.000	GAR2EAST	500	40	1	0.056	0		0	0	99.000	0.000
1568	0		0	0	99.000	99.000	GAR1EAST	500	40	1	0.056	0		0	0	99.000	0.000
1585	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1597	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1600	5	CLIFTON	230	70	0.958	0.944		0	0	0	0.000	0		0	0	99.000	0.000
1631	1	PAGOSA	115	73	0.962	0.949		0	0	0	0.000	0		0	0	99.000	0.000
1642	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1643	6	GRANDJPS	230	70	0.957	0.925		0	0	0	0.000	0		0	0	99.000	0.000
1670	5	CLIFTON	230	70	0.958	0.944		0	0	0	0.000	0		0	0	99.000	0.000
1766	0		0	0	99.000	99.000	WELLS	115	40	3	0.065	0		0	0	99.000	0.000
1778	1	SPAN F&1	138	65	0.968	0.948		0	0	0	0.000	0		0	0	99.000	0.000
1808	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1843	22	WARRENLM	115	73	0.996	0.902	ARCHER	115	73	24	0.098	0		0	0	99.000	0.000
1859	4	SIDNEY	115	73	1.014	0.941	SIDNEY	115	73	5	0.073	0		0	0	99.000	0.000
1869	0		0	0	99.000	99.000	CTTNWD N	115	73	3	0.055	0		0	0	99.000	0.000
1884	10	PAGOSA	115	73	0.962	0.912	HESPERUS	115	73	4	0.054	0		0	0	99.000	0.000
1886	2	HAVRE	115	63	0.989	0.916	HAVRE	115	63	2	0.073	0		0	0	99.000	0.000
1894	1	HOVENWEP	115	73	0.979	0.948		0	0	0	0.000	0		0	0	99.000	0.000
1898	5	CLIFTON	230	70	0.958	0.929		0	0	0	0.000	0		0	0	99.000	0.000

BUSES with voltage violations

bus no	---name---	--kv-	area	-base- -case- pu vt	BASE CASE VOLT VIOLATION	lowest -cont- -case- pu vt	cont with lowest pu vt	contingencies with voltage violations
54551	RING CK7	138.0	54	0.948	***	0.948	1:	all
54796	791S701T	138.0	54	0.920	***	0.920	1:	all
54835	791S702T	138.0	54	0.926	***	0.926	1:	all
61825	HINES	138.0	60	1.045		0.985	93:	93
61826	HINES	115.0	60	1.048		0.985	93:	93
61835	WJOHN DY	138.0	60	1.038		0.977	93:	93
62087	CONRAD	115.0	62	1.013		0.956	177:	177
48069	CHESTER	115.0	40	0.952		0.903	571:	242 249 397 399 420 467 474 529 562 563 571 575 578 581
48299	OPPORTUN	115.0	40	0.953		0.905	571:	242 249 397 399 420 467 474 529 562 563 571 575 578 581
48306	OTIS	230.0	40	0.950		0.904	571:	242 249 322 397 399 420 467 474 529 562 563 571 575 578 580 581
40215	CHENEY	115.0	40	0.966		0.942	413:	273 412 413
47013	BRIDGPRT	115.0	40	1.055		0.995	308:	308 1766
40589	KALISPEL	115.0	40	1.019		0.962	354:	354
47025	DELIGHT	115.0	40	0.976		0.940	590:	412 413 440 590
40439	FOURLKS	115.0	40	0.968		0.944	413:	412 413
48387	SILVRLAK	115.0	40	0.968		0.944	413:	412 413
48010	AIRWAYTP	115.0	40	0.971		0.947	413:	413
48125	FOURLBPA	115.0	40	0.972		0.948	413:	413
48132	HAL&WHIT	115.0	40	0.971		0.947	413:	413
48021	BARKER	115.0	40	0.967		0.919	571:	420 529 563 571 575 578
48117	EASTFARM	115.0	40	0.970		0.918	578:	420 529 563 571 575 578
48165	IRVIN	115.0	40	0.957		0.908	571:	420 529 562 563 571 575 578
48185	LIBTYLK	115.0	40	0.966		0.919	571:	420 529 562 563 571 575 578
48311	OTIS	115.0	40	0.968		0.920	571:	420 529 563 571 575 578
47051	HANNA	115.0	40	1.030		0.974	457:	457
40905	ROUNDUP	230.0	40	1.029		0.960	515:	515
47033	DOWER RD	115.0	40	0.973		0.913	578:	529 563 571 575 578
48111	DOWERRDT	115.0	40	0.974		0.913	578:	529 563 571 575 578
47511	MOAB	115.0	40	0.974		0.918	571:	529 571 578
48310	OPORTUNE	115.0	40	0.975		0.918	571:	529 571 578
48329	POST FLS	115.0	40	0.974		0.913	578:	529 563 571 575 578
48319	PLEASANT	115.0	40	0.981		0.917	571:	571
40855	PRAIRIEB	115.0	40	0.980		0.910	578:	578
40449	GAFFNEY	115.0	40	0.981		0.930	590:	590
66395	SPAN F&1	138.0	65	0.968		0.872	723:	694 723 1778
70113	CLIFTON	230.0	70	0.958		0.924	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70205	GRANDJCT	230.0	70	0.959		0.925	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70206	GRANDJPS	230.0	70	0.957		0.924	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70233	HORIZON	230.0	70	0.958		0.925	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70438	UINTAH	230.0	70	0.963		0.927	1643:	694 1643 1898
79049	MONTROSE	345.0	73	0.985		0.942	694:	694
79077	BAYFIELD	115.0	73	0.979		0.930	1884:	694 1508 1884
79086	PAGOSA	115.0	73	0.962		0.912	1884:	694 830 1484 1498 1503 1508 1511 1515 1540 1600 1631 1670 1884
79108	HOVENWEP	115.0	73	0.979		0.923	1503:	694 1503 1508 1894
79121	SANDCANY	115.0	73	0.982		0.926	1503:	694 1503 1508
70515	DAVIDSON	115.0	70	1.002		0.920	1088:	1088
70516	PONDERSA	115.0	70	0.998		0.923	1088:	1088
70517	PARKERPS	115.0	70	0.996		0.929	1088:	1088

70518	BAYOU	115.0	70	0.996	0.942	1088:1088
70521	PEAKVIEW	115.0	70	1.006	0.919	1088:1088
73023	BIJOUTAP	115.0	73	1.000	0.943	1173:1173
73031	BRUSHTAP	115.0	73	1.011	0.929	1173:1173
73305	EFMORGTP	115.0	73	1.001	0.932	1173:1173 1197
73310	FME	115.0	73	1.001	0.931	1173:1173 1197
73311	FMS	115.0	73	1.000	0.933	1173:1173 1197
73377	EXCEL	115.0	73	1.000	0.933	1173:1173 1197
73378	FMN	115.0	73	1.001	0.932	1173:1173 1197
73379	FMWEST	115.0	73	1.000	0.933	1173:1173 1197
73367	FTSANDER	115.0	73	1.020	0.941	1843:1250 1375 1843
73005	ALVIN	115.0	73	0.999	0.941	1366:1366
73175	SANDHILL	115.0	73	1.012	0.936	1366:1366
73210	WAUNETA	115.0	73	0.992	0.949	1366:1366
73304	CRETESWT	115.0	73	0.999	0.941	1366:1366
73059	FLEMING	115.0	73	0.986	0.938	1380:1380
73080	HAXTUN	115.0	73	0.985	0.943	1380:1380
73478	GALIEN	115.0	73	0.987	0.933	1380:1380
79079	BULLOCK	115.0	73	0.985	0.949	1490:1490
79085	NORTHMSA	115.0	73	0.985	0.949	1490:1490
79103	GARNET M	115.0	73	0.980	0.947	1490:1490
79011	CAHONE	115.0	73	0.985	0.929	1503:1503 1508
79012	CORTEZ	115.0	73	0.990	0.935	1503:1503 1508
79044	LOSTCANY	115.0	73	0.993	0.939	1503:1503
79045	LOSTCANY	230.0	73	0.993	0.936	1503:1503
79073	BLUEDOOR	115.0	73	0.990	0.935	1503:1503 1508
79074	E.CORTEZ	115.0	73	0.991	0.937	1503:1503 1508
79075	EMPIRETS	115.0	73	0.990	0.935	1503:1503 1508
79080	CASCADEL	115.0	73	0.988	0.940	1503:1503 1884
79088	ROCKWOOD	115.0	73	0.988	0.939	1884:1503 1884
79107	HOVEN NO	115.0	73	0.984	0.928	1503:1503 1508
79110	MAIN CO	115.0	73	0.984	0.928	1503:1503 1508
79111	MANCOSTP	115.0	73	0.990	0.941	1503:1503
79117	Y.JACK 2	115.0	73	0.984	0.928	1503:1503 1508
79118	Y.JACK W	115.0	73	0.983	0.927	1503:1503 1508
79120	MOQUI C	115.0	73	0.984	0.928	1503:1503 1508
79122	TOWAOC	115.0	73	0.990	0.935	1503:1503 1508
79179	GRT CUT	115.0	73	0.990	0.935	1503:1503 1508
79180	GRCUT TP	115.0	73	0.990	0.935	1503:1503 1508
79257	AMES	115.0	73	0.992	0.942	1503:1503
79194	BURROBDG	115.0	73	0.990	0.940	1503:1503
79262	CEMNT CK	115.0	73	0.985	0.929	1503:1503 1508
79256	SILVERTN	115.0	73	0.990	0.939	1503:1503
79189	SUNSH SM	115.0	73	0.992	0.943	1503:1503
79188	TELLURID	115.0	73	0.986	0.936	1503:1503
79191	COYOTE G	115.0	73	0.991	0.946	1508:1508
79260	ELPASOTP	115.0	73	0.992	0.947	1508:1508
40453	GAR2EAST	500.0	40	1.089	1.033	1567:1567
40451	GAR1EAST	500.0	40	1.089	1.033	1568:1568
70078	CAMEO	230.0	70	0.976	0.942	1643:1643
47099	WELLS	115.0	40	1.062	0.997	1766:1766
73008	ARCHER	115.0	73	1.009	0.911	1843:1843
73043	CHEYENNE	115.0	73	0.999	0.908	1843:1843
73066	GEMCTYTP	115.0	73	1.019	0.940	1843:1843
73077	HAPPYJCK	115.0	73	0.998	0.906	1843:1843
73109	LARAMIE	115.0	73	1.012	0.937	1843:1843
73128	MAY	115.0	73	1.019	0.949	1843:1843
73139	MYERS	115.0	73	1.008	0.914	1843:1843
73140	MYERS TP	115.0	73	1.008	0.914	1843:1843
73146	OASISTAP	115.0	73	1.020	0.949	1843:1843
73152	PINEBLUF	115.0	73	1.004	0.935	1843:1843
73154	POLE CK	115.0	73	1.007	0.925	1843:1843
73161	QUALLS	115.0	73	1.006	0.924	1843:1843
73172	ROCKPRTP	115.0	73	1.006	0.937	1843:1843
73173	ROUNDTOP	115.0	73	1.005	0.947	1843:1843
73178	SENTINEL	115.0	73	1.003	0.945	1843:1843
73183	SKYLINE	115.0	73	0.998	0.903	1843:1843
73187	SPRINGCK	115.0	73	1.020	0.941	1843:1843
73348	CORLETT	115.0	73	0.996	0.903	1843:1843
73375	WARRENLM	115.0	73	0.996	0.902	1843:1843
73480	CROWCRK	115.0	73	1.000	0.907	1843:1843
73504	PONNEQUI	115.0	73	1.003	0.925	1843:1843
73046	DALTON	115.0	73	1.006	0.943	1859:1859
73092	JACINTO	115.0	73	1.006	0.947	1859:1859
73179	SIDNEY	115.0	73	1.014	0.941	1859:1859
73236	GREENWOD	115.0	73	1.003	0.949	1859:1859
79023	DURANGO	115.0	73	0.987	0.944	1884:1884
79071	HESPERUS	115.0	73	0.991	0.937	1884:1884
79076	AM EAST	115.0	73	0.983	0.932	1884:1884
79078	BODO	115.0	73	0.986	0.941	1884:1884
79089	SHENDOAH	115.0	73	0.987	0.947	1884:1884
79099	FLOR.RIV	115.0	73	0.985	0.933	1884:1884
63007	HAVRE	115.0	63	0.989	0.916	1886:1886
63013	RUDYARD	115.0	63	0.997	0.942	1886:1886

MONTANA TRANSMISSION STUDY WAPA UGP JUNE 2002
G2 WITH LINE UPDATES

FILE made from cont. file : [i:\dpb\mts\g2pwrflow\lsbs\cLSBS-2.out]
DATE REPORT MADE - Tue May 07 15:31:42 2002

Outage 104 failed to converge
Outage 139 failed to converge
Outage 140 failed to converge
Outage 145 failed to converge
Outage 146 failed to converge
Outage 380 failed to converge
Outage 446 failed to converge
Outage 447 failed to converge
Outage 582 failed to converge
Outage 1630 failed to converge
Outage 1666 failed to converge

--------FROM bus--------				---------TO bus---------								base	pu	rating	
#	---name---	-kv-	ar	#	---name---	-kv-	ar	ID	--mw-	-mvar	amps	load	load	[MVA]	Cnt # freq.
48125	"FOURLBPA"	115	40	48132	"HAL&WHIT"	115	40	"1 "	108	132	857	0.49	2.97	57.40	435 2
48303	"OROFINO "	115	40	40023	"AHSAHKA "	115	40	"1 "	-218	1	1106	0.78	1.94	113.70	412 3
48319	"PLEASANT"	115	40	48355	"RATHDRUM"	115	40	"1 "	-110	-42	621	0.72	1.44	85.80	578 4
54083	"E EDMON9"	138	54	55938	"STEL TAP"	138	54	"22"	198	1	796	1.41	1.41	135.00	1 1890
40855	"PRAIRIEB"	115	40	48349	"RAMSEY "	115	40	"1 "	-110	-43	618	0.61	1.35	91.00	571 3
54518	"ARGYLL E"	240	54	54506	"BELLAMY4"	240	54	"04"	-81	-126	322	1.34	1.34	100.00	1 1890
79191	"COYOTE G"	115	73	79260	"ELPASOTP"	115	73	"1 "	97	-44	562	0.39	1.32	85.00	1508 2
79105	"GLADETAP"	115	19	79260	"ELPASOTP"	115	73	"1 "	-95	49	561	0.39	1.32	85.00	1508 2
48253	"N LEWIST"	115	40	48075	"CLEARWTR"	115	40	"1 "	146	29	746	0.43	1.31	113.70	460 1
54503	"STELCOA9"	138	54	55938	"STEL TAP"	138	54	"22"	-197	0	795	1.30	1.30	146.00	1 1890
48311	"OTIS "	115	40	47511	"MOAB "	115	40	"1 "	-97	-34	561	0.59	1.30	85.80	578 2
48051	"BURKE "	115	40	48053	"BURKAVAA"	115	40	"1 "	-85	33	464	0.70	1.25	73.90	174 3
47511	"MOAB "	115	40	48319	"PLEASANT"	115	40	"1 "	-100	-37	570	0.57	1.25	91.00	578 2
48329	"POST FLS"	115	40	40855	"PRAIRIEB"	115	40	"1 "	-93	-35	527	0.44	1.22	85.80	571 3
48051	"BURKE "	115	40	48055	"BURKAVAB"	115	40	"1 "	-82	34	446	0.67	1.20	73.90	313 2
48023	"BEACON N"	115	40	48371	"ROSSPARK"	115	40	"1 "	158	39	821	0.80	1.18	138.20	279 4
54161	"SARCEE 4"	240	54	54154	"E CALGAR"	240	54	"16"	93	-354	889	1.11	1.11	333.00	1 1890
54681	"NEVIS 7"	138	54	54823	"NEVIS 9"	138	54	"1 "	33	16	37	1.10	1.10	33.30	1 1890
65193	"BONANZA "	345	65	65192	"BONANZA "	138	65	"1 "	-401	135	423	0.78	1.08	392.00	1466 2
54065	"N HOLDE9"	138	54	54062	"BARDO 7"	138	54	"74"	-78	59	392	1.06	1.06	90.00	1 1891
46805	"CHELAN "	115	40	48149	"HEADWORK"	115	40	"1 "	-92	33	482	0.99	1.06	91.00	637 1888
40023	"AHSAHKA "	115	40	40367	"DWORSHAK"	115	40	"1 "	-223	-9	1115	0.43	1.04	213.10	412 1
48029	"BEACON S"	115	40	48271	"NINTHCNT"	115	40	"1 "	90	20	466	0.64	1.02	91.00	252 2
48051	"BURKE "	115	40	48217	"LUCKYFTP"	115	40	"1 "	81	-29	437	0.59	1.01	85.80	315 3
65192	"BONANZA "	138	65	66278	"RANGELY "	138	65	"1 "	161	10	660	0.29	0.99	160.00	1778 1
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"1 "	-108	99	147	0.65	0.98	150.00	1834 1
48025	"BEACON N"	230	40	48023	"BEACON N"	115	40	"1 "	272	57	277	0.60	0.97	287.00	275 1
48031	"BEACON S"	230	40	48029	"BEACON S"	115	40	"1 "	272	56	278	0.60	0.97	287.00	275 1
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"2 "	-107	98	145	0.63	0.97	150.00	1833 1
54542	"RBW LAK7"	138	54	54835	"791S702T"	138	54	"1 "	20	-9	22	0.96	0.96	24.00	1 1890
48153	"HECLAT "	115	40	48041	"BIGCREEK"	115	40	"1 "	74	-31	410	0.53	0.95	85.80	315 2
48217	"LUCKYFTP"	115	40	48153	"HECLAT "	115	40	"1 "	74	-31	410	0.53	0.95	85.80	315 2

low voltage violations							delta voltage violations						high voltage violations					
CNT	freq	---name---	-kv-	ar	-base- -case- pu vt	-cont- -case- pu vt	---name---	-kv-	ar	freq	delta V	freq	---name---	-kv-	ar	-base- -case- pu vt	-cont- -case- pu vt
93	0		0	0	99.000	99.000	HINES	115	60	3	0.063	0		0	0	99.000	0.000
177	0		0	0	99.000	99.000	CONRAD	115	62	1	0.057	0		0	0	99.000	0.000
226	0		0	0	99.000	99.000	AHSAHKA	115	40	1	0.052	0		0	0	99.000	0.000
242	3	OTIS	230	40	0.950	0.946		0	0	0	0.000	0		0	0	99.000	0.000
249	3	OTIS	230	40	0.950	0.946		0	0	0	0.000	0		0	0	99.000	0.000
273	1	CHENEY	115	40	0.966	0.949		0	0	0	0.000	0		0	0	99.000	0.000
308	0		0	0	99.000	99.000	BRIDGPRT	115	40	2	0.060	0		0	0	99.000	0.000
322	1	OTIS	230	40	0.950	0.949		0	0	0	0.000	0		0	0	99.000	0.000
354	0		0	0	99.000	99.000	KALISPEL	115	40	1	0.057	0		0	0	99.000	0.000
397	3	OTIS	230	40	0.950	0.946		0	0	0	0.000	0		0	0	99.000	0.000
399	3	OTIS	230	40	0.950	0.947		0	0	0	0.000	0		0	0	99.000	0.000
412	4	CHENEY	115	40	0.966	0.947		0	0	0	0.000	0		0	0	99.000	0.000
413	7	CHENEY	115	40	0.966	0.942		0	0	0	0.000	0		0	0	99.000	0.000
420	8	CHESTER	115	40	0.952	0.930		0	0	0	0.000	0		0	0	99.000	0.000
440	1	DELIGHT	115	40	0.976	0.941		0	0	0	0.000	0		0	0	99.000	0.000
457	0		0	0	99.000	99.000	HANNA	115	40	1	0.056	0		0	0	99.000	0.000
467	3	OTIS	230	40	0.950	0.945		0	0	0	0.000	0		0	0	99.000	0.000
473	0		0	0	99.000	99.000	HOT SPR	500	40	1	0.054	0		0	0	99.000	0.000
474	3	OTIS	230	40	0.950	0.944		0	0	0	0.000	0		0	0	99.000	0.000
515	0		0	0	99.000	99.000	ROUNDUP	230	40	1	0.069	0		0	0	99.000	0.000
529	13	CHESTER	115	40	0.952	0.912		0	0	0	0.000	0		0	0	99.000	0.000
562	5	CHESTER	115	40	0.952	0.934		0	0	0	0.000	0		0	0	99.000	0.000
563	11	CHESTER	115	40	0.952	0.913		0	0	0	0.000	0		0	0	99.000	0.000
571	14	CHESTER	115	40	0.952	0.903	PLEASANT	115	40	3	0.064	0		0	0	99.000	0.000
575	11	CHESTER	115	40	0.952	0.920		0	0	0	0.000	0		0	0	99.000	0.000
578	14	CHESTER	115	40	0.952	0.904	PRAIRIEB	115	40	5	0.070	0		0	0	99.000	0.000
580	1	OTIS	230	40	0.950	0.949		0	0	0	0.000	0		0	0	99.000	0.000
581	3	OTIS	230	40	0.950	0.946		0	0	0	0.000	0		0	0	99.000	0.000
590	2	GAFFNEY	115	40	0.981	0.930	GAFFNEY	115	40	1	0.051	0		0	0	99.000	0.000
694	11	CLIFTON	230	70	0.958	0.924		0	0	0	0.000	0		0	0	99.000	0.000
723	1	SPAN F&1	138	65	0.968	0.872	SPAN F&1	138	65	1	0.096	0		0	0	99.000	0.000
830	5	CLIFTON	230	70	0.958	0.945		0	0	0	0.000	0		0	0	99.000	0.000
1088	5	PEAKVIEW	115	70	1.006	0.919	PEAKVIEW	115	70	5	0.087	0		0	0	99.000	0.000
1173	8	BRUSHTAP	115	73	1.011	0.929	BRUSHTAP	115	73	8	0.082	0		0	0	99.000	0.000
1197	6	FME	115	73	1.001	0.945	FME	115	73	6	0.056	0		0	0	99.000	0.000
1250	0		0	0	99.000	99.000	FTSANDER	115	73	1	0.060	0		0	0	99.000	0.000
1338	0		0	0	99.000	99.000	REDWILLW	115	73	1	0.054	0		0	0	99.000	0.000
1366	4	SANDHILL	115	73	1.012	0.936	SANDHILL	115	73	3	0.076	0		0	0	99.000	0.000
1375	0		0	0	99.000	99.000	FTSANDER	115	73	1	0.060	0		0	0	99.000	0.000
1380	3	GALIEN	115	73	0.987	0.933	GALIEN	115	73	1	0.054	0		0	0	99.000	0.000
1466	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1480	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0		0	0	99.000	0.000
1484	1	PAGOSA	115	73	0.962	0.941		0	0	0	0.000	0		0	0	99.000	0.000
1490	3	GARNET M	115	73	0.980	0.947		0	0	0	0.000	0		0	0	99.000	0.000
1498	1	PAGOSA	115	73	0.962	0.945		0	0	0	0.000	0		0	0	99.000	0.000

1503	27	HOVENWEP	115	73	0.979	0.923	LOSTCANY	230	73	22	0.057	0	0	0	99.000	0.000
1508	20	PAGOSA	115	73	0.962	0.931		0	0	0	0.000	0	0	0	99.000	0.000
1511	1	PAGOSA	115	73	0.962	0.940		0	0	0	0.000	0	0	0	99.000	0.000
1515	1	PAGOSA	115	73	0.962	0.943		0	0	0	0.000	0	0	0	99.000	0.000
1540	1	PAGOSA	115	73	0.962	0.949		0	0	0	0.000	0	0	0	99.000	0.000
1553	0		0	0	99.000	99.000	HARLEM	161	63	1	0.050	0	0	0	99.000	0.000
1567	0		0	0	99.000	99.000	GAR2EAST	500	40	1	0.056	0	0	0	99.000	0.000
1568	0		0	0	99.000	99.000	GAR1EAST	500	40	1	0.056	0	0	0	99.000	0.000
1585	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0	0	0	99.000	0.000
1597	4	CLIFTON	230	70	0.958	0.946		0	0	0	0.000	0	0	0	99.000	0.000
1600	5	CLIFTON	230	70	0.958	0.944		0	0	0	0.000	0	0	0	99.000	0.000
1631	1	PAGOSA	115	73	0.962	0.949		0	0	0	0.000	0	0	0	99.000	0.000
1642	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0	0	0	99.000	0.000
1643	6	GRANDJPS	230	70	0.957	0.925		0	0	0	0.000	0	0	0	99.000	0.000
1670	5	CLIFTON	230	70	0.958	0.944		0	0	0	0.000	0	0	0	99.000	0.000
1766	0		0	0	99.000	99.000	WELLS	115	40	3	0.065	0	0	0	99.000	0.000
1778	1	SPAN F&1	138	65	0.968	0.948		0	0	0	0.000	0	0	0	99.000	0.000
1808	4	GRANDJPS	230	70	0.957	0.946		0	0	0	0.000	0	0	0	99.000	0.000
1843	22	WARRENLM	115	73	0.996	0.902	ARCHER	115	73	24	0.098	0	0	0	99.000	0.000
1859	4	SIDNEY	115	73	1.014	0.941	SIDNEY	115	73	5	0.073	0	0	0	99.000	0.000
1869	0		0	0	99.000	99.000	CTTNWD N	115	73	3	0.055	0	0	0	99.000	0.000
1884	10	PAGOSA	115	73	0.962	0.912	HESPERUS	115	73	4	0.054	0	0	0	99.000	0.000
1886	2	HAVRE	115	63	0.989	0.916	HAVRE	115	63	2	0.073	0	0	0	99.000	0.000
1894	1	HOVENWEP	115	73	0.979	0.948		0	0	0	0.000	0	0	0	99.000	0.000
1898	5	CLIFTON	230	70	0.958	0.929		0	0	0	0.000	0	0	0	99.000	0.000

BUSES with voltage violations

bus no	---name---	--kv-	area	-base- -case- pu vt	BASE CASE VOLT VIOLATION	lowest -cont- -case- pu vt	cont with lowest pu vt	contingencies with voltage violations
54551	RING CK7	138.0	54	0.948	***	0.948	1:	all
54796	791S701T	138.0	54	0.920	***	0.920	1:	all
54835	791S702T	138.0	54	0.926	***	0.926	1:	all
61825	HINES	138.0	60	1.045		0.985	93:	93
61826	HINES	115.0	60	1.048		0.985	93:	93
61835	WJOHN DY	138.0	60	1.038		0.977	93:	93
62087	CONRAD	115.0	62	1.013		0.956	177:	177
48069	CHESTER	115.0	40	0.952		0.903	571:	242 249 397 399 420 467 474 529 562 563 571 575 578 581
48299	OPPORTUN	115.0	40	0.953		0.905	571:	242 249 397 399 420 467 474 529 562 563 571 575 578 581
48306	OTIS	230.0	40	0.950		0.904	571:	242 249 322 397 399 420 467 474 529 562 563 571 575 578 580 581
40215	CHENEY	115.0	40	0.966		0.942	413:	273 412 413
47013	BRIDGPRT	115.0	40	1.055		0.995	308:	308 1766
40589	KALISPEL	115.0	40	1.019		0.962	354:	354
47025	DELIGHT	115.0	40	0.976		0.940	590:	412 413 440 590
40439	FOURLKS	115.0	40	0.968		0.944	413:	412 413
48387	SILVRLAK	115.0	40	0.968		0.944	413:	412 413
48010	AIRWAYTP	115.0	40	0.971		0.947	413:	413
48125	FOURLBPA	115.0	40	0.972		0.948	413:	413
48132	HAL&WHIT	115.0	40	0.971		0.947	413:	413
48021	BARKER	115.0	40	0.967		0.919	571:	420 529 563 571 575 578
48117	EASTFARM	115.0	40	0.970		0.918	578:	420 529 563 571 575 578
48165	IRVIN	115.0	40	0.957		0.908	571:	420 529 562 563 571 575 578
48185	LIBTYLK	115.0	40	0.966		0.919	571:	420 529 562 563 571 575 578
48311	OTIS	115.0	40	0.968		0.920	571:	420 529 563 571 575 578
47051	HANNA	115.0	40	1.030		0.974	457:	457
40905	ROUNDUP	230.0	40	1.029		0.960	515:	515
47033	DOWER RD	115.0	40	0.973		0.913	578:	529 563 571 575 578
48111	DOWERRDT	115.0	40	0.974		0.913	578:	529 563 571 575 578
47511	MOAB	115.0	40	0.974		0.918	571:	529 571 578
48310	OPORTUNE	115.0	40	0.975		0.918	571:	529 571 578
48329	POST FLS	115.0	40	0.974		0.913	578:	529 563 571 575 578
48319	PLEASANT	115.0	40	0.981		0.917	571:	571
40855	PRAIRIEB	115.0	40	0.980		0.910	578:	578
40449	GAFFNEY	115.0	40	0.981		0.930	590:	590
66395	SPAN F&1	138.0	65	0.968		0.872	723:	694 723 1778
70113	CLIFTON	230.0	70	0.958		0.924	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70205	GRANDJCT	230.0	70	0.959		0.925	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70206	GRANDJPS	230.0	70	0.957		0.924	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70233	HORIZON	230.0	70	0.958		0.925	694:	694 830 1466 1480 1585 1597 1600 1642 1643 1670 1808 1898
70438	UINTAH	230.0	70	0.963		0.927	1643:	694 1643 1898
79049	MONTROSE	345.0	73	0.985		0.942	694:	694
79077	BAYFIELD	115.0	73	0.979		0.930	1884:	694 1508 1884
79086	PAGOSA	115.0	73	0.962		0.912	1884:	694 830 1484 1498 1503 1508 1511 1515 1540 1600 1631 1670 1884
79108	HOVENWEP	115.0	73	0.979		0.923	1503:	694 1503 1508 1894
79121	SANDCANY	115.0	73	0.982		0.926	1503:	694 1503 1508
70515	DAVIDSON	115.0	70	1.002		0.920	1088:	1088
70516	PONDERSA	115.0	70	0.998		0.923	1088:	1088
70517	PARKERPS	115.0	70	0.996		0.929	1088:	1088
70518	BAYOU	115.0	70	0.996		0.942	1088:	1088
70521	PEAKVIEW	115.0	70	1.006		0.919	1088:	1088
73023	BIJOUTAP	115.0	73	1.000		0.943	1173:	1173
73031	BRUSHTAP	115.0	73	1.011		0.929	1173:	1173
73305	EFMORGTP	115.0	73	1.001		0.932	1173:	1173 1197
73310	FME	115.0	73	1.001		0.931	1173:	1173 1197
73311	FMS	115.0	73	1.000		0.933	1173:	1173 1197
73377	EXCEL	115.0	73	1.000		0.933	1173:	1173 1197
73378	FMN	115.0	73	1.001		0.932	1173:	1173 1197
73379	FMWEST	115.0	73	1.000		0.933	1173:	1173 1197
73367	FTSANDER	115.0	73	1.020		0.941	1843:	1250 1375 1843
73005	ALVIN	115.0	73	0.999		0.941	1366:	1366
73175	SANDHILL	115.0	73	1.012		0.936	1366:	1366
73210	WAUNETA	115.0	73	0.992		0.949	1366:	1366
73304	CRETESWT	115.0	73	0.999		0.941	1366:	1366
73059	FLEMING	115.0	73	0.986		0.938	1380:	1380
73080	HAXTUN	115.0	73	0.985		0.943	1380:	1380
73478	GALIEN	115.0	73	0.987		0.933	1380:	1380
79079	BULLOCK	115.0	73	0.985		0.949	1490:	1490
79085	NORTHMSA	115.0	73	0.985		0.949	1490:	1490
79103	GARNET M	115.0	73	0.980		0.947	1490:	1490
79011	CAHONE	115.0	73	0.985		0.929	1503:	1503 1508
79012	CORTEZ	115.0	73	0.990		0.935	1503:	1503 1508
79044	LOSTCANY	115.0	73	0.993		0.939	1503:	1503
79045	LOSTCANY	230.0	73	0.993		0.936	1503:	1503
79073	BLUEDOOR	115.0	73	0.990		0.935	1503:	1503 1508
79074	E.CORTEZ	115.0	73	0.991		0.937	1503:	1503 1508
79075	EMPIRETS	115.0	73	0.990		0.935	1503:	1503 1508

79080	CASCADEL	115.0	73	0.988	0.940	1503:1503	1884
79088	ROCKWOOD	115.0	73	0.988	0.939	1884:1503	1884
79107	HOVEN NO	115.0	73	0.984	0.928	1503:1503	1508
79110	MAIN CO	115.0	73	0.984	0.928	1503:1503	1508
79111	MANCOSTP	115.0	73	0.990	0.941	1503:1503	
79117	Y.JACK 2	115.0	73	0.984	0.928	1503:1503	1508
79118	Y.JACK W	115.0	73	0.983	0.927	1503:1503	1508
79120	MOQUI C	115.0	73	0.984	0.928	1503:1503	1508
79122	TOWAOC	115.0	73	0.990	0.935	1503:1503	1508
79179	GRT CUT	115.0	73	0.990	0.935	1503:1503	1508
79180	GRCUT TP	115.0	73	0.990	0.935	1503:1503	1508
79257	AMES	115.0	73	0.992	0.942	1503:1503	
79194	BURROBDG	115.0	73	0.990	0.940	1503:1503	
79262	CEMNT CK	115.0	73	0.985	0.929	1503:1503	1508
79256	SILVERTN	115.0	73	0.990	0.939	1503:1503	
79189	SUNSH SM	115.0	73	0.992	0.943	1503:1503	
79188	TELLURID	115.0	73	0.986	0.936	1503:1503	
79191	COYOTE G	115.0	73	0.991	0.946	1508:1508	
79260	ELPASOTP	115.0	73	0.992	0.947	1508:1508	
40453	GAR2EAST	500.0	40	1.089	1.033	1567:1567	
40451	GAR1EAST	500.0	40	1.089	1.033	1568:1568	
70078	CAMEO	230.0	70	0.976	0.942	1643:1643	
47099	WELLS	115.0	40	1.062	0.997	1766:1766	
73008	ARCHER	115.0	73	1.009	0.911	1843:1843	
73043	CHEYENNE	115.0	73	0.999	0.908	1843:1843	
73066	GEMCTYTP	115.0	73	1.019	0.940	1843:1843	
73077	HAPPYJCK	115.0	73	0.998	0.906	1843:1843	
73109	LARAMIE	115.0	73	1.012	0.937	1843:1843	
73128	MAY	115.0	73	1.019	0.949	1843:1843	
73139	MYERS	115.0	73	1.008	0.914	1843:1843	
73140	MYERS TP	115.0	73	1.008	0.914	1843:1843	
73146	OASISTAP	115.0	73	1.020	0.949	1843:1843	
73152	PINEBLUF	115.0	73	1.004	0.935	1843:1843	
73154	POLE CK	115.0	73	1.007	0.925	1843:1843	
73161	QUALLS	115.0	73	1.006	0.924	1843:1843	
73172	ROCKPRTP	115.0	73	1.006	0.937	1843:1843	
73173	ROUNDTOP	115.0	73	1.005	0.947	1843:1843	
73178	SENTINEL	115.0	73	1.003	0.945	1843:1843	
73183	SKYLINE	115.0	73	0.998	0.903	1843:1843	
73187	SPRINGCK	115.0	73	1.020	0.941	1843:1843	
73348	CORLETT	115.0	73	0.996	0.903	1843:1843	
73375	WARRENLM	115.0	73	0.996	0.902	1843:1843	
73480	CROWCRK	115.0	73	1.000	0.907	1843:1843	
73504	PONNEQUI	115.0	73	1.003	0.925	1843:1843	
73046	DALTON	115.0	73	1.006	0.943	1859:1859	
73092	JACINTO	115.0	73	1.006	0.947	1859:1859	
73179	SIDNEY	115.0	73	1.014	0.941	1859:1859	
73236	GREENWOD	115.0	73	1.003	0.949	1859:1859	
79023	DURANGO	115.0	73	0.987	0.944	1884:1884	
79071	HESPERUS	115.0	73	0.991	0.937	1884:1884	
79076	AM EAST	115.0	73	0.983	0.932	1884:1884	
79078	BODO	115.0	73	0.986	0.941	1884:1884	
79089	SHENDOAH	115.0	73	0.987	0.947	1884:1884	
79099	FLOR.RIV	115.0	73	0.985	0.933	1884:1884	
63007	HAVRE	115.0	63	0.989	0.916	1886:1886	
63013	RUDYARD	115.0	63	0.997	0.942	1886:1886	

MONTANA TRANSMISSION STUDY WAPA UGP JUNE 2002
G2 WITH LINE UPDATES

FILE made from cont. file : [i:\dpb\mts\g2pwrflow\hsbs\cHSBS-1.out]
DATE REPORT MADE - Tue May 07 15:32:31 2002

Outage 102 failed to converge
Outage 113 failed to converge
Outage 351 failed to converge
Outage 389 failed to converge
Outage 390 failed to converge
Outage 1639 failed to converge
Outage 1677 failed to converge

--------FROM bus--------					---------TO bus---------									base	pu	rating		
#	---name---	-kv-	ar	#	---name---	-kv-	ar	ID	--mw-	-mvar	amps	load	load	[MVA]	Cnt	# freq.		
73187	"SPRINGCK"	115	73	73367	"FTSANDER"	115	73	"1 "	0	13333	66939	0.00	166.67	80.00	1259	1		
48125	"FOURLBPA"	115	40	48132	"HAL&WHIT"	115	40	"1 "	107	133	856	0.45	2.97	57.40	444	2		
48319	"PLEASANT"	115	40	48355	"RATHDRUM"	115	40	"1 "	-153	-42	864	1.03	2.01	85.80	587	1902		
48303	"OROFINO "	115	40	40023	"AHSAHKA "	115	40	"1 "	-219	-2	1109	0.82	1.94	113.70	421	3		
40855	"PRAIRIEB"	115	40	48349	"RAMSEY "	115	40	"1 "	-154	-48	880	0.78	1.93	91.00	580	3		
48329	"POST FLS"	115	40	40855	"PRAIRIEB"	115	40	"1 "	-133	-35	771	0.59	1.79	85.80	580	2		
47511	"MOAB "	115	40	48319	"PLEASANT"	115	40	"1 "	-139	-33	793	0.83	1.74	91.00	587	6		
73088	"HOYT "	115	73	73103	"L.MEADOW"	115	73	"1 "	61	3	320	0.17	1.59	40.00	1182	3		
65280	"CARBON "	138	65	66395	"SPAN F&1"	138	65	"1 "	120	6	487	0.68	1.55	75.10	732	2		
66395	"SPAN F&1"	138	65	66405	"SPAN FRK"	138	65	"1 "	97	-22	486	0.67	1.55	75.00	732	2		
70005	"BRUSHCPP"	115	70	73013	"B.CK PS "	115	73	"1 "	243	42	1201	0.72	1.48	162.00	1632	1		
65145	"BENLOMND"	138	65	66650	"WARREN "	138	65	"1 "	182	30	765	0.79	1.45	126.00	688	3		
65520	"EMMAPARK"	138	65	66590	"UPALCO "	138	65	"1 "	-158	87	810	0.74	1.43	136.00	703	2		
65520	"EMMAPARK"	138	65	66183	"PANTHER "	138	65	"1 "	157	-88	808	0.72	1.42	136.00	703	2		
48025	"BEACON N"	230	40	40090	"BELL SO "	230	40	"5 "	-492	-140	1268	0.79	1.38	366.50	274	4		
65280	"CARBON "	138	65	66183	"PANTHER "	138	65	"1 "	-146	100	786	0.68	1.38	136.00	703	2		
73039	"CARTERLK"	115	73	73058	"FLATIRON"	115	73	"1 "	-108	-18	551	0.89	1.37	80.00	1279	16		
73008	"ARCHER "	115	73	73043	"CHEYENNE"	115	73	"1 "	99	27	526	0.72	1.31	80.00	1161	3		
66085	"NINETY S"	138	65	66660	"WEST JOR"	138	65	"1 "	200	47	848	0.48	1.30	156.10	862	2		
73305	"EFMORGTP"	115	73	73379	"FMWEST "	115	73	"1 "	101	-2	520	0.91	1.29	80.00	1170	11		
66565	"TREASTON"	230	65	66570	"TREASTON"	138	65	"1 "	255	-20	256	0.52	1.29	200.00	1830	2		
70005	"BRUSHCPP"	115	70	73013	"B.CK PS "	115	73	"2 "	243	45	1205	0.67	1.28	187.00	1631	1		
48023	"BEACON N"	115	40	48371	"ROSSPARK"	115	40	"1 "	169	46	883	0.94	1.27	138.20	288	48		
48253	"N LEWIST"	115	40	48075	"CLEARWTR"	115	40	"1 "	142	16	720	0.26	1.26	113.70	469	1		
66480	"SYRACUSE"	138	65	66650	"WARREN "	138	65	"1 "	-151	-1	663	0.61	1.26	126.00	688	3		
48311	"OTIS "	115	40	47511	"MOAB "	115	40	"1 "	-93	-17	533	0.45	1.24	85.80	587	2		
66370	"SMFLD TP"	138	65	66680	"WHEELON "	138	65	"1 "	-142	-5	627	0.41	1.24	120.90	796	3		
73020	"BEAVERCK"	115	73	73464	"ADENA "	115	73	"1 "	108	9	531	0.75	1.24	85.10	1182	6		
48117	"EASTFARM"	115	40	48329	"POST FLS"	115	40	"1 "	-118	-23	684	0.31	1.23	110.90	580	2		
60110	"CALDWELL"	230	60	60105	"CALDWELL"	138	60	"1 "	246	22	247	0.70	1.23	200.00	1669	1		
48029	"BEACON S"	115	40	48271	"NINTHCNT"	115	40	"1 "	108	24	559	0.77	1.22	91.00	261	3		
70091	"CASTLRCK"	115	70	70518	"BAYOU "	115	70	"1 "	142	62	820	0.31	1.21	134.80	1097	1		
60110	"CALDWELL"	230	60	60105	"CALDWELL"	138	60	"2 "	241	24	242	0.62	1.21	200.00	1668	1		
65193	"BONANZA "	345	65	65192	"BONANZA "	138	65	"1 "	-455	120	470	0.72	1.20	392.00	1475	2		
48279	"NORTHWES"	115	40	48461	"WEST "	115	40	"1 "	-106	-29	556	0.92	1.19	92.80	453	35		
65192	"BONANZA "	138	65	66278	"RANGELY "	138	65	"1 "	140	11	574	0.32	1.19	115.00	1789	1		
48159	"HUETTER "	115	40	48355	"RATHDRUM"	115	40	"1 "	-119	-40	654	0.74	1.18	110.90	580	6		
73072	"GOREPASS"	138	73	79038	"HAYDEN "	138	73	"1 "	-105	31	469	0.50	1.18	96.00	1646	1		
65560	"FISHCREK"	161	65	65670	"GOSHEN "	161	65	"1 "	-167	47	617	0.95	1.17	148.10	1619	99		
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"1 "	-152	86	175	0.78	1.17	150.00	1848	1		
65860	"JFRSNPHA"	161	65	65850	"JEFFERSN"	161	65	"1 "	81	-74	109	0.87	1.16	100.00	421	8		
48311	"OTIS "	115	40	48117	"EASTFARM"	115	40	"1 "	-111	-19	648	0.26	1.16	110.90	580	2		
65565	"FLAMGORG"	230	65	79026	"FLAMGORG"	138	73	"1 "	-116	9	116	0.46	1.16	100.00	703	1		
65565	"FLAMGORG"	230	65	79026	"FLAMGORG"	138	73	"2 "	-116	9	116	0.46	1.16	100.00	703	1		
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"2 "	-150	85	172	0.76	1.15	150.00	1847	1		
65560	"FISHCREK"	161	65	65690	"GRACE "	161	65	"1 "	163	-49	606	0.92	1.14	148.00	1619	28		
66500	"TAYLORSV"	138	65	66660	"WEST JOR"	138	65	"1 "	-174	-29	744	0.33	1.14	156.10	862	2		
40021	"ADDY 2 "	230	40	40017	"ADDY "	115	40	"1 "	178	34	181	0.56	1.11	163.00	233	1		
66180	"PALISADE"	230	65	66315	"ROCKSPGS"	230	65	"1 "	-468	44	1184	0.71	1.11	423.90	707	5		
73413	"MIDWAYBR"	230	73	73412	"MIDWAYBR"	115	73	"1 "	105	35	111	0.49	1.11	100.00	1461	1		
65220	"BRIDGER "	230	65	66315	"ROCKSPGS"	230	65	"1 "	475	52	1176	0.75	1.10	423.90	52	6		
70108	"CHEROKEN"	115	70	70154	"DERBY 2 "	115	70	"1 "	149	30	744	0.76	1.10	135.00	966	3		
70071	"CABINCRK"	115	70	70072	"CABINCRK"	230	70	"2 "	53	-12	54	0.41	1.10	50.00	991	1		
40145	"BOUNDARY"	230	40	40143	"BOUNDARY"	115	40	"1 "	135	17	136	0.66	1.09	125.00	234	3		
40087	"BELL BPA"	115	40	48449	"WAIKIKIT"	115	40	"1 "	116	34	610	0.84	1.09	111.90	1739	7		
46817	"ROCK IS2"	115	40	41105	"VALHALLA"	115	40	"1 "	326	5	1576	0.48	1.09	288.80	520	1		
48258	"NEWPORTT"	115	40	48043	"BLANCHRD"	115	40	"1 "	124	-4	616	0.73	1.08	113.70	287	4		
40259	"COLUMBIA"	115	40	47071	"PALISADS"	115	40	"1 "	143	5	695	0.82	1.08	127.70	400	2		
70071	"CABINCRK"	115	70	70072	"CABINCRK"	230	70	"1 "	52	-12	53	0.40	1.08	50.00	991	1		
48357	"RATHDRUM"	230	40	48355	"RATHDRUM"	115	40	"1 "	217	122	249	0.49	1.08	230.00	1767	1		
65193	"BONANZA "	345	65	65995	"MONA "	345	65	"1 "	698	53	1168	0.95	1.07	650.00	1512	1822		
48043	"BLANCHRD"	115	40	47505	"HOODOO "	115	40	"1 "	121	-9	611	0.72	1.07	113.70	287	4		
47505	"HOODOO "	115	40	48403	"SPIRITLT"	115	40	"1 "	118	-14	603	0.71	1.07	111.90	287	4		
73075	"GREYBULL"	115	73	73123	"LOVELL "	115	73	"1 "	-101	35	583	0.56	1.07	109.00	1602	1		
40385	"ELLENGTP"	115	40	40387	"ELLENSBG"	115	40	"1 "	96	-13	497	0.82	1.06	93.60	583	1		
65145	"BENLOMND"	138	65	66640	"W OGDEN "	138	65	"1 "	215	43	908	0.79	1.06	205.10	687	3		
70108	"CHEROKEN"	115	70	70153	"DERBY 1 "	115	70	"1 "	143	30	718	0.70	1.06	135.00	967	2		
70471	"WELD PS"	230	70	73212	"WELD LM"	230	73	"1 "	-531	7	1328	0.73	1.06	500.00	1630	3		
73020	"BEAVERCK"	115	73	73031	"BRUSHTAP"	115	73	"1 "	129	17	650	0.80	1.06	122.10	1170	4		
73013	"B.CK PS "	115	73	73014	"B.CK PS "	230	73	"1 "	232	51	237	0.25	1.06	224.00	1172	1		
65140	"BENLOMND"	230	65	65145	"BENLOMND"	138	65	"1 "	282	6	282	0.72	1.06	267.00	1784	2		
40088	"BELL MI "	230	40	40087	"BELL BPA"	115	40	"1 "	258	35	260	0.87	1.05	249.00	1740	13		
47027	"DIAM LAK"	115	40	40907	"SACHEEN "	115	40	"1 "	-140	15	695	0.33	1.05	131.50	287	1		
47071	"PALISADS"	115	40	46075	"QUINCY T"	115	40	"1 "	139	3	675	0.79	1.05	127.70	400	2		
40023	"AHSAHKA "	115	40	40367	"DWORSHAK"	115	40	"1 "	-224	-13	1122	0.45	1.05	213.10	421	1		
48403	"SPIRITLT"	115	40	48017	"ATHOLTAP"	115	40	"1 "	115	-20	592	0.68	1.04	113.70	287	1		
46809	"MCKENZIE"	230	40	46831	"ROCKYRH1"	230	40	"1 "	-503	-17	1238	0.77	1.04	474.10	379	3		
73211	"WELD LM"	115	73	73212	"WELD LM"	230	73	"1 "	-155	23	157	0.39	1.04	150.00	1628	1		
70395	"SMOKYHIL"	115	70	70396	"SMOKYHIL"	230	70	"1 "	-156	11	157	0.67	1.04	150.00	1852	1		
54189	"ENMX2SD9"	138	54	54154	"E CALGAR"	240	54	"T1"	-233	201	308	1.03	1.03	300.00	1	1908		
60020	"AMFLS "	138	60	60070	"BRADY "	138	60	"1 "	-247	-49	1016	0.77	1.03	236.60	27	1		
60085	"BRIDGER "	345	60	60060	"BORAH "	345	60	"1 "	928	246	1531	0.78	1.03	892.20	53	2		
48258	"NEWPORTT"	115	40	47086	"PINE ST "	115	40	"1 "	-125	3	624	0.70	1.03	120.10	287	2		
48155	"HERN "	115	40	48159	"HUETTER "	115	40	"1 "	-104	-34	573	0.60	1.03	110.90	580	2		
40259	"COLUMBIA"	115	40	40579	"JENKINS "	115	40	"1 "	111	13	547	0.81	1.03	105.60	583	1		
65215	"BRDGR PP"	230	65	65555	"FIREHOLE"	230	65	"1 "	-432	35	1094	0.56	1.03	424.00	890	2		
73103	"L.MEADOW"	115	73	73213	"WIGGINS "	115	73	"1 "	58	1	307	0.07	1.03	59.60	1182	1		
73166	"REDWILLW"	115	73	73208	"WAGES "	115	73	"1 "	52	17	282	0.50	1.03	55.00	1375	1		

79013	"CRAIG "	230	73	79059	"RIFLE WA"	230	73	"1 "	337	40	836	0.58	1.03	324.00	1651	1
41347	"MIDWAYB2"	230	40	41111	"VANTAGE "	230	40	"1 "	-386	1	965	0.68	1.02	378.50	465	1
48349	"RAMSEY "	115	40	48155	"HERN "	115	40	"1 "	-102	-33	567	0.59	1.02	110.90	580	1
40385	"ELLENGTP"	115	40	40579	"JENKINS "	115	40	"1 "	-105	10	543	0.80	1.02	105.60	583	1
46805	"CHELAN "	115	40	48149	"HEADWORK"	115	40	"1 "	-88	32	462	0.91	1.02	91.00	646	1
66180	"PALISADE"	230	65	66266	"RAVEN "	230	65	"1 "	468	-44	1184	0.66	1.02	461.00	707	3
65280	"CARBON "	138	65	66405	"SPAN FRK"	138	65	"2 "	199	-16	884	0.70	1.02	208.00	703	1
65690	"GRACE "	161	65	65695	"GRACE "	138	65	"1 "	159	-58	170	0.82	1.02	168.00	1619	6
70231	"HOPKINS "	115	70	79003	"BASALT "	115	70	"1 "	68	-12	341	0.37	1.02	66.90	1648	1
62004	"ANACOND "	230	62	62005	"ANACOND "	161	62	"2 "	191	70	203	0.58	1.02	200.00	1690	1
62004	"ANACOND "	230	62	62005	"ANACOND "	161	62	"1 "	191	70	203	0.58	1.02	200.00	1691	1
60150	"HELLSCYN"	230	60	60095	"BROWNLEE"	230	60	"1 "	495	-4	1207	0.81	1.01	478.00	96	1
73008	"ARCHER "	115	73	73183	"SKYLINE "	115	73	"1 "	73	28	405	0.57	1.01	80.00	1278	1
48131	"GARDENSP"	115	40	40525	"HAYFORD "	115	40	"1 "	55	-1	288	0.98	1.00	57.40	282	1903
54542	"RBW LAK7"	138	54	54796	"791S701T"	138	54	"1 "	17	17	24	1.00	1.00	24.00	1	1908
54542	"RBW LAK7"	138	54	54835	"791S702T"	138	54	"1 "	18	16	24	1.00	1.00	24.00	1	1908
60275	"OXBOW "	230	60	60095	"BROWNLEE"	230	60	"1 "	488	-58	1196	0.82	1.00	478.00	66	2
40259	"COLUMBIA"	115	40	46033	"GB55 "	115	40	"1 "	131	-18	640	0.57	1.00	127.70	245	1
40459	"GARRISON"	500	40	41057	"TAFT "	500	40	"2 "	920	-314	1088	0.59	1.00	944.00	455	1
40459	"GARRISON"	500	40	41057	"TAFT "	500	40	"1 "	920	-314	1088	0.59	1.00	944.00	456	1
73179	"SIDNEY "	115	73	73180	"SIDNEY "	230	73	"1 "	-164	-17	165	0.74	1.00	167.00	1348	1
70463	"WATERTON"	115	70	70464	"WATERTON"	230	70	"2 "	-96	-18	98	0.69	1.00	100.00	1854	1
60085	"BRIDGER "	345	60	60190	"KINPORT "	345	60	"1 "	901	238	1485	0.68	0.99	892.20	1612	2
65175	"BLUE RIM"	230	65	65215	"BRDGR PP"	230	65	"1 "	-416	50	1057	0.52	0.99	423.90	890	2
65175	"BLUE RIM"	230	65	66325	"S. TRONA"	230	65	"1 "	416	-22	1051	0.51	0.99	423.90	890	2
73023	"BIJOUTAP"	115	73	73379	"FMWEST "	115	73	"1 "	-75	14	397	0.61	0.99	80.00	1170	2
70463	"WATERTON"	115	70	70464	"WATERTON"	230	70	"1 "	-95	-18	97	0.68	0.99	100.00	1855	1
54110	"RED DEE9"	138	54	54144	"RED DEE4"	240	54	"T1"	-40	-171	175	0.98	0.98	200.00	1	1908
48017	"ATHOLTAP"	115	40	40953	"SCARCELO"	115	40	"1 "	107	-23	557	0.62	0.98	113.70	287	1
46807	"MCKENZIE"	115	40	41105	"VALHALLA"	115	40	"1 "	363	-7	1758	0.60	0.98	356.50	600	1
46001	"ANC LK T"	230	40	40261	"COLUMBIA"	230	40	"1 "	-413	31	1022	0.69	0.98	415.50	614	1
65930	"MCCELAND"	138	65	66550	"THIRTY S"	138	65	"1 "	-207	10	854	0.59	0.98	208.00	754	1
73031	"BRUSHTAP"	115	73	73305	"EFMORGTP"	115	73	"1 "	118	9	598	0.72	0.98	121.70	1170	1
79007	"BLUEMESA"	115	73	79020	"CURECANT"	115	73	"1 "	77	-14	392	0.51	0.98	80.00	1478	1
60085	"BRIDGER "	345	60	65665	"GOSHEN "	345	65	"1 "	888	196	1449	0.67	0.97	892.20	53	1
60220	"MCCALL "	138	60	60370	"WEISER "	138	60	"1 "	29	-11	132	0.19	0.97	32.30	96	1
40259	"COLUMBIA"	115	40	41105	"VALHALLA"	115	40	"2 "	-212	27	1037	0.57	0.97	213.10	373	1
40259	"COLUMBIA"	115	40	41105	"VALHALLA"	115	40	"1 "	-212	27	1034	0.56	0.97	213.10	374	1
65085	"ASHLEY "	138	65	79067	"VERNAL "	138	73	"1 "	-131	7	553	0.59	0.97	136.00	701	1
66035	"NAT SM T"	138	65	66085	"NINETY S"	138	65	"1 "	-204	-16	845	0.50	0.97	208.00	835	1
65570	"FRANKLIN"	138	65	65725	"GRCYN TP"	138	65	"1 "	133	8	550	0.58	0.97	136.00	916	1
65725	"GRCYN TP"	138	65	65735	"GREENCYN"	138	65	"1 "	129	-2	551	0.58	0.97	136.00	916	1
70192	"FTLUPTON"	230	70	70311	"PAWNEE "	230	70	"1 "	-384	73	1004	0.66	0.97	413.50	1070	2
79007	"BLUEMESA"	115	73	79090	"SKITO "	115	73	"1 "	77	-9	389	0.49	0.97	80.00	1476	1
48165	"IRVIN "	115	40	48299	"OPPORTUN"	115	40	"1 "	49	16	276	0.34	0.96	57.40	537	2
79067	"VERNAL "	138	73	65192	"BONANZA "	138	65	"1 "	-182	-4	770	0.26	0.96	192.00	703	1
70265	"LOOKOUT "	115	70	70224	"HOGBACK "	115	70	"1 "	185	12	930	0.65	0.96	192.00	1038	1
60291	"PINGREE "	138	60	60125	"DON "	138	60	"1 "	-130	-32	567	0.26	0.96	141.00	1610	1
48031	"BEACON S"	230	40	48029	"BEACON S"	115	40	"1 "	253	108	275	0.64	0.96	287.00	1739	1
48025	"BEACON N"	230	40	48023	"BEACON N"	115	40	"1 "	253	108	275	0.64	0.96	287.00	1740	1
62054	"BROADV&1"	500	62	62046	"BROADVU "	500	62	"1 "	1733	-170	1902	0.50	0.95	1732.00	154	1
65145	"BENLOMND"	138	65	65505	"EL MONTE"	138	65	"2 "	189	55	815	0.46	0.95	205.10	684	1
65145	"BENLOMND"	138	65	65505	"EL MONTE"	138	65	"1 "	189	55	815	0.46	0.95	205.10	685	1
73009	"ARCHER "	230	73	73008	"ARCHER "	115	73	"1 "	149	37	154	0.74	0.95	167.00	1317	1

	low voltage violations						delta voltage violations					high voltage violations					
CNT	freq	---name---	-kv-	ar	-base-case- pu vt	-cont-case- pu vt	---name---	-kv-	ar	freq	delta V	freq	---name---	-kv-	ar	-base-case- pu vt	-cont-case- pu vt
53	1	BIGGRASS	161	65	0.961	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
95	1	MCCALL	138	60	0.995	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
104	0		0	0	99.000	99.000	QUARTZ	138	60	7	0.072	0		0	0	99.000	0.000
112	0		0	0	99.000	99.000	WEISER	138	60	3	0.065	0		0	0	99.000	0.000
115	1	WOOD RVR	138	60	1.007	0.932	WOOD RVR	138	60	2	0.075	0		0	0	99.000	0.000
123	1	HINES	138	60	1.022	0.947	HINES	115	60	3	0.078	0		0	0	99.000	0.000
133	1	BIGGRASS	161	65	0.961	0.937	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
138	3	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
139	1	TAFTAUTO	115	62	0.980	0.933	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
146	2	CUTBANK	115	62	0.988	0.939	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
148	5	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
149	5	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
167	4	CUTBANK	115	62	0.988	0.932	BOLE	230	62	11	0.060	0		0	0	99.000	0.000
186	4	CONRAD	115	62	1.004	0.927	CONRAD	115	62	3	0.077	0		0	0	99.000	0.000
189	11	EGALTN A	161	62	0.986	0.918	EMIGT AT	161	62	7	0.076	0		0	0	99.000	0.000
234	1	LIBTYLK	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
235	0		0	0	99.000	99.000	AHSAHKA	115	40	2	0.063	0		0	0	99.000	0.000
243	3	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
251	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
258	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
267	1	LIBTYLK	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
274	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
275	31	BARKER	115	40	0.954	0.872	CHESTER	115	40	38	0.083	0		0	0	99.000	0.000
282	12	BARKER	115	40	0.954	0.932	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
287	3	BARKER	115	40	0.954	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
305	3	LIBTYLK	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
316	0		0	0	99.000	99.000	BRIDGBAR	115	40	4	0.063	0		0	0	99.000	0.000
317	0		0	0	99.000	99.000	BRIDGPRT	115	40	9	0.085	0		0	0	99.000	0.000
327	26	LIBTYLK	115	40	0.954	0.903	LAKEVIEW	230	40	10	0.065	0		0	0	99.000	0.000
342	2	OROVILLE	115	40	1.003	0.940	E OMAK	230	40	8	0.071	0		0	0	99.000	0.000
406	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
408	5	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
421	10	PTRSNFLT	230	62	0.969	0.916	MTSLETHB	500	54	2	0.060	0		0	0	99.000	0.000
422	18	PTRSNFLT	230	62	0.969	0.907	PTRSNFLT	230	62	3	0.062	0		0	0	99.000	0.000
429	5	BARKER	115	40	0.954	0.934	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
449	2	DELIGHT	115	40	0.965	0.895	DELIGHT	115	40	3	0.070	0		0	0	99.000	0.000
450	4	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
451	4	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
455	12	PTRSNFLT	230	62	0.969	0.933	GAR1EAST	500	40	3	0.061	0		0	0	99.000	0.000
456	12	PTRSNFLT	230	62	0.969	0.933	GAR1EAST	500	40	3	0.061	0		0	0	99.000	0.000
466	0		0	0	99.000	99.000	HANNA	115	40	4	0.072	0		0	0	99.000	0.000
473	3	PTRSNFLT	230	62	0.969	0.940	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
476	7	LIBTYLK	115	40	0.954	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
483	8	BARKER	115	40	0.954	0.943	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
495	27	BARKER	115	40	0.954	0.900	MTSLETHB	500	54	29	0.060	0		0	0	99.000	0.000
504	1	DELIGHT	115	40	0.965	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
517	2	DELIGHT	115	40	0.965	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
524	2	ROUNDUP	230	40	1.011	0.888	ROUNDUP	230	40	4	0.123	0		0	0	99.000	0.000
537	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000

538	9	MOAB	115	40	0.958	0.889	MOAB	115	40	11	0.069	0	0	0	99.000	0.000
546	3	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
566	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
571	4	BARKER	115	40	0.954	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
572	4	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
580	12	PLEASANT	115	40	0.966	0.866	PLEASANT	115	40	15	0.100	0	0	0	99.000	0.000
584	9	DOWER RD	115	40	0.959	0.910	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
587	10	PRAIRIEB	115	40	0.966	0.877	PRAIRIEB	115	40	15	0.089	0	0	0	99.000	0.000
590	7	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
599	3	GAFFNEY	115	40	0.981	0.876	GAFFNEY	115	40	4	0.105	0	0	0	99.000	0.000
655	1	BIGGRASS	161	65	0.961	0.945	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
665	5	AEC IPC	138	65	0.979	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
688	4	W OGDEN	138	65	0.995	0.931	W OGDEN	138	65	3	0.064	0	0	0	99.000	0.000
703	15	SPAN F&1	138	65	0.968	0.880	EMMAPARK	138	65	13	0.094	0	0	0	99.000	0.000
732	1	SPAN F&1	138	65	0.968	0.857	SPAN F&1	138	65	2	0.111	0	0	0	99.000	0.000
775	3	DIMP DEL	138	65	1.011	0.940	DIMP DEL	138	65	4	0.071	0	0	0	99.000	0.000
796	6	FRANKLIN	138	65	1.016	0.928	FRANKLIN	138	65	5	0.088	0	0	0	99.000	0.000
797	2	BGEORGE	115	73	0.982	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
798	8	BGEORGE	115	73	0.982	0.933	FRANNIE	230	65	9	0.061	0	0	0	99.000	0.000
803	1	BGEORGE	115	73	0.982	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
812	1	BIGGRASS	161	65	0.961	0.939	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
823	1	LOGAN	138	65	0.992	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
911	1	RIVRDALE	138	65	0.988	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
939	2	ENGLE3TP	115	70	1.002	0.941	ENGLE3TP	115	70	3	0.061	0	0	0	99.000	0.000
942	2	TOLGATE	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
943	1	BARRLAKE	230	70	0.966	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
944	2	SKYRANCH	230	70	0.963	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
984	2	MARCY	230	70	0.961	0.935	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
985	2	SURREYRG	230	70	0.966	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
986	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
994	13	ELATI1	230	70	0.956	0.938	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
995	6	ELATI2	230	70	0.956	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1011	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1012	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1013	5	RIVERDAL	230	70	0.958	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1014	12	WASHINGT	230	70	0.960	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1019	5	GLENN PS	230	70	0.958	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1028	2	CLARK	230	70	0.960	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1030	3	SULLIVN	230	70	0.956	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1035	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1036	2	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1045	1	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1052	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1053	2	CHATFLD	230	70	0.963	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1054	1	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1056	1	RIDGE	230	70	0.957	0.945	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1057	9	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1064	8	MONROEPS	230	70	0.954	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1065	4	JEWELL2	230	70	0.953	0.945	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1069	20	JEWELL2	230	70	0.953	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1070	29	JEWELL2	230	70	0.953	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1078	25	JEWELL2	230	70	0.953	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1097	6	PEAKVIEW	115	70	1.003	0.877	PEAKVIEW	115	70	6	0.126	0	0	0	99.000	0.000
1098	3	BUCKLEY2	230	70	0.956	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1107	6	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1110	12	GUNBARRE	230	70	0.972	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1114	1	SULLIVN	230	70	0.956	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1125	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1132	6	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1136	1	MONACO	230	70	0.959	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1151	7	ALVIN	115	73	0.976	0.920	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1152	3	FRENCHCK	115	73	0.960	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1157	4	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1160	4	SKYLINE	115	73	0.959	0.925	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1161	5	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1163	7	CORLETT	115	73	0.954	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1164	4	CORLETT	115	73	0.954	0.945	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1170	33	CORLETT	115	73	0.954	0.914	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1171	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1182	14	BRUSHTAP	115	73	1.010	0.878	BRUSHTAP	115	73	14	0.132	0	0	0	99.000	0.000
1184	7	GALIEN	115	73	0.967	0.919	MESSEX	115	73	3	0.080	0	0	0	99.000	0.000
1190	9	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1191	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1192	9	LIBERTY	115	73	0.983	0.908	BONNY CK	115	73	8	0.079	0	0	0	99.000	0.000
1193	7	LIBERTY	115	73	0.983	0.918	HELL CK	115	73	7	0.065	0	0	0	99.000	0.000
1206	10	FME	115	73	0.993	0.904	EFMORGTP	115	73	10	0.089	0	0	0	99.000	0.000
1215	2	CARTERMT	115	73	0.993	0.929	CARTERMT	115	73	3	0.064	0	0	0	99.000	0.000
1218	3	CORLETT	115	73	0.954	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1221	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1222	12	COBBLAKE	115	70	0.995	0.919	COBBLAKE	115	70	5	0.076	0	0	0	99.000	0.000
1224	3	DALTON	115	73	0.999	0.937	DALTON	115	73	3	0.062	0	0	0	99.000	0.000
1248	2	HAXTUN	115	73	0.961	0.938	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1249	3	FLEMING	115	73	0.964	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1255	3	FRENCHCK	115	73	0.960	0.923	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1257	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1258	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1278	3	CORLETT	115	73	0.954	0.924	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1299	7	KIMBALL	115	73	0.983	0.939	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1300	11	JACINTO	115	73	0.992	0.908	JACINTO	115	73	6	0.084	0	0	0	99.000	0.000
1316	1	CORLETT	115	73	0.954	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1317	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1319	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1320	4	LAPORTE	230	73	1.009	0.943	LAPORTE	230	73	2	0.066	0	0	0	99.000	0.000
1322	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1323	4	LARAMIE	115	73	0.967	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1341	6	GALIEN	115	73	0.967	0.919	MTSLETHB	500	54	2	0.060	0	0	0	99.000	0.000
1342	4	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1344	1	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1347	6	REDWILLW	115	73	0.995	0.916	REDWILLW	115	73	2	0.079	0	0	0	99.000	0.000
1349	4	FRENCHCK	115	73	0.960	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1350	3	FRENCHCK	115	73	0.960	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1352	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1355	4	HAXTUN	115	73	0.961	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1356	5	FLEMING	115	73	0.964	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1361	16	RICHARDS	115	73	0.997	0.911	RICHARDS	115	73	8	0.086	0	0	0	99.000	0.000
1369	4	WAGES	115	73	0.971	0.933	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1371	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1372	0		0	0	99.000	99.000	WINDRIVR	115	73	3	0.061	0	0	0	99.000	0.000
1373	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1375	9	SANDHILL	115	73	0.993	0.885	SANDHILL	115	73	6	0.108	0	0	0	99.000	0.000

1380	2	WARRENLM	115	73	0.955	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1386	1	TORRNGTN	115	73	0.989	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1389	8	GALIEN	115	73	0.967	0.871	GALIEN	115	73	5	0.096	0	0	0	99.000	0.000
1405	4	VERNONLM	115	73	0.979	0.944	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1414	4	FMS	115	73	0.992	0.937	MTSLETHB	500	54	4	0.060	0	0	0	99.000	0.000
1475	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1493	1	PAGOSA	115	73	0.964	0.939	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1512	1	PAGOSA	115	73	0.964	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1517	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1518	1	PAGOSA	115	73	0.964	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1520	4	PAGOSA	115	73	0.964	0.923	FLOR.RIV	115	73	3	0.060	0	0	0	99.000	0.000
1524	1	PAGOSA	115	73	0.964	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1576	3	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1577	3	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1579	1	BIGGRASS	161	65	0.961	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1602	7	BGEORGE	115	73	0.982	0.903	NAHNEJEN	115	73	10	0.081	0	0	0	99.000	0.000
1606	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1609	0		0	0	99.000	99.000	MIDPOINT	500	60	2	0.062	0	0	0	99.000	0.000
1612	5	BIGGRASS	161	65	0.961	0.920	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1615	0		0	0	99.000	99.000	HINES	115	60	3	0.064	0	0	0	99.000	0.000
1635	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1637	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1684	2	MCCALL	138	60	0.995	0.934	MCCALL	138	60	3	0.061	0	0	0	99.000	0.000
1685	0		0	0	99.000	99.000	QUARTZ	138	60	6	0.072	0	0	0	99.000	0.000
1741	12	BARKER	115	40	0.954	0.933	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1758	2	OROVILLE	115	40	1.003	0.940	OROVILLE	115	40	7	0.063	0	0	0	99.000	0.000
1759	10	JACKRABT	161	62	0.981	0.941	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1760	10	DELIGHT	115	40	0.965	0.927	HATWAI	230	40	7	0.073	0	0	0	99.000	0.000
1767	15	BARKER	115	40	0.954	0.924	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1768	9	BARKER	115	40	0.954	0.937	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1777	0		0	0	99.000	99.000	WELLS	115	40	10	0.092	0	0	0	99.000	0.000
1789	1	SPAN F&1	138	65	0.968	0.931	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1820	1	PLATTE	115	65	1.010	0.932	PLATTE	115	65	2	0.078	0	0	0	99.000	0.000
1857	33	CORLETT	115	73	0.954	0.778	ARCHER	115	73	34	0.182	0	0	0	99.000	0.000
1868	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1872	9	WAGES	115	73	0.971	0.936	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1873	24	DALTON	115	73	0.999	0.911	SIDNEY	115	73	11	0.099	0	0	0	99.000	0.000
1879	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1881	3	FRENCHCK	115	73	0.960	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1883	8	BRIARGAT	115	73	0.990	0.911	CTTNWD N	115	73	6	0.080	0	0	0	99.000	0.000
1898	16	PAGOSA	115	73	0.964	0.870	HESPERUS	115	73	19	0.096	0	0	0	99.000	0.000
1902	3	HAMLTNMA	161	62	0.989	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1905	0		0	0	99.000	99.000	RIVERTON	115	73	4	0.062	0	0	0	99.000	0.000
1912	5	CLIFTON	230	70	0.972	0.920	MTSLETHB	500	54	4	0.060	0	0	0	99.000	0.000

BUSES with voltage violations

bus no	---name---	--kv-	area	-base-case- pu vt	BASE CASE VOLT VIOLATION	lowest -cont-case- pu vt	cont with lowest pu vt	contingencies with voltage violations
48069	CHESTER	115.0	40	0.945	***	0.857	580:	all
48165	IRVIN	115.0	40	0.949	***	0.863	580:	all
48310	OPORTUNE	115.0	40	0.949	***	0.861	580:	all
48299	OPPORTUN	115.0	40	0.947	***	0.859	580:	all
48306	OTIS	230.0	40	0.938	***	0.858	275:	all
70249	LAJUNTAW	115.0	70	0.929	***	0.926	1069:	all
60295	PLST VLY	138.0	60	1.025		0.970	29:	29
65155	BIGGRASS	161.0	65	0.961		0.919	422:	53 133 421 422 455 456 473 655 812 1579 1612
60220	MCCALL	138.0	60	0.995		0.934	1684:	95 1684
60305	QUARTZ	138.0	60	1.026		0.954	104:	104 1685
60306	QUARTZ	230.0	60	1.024		0.954	104:	104
61835	WJOHN DY	138.0	60	1.014		0.955	104:	104 1685
61055	NELSN TP	138.0	60	1.023		0.968	104:	104 1685
60370	WEISER	138.0	60	1.024		0.959	112:	112
60371	WEISR TP	138.0	60	1.026		0.961	112:	112
60375	WOOD RVR	138.0	60	1.007		0.932	115:	115
61825	HINES	138.0	60	1.022		0.947	123:	123 1615 1686
61826	HINES	115.0	60	1.028		0.950	123:	123 1615
62064	BRADLEYC	161.0	62	0.977		0.929	189:	138 148 149 189 422 450 451 455 456 1759
62065	ENNIS MT	161.0	62	0.974		0.932	189:	138 148 149 189 421 422 450 451 455 456 1576 1577 1759
62158	SHERDNMT	161.0	62	0.972		0.930	422:	138 148 149 189 421 422 450 451 455 456 1576 1577 1612 1759
62006	TAFTAUTO	115.0	62	0.980		0.933	139:	139
62031	CUTBANK	115.0	62	0.988		0.932	167:	146 167 186
62088	CTBPUMP	115.0	62	0.988		0.932	167:	146 167 186
62084	DILLON S	161.0	62	0.969		0.921	422:	148 149 189 421 422 450 451 455 456 473 1576 1577 1612
62256	JACKRABT	161.0	62	0.981		0.919	189:	148 149 189 1759
62027	SHELBY	115.0	62	1.001		0.946	167:	167
62034	BOLE	230.0	62	1.010		0.950	167:	167
62035	CNRDWAPA	230.0	62	1.008		0.953	167:	167
62178	VAL-WILL	115.0	62	0.999		0.931	186:	167 186
62087	CONRAD	115.0	62	1.004		0.927	186:	186
62076	TRIDENT	161.0	62	0.984		0.942	189:	189 1759
62108	CLYDE P	161.0	62	0.999		0.924	189:	189
62249	EGALTN A	161.0	62	0.986		0.918	189:	189 1759
62250	BGTMBERA	161.0	62	0.994		0.935	189:	189
62257	EMIGT AT	161.0	62	1.003		0.927	189:	189
62258	EGALTN B	161.0	62	0.986		0.918	189:	189 1759
48185	LIBTYLK	115.0	40	0.954		0.872	275:	234 243 251 258 267 274 275 282 287 305 327 406 408 421 422 429 455 456 476 483 495 537 538 546 566 571 572 580 584 587 590 1741 1760 1767 1768
40023	AHSAHKA	115.0	40	1.028		0.965	235:	235
48021	BARKER	115.0	40	0.954		0.872	275:	243 251 258 274 275 282 287 305 327 406 408 421 422 429 455 456 476 483 495 537 538 546 566 571 572 580 584 587 590 1741 1760 1767 1768
48311	OTIS	115.0	40	0.955		0.874	275:	243 251 258 275 282 287 305 327 406 408 422 429 455 456 476 483 495 538 546 571 572 580 584 587 590 1741 1760 1767 1768
48117	EASTFARM	115.0	40	0.956		0.875	275:	251 258 275 282 327 406 408 422 429 476 483 495 538 572 580 584 587 590 1741 1767 1768
48011	APPLETAP	115.0	40	0.976		0.899	275:	275 327 495 1767
48013	APPLEWAY	115.0	40	0.976		0.899	275:	275 327 495 1767
40067	ATHOL	115.0	40	0.992		0.934	275:	275
48017	ATHOLTAP	115.0	40	0.995		0.937	275:	275
48019	AVONDALE	115.0	40	0.987		0.911	275:	275 327 495
48045	BLUECRK	115.0	40	0.973		0.896	275:	275 327 495 580 1767
48067	CDA	115.0	40	0.974		0.896	275:	275 327 495 1767
48093	DALTON A	115.0	40	0.978		0.901	275:	275 327 495
48095	DALTON2T	115.0	40	0.981		0.904	275:	275 327 495
48097	DALTONT	115.0	40	0.978		0.901	275:	275 327 495

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47033   DOWER RD  115.0   40  0.959          0.878   275:275 282 327 408 422 476 483 495 538 580 584 587 590 1741 1767
                                                          1768
48111   DOWERRDT  115.0   40  0.959          0.879   275:275 282 327 422 476 483 495 538 580 584 587 590 1741 1767 1768
48155   HERN      115.0   40  0.979          0.902   275:275 327 495
48159   HUETTER   115.0   40  0.980          0.904   275:275 327 495
47511   MOAB      115.0   40  0.958          0.868   580:275 282 327 422 429 483 495 538 571 580 584 587 1741 1767 1768
48319   PLEASANT  115.0   40  0.966          0.866   580:275 282 327 495 580 584 587 1741 1767 1768
48329   POST FLS  115.0   40  0.959          0.879   275:275 282 327 422 476 483 495 538 580 584 587 590 1741 1767 1768
40855   PRAIRIEB  115.0   40  0.966          0.877   587:275 282 327 495 538 580 587 1741 1767
48349   RAMSEY    115.0   40  0.976          0.898   275:275 327 495 580 1767
48351   RATHBUS1  115.0   40  0.994          0.918   275:275 327 495
48353   RATHBUS2  115.0   40  0.994          0.918   275:275 327 495
48356   RATHDRME  115.0   40  0.994          0.918   275:275 327 495
48355   RATHDRUM  115.0   40  0.994          0.918   275:275 327 495
48357   RATHDRUM  230.0   40  0.993          0.919   275:275 327 495
40953   SCARCELO  115.0   40  0.994          0.927   275:275 495
48401   SPIRITLK  115.0   40  0.996          0.941   275:275
48403   SPIRITLT  115.0   40  0.996          0.941   275:275
40215   CHENEY    115.0   40  0.973          0.948   282:282 1741
48387   SILVRLAK  115.0   40  0.973          0.948   282:282 1741
40147   BREWSTER  115.0   40  1.045          0.972   317:313 316 317 1777
47129   BRIDGBAR  115.0   40  1.047          0.971   317:316 317 1777
47013   BRIDGPRT  115.0   40  1.054          0.969   317:317 1777
40801   OPHIR T   115.0   40  1.039          0.983   317:317 1777
47209   PATEROS   115.0   40  1.036          0.971   317:317 1777
47251   TWISP     115.0   40  1.032          0.973   317:317 1777
41157   WINTHR T  115.0   40  1.032          0.973   317:317 1777
41159   WINTHROP  115.0   40  1.029          0.970   317:317 1777
48179   LAKEVIEW  230.0   40  1.015          0.950   327:327
40371   E OMAK    115.0   40  1.035          0.975   342:342 1758
40373   E OMAK    230.0   40  1.033          0.962   342:342
40389   ELLISFRD  115.0   40  1.011          0.949   342:342 1758
40799   OMAK      115.0   40  1.035          0.974   342:342 1758
40807   OROVILLE  115.0   40  1.003          0.940   342:342 1758
41085   TONASKET  115.0   40  1.029          0.968   342:342 1758
41151   WHITESTN  115.0   40  1.014          0.952   342:342 1758
41125   WAGNERLK  115.0   40  1.014          0.956   387:387 388
41127   WAGNERLT  115.0   40  1.024          0.967   388:387 388
62030   PTRSNFLT  230.0   62  0.969          0.907   422:421 422 455 456 473 1612
47025   DELIGHT   115.0   40  0.965          0.892   599:421 422 449 504 517 599 1760
47073   RALSTONB  115.0   40  0.971          0.912   599:421 422 449 517 599 1760
65025   AMPS      230.0   65  0.981          0.929   422:421 422
65860   JFRSNPHA  161.0   65  0.979          0.943  1612:422 1612
62014   BUTTEMHD  161.0   62  0.981          0.947   455:455 456 1759
62077   BUTTE MT  161.0   62  0.980          0.946   455:455 456 1759
62159   GLDNSNLT  161.0   62  0.981          0.944  1759:455 456 1759
40451   GAR1EAST  500.0   40  1.093          1.032   455:455 456
40453   GAR2EAST  500.0   40  1.093          1.032   455:455 456
47051   HANNA     115.0   40  1.032          0.960   466:466
60192   LADD      230.0   60  1.017          0.950   524:524
40621   LAGRANDE  230.0   40  1.007          0.926   524:524
40905   ROUNDUP   230.0   40  1.011          0.888   524:524
40449   GAFFNEY   115.0   40  0.981          0.876   599:599
65010   AEC IPC   138.0   65  0.979          0.936   665:665
65015   AEC SCOV  138.0   65  0.979          0.936   665:665
65065   ANTLOP 1  138.0   65  0.979          0.937   665:665
65070   ANTLOP 2  138.0   65  0.979          0.937   665:665
65080   ANTLOPE   161.0   65  0.981          0.939   665:665
65040   ANGEL     138.0   65  0.986          0.947   688:688
65340   CLINTON   138.0   65  0.990          0.943   688:688
66310   RIVRDALE  138.0   65  0.988          0.933   688:688 911
66640   W OGDEN   138.0   65  0.995          0.931   688:688
65280   CARBON    138.0   65  1.030          0.944   703:703
65457   DG UPLCO  138.0   65  1.007          0.940   703:703
65520   EMMAPARK  138.0   65  1.025          0.931   703:703
65755   HELPER    138.0   65  1.028          0.942   703:703
65760   HELPER T  138.0   65  1.030          0.946   703:703
66015   MOUND SW  138.0   65  1.033          0.974   703:703
66183   PANTHER   138.0   65  1.029          0.942   703:703
66395   SPAN F&1  138.0   65  0.968          0.857   732:703 732 1789
66415   SPHINX T  138.0   65  1.035          0.976   703:703
66590   UPALCO    138.0   65  1.007          0.940   703:703
66707   WILLOW C  138.0   65  1.029          0.942   703:703
70113   CLIFTON   230.0   70  0.972          0.920  1912:703 1912
70205   GRANDJCT  230.0   70  0.975          0.920  1912:703 1912
70206   GRANDJPS  230.0   70  0.971          0.920  1912:703 1912
70233   HORIZON   230.0   70  0.971          0.923  1912:703 1912
70438   UINTAH    230.0   70  0.976          0.933  1912:703 1912
79086   PAGOSA    115.0   73  0.964          0.870  1898:703 1475 1493 1512 1517 1518 1520 1524 1606 1898
65454   DIMP DEL  138.0   65  1.011          0.940   775:775
65475   DUMAS     138.0   65  1.012          0.941   775:775
66391   SOUTH MT  138.0   65  1.009          0.946   775:775
65570   FRANKLIN  138.0   65  1.016          0.928   796:796
65725   GRCYN TP  138.0   65  0.999          0.934   796:796
65735   GREENCYN  138.0   65  0.992          0.936   796:796
65900   LOGAN     138.0   65  0.992          0.935   796:796 823
66370   SMFLD TP  138.0   65  0.991          0.947   796:796
66375   SMITHFLD  138.0   65  0.991          0.947   796:796
73022   BGEORGE   115.0   73  0.982          0.903  1602:797 798 803 1602
73534   MEETSETP  115.0   73  0.988          0.911  1602:797 798 1215 1602
65575   FRANNIE   230.0   65  1.001          0.940   798:798
65620   GARLAND   230.0   65  0.999          0.941   798:798
66145   OREBASIN  230.0   65  0.996          0.946   798:798
73041   CARTERMT  115.0   73  0.993          0.924  1602:798 1215 1602
73075   GREYBULL  115.0   73  0.999          0.919  1602:798 1602
73340   NAHNEJEN  115.0   73  0.997          0.916  1602:798 1602
70165   ENGLE3TP  115.0   70  1.002          0.941   939:939
70168   ENGLEWD3  115.0   70  1.002          0.941   939:939
70239   JEWELL2   230.0   70  0.953          0.939   994:942 986 994 995 1011 1012 1013 1014 1019 1035 1036 1045 1052 1054
1057
                                                          1064 1065 1069 1070 1078 1098 1107 1110 1125 1132 1170 1637 1883
70491   TOLGATE   230.0   70  0.953          0.941   994:942 986 994 995 1011 1012 1013 1014 1019 1035 1036 1052 1057 1064
1065
                                                          1069 1070 1078 1098 1107 1110 1125 1132 1170 1637
70047   BARRLAKE  230.0   70  0.966          0.948   943:943
70392   SKYRANCH  230.0   70  0.963          0.948   944:944
70432   TOWER     230.0   70  0.960          0.949   944:944 1069 1070 1078
70154   DERBY 2   115.0   70  1.015          0.958   967:967
70278   MARCY     230.0   70  0.961          0.935   984:984 1070
70464   WATERTON  230.0   70  0.959          0.939   984:984 1053 1070 1078
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                70284   SURREYRG  230.0   70  0.966           0.940   985:985
                70551   MURPHY    230.0   70  0.963           0.948   985:985
                70260   LEETSDAL  230.0   70  0.954           0.939   994:986 994 995 1013 1014 1019 1057 1064 1065 1069 1070 1078 1107 1110
1125
                                                                        1132 1170
                70046   BUCKLEY2  230.0   70  0.956           0.944   994:994 995 1014 1064 1065 1069 1070 1078 1098 1107 1110 1170
                70067   BUCKLEY1  230.0   70  0.958           0.947  1069:994 1069 1070 1078 1170
                70163   ELATI1    230.0   70  0.956           0.938   994:994 1014 1057 1069 1070 1078 1110 1132
                70170   ELATI2    230.0   70  0.956           0.938   994:994 995 1014 1057 1069 1070 1078 1110 1132
                70530   MONACO    230.0   70  0.959           0.947   994:994 1069 1070 1078 1136
                70283   MEADOWHL  230.0   70  0.959           0.947  1070:994 1069 1070 1078
                70291   MONROEPS  230.0   70  0.954           0.939   994:994 995 1013 1014 1019 1057 1064 1069 1070 1078 1107 1110 1132 1170
                70417   SULLIVN   230.0   70  0.956           0.942  1030:994 1030 1064 1069 1070 1078 1107 1114 1170
                70428   TECH CTR  230.0   70  0.957           0.942  1030:994 1030 1064 1069 1070 1078 1170
                70512   JEWELL1   230.0   70  0.957           0.945  1030:994 1030 1064 1069 1070 1078 1170
                73348   CORLETT   115.0   73  0.954           0.778  1857:1012 1069 1070 1078 1157 1160 1161 1163 1164 1170 1171 1190 1191
1218 1221
                                                                        1222 1257 1258 1278 1299 1300 1316 1317 1319 1320 1322 1323 1342
1344 1352
                                                                        1361 1371 1373 1380 1635 1857 1868 1873 1879
                70362   RIVERDAL  230.0   70  0.958           0.947  1013:1013 1070 1078
                70107   CHEROKEE  230.0   70  0.956           0.947  1070:1014 1069 1070 1078 1110
                70149   DENVTM    230.0   70  0.957           0.947  1070:1014 1057 1069 1070 1078
                70200   GLENN PS  230.0   70  0.958           0.943  1014:1014 1019 1070 1078
                70324   LACOMBE   230.0   70  0.956           0.947  1070:1014 1057 1069 1070 1078 1110
                70461   WASHINGT  230.0   70  0.960           0.942  1014:1014
                70112   CLARK     230.0   70  0.960           0.948  1028:1028 1070 1078
                70241   JORDAN    230.0   70  0.960           0.948  1028:1028 1070 1078
                70100   CHATFLD   230.0   70  0.963           0.944  1053:1053
                70355   RIDGE     230.0   70  0.957           0.945  1056:1056 1070 1078
                70480   WESTPS    230.0   70  0.967           0.947  1057:1057
                70343   QUINCY    230.0   70  0.961           0.947  1069:1069 1070
                70396   SMOKYHIL  230.0   70  0.960           0.949  1069:1069 1070
                70212   GREENWD   230.0   70  0.961           0.949  1070:1070
                73375   WARRENLM  115.0   73  0.955           0.778  1857:1070 1078 1157 1160 1161 1163 1164 1170 1171 1190 1191 1218 1221
1222 1257
                                                                        1258 1278 1299 1300 1317 1319 1320 1322 1323 1342 1352 1361 1371
1373 1380
                                                                        1635 1857 1868 1873 1879
                70091   CASTLRCK  115.0   70  0.993           0.946  1097:1097
                70515   DAVIDSON  115.0   70  0.997           0.878  1097:1097
                70516   PONDERSA  115.0   70  0.992           0.882  1097:1097
                70517   PARKERPS  115.0   70  0.989           0.890  1097:1097
                70518   BAYOU     115.0   70  0.988           0.909  1097:1097
                70521   PEAKVIEW  115.0   70  1.003           0.877  1097:1097
                70213   GUNBARRE  230.0   70  0.972           0.943  1110:1110
                70261   LEGGETT   230.0   70  0.970           0.945  1110:1110
                70297   NIWOT     230.0   70  0.972           0.943  1110:1110
                73005   ALVIN     115.0   73  0.976           0.893  1375:1151 1375 1389
                73059   FLEMING   115.0   73  0.964           0.878  1389:1151 1184 1249 1255 1341 1347 1355 1356 1375 1389 1873
                73063   FRENCHCK  115.0   73  0.960           0.900  1389:1151 1152 1170 1184 1192 1193 1248 1249 1255 1341 1347 1349 1350
1355 1356
                                                                        1369 1375 1389 1872 1873 1881
                73080   HAXTUN    115.0   73  0.961           0.885  1389:1151 1152 1170 1184 1192 1248 1249 1255 1341 1347 1349 1350 1355
1356 1369
                                                                        1375 1389 1872 1873 1881
                73208   WAGES     115.0   73  0.971           0.923  1347:1151 1347 1349 1369 1375 1389 1872
                73210   WAUNETA   115.0   73  0.968           0.905  1375:1151 1152 1184 1341 1347 1349 1350 1369 1375 1389 1872 1873 1881
                73304   CRETESWT  115.0   73  0.976           0.893  1375:1151 1375 1389
                73043   CHEYENNE  115.0   73  0.960           0.788  1857:1157 1161 1163 1170 1190 1221 1222 1300 1352 1361 1373 1857 1873
                73077   HAPPYJCK  115.0   73  0.957           0.783  1857:1157 1160 1161 1163 1164 1170 1190 1191 1218 1221 1222 1257 1258
1300 1320
                                                                        1322 1323 1342 1352 1361 1371 1373 1635 1857 1868 1873
                73183   SKYLINE   115.0   73  0.959           0.780  1857:1160 1163 1164 1170 1190 1222 1278 1300 1342 1361 1857 1873
                73480   CROWCRK   115.0   73  0.962           0.787  1857:1161 1163 1170 1222 1361 1857 1873
                73109   LARAMIE   115.0   73  0.967           0.819  1857:1163 1170 1323 1361 1857
                73008   ARCHER    115.0   73  0.976           0.794  1857:1170 1857
                73066   GEMCTYTP  115.0   73  0.973           0.817  1857:1170 1857
                73128   MAY       115.0   73  0.975           0.835  1857:1170 1857
                73139   MYERS     115.0   73  0.976           0.802  1857:1170 1857
                73140   MYERS TP  115.0   73  0.976           0.802  1857:1170 1857
                73146   OASISTAP  115.0   73  0.976           0.836  1857:1170 1857
                73152   PINEBLUF  115.0   73  0.977           0.846  1857:1170 1299 1300 1857 1873
                73154   POLE CK   115.0   73  0.977           0.823  1857:1170 1857
                73161   QUALLS    115.0   73  0.976           0.821  1857:1170 1857
                73172   ROCKPRTP  115.0   73  0.971           0.840  1857:1170 1190 1222 1361 1857
                73173   ROUNDTOP  115.0   73  0.981           0.871  1857:1170 1857
                73178   SENTINEL  115.0   73  0.979           0.868  1857:1170 1857
                73187   SPRINGCK  115.0   73  0.973           0.817  1857:1170 1857
                73367   FTSANDER  115.0   73  0.973           0.817  1857:1170 1857
                73504   PONNEQUI  115.0   73  0.966           0.819  1857:1170 1190 1222 1361 1857
                73023   BIJOUTAP  115.0   73  0.991           0.898  1182:1182 1206 1414
                73031   BRUSHTAP  115.0   73  1.010           0.878  1182:1182
                73097   KIOWA CK  115.0   73  0.991           0.920  1182:1182 1206
                73103   L.MEADOW  115.0   73  0.992           0.943  1182:1182
                73117   LOST CK   115.0   73  0.999           0.949  1182:1182
                73147   ORCHARD   115.0   73  0.991           0.920  1182:1182 1206
                73213   WIGGINS   115.0   73  0.991           0.930  1182:1182 1206
                73305   EFMORGTP  115.0   73  0.994           0.882  1182:1182 1206
                73310   FME       115.0   73  0.993           0.881  1182:1182 1206
                73311   FMS       115.0   73  0.992           0.883  1182:1182 1206 1414
                73370   LOSTCKTP  115.0   73  0.999           0.949  1182:1182
                73377   EXCEL     115.0   73  0.992           0.883  1182:1182 1206 1414
                73378   FMN       115.0   73  0.994           0.882  1182:1182 1206
                73379   FMWEST    115.0   73  0.992           0.883  1182:1182 1206 1414
                73136   MESSEX    115.0   73  1.001           0.921  1184:1184
                73191   STERLING  115.0   73  0.974           0.921  1184:1184 1341 1356 1873
                73478   GALIEN    115.0   73  0.967           0.871  1389:1184 1341 1355 1356 1375 1389 1873
                73024   BLKHLWTP  115.0   73  0.992           0.914  1361:1190 1222 1361 1857
                73145   NUNN      115.0   73  0.981           0.889  1857:1190 1222 1361 1857
                73025   BONNY CK  115.0   73  1.005           0.926  1192:1192
                73083   HELL CK   115.0   73  0.986           0.911  1192:1192 1193
                73084   HELL TAP  115.0   73  0.986           0.911  1192:1192 1193
                73091   IDALIA    115.0   73  0.998           0.939  1192:1192 1193
                73110   LIBERTY   115.0   73  0.983           0.908  1192:1192 1193
                73174   SAGEBRSH  115.0   73  0.984           0.909  1192:1192 1193
                73185   SO. FORK  115.0   73  1.000           0.927  1192:1192 1193
                70116   COBBLAKE  115.0   70  0.995           0.912  1361:1222 1361
                73044   COBBLKTP  115.0   73  0.995           0.912  1361:1222 1361
                73029   BRIDGEPT  115.0   73  0.992           0.926  1873:1224 1873
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73046	DALTON	115.0	73	0.999	0.911	1873:1224 1873
73236	GREENWOD	115.0	73	0.994	0.918	1873:1224 1873
73037	BUSHNELL	115.0	73	0.981	0.878	1857:1299 1300 1857 1873
73038	BUSHNLTP	115.0	73	0.981	0.878	1857:1299 1300 1857 1873
73096	KIMBALL	115.0	73	0.983	0.895	1857:1299 1300 1857 1873
73355	KIMBALLC	115.0	73	0.983	0.895	1857:1299 1300 1857 1873
73092	JACINTO	115.0	73	0.992	0.908	1300:1300 1857 1873
73106	LAPORTE	230.0	73	1.009	0.943	1320:1320
73166	REDWILLW	115.0	73	0.995	0.916	1347:1347 1872
73169	RICHARDS	115.0	73	0.997	0.911	1361:1361
73200	TIMNATH	115.0	73	0.996	0.913	1361:1361
73201	TIMNTHTP	115.0	73	0.996	0.912	1361:1361
73216	WINDRIVR	115.0	73	1.019	0.958	1372:1372 1905
73217	WINDRIVT	115.0	73	1.019	0.958	1372:1372 1905
73175	SANDHILL	115.0	73	0.993	0.885	1375:1375
73202	TORRNGTN	115.0	73	0.989	0.944	1386:1386
73225	WRAY TAP	115.0	73	1.003	0.946	1405:1405
73331	WRAYWAPA	115.0	73	1.003	0.946	1405:1405
73371	BETHELLM	115.0	73	0.984	0.949	1405:1405
73374	VERNONLM	115.0	73	0.979	0.944	1405:1405 1872
79076	AM EAST	115.0	73	0.988	0.894	1898:1520 1898
79077	BAYFIELD	115.0	73	0.987	0.897	1898:1520 1898
79099	FLOR.RIV	115.0	73	0.990	0.895	1898:1520 1898
66720	WORLAND	115.0	65	1.017	0.958	1602:1602
73019	BASIN	115.0	73	1.010	0.935	1602:1602
73123	LOVELL	115.0	73	0.999	0.929	1602:1602
73222	WORLANTP	115.0	73	1.015	0.953	1602:1602
60240	MIDPOINT	500.0	60	1.069	1.007	1609:1609
60270	OXBOW	138.0	60	0.991	0.934	1684:1684
47501	ARMSTRNG	115.0	40	1.002	0.944	1760:1760
40149	BRINKENS	115.0	40	0.996	0.939	1760:1760
47503	CHAMBERS	115.0	40	1.001	0.946	1760:1760
40239	CLARKSTN	115.0	40	1.005	0.949	1760:1760
48075	CLEARWTR	115.0	40	1.004	0.947	1760:1760
40519	HATWAI	230.0	40	1.041	0.968	1760:1760
47099	WELLS	115.0	40	1.063	0.971	1777:1777
66245	PLATTE	115.0	65	1.010	0.932	1820:1820
73104	LAGRANGE	115.0	73	0.991	0.925	1857:1857
73134	MED BOW	115.0	73	0.988	0.893	1857:1857
73361	MEDBOWHS	115.0	73	0.988	0.893	1857:1857
73362	MEDBOWTP	115.0	73	0.988	0.893	1857:1857
73047	DEERINGL	115.0	73	0.991	0.946	1872:1872
73142	N.YUMA	115.0	73	1.000	0.943	1872:1872
73230	YUMA	115.0	73	0.989	0.944	1872:1872
73131	MCGREW	115.0	73	0.992	0.946	1873:1873
73150	PEETZ	115.0	73	0.994	0.920	1873:1873
73179	SIDNEY	115.0	73	1.010	0.911	1873:1873
70308	PALMER	115.0	70	0.989	0.948	1883:1883
70476	WOODLAND	115.0	70	0.991	0.948	1883:1883
73389	BRIARGAT	115.0	73	0.990	0.911	1883:1883
73391	CTTNWD N	115.0	73	0.991	0.911	1883:1883
73400	EMIL AND	115.0	73	0.987	0.937	1883:1883
73410	KETTLECK	115.0	73	0.989	0.912	1883:1883
73414	MONUMENT	115.0	73	0.987	0.935	1883:1883
79023	DURANGO	115.0	73	0.997	0.916	1898:1898
79071	HESPERUS	115.0	73	1.003	0.907	1898:1898
79078	BODO	115.0	73	0.996	0.913	1898:1898
79080	CASCADEL	115.0	73	0.997	0.920	1898:1898
79088	ROCKWOOD	115.0	73	0.998	0.914	1898:1898
79089	SHENDOAH	115.0	73	0.999	0.925	1898:1898
79111	MANCOSTP	115.0	73	1.007	0.951	1898:1898
79191	COYOTE G	115.0	73	1.001	0.949	1898:1898
79257	AMES	115.0	73	0.999	0.943	1898:1898
79194	BURROBDG	115.0	73	0.999	0.936	1898:1898
79256	SILVERTN	115.0	73	0.998	0.932	1898:1898
79189	SUNSH SM	115.0	73	0.999	0.945	1898:1898
79188	TELLURID	115.0	73	0.990	0.935	1898:1898
62079	MILLERCK	161.0	62	0.994	0.949	1902:1902
62311	HAMLTNMA	161.0	62	0.989	0.942	1902:1902
62312	HAMLTNMB	161.0	62	0.989	0.942	1902:1902
73170	RIVERTON	115.0	73	1.022	0.960	1905:1905

MONTANA TRANSMISSION STUDY WAPA UGP JUNE 2002
G2 WITH LINE UPDATES

FILE made from cont. file : [i:\dpb\mts\g2pwrflow\hsbs\cHSBS-2.out]
DATE REPORT MADE - Tue May 07 15:33:25 2002

Outage 102 failed to converge
Outage 113 failed to converge
Outage 351 failed to converge
Outage 389 failed to converge
Outage 390 failed to converge
Outage 1639 failed to converge
Outage 1677 failed to converge

--------FROM bus--------					---------TO bus---------								base	pu	rating		
#	---name---	-kv-	ar	#	---name---	-kv-	ar	ID	--mw-	-mvar	amps		load	load	[MVA]	Cnt #	freq.
48125	"FOURLBPA"	115	40	48132	"HAL&WHIT"	115	40	"1 "	107	133	856	0.45	2.97	57.40	444	2	
48319	"PLEASANT"	115	40	48355	"RATHDRUM"	115	40	"1 "	-153	-42	864	1.03	2.01	85.80	587	1902	
48303	"OROFINO "	115	40	40023	"AHSAHKA "	115	40	"1 "	-219	-2	1109	0.82	1.94	113.70	421	3	
40855	"PRAIRIEB"	115	40	48349	"RAMSEY "	115	40	"1 "	-154	-48	880	0.78	1.93	91.00	580	3	
48329	"POST FLS"	115	40	40855	"PRAIRIEB"	115	40	"1 "	-133	-35	771	0.59	1.79	85.80	580	2	
47511	"MOAB "	115	40	48319	"PLEASANT"	115	40	"1 "	-139	-33	793	0.83	1.74	91.00	587	6	
70005	"BRUSHCPP"	115	70	73013	"B.CK PS "	115	73	"1 "	243	42	1201	0.72	1.48	162.00	1632	1	
48025	"BEACON N"	230	40	40090	"BELL SO "	230	40	"5 "	-492	-140	1268	0.79	1.38	366.50	274	4	
66565	"TREASTON"	230	65	66570	"TREASTON"	138	65	"1 "	255	-20	256	0.52	1.29	200.00	1830	2	
70005	"BRUSHCPP"	115	70	73013	"B.CK PS "	115	73	"2 "	243	45	1205	0.67	1.28	187.00	1631	1	
48023	"BEACON N"	115	40	48371	"ROSSPARK"	115	40	"1 "	169	46	883	0.94	1.27	138.20	288	48	
48253	"N LEWIST"	115	40	48075	"CLEARWTR"	115	40	"1 "	142	16	720	0.26	1.26	113.70	469	1	
48311	"OTIS "	115	40	47511	"MOAB "	115	40	"1 "	-93	-17	533	0.45	1.24	85.80	587	2	
48117	"EASTFARM"	115	40	48329	"POST FLS"	115	40	"1 "	-118	-23	684	0.31	1.23	110.90	580	2	
48029	"BEACON S"	115	40	48271	"NINTHCNT"	115	40	"1 "	108	24	559	0.77	1.22	91.00	261	3	
65145	"BENLOMND"	138	65	66650	"WARREN "	138	65	"1 "	182	30	765	0.66	1.21	151.00	688	3	
70091	"CASTLRCK"	115	70	70518	"BAYOU "	115	70	"1 "	142	62	820	0.31	1.21	134.80	1097	1	
65520	"EMMAPARK"	138	65	66590	"UPALCO "	138	65	"1 "	-158	87	810	0.61	1.20	163.00	703	2	
65193	"BONANZA "	345	65	65192	"BONANZA "	138	65	"1 "	-455	120	470	0.72	1.20	392.00	1475	2	
48279	"NORTHWES"	115	40	48461	"WEST "	115	40	"1 "	-106	-29	556	0.92	1.19	92.80	453	35	
65520	"EMMAPARK"	138	65	66183	"PANTHER "	138	65	"1 "	157	-88	808	0.60	1.19	163.00	703	1	
48159	"HUETTER "	115	40	48355	"RATHDRUM"	115	40	"1 "	-119	-40	654	0.74	1.18	110.90	580	6	
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"1 "	-152	86	175	0.78	1.17	150.00	1848	1	
65860	"JFRSNPHA"	161	65	65850	"JEFFERSN"	161	65	"1 "	81	-74	109	0.87	1.16	100.00	421	8	
48311	"OTIS "	115	40	48117	"EASTFARM"	115	40	"1 "	-111	-19	648	0.26	1.16	110.90	580	2	
65280	"CARBON "	138	65	66183	"PANTHER "	138	65	"1 "	-146	100	786	0.57	1.15	163.00	703	1	
70265	"LOOKOUT "	115	70	70266	"LOOKOUT "	230	70	"2 "	-150	85	172	0.76	1.15	150.00	1847	1	
60110	"CALDWELL"	230	60	60105	"CALDWELL"	138	60	"1 "	246	22	247	0.64	1.12	220.00	1669	1	
70108	"CHEROKEN"	115	70	70154	"DERBY 2 "	115	70	"1 "	149	30	744	0.76	1.10	135.00	966	3	
70071	"CABINCRK"	115	70	70072	"CABINCRK"	230	70	"2 "	53	-12	54	0.41	1.10	50.00	991	1	
60110	"CALDWELL"	230	60	60105	"CALDWELL"	138	60	"2 "	241	24	242	0.56	1.10	220.00	1668	1	
40145	"BOUNDARY"	230	40	40143	"BOUNDARY"	115	40	"1 "	135	17	136	0.66	1.09	125.00	234	3	
40087	"BELL BPA"	115	40	48449	"WAIKIKIT"	115	40	"1 "	116	34	610	0.84	1.09	111.90	1739	7	
46817	"ROCK IS2"	115	40	41105	"VALHALLA"	115	40	"1 "	326	5	1576	0.48	1.09	288.80	520	1	
48258	"NEWPORTT"	115	40	48043	"BLANCHRD"	115	40	"1 "	124	-4	616	0.73	1.08	113.70	287	4	
40259	"COLUMBIA"	115	40	47071	"PALISADS"	115	40	"1 "	143	5	695	0.82	1.08	127.70	400	2	
66085	"NINETY S"	138	65	66660	"WEST JOR"	138	65	"1 "	200	47	848	0.40	1.08	188.00	862	2	
70071	"CABINCRK"	115	70	70072	"CABINCRK"	230	70	"1 "	52	-12	53	0.40	1.08	50.00	991	1	
48357	"RATHDRUM"	230	40	48355	"RATHDRUM"	115	40	"1 "	217	122	249	0.49	1.08	230.00	1767	1	
48043	"BLANCHRD"	115	40	47505	"HOODOO "	115	40	"1 "	121	-9	611	0.72	1.07	113.70	287	4	
47505	"HOODOO "	115	40	48403	"SPIRITLT"	115	40	"1 "	118	-14	603	0.71	1.07	111.90	287	4	
40385	"ELLENGTP"	115	40	40387	"ELLENSBG"	115	40	"1 "	96	-13	497	0.82	1.06	93.60	583	1	
70108	"CHEROKEN"	115	70	70153	"DERBY 1 "	115	70	"1 "	143	30	718	0.70	1.06	135.00	967	2	
70471	"WELD PS"	230	70	73212	"WELD LM"	230	73	"1 "	-531	7	1328	0.73	1.06	500.00	1630	3	
65140	"BENLOMND"	230	65	65145	"BENLOMND"	138	65	"1 "	282	6	282	0.72	1.06	267.00	1784	2	
47027	"DIAM LAK"	115	40	40907	"SACHEEN "	115	40	"1 "	-140	15	695	0.33	1.05	131.50	287	1	
47071	"PALISADS"	115	40	46075	"QUINCY T"	115	40	"1 "	139	3	675	0.79	1.05	127.70	400	2	
40023	"AHSAHKA "	115	40	40367	"DWORSHAK"	115	40	"1 "	-224	-13	1122	0.45	1.05	213.10	421	1	
66480	"SYRACUSE"	138	65	66650	"WARREN "	138	65	"1 "	-151	-1	663	0.51	1.05	151.00	688	2	
48403	"SPIRITLT"	115	40	48017	"ATHOLTAP"	115	40	"1 "	115	-20	592	0.68	1.04	113.70	287	1	
46809	"MCKENZIE"	230	40	46831	"ROCKYRH1"	230	40	"1 "	-503	-17	1238	0.77	1.04	474.10	379	3	
70395	"SMOKYHIL"	115	70	70396	"SMOKYHIL"	230	70	"1 "	-156	11	157	0.67	1.04	150.00	1852	1	
54189	"ENMX2SD9"	138	54	54154	"E CALGAR"	240	54	"T1"	-233	201	308	1.03	1.03	300.00	1	1908	
48258	"NEWPORTT"	115	40	47086	"PINE ST "	115	40	"1 "	-125	3	624	0.70	1.03	120.10	287	2	
48155	"HERN "	115	40	48159	"HUETTER "	115	40	"1 "	-104	-34	573	0.60	1.03	110.90	580	2	
40259	"COLUMBIA"	115	40	40579	"JENKINS "	115	40	"1 "	111	13	547	0.81	1.03	105.60	583	1	
65280	"CARBON "	138	65	66395	"SPAN F&1"	138	65	"1 "	120	6	487	0.45	1.03	113.00	732	1	
66395	"SPAN F&1"	138	65	66405	"SPAN FRK"	138	65	"1 "	97	-22	486	0.45	1.03	113.00	732	1	
66370	"SMFLD TP"	138	65	66680	"WHEELON "	138	65	"1 "	-142	-5	627	0.34	1.03	146.00	796	1	
41347	"MIDWAYB2"	230	40	41111	"VANTAGE "	230	40	"1 "	-386	1	965	0.68	1.02	378.50	465	1	
48349	"RAMSEY "	115	40	48155	"HERN "	115	40	"1 "	-102	-33	567	0.59	1.02	110.90	580	1	
40385	"ELLENGTP"	115	40	40579	"JENKINS "	115	40	"1 "	-105	10	543	0.80	1.02	105.60	583	1	
46805	"CHELAN "	115	40	48149	"HEADWORK"	115	40	"1 "	-88	32	462	0.91	1.02	91.00	646	1	
65690	"GRACE "	161	65	65695	"GRACE "	138	65	"1 "	159	-58	170	0.82	1.02	168.00	1619	6	
70231	"HOPKINS "	115	70	79003	"BASALT "	115	70	"1 "	68	-12	341	0.37	1.02	66.90	1648	1	
48131	"GARDENSP"	115	40	40525	"HAYFORD "	115	40	"1 "	55	-1	288	0.98	1.00	57.40	282	1903	
54542	"RBW LAK7"	138	54	54796	"791S701T"	138	54	"1 "	17	17	24	1.00	1.00	24.00	1	1908	
54542	"RBW LAK7"	138	54	54835	"791S702T"	138	54	"1 "	18	16	24	1.00	1.00	24.00	1	1908	
40259	"COLUMBIA"	115	40	46033	"GB55 "	115	40	"1 "	131	-18	640	0.57	1.00	127.70	245	1	
40459	"GARRISON"	500	40	41057	"TAFT "	500	40	"2 "	920	-314	1088	0.59	1.00	944.00	455	1	
40459	"GARRISON"	500	40	41057	"TAFT "	500	40	"1 "	920	-314	1088	0.59	1.00	944.00	456	1	
70463	"WATERTON"	115	70	70464	"WATERTON"	230	70	"2 "	-96	-18	98	0.69	1.00	100.00	1854	1	
70463	"WATERTON"	115	70	70464	"WATERTON"	230	70	"1 "	-95	-18	97	0.68	0.99	100.00	1855	1	
54110	"RED DEE9"	138	54	54144	"RED DEE4"	240	54	"T1"	-40	-171	175	0.98	0.98	200.00	1	1908	
48017	"ATHOLTAP"	115	40	40953	"SCARCELO"	115	40	"1 "	107	-23	557	0.62	0.98	113.70	287	1	
46807	"MCKENZIE"	115	40	41105	"VALHALLA"	115	40	"1 "	363	-7	1758	0.60	0.98	356.50	600	1	
46001	"ANC LK T"	230	40	40261	"COLUMBIA"	230	40	"1 "	-413	31	1022	0.69	0.98	415.50	614	1	
65560	"FISHCREK"	161	65	65670	"GOSHEN "	161	65	"1 "	-167	47	617	0.80	0.98	176.00	1619	3	
40259	"COLUMBIA"	115	40	41105	"VALHALLA"	115	40	"2 "	-212	27	1037	0.57	0.97	213.10	373	1	
40259	"COLUMBIA"	115	40	41105	"VALHALLA"	115	40	"1 "	-212	27	1034	0.56	0.97	213.10	374	1	
70192	"FTLUPTON"	230	70	70311	"PAWNEE "	230	70	"1 "	-384	73	1004	0.66	0.97	413.50	1070	2	
48165	"IRVIN "	115	40	48299	"OPPORTUN"	115	40	"1 "	49	16	276	0.34	0.96	57.40	537	2	
70265	"LOOKOUT "	115	70	70224	"HOGBACK "	115	70	"1 "	185	12	930	0.65	0.96	192.00	1038	1	
65560	"FISHCREK"	161	65	65690	"GRACE "	161	65	"1 "	163	-49	606	0.77	0.96	176.00	1619	1	
48031	"BEACON S"	230	40	48029	"BEACON S"	115	40	"1 "	253	108	275	0.64	0.96	287.00	1739	1	
48025	"BEACON N"	230	40	48023	"BEACON N"	115	40	"1 "	253	108	275	0.64	0.96	287.00	1740	1	

	low voltage violations							delta voltage violations						high voltage violations					
CNT	freq	---name---	-kv-	ar	-base-case- pu vt	-cont-case- pu vt	---name---	-kv-	ar	freq	delta V	freq	---name---	-kv-	ar	-base-case- pu vt	-cont-case- pu vt
53	1	BIGGRASS	161	65	0.961	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
95	1	MCCALL	138	60	0.995	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
104	0		0	0	99.000	99.000	QUARTZ	138	60	7	0.072	0		0	0	99.000	0.000
112	0		0	0	99.000	99.000	WEISER	138	60	3	0.065	0		0	0	99.000	0.000
115	1	WOOD RVR	138	60	1.007	0.932	WOOD RVR	138	60	2	0.075	0		0	0	99.000	0.000
123	1	HINES	138	60	1.022	0.947	HINES	115	60	3	0.078	0		0	0	99.000	0.000
133	1	BIGGRASS	161	65	0.961	0.937	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
138	3	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
139	1	TAFTAUTO	115	62	0.980	0.933	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
146	2	CUTBANK	115	62	0.988	0.939	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
148	5	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
149	5	ENNIS MT	161	62	0.974	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
167	4	CUTBANK	115	62	0.988	0.932	BOLE	230	62	11	0.060	0		0	0	99.000	0.000
186	4	CONRAD	115	62	1.004	0.927	CONRAD	115	62	3	0.077	0		0	0	99.000	0.000
189	11	EGALTN A	161	62	0.986	0.918	EMIGT AT	161	62	7	0.076	0		0	0	99.000	0.000
234	1	LIBTYLK	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
235	0		0	0	99.000	99.000	AHSAHKA	115	40	2	0.063	0		0	0	99.000	0.000
243	3	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
251	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
258	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
267	1	LIBTYLK	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
274	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
275	31	BARKER	115	40	0.954	0.872	CHESTER	115	40	38	0.083	0		0	0	99.000	0.000
282	12	BARKER	115	40	0.954	0.932	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
287	3	BARKER	115	40	0.954	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
305	3	LIBTYLK	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
316	0		0	0	99.000	99.000	BRIDGBAR	115	40	4	0.063	0		0	0	99.000	0.000
317	0		0	0	99.000	99.000	BRIDGPRT	115	40	9	0.085	0		0	0	99.000	0.000
327	26	LIBTYLK	115	40	0.954	0.903	LAKEVIEW	230	40	10	0.065	0		0	0	99.000	0.000
342	2	OROVILLE	115	40	1.003	0.940	E OMAK	230	40	8	0.071	0		0	0	99.000	0.000
406	4	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
408	5	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
421	10	PTRSNFLT	230	62	0.969	0.916	MTSLETHB	500	54	2	0.060	0		0	0	99.000	0.000
422	18	PTRSNFLT	230	62	0.969	0.907	PTRSNFLT	230	62	3	0.062	0		0	0	99.000	0.000
429	5	BARKER	115	40	0.954	0.934	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
449	2	DELIGHT	115	40	0.965	0.895	DELIGHT	115	40	3	0.070	0		0	0	99.000	0.000
450	4	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
451	4	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
455	12	PTRSNFLT	230	62	0.969	0.933	GAR1EAST	500	40	3	0.061	0		0	0	99.000	0.000
456	12	PTRSNFLT	230	62	0.969	0.933	GAR1EAST	500	40	3	0.061	0		0	0	99.000	0.000
466	0		0	0	99.000	99.000	HANNA	115	40	4	0.072	0		0	0	99.000	0.000
473	3	PTRSNFLT	230	62	0.969	0.940	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
476	7	LIBTYLK	115	40	0.954	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
483	8	BARKER	115	40	0.954	0.943	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
495	27	BARKER	115	40	0.954	0.900	MTSLETHB	500	54	29	0.060	0		0	0	99.000	0.000
504	1	DELIGHT	115	40	0.965	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
517	2	DELIGHT	115	40	0.965	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
524	2	ROUNDUP	230	40	1.011	0.888	ROUNDUP	230	40	4	0.123	0		0	0	99.000	0.000
537	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
538	9	MOAB	115	40	0.958	0.889	MOAB	115	40	11	0.069	0		0	0	99.000	0.000
546	3	BARKER	115	40	0.954	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
566	2	BARKER	115	40	0.954	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
571	4	BARKER	115	40	0.954	0.940	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
572	4	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
580	12	PLEASANT	115	40	0.966	0.866	PLEASANT	115	40	15	0.100	0		0	0	99.000	0.000
584	9	DOWER RD	115	40	0.959	0.910	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
587	10	PRAIRIEB	115	40	0.966	0.877	PRAIRIEB	115	40	15	0.089	0		0	0	99.000	0.000
590	7	BARKER	115	40	0.954	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
599	3	GAFFNEY	115	40	0.981	0.876	GAFFNEY	115	40	4	0.105	0		0	0	99.000	0.000
655	1	BIGGRASS	161	65	0.961	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
665	5	AEC IPC	138	65	0.979	0.936	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
688	4	W OGDEN	138	65	0.995	0.931	W OGDEN	138	65	3	0.064	0		0	0	99.000	0.000
703	15	SPAN F&1	138	65	0.968	0.880	EMMAPARK	138	65	13	0.094	0		0	0	99.000	0.000
732	1	SPAN F&1	138	65	0.968	0.857	SPAN F&1	138	65	2	0.111	0		0	0	99.000	0.000
775	3	DIMP DEL	138	65	1.011	0.940	DIMP DEL	138	65	4	0.071	0		0	0	99.000	0.000
796	6	FRANKLIN	138	65	1.016	0.928	FRANKLIN	138	65	5	0.088	0		0	0	99.000	0.000
797	2	BGEORGE	115	73	0.982	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
798	8	BGEORGE	115	73	0.982	0.933	FRANNIE	230	65	9	0.061	0		0	0	99.000	0.000
803	1	BGEORGE	115	73	0.982	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
812	1	BIGGRASS	161	65	0.961	0.939	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
823	1	LOGAN	138	65	0.992	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
911	1	RIVRDALE	138	65	0.988	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
939	2	ENGLE3TP	115	70	1.002	0.941	ENGLE3TP	115	70	3	0.061	0		0	0	99.000	0.000
942	2	TOLGATE	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
943	1	BARRLAKE	230	70	0.966	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
944	2	SKYRANCH	230	70	0.963	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
984	2	MARCY	230	70	0.961	0.935	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
985	2	SURREYRG	230	70	0.966	0.940	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
986	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
994	13	ELATI1	230	70	0.956	0.938	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
995	6	ELATI2	230	70	0.956	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1011	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1012	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1013	5	RIVERDAL	230	70	0.958	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1014	12	WASHINGT	230	70	0.960	0.942	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1019	5	GLENN PS	230	70	0.958	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1028	2	CLARK	230	70	0.960	0.948	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1030	3	SULLIVN	230	70	0.956	0.942	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1035	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1036	2	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1045	1	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1052	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1053	2	CHATFLD	230	70	0.963	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1054	1	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1056	1	RIDGE	230	70	0.957	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1057	9	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1064	8	MONROEPS	230	70	0.954	0.942	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1065	4	JEWELL2	230	70	0.953	0.945	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1069	20	JEWELL2	230	70	0.953	0.944	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1070	29	JEWELL2	230	70	0.953	0.943	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1078	25	JEWELL2	230	70	0.953	0.943	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1097	6	PEAKVIEW	115	70	1.003	0.877	PEAKVIEW	115	70	6	0.126	0		0	0	99.000	0.000
1098	3	BUCKLEY2	230	70	0.956	0.946	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1107	6	JEWELL2	230	70	0.953	0.947	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000
1110	12	GUNBARRE	230	70	0.972	0.943	MTSLETHB	500	54	1	0.060	0		0	0	99.000	0.000

1114	1	SULLIVN	230	70	0.956	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1125	3	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1132	6	JEWELL2	230	70	0.953	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1136	1	MONACO	230	70	0.959	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1151	7	ALVIN	115	73	0.976	0.920	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1152	3	FRENCHCK	115	73	0.960	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1157	4	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1160	4	SKYLINE	115	73	0.959	0.925	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1161	5	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1163	7	CORLETT	115	73	0.954	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1164	4	CORLETT	115	73	0.954	0.945	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1170	33	CORLETT	115	73	0.954	0.914	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1171	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1182	14	BRUSHTAP	115	73	1.010	0.878	BRUSHTAP	115	73	14	0.132	0	0	0	99.000	0.000
1184	7	GALIEN	115	73	0.967	0.919	MESSEX	115	73	3	0.080	0	0	0	99.000	0.000
1190	9	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1191	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1192	9	LIBERTY	115	73	0.983	0.908	BONNY CK	115	73	8	0.079	0	0	0	99.000	0.000
1193	7	LIBERTY	115	73	0.983	0.918	HELL CK	115	73	7	0.065	0	0	0	99.000	0.000
1206	10	FME	115	73	0.993	0.904	EFMORGTP	115	73	10	0.089	0	0	0	99.000	0.000
1215	2	CARTERMT	115	73	0.993	0.929	CARTERMT	115	73	3	0.064	0	0	0	99.000	0.000
1218	3	CORLETT	115	73	0.954	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1221	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1222	12	COBBLAKE	115	70	0.995	0.919	COBBLAKE	115	70	5	0.076	0	0	0	99.000	0.000
1224	3	DALTON	115	73	0.999	0.937	DALTON	115	73	3	0.062	0	0	0	99.000	0.000
1248	2	HAXTUN	115	73	0.961	0.938	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1249	3	FLEMING	115	73	0.964	0.936	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1255	3	FRENCHCK	115	73	0.960	0.923	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1257	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1258	3	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1278	3	CORLETT	115	73	0.954	0.924	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1299	7	KIMBALL	115	73	0.983	0.939	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1300	11	JACINTO	115	73	0.992	0.908	JACINTO	115	73	6	0.084	0	0	0	99.000	0.000
1316	1	CORLETT	115	73	0.954	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1317	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1319	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1320	4	LAPORTE	230	73	1.009	0.943	LAPORTE	230	73	2	0.066	0	0	0	99.000	0.000
1322	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1323	4	LARAMIE	115	73	0.967	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1341	6	GALIEN	115	73	0.967	0.919	MTSLETHB	500	54	2	0.060	0	0	0	99.000	0.000
1342	4	CORLETT	115	73	0.954	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1344	1	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1347	6	REDWILLW	115	73	0.995	0.916	REDWILLW	115	73	2	0.079	0	0	0	99.000	0.000
1349	4	FRENCHCK	115	73	0.960	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1350	3	FRENCHCK	115	73	0.960	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1352	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1355	4	HAXTUN	115	73	0.961	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1356	5	FLEMING	115	73	0.964	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1361	16	RICHARDS	115	73	0.997	0.911	RICHARDS	115	73	8	0.086	0	0	0	99.000	0.000
1369	4	WAGES	115	73	0.971	0.933	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1371	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1372	0		0	0	99.000	99.000	WINDRIVR	115	73	3	0.061	0	0	0	99.000	0.000
1373	4	CORLETT	115	73	0.954	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1375	9	SANDHILL	115	73	0.993	0.885	SANDHILL	115	73	6	0.108	0	0	0	99.000	0.000
1380	2	WARRENLM	115	73	0.955	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1386	1	TORRNGTN	115	73	0.989	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1389	8	GALIEN	115	73	0.967	0.871	GALIEN	115	73	5	0.096	0	0	0	99.000	0.000
1405	4	VERNONLM	115	73	0.979	0.944	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1414	4	FMS	115	73	0.992	0.937	MTSLETHB	500	54	4	0.060	0	0	0	99.000	0.000
1475	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1493	1	PAGOSA	115	73	0.964	0.939	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1512	1	PAGOSA	115	73	0.964	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1517	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1518	1	PAGOSA	115	73	0.964	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1520	4	PAGOSA	115	73	0.964	0.923	FLOR.RIV	115	73	3	0.060	0	0	0	99.000	0.000
1524	1	PAGOSA	115	73	0.964	0.943	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1576	3	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1577	3	ENNIS MT	161	62	0.974	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1579	1	BIGGRASS	161	65	0.961	0.940	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1602	7	BGEORGE	115	73	0.982	0.903	NAHNEJEN	115	73	10	0.081	0	0	0	99.000	0.000
1606	1	PAGOSA	115	73	0.964	0.947	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1609	0		0	0	99.000	99.000	MIDPOINT	500	60	2	0.062	0	0	0	99.000	0.000
1612	5	BIGGRASS	161	65	0.961	0.920	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1615	0		0	0	99.000	99.000	HINES	115	60	3	0.064	0	0	0	99.000	0.000
1635	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1637	2	JEWELL2	230	70	0.953	0.949	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1684	2	MCCALL	138	60	0.995	0.934	MCCALL	138	60	3	0.061	0	0	0	99.000	0.000
1685	0		0	0	99.000	99.000	QUARTZ	138	60	6	0.072	0	0	0	99.000	0.000
1741	12	BARKER	115	40	0.954	0.933	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1758	2	OROVILLE	115	40	1.003	0.940	OROVILLE	115	40	7	0.063	0	0	0	99.000	0.000
1759	10	JACKRABT	161	62	0.981	0.941	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1760	10	DELIGHT	115	40	0.965	0.927	HATWAI	230	40	7	0.073	0	0	0	99.000	0.000
1767	15	BARKER	115	40	0.954	0.924	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1768	9	BARKER	115	40	0.954	0.937	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1777	0		0	0	99.000	99.000	WELLS	115	40	10	0.092	0	0	0	99.000	0.000
1789	1	SPAN F&1	138	65	0.968	0.931	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1820	1	PLATTE	115	65	1.010	0.932	PLATTE	115	65	2	0.078	0	0	0	99.000	0.000
1857	33	CORLETT	115	73	0.954	0.778	ARCHER	115	73	34	0.182	0	0	0	99.000	0.000
1868	3	CORLETT	115	73	0.954	0.946	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1872	9	WAGES	115	73	0.971	0.936	MTSLETHB	500	54	3	0.060	0	0	0	99.000	0.000
1873	24	DALTON	115	73	0.999	0.911	SIDNEY	115	73	11	0.099	0	0	0	99.000	0.000
1879	2	CORLETT	115	73	0.954	0.948	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1881	3	FRENCHCK	115	73	0.960	0.944	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1883	8	BRIARGAT	115	73	0.990	0.911	CTTNWD N	115	73	6	0.080	0	0	0	99.000	0.000
1898	16	PAGOSA	115	73	0.964	0.870	HESPERUS	115	73	19	0.096	0	0	0	99.000	0.000
1902	3	HAMLTNMA	161	62	0.989	0.942	MTSLETHB	500	54	1	0.060	0	0	0	99.000	0.000
1905	0		0	0	99.000	99.000	RIVERTON	115	73	4	0.062	0	0	0	99.000	0.000
1912	5	CLIFTON	230	70	0.972	0.920	MTSLETHB	500	54	4	0.060	0	0	0	99.000	0.000

BUSES with voltage violations

bus no	---name---	--kv-	area	-base- -case- pu vt	BASE CASE VOLT VIOLATION	lowest -cont- -case- pu vt	cont with lowest pu vt	contingencies with voltage violations
48069	CHESTER	115.0	40	0.945	***	0.857	580:	all
48165	IRVIN	115.0	40	0.949	***	0.863	580:	all
48310	OPORTUNE	115.0	40	0.949	***	0.861	580:	all
48299	OPPORTUN	115.0	40	0.947	***	0.859	580:	all

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48306   OTIS      230.0   40  0.938    ***    0.858   275:   all
70249   LAJUNTAW  115.0   70  0.929    ***    0.926  1069:   all
60295   PLST VLY  138.0   60  1.025           0.970    29: 29
65155   BIGGRASS  161.0   65  0.961           0.919   422: 53 133 421 422 455 456 473 655 812 1579 1612
60220   MCCALL    138.0   60  0.995           0.934  1684: 95 1684
60305   QUARTZ    138.0   60  1.026           0.954   104:104 1685
60306   QUARTZ    230.0   60  1.024           0.954   104:104
61835   WJOHN DY  138.0   60  1.014           0.955   104:104 1685
61055   NELSN TP  138.0   60  1.023           0.968   104:104 1685
60370   WEISER    138.0   60  1.024           0.959   112:112
60371   WEISR TP  138.0   60  1.026           0.961   112:112
60375   WOOD RVR  138.0   60  1.007           0.932   115:115
61825   HINES     138.0   60  1.022           0.947   123:123 1615 1686
61826   HINES     115.0   60  1.028           0.950   123:123 1615
62064   BRADLEYC  161.0   62  0.977           0.929   189:138 148 149 189 422 450 451 455 456 1759
62065   ENNIS MT  161.0   62  0.974           0.932   189:138 148 149 189 421 422 450 451 455 456 1576 1577 1759
62158   SHERDNMT  161.0   62  0.972           0.930   422:138 148 149 189 421 422 450 451 455 456 1576 1577 1612 1759
62006   TAFTAUTO  115.0   62  0.980           0.933   139:139
62031   CUTBANK   115.0   62  0.988           0.932   167:146 167 186
62088   CTBPUMP   115.0   62  0.988           0.932   167:146 167 186
62084   DILLON S  161.0   62  0.969           0.921   422:148 149 189 421 422 450 451 455 456 473 1576 1577 1612
62256   JACKRABT  161.0   62  0.981           0.919   189:148 149 189 1759
62027   SHELBY    115.0   62  1.001           0.946   167:167
62034   BOLE      230.0   62  1.010           0.950   167:167
62035   CNRDWAPA  230.0   62  1.008           0.953   167:167
62178   VAL-WILL  115.0   62  0.999           0.931   186:167 186
62087   CONRAD    115.0   62  1.004           0.927   186:186
62076   TRIDENT   161.0   62  0.984           0.942   189:189 1759
62108   CLYDE P   161.0   62  0.999           0.924   189:189
62249   EGALTN A  161.0   62  0.986           0.918   189:189 1759
62250   BGTMBERA  161.0   62  0.994           0.935   189:189
62257   EMIGT AT  161.0   62  1.003           0.927   189:189
62258   EGALTN B  161.0   62  0.986           0.918   189:189 1759
48185   LIBTYLK   115.0   40  0.954           0.872   275:234 243 251 258 267 274 275 282 287 305 327 406 408 421 422
                                                           429 455 456 476 483 495 537 538 546 566 571 572 580 584 587
                                                           590 1741 1760 1767 1768
40023   AHSAHKA   115.0   40  1.028           0.965   235:235
48021   BARKER    115.0   40  0.954           0.872   275:243 251 258 274 275 282 287 305 327 406 408 421 422 429 455
                                                           456 476 483 495 537 538 546 566 571 572 580 584 587 590 1741
                                                           1760 1767 1768
48311   OTIS      115.0   40  0.955           0.874   275:243 251 258 275 282 287 305 327 406 408 422 429 455 456 476
                                                           483 495 538 546 571 572 580 584 587 590 1741 1760 1767 1768
48117   EASTFARM  115.0   40  0.956           0.875   275:251 258 275 282 327 406 408 422 429 476 483 495 538 572 580
                                                           584 587 590 1741 1767 1768
48011   APPLETAP  115.0   40  0.976           0.899   275:275 327 495 1767
48013   APPLEWAY  115.0   40  0.976           0.899   275:275 327 495 1767
40067   ATHOL     115.0   40  0.992           0.934   275:275
48017   ATHOLTAP  115.0   40  0.995           0.937   275:275
48019   AVONDALE  115.0   40  0.987           0.911   275:275 327 495
48045   BLUECRK   115.0   40  0.973           0.896   275:275 327 495 580 1767
48067   CDA       115.0   40  0.974           0.896   275:275 327 495 1767
48093   DALTON A  115.0   40  0.978           0.901   275:275 327 495
48095   DALTON2T  115.0   40  0.981           0.904   275:275 327 495
48097   DALTONT   115.0   40  0.978           0.901   275:275 327 495
47033   DOWER RD  115.0   40  0.959           0.878   275:275 282 327 408 422 476 483 495 538 580 584 587 590 1741 1767
                                                           1768
48111   DOWERRDT  115.0   40  0.959           0.879   275:275 282 327 422 476 483 495 538 580 584 587 590 1741 1767 1768
48155   HERN      115.0   40  0.979           0.902   275:275 327 495
48159   HUETTER   115.0   40  0.980           0.904   275:275 327 495
47511   MOAB      115.0   40  0.958           0.868   580:275 282 327 422 429 483 495 538 571 580 584 587 1741 1767 1768
48319   PLEASANT  115.0   40  0.966           0.866   580:275 282 327 495 580 584 587 1741 1767 1768
48329   POST FLS  115.0   40  0.959           0.879   275:275 282 327 422 476 483 495 538 580 584 587 590 1741 1767 1768
40855   PRAIRIEB  115.0   40  0.966           0.877   587:275 282 327 495 538 580 587 1741 1767
48349   RAMSEY    115.0   40  0.976           0.898   275:275 327 495 580 1767
48351   RATHBUS1  115.0   40  0.994           0.918   275:275 327 495
48353   RATHBUS2  115.0   40  0.994           0.918   275:275 327 495
48356   RATHDRME  115.0   40  0.994           0.918   275:275 327 495
48355   RATHDRUM  115.0   40  0.994           0.918   275:275 327 495
48357   RATHDRUM  230.0   40  0.993           0.919   275:275 327 495
40953   SCARCELO  115.0   40  0.994           0.927   275:275 495
48401   SPIRITLK  115.0   40  0.996           0.941   275:275
48403   SPIRITLT  115.0   40  0.996           0.941   275:275
40215   CHENEY    115.0   40  0.973           0.948   282:282 1741
48387   SILVRLAK  115.0   40  0.973           0.948   282:282 1741
40147   BREWSTER  115.0   40  1.045           0.972   317:313 316 317 1777
47129   BRIDGBAR  115.0   40  1.047           0.971   317:316 317 1777
47013   BRIDGPRT  115.0   40  1.054           0.969   317:317 1777
40801   OPHIR T   115.0   40  1.039           0.983   317:317 1777
47209   PATEROS   115.0   40  1.036           0.971   317:317 1777
47251   TWISP     115.0   40  1.032           0.973   317:317 1777
41157   WINTHR T  115.0   40  1.032           0.973   317:317 1777
41159   WINTHROP  115.0   40  1.029           0.970   317:317 1777
48179   LAKEVIEW  230.0   40  1.015           0.950   327:327
40371   E OMAK    115.0   40  1.035           0.975   342:342 1758
40373   E OMAK    230.0   40  1.033           0.962   342:342
40389   ELLISFRD  115.0   40  1.011           0.949   342:342 1758
40799   OMAK      115.0   40  1.035           0.974   342:342 1758
40807   OROVILLE  115.0   40  1.003           0.940   342:342 1758
41085   TONASKET  115.0   40  1.029           0.968   342:342 1758
41151   WHITESTN  115.0   40  1.014           0.952   342:342 1758
41125   WAGNERLK  115.0   40  1.014           0.956   387:387 388
41127   WAGNERLT  115.0   40  1.024           0.967   388:387 388
62030   PTRSNFLT  230.0   62  0.969           0.907   422:421 422 455 456 473 1612
47025   DELIGHT   115.0   40  0.965           0.892   599:421 422 449 504 517 599 1760
47073   RALSTONB  115.0   40  0.971           0.912   599:421 422 449 517 599 1760
65025   AMPS      230.0   65  0.981           0.929   422:421 422
65860   JFRSNPHA  161.0   65  0.979           0.943  1612:422 1612
62014   BUTTEMHD  161.0   62  0.981           0.947   455:455 456 1759
62077   BUTTE MT  161.0   62  0.980           0.946   455:455 456 1759
62159   GLDNSNLT  161.0   62  0.981           0.944  1759:455 456 1759
40451   GAR1EAST  500.0   40  1.093           1.032   455:455 456
40453   GAR2EAST  500.0   40  1.093           1.032   455:455 456
47051   HANNA     115.0   40  1.032           0.960   466:466
60192   LADD      230.0   60  1.017           0.950   524:524
40621   LAGRANDE  230.0   40  1.007           0.926   524:524
40905   ROUNDUP   230.0   40  1.011           0.888   524:524
40449   GAFFNEY   115.0   40  0.981           0.876   599:599
65010   AEC IPC   138.0   65  0.979           0.936   665:665
65015   AEC SCOV  138.0   65  0.979           0.936   665:665
65065   ANTLOP 1  138.0   65  0.979           0.937   665:665
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65070   ANTLOP 2  138.0   65  0.979          0.937   665:665
65080   ANTLOPE   161.0   65  0.981          0.939   665:665
65040   ANGEL     138.0   65  0.986          0.947   688:688
65340   CLINTON   138.0   65  0.990          0.943   688:688
66310   RIVRDALE  138.0   65  0.988          0.933   688:688 911
66640   W OGDEN   138.0   65  0.995          0.931   688:688
65280   CARBON    138.0   65  1.030          0.944   703:703
65457   DG UPLCO  138.0   65  1.007          0.940   703:703
65520   EMMAPARK  138.0   65  1.025          0.931   703:703
65755   HELPER    138.0   65  1.028          0.942   703:703
65760   HELPER T  138.0   65  1.030          0.946   703:703
66015   MOUND SW  138.0   65  1.033          0.974   703:703
66183   PANTHER   138.0   65  1.029          0.942   703:703
66395   SPAN F&1  138.0   65  0.968          0.857   732:703 732 1789
66415   SPHINX T  138.0   65  1.035          0.976   703:703
66590   UPALCO    138.0   65  1.007          0.940   703:703
66707   WILLOW C  138.0   65  1.029          0.942   703:703
70113   CLIFTON   230.0   70  0.972          0.920  1912:703 1912
70205   GRANDJCT  230.0   70  0.975          0.920  1912:703 1912
70206   GRANDJPS  230.0   70  0.971          0.920  1912:703 1912
70233   HORIZON   230.0   70  0.971          0.923  1912:703 1912
70438   UINTAH    230.0   70  0.976          0.933  1912:703 1912
79086   PAGOSA    115.0   73  0.964          0.870  1898:703 1475 1493 1512 1517 1518 1520 1524 1606 1898
65454   DIMP DEL  138.0   65  1.011          0.940   775:775
65475   DUMAS     138.0   65  1.012          0.941   775:775
66391   SOUTH MT  138.0   65  1.009          0.946   775:775
65570   FRANKLIN  138.0   65  1.016          0.928   796:796
65725   GRCYN TP  138.0   65  0.999          0.934   796:796
65735   GREENCYN  138.0   65  0.992          0.936   796:796
65900   LOGAN     138.0   65  0.992          0.935   796:796 823
66370   SMFLD TP  138.0   65  0.991          0.947   796:796
66375   SMITHFLD  138.0   65  0.991          0.947   796:796
73022   BGEORGE   115.0   73  0.982          0.903  1602:797 798 803 1602
73534   MEETSETP  115.0   73  0.988          0.911  1602:797 798 1215 1602
65575   FRANNIE   230.0   65  1.001          0.940   798:798
65620   GARLAND   230.0   65  0.999          0.941   798:798
66145   OREBASIN  230.0   65  0.996          0.946   798:798
73041   CARTERMT  115.0   73  0.993          0.924  1602:798 1215 1602
73075   GREYBULL  115.0   73  0.999          0.919  1602:798 1602
73340   NAHNEJEN  115.0   73  0.997          0.916  1602:798 1602
70165   ENGLE3TP  115.0   70  1.002          0.941   939:939
70168   ENGLEWD3  115.0   70  1.002          0.941   939:939
70239   JEWELL2   230.0   70  0.953          0.939   994:942 986 994 995 1011 1012 1013 1014 1019 1035 1036 1045 1052 1054
1057
                                                       1064 1065 1069 1070 1078 1098 1107 1110 1125 1132 1170 1637 1883
70491   TOLGATE   230.0   70  0.953          0.941   994:942 986 994 995 1011 1012 1013 1014 1019 1035 1036 1052 1057 1064
1065
                                                       1069 1070 1078 1098 1107 1110 1125 1132 1170 1637
70047   BARRLAKE  230.0   70  0.966          0.948   943:943
70392   SKYRANCH  230.0   70  0.963          0.948   944:944
70432   TOWER     230.0   70  0.960          0.949   944:944 1069 1070 1078
70154   DERBY 2   115.0   70  1.015          0.958   967:967
70278   MARCY     230.0   70  0.961          0.935   984:984 1070
70464   WATERTON  230.0   70  0.959          0.939   984:984 1053 1070 1078
70284   SURREYRG  230.0   70  0.966          0.940   985:985
70551   MURPHY    230.0   70  0.963          0.948   985:985
70260   LEETSDAL  230.0   70  0.954          0.939   994:986 994 995 1013 1014 1019 1057 1064 1065 1069 1070 1078 1107 1110
1125
                                                       1132 1170
70046   BUCKLEY2  230.0   70  0.956          0.944   994:994 995 1014 1064 1065 1069 1070 1078 1098 1107 1110 1170
70067   BUCKLEY1  230.0   70  0.958          0.947  1069:994 1069 1070 1078 1170
70163   ELATI1    230.0   70  0.956          0.938   994:994 1014 1057 1069 1070 1078 1110 1132
70170   ELATI2    230.0   70  0.956          0.938   994:994 995 1014 1057 1069 1070 1078 1110 1132
70530   MONACO    230.0   70  0.959          0.947   994:994 1069 1070 1078 1136
70283   MEADOWHL  230.0   70  0.959          0.947  1070:994 1069 1070 1078
70291   MONROEPS  230.0   70  0.954          0.939   994:994 995 1013 1014 1019 1057 1064 1069 1070 1078 1107 1110 1132 1170
70417   SULLIVN   230.0   70  0.956          0.942  1030:994 1030 1064 1069 1070 1078 1107 1114 1170
70428   TECH CTR  230.0   70  0.957          0.942  1030:994 1030 1064 1069 1070 1078 1170
70512   JEWELL1   230.0   70  0.957          0.945  1030:994 1030 1064 1069 1070 1078 1170
73348   CORLETT   115.0   73  0.954          0.778  1857:1012 1069 1070 1078 1157 1160 1161 1163 1164 1170 1171 1190 1191
1218 1221
                                                       1222 1257 1258 1278 1299 1300 1316 1317 1319 1320 1322 1323 1342
1344 1352
                                                       1361 1371 1373 1380 1635 1857 1868 1873 1879
70362   RIVERDAL  230.0   70  0.958          0.947  1013:1013 1070 1078
70107   CHEROKEE  230.0   70  0.956          0.947  1070:1014 1069 1070 1078 1110
70149   DENVTM    230.0   70  0.957          0.947  1070:1014 1057 1069 1070 1078
70200   GLENN PS  230.0   70  0.958          0.943  1014:1014 1019 1070 1078
70324   LACOMBE   230.0   70  0.956          0.947  1070:1014 1057 1069 1070 1078 1110
70461   WASHINGT  230.0   70  0.960          0.942  1014:1014
70112   CLARK     230.0   70  0.960          0.948  1028:1028 1070 1078
70241   JORDAN    230.0   70  0.960          0.948  1028:1028 1070 1078
70100   CHATFLD   230.0   70  0.963          0.944  1053:1053
70355   RIDGE     230.0   70  0.957          0.945  1056:1056 1070 1078
70480   WESTPS    230.0   70  0.967          0.947  1057:1057
70343   QUINCY    230.0   70  0.961          0.947  1069:1069 1070
70396   SMOKYHIL  230.0   70  0.960          0.949  1069:1069 1070
70212   GREENWD   230.0   70  0.961          0.949  1070:1070
73375   WARRENLM  115.0   73  0.955          0.778  1857:1070 1078 1157 1160 1161 1163 1164 1170 1171 1190 1191 1218 1221
1222 1257
                                                       1258 1278 1299 1300 1317 1319 1320 1322 1323 1342 1352 1361 1371
1373 1380
                                                       1635 1857 1868 1873 1879
70091   CASTLRCK  115.0   70  0.993          0.946  1097:1097
70515   DAVIDSON  115.0   70  0.997          0.878  1097:1097
70516   PONDERSA  115.0   70  0.992          0.882  1097:1097
70517   PARKERPS  115.0   70  0.989          0.890  1097:1097
70518   BAYOU     115.0   70  0.988          0.909  1097:1097
70521   PEAKVIEW  115.0   70  1.003          0.877  1097:1097
70213   GUNBARRE  230.0   70  0.972          0.943  1110:1110
70261   LEGGETT   230.0   70  0.970          0.945  1110:1110
70297   NIWOT     230.0   70  0.972          0.943  1110:1110
73005   ALVIN     115.0   73  0.976          0.893  1375:1151 1375 1389
73059   FLEMING   115.0   73  0.964          0.878  1389:1151 1184 1249 1255 1341 1347 1355 1356 1375 1389 1873
73063   FRENCHCK  115.0   73  0.960          0.900  1389:1151 1152 1170 1184 1192 1193 1248 1249 1255 1341 1347 1349 1350
1355 1356
                                                       1369 1375 1389 1872 1873 1881
73080   HAXTUN    115.0   73  0.961          0.885  1389:1151 1152 1170 1184 1192 1248 1249 1255 1341 1347 1349 1350 1355
1356 1369
                                                       1375 1389 1872 1873 1881
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73208   WAGES     115.0   73  0.971          0.923  1347:1151 1347 1349 1369 1375 1389 1872
73210   WAUNETA   115.0   73  0.968          0.905  1375:1151 1152 1184 1341 1347 1349 1350 1369 1375 1389 1872 1873 1881
73304   CRETESWT  115.0   73  0.976          0.893  1375:1151 1375 1389
73043   CHEYENNE  115.0   73  0.960          0.788  1857:1157 1161 1163 1170 1190 1221 1222 1300 1352 1361 1373 1857 1873
73077   HAPPYJCK  115.0   73  0.957          0.783  1857:1157 1160 1161 1163 1164 1170 1190 1191 1218 1221 1222 1257 1258
1300 1320
                                                        1322 1323 1342 1352 1361 1371 1373 1635 1857 1868 1873
73183   SKYLINE   115.0   73  0.959          0.780  1857:1160 1163 1164 1170 1190 1222 1278 1300 1342 1361 1857 1873
73480   CROWCRK   115.0   73  0.962          0.787  1857:1161 1163 1170 1222 1361 1857 1873
73109   LARAMIE   115.0   73  0.967          0.819  1857:1163 1170 1323 1361 1857
73008   ARCHER    115.0   73  0.976          0.794  1857:1170 1857
73066   GEMCTYTP  115.0   73  0.973          0.817  1857:1170 1857
73128   MAY       115.0   73  0.975          0.835  1857:1170 1857
73139   MYERS     115.0   73  0.976          0.802  1857:1170 1857
73140   MYERS TP  115.0   73  0.976          0.802  1857:1170 1857
73146   OASISTAP  115.0   73  0.976          0.836  1857:1170 1857
73152   PINEBLUF  115.0   73  0.977          0.846  1857:1170 1299 1300 1857 1873
73154   POLE CK   115.0   73  0.977          0.823  1857:1170 1857
73161   QUALLS    115.0   73  0.976          0.821  1857:1170 1857
73172   ROCKPRTP  115.0   73  0.971          0.840  1857:1170 1190 1222 1361 1857
73173   ROUNDTOP  115.0   73  0.981          0.871  1857:1170 1857
73178   SENTINEL  115.0   73  0.979          0.868  1857:1170 1857
73187   SPRINGCK  115.0   73  0.973          0.817  1857:1170 1857
73367   FTSANDER  115.0   73  0.973          0.817  1857:1170 1857
73504   PONNEQUI  115.0   73  0.966          0.819  1857:1170 1190 1222 1361 1857
73023   BIJOUTAP  115.0   73  0.991          0.898  1182:1182 1206 1414
73031   BRUSHTAP  115.0   73  1.010          0.878  1182:1182
73097   KIOWA CK  115.0   73  0.991          0.920  1182:1182 1206
73103   L.MEADOW  115.0   73  0.992          0.943  1182:1182
73117   LOST CK   115.0   73  0.999          0.949  1182:1182
73147   ORCHARD   115.0   73  0.991          0.920  1182:1182 1206
73213   WIGGINS   115.0   73  0.991          0.930  1182:1182 1206
73305   EFMORGTP  115.0   73  0.994          0.882  1182:1182 1206
73310   FME       115.0   73  0.993          0.881  1182:1182 1206
73311   FMS       115.0   73  0.992          0.883  1182:1182 1206 1414
73370   LOSTCKTP  115.0   73  0.999          0.949  1182:1182
73377   EXCEL     115.0   73  0.992          0.883  1182:1182 1206 1414
73378   FMN       115.0   73  0.994          0.882  1182:1182 1206
73379   FMWEST    115.0   73  0.992          0.883  1182:1182 1206 1414
73136   MESSEX    115.0   73  1.001          0.921  1184:1184
73191   STERLING  115.0   73  0.974          0.921  1184:1184 1341 1356 1873
73478   GALIEN    115.0   73  0.967          0.871  1389:1184 1341 1355 1356 1375 1389 1873
73024   BLKHLWTP  115.0   73  0.992          0.914  1361:1190 1222 1361 1857
73145   NUNN      115.0   73  0.981          0.889  1857:1190 1222 1361 1857
73025   BONNY CK  115.0   73  1.005          0.926  1192:1192
73083   HELL CK   115.0   73  0.986          0.911  1192:1192 1193
73084   HELL TAP  115.0   73  0.986          0.911  1192:1192 1193
73091   IDALIA    115.0   73  0.998          0.939  1192:1192 1193
73110   LIBERTY   115.0   73  0.983          0.908  1192:1192 1193
73174   SAGEBRSH  115.0   73  0.984          0.909  1192:1192 1193
73185   SO. FORK  115.0   73  1.000          0.927  1192:1192 1193
70116   COBBLAKE  115.0   70  0.995          0.912  1361:1222 1361
73044   COBBLKTP  115.0   73  0.995          0.912  1361:1222 1361
73029   BRIDGEPT  115.0   73  0.992          0.926  1873:1224 1873
73046   DALTON    115.0   73  0.999          0.911  1873:1224 1873
73236   GREENWOD  115.0   73  0.994          0.918  1873:1224 1873
73037   BUSHNELL  115.0   73  0.981          0.878  1857:1299 1300 1857 1873
73038   BUSHNLTP  115.0   73  0.981          0.878  1857:1299 1300 1857 1873
73096   KIMBALL   115.0   73  0.983          0.895  1857:1299 1300 1857 1873
73355   KIMBALLC  115.0   73  0.983          0.895  1857:1299 1300 1857 1873
73092   JACINTO   115.0   73  0.992          0.908  1300:1300 1857 1873
73106   LAPORTE   230.0   73  1.009          0.943  1320:1320
73166   REDWILLW  115.0   73  0.995          0.916  1347:1347 1872
73169   RICHARDS  115.0   73  0.997          0.911  1361:1361
73200   TIMNATH   115.0   73  0.996          0.913  1361:1361
73201   TIMNTHTP  115.0   73  0.996          0.912  1361:1361
73216   WINDRIVR  115.0   73  1.019          0.958  1372:1372 1905
73217   WINDRIVT  115.0   73  1.019          0.958  1372:1372 1905
73175   SANDHILL  115.0   73  0.993          0.885  1375:1375
73202   TORRNGTN  115.0   73  0.989          0.944  1386:1386
73225   WRAY TAP  115.0   73  1.003          0.946  1405:1405
73331   WRAYWAPA  115.0   73  1.003          0.946  1405:1405
73371   BETHELLM  115.0   73  0.984          0.949  1405:1405
73374   VERNONLM  115.0   73  0.979          0.944  1405:1405 1872
79076   AM EAST   115.0   73  0.988          0.894  1898:1520 1898
79077   BAYFIELD  115.0   73  0.987          0.897  1898:1520 1898
79099   FLOR.RIV  115.0   73  0.990          0.895  1898:1520 1898
66720   WORLAND   115.0   65  1.017          0.958  1602:1602
73019   BASIN     115.0   73  1.010          0.935  1602:1602
73123   LOVELL    115.0   73  0.999          0.929  1602:1602
73222   WORLANTP  115.0   73  1.015          0.953  1602:1602
60240   MIDPOINT  500.0   60  1.069          1.007  1609:1609
60270   OXBOW     138.0   60  0.991          0.934  1684:1684
47501   ARMSTRNG  115.0   40  1.002          0.944  1760:1760
40149   BRINKENS  115.0   40  0.996          0.939  1760:1760
47503   CHAMBERS  115.0   40  1.001          0.946  1760:1760
40239   CLARKSTN  115.0   40  1.005          0.949  1760:1760
48075   CLEARWTR  115.0   40  1.004          0.947  1760:1760
40519   HATWAI    230.0   40  1.041          0.968  1760:1760
47099   WELLS     115.0   40  1.063          0.971  1777:1777
66245   PLATTE    115.0   65  1.010          0.932  1820:1820
73104   LAGRANGE  115.0   73  0.991          0.925  1857:1857
73134   MED BOW   115.0   73  0.988          0.893  1857:1857
73361   MEDBOWHS  115.0   73  0.988          0.893  1857:1857
73362   MEDBOWTP  115.0   73  0.988          0.893  1857:1857
73047   DEERINGL  115.0   73  0.991          0.946  1872:1872
73142   N.YUMA    115.0   73  1.000          0.943  1872:1872
73230   YUMA      115.0   73  0.989          0.944  1872:1872
73131   MCGREW    115.0   73  0.992          0.946  1873:1873
73150   PEETZ     115.0   73  0.994          0.920  1873:1873
73179   SIDNEY    115.0   73  1.010          0.911  1873:1873
70308   PALMER    115.0   70  0.989          0.948  1883:1883
70476   WOODLAND  115.0   70  0.991          0.948  1883:1883
73389   BRIARGAT  115.0   73  0.990          0.911  1883:1883
73391   CTTNWD N  115.0   73  0.991          0.911  1883:1883
73400   EMIL AND  115.0   73  0.987          0.937  1883:1883
73410   KETTLECK  115.0   73  0.989          0.912  1883:1883
73414   MONUMENT  115.0   73  0.987          0.935  1883:1883
79023   DURANGO   115.0   73  0.997          0.916  1898:1898
79071   HESPERUS  115.0   73  1.003          0.907  1898:1898
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79078	BODO	115.0	73	0.996	0.913	1898:1898
79080	CASCADEL	115.0	73	0.997	0.920	1898:1898
79088	ROCKWOOD	115.0	73	0.998	0.914	1898:1898
79089	SHENDOAH	115.0	73	0.999	0.925	1898:1898
79111	MANCOSTP	115.0	73	1.007	0.951	1898:1898
79191	COYOTE G	115.0	73	1.001	0.949	1898:1898
79257	AMES	115.0	73	0.999	0.943	1898:1898
79194	BURROBDG	115.0	73	0.999	0.936	1898:1898
79256	SILVERTN	115.0	73	0.998	0.932	1898:1898
79189	SUNSH SM	115.0	73	0.999	0.945	1898:1898
79188	TELLURID	115.0	73	0.990	0.935	1898:1898
62079	MILLERCK	161.0	62	0.994	0.949	1902:1902
62311	HAMLTNMA	161.0	62	0.989	0.942	1902:1902
62312	HAMLTNMB	161.0	62	0.989	0.942	1902:1902
73170	RIVERTON	115.0	73	1.022	0.960	1905:1905

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==========================================================================================
                          SUMMARY OF CONTINGENCY (CNT) NUMBERS
                                APPLIES TO LSBS, SPL1
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Outage case   1              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90100 MTSGFL2  500.0 to   90400 MTSGFALL 500.0   circuit 1

Outage case   2              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90100 MTSGFL2  500.0 to   90400 MTSGFALL 500.0   circuit 2

Outage case   3              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90204 MTSFTPCK 230.0 to   62060 COLSTRP  230.0   circuit 1

Outage case   4              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90400 MTSGFALL 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case   5              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40091 BELL BPA 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case   6              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40459 GARRISON 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case   7              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40459 GARRISON 500.0 to   62046 BROADVU  500.0   circuit 1

Outage case   8              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       62057 COLSTRP  500.0 to   62046 BROADVU  500.0   circuit 1

Outage case   9              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60005 ADEL TAP 345.0 to   60006 ADELAIDE 345.0   circuit 1

Outage case  10              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60005 ADEL TAP 345.0 to   60235 MIDPOINT 345.0   circuit 1

Outage case  11              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60006 ADELAIDE 345.0 to   60235 MIDPOINT 345.0   circuit 2

Outage case  12              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   60295 PLST VLY 138.0   circuit 1

Outage case  13              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   61810 MINIDOKA 138.0   circuit 1

Outage case  14              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   61850 HEYBURN  138.0   circuit 1

Outage case  15              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   60015 ALAMEDA  138.0   circuit 1

Outage case  16              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   60335 TERRY    138.0   circuit 1

Outage case  17              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   61640 HLND TAP 138.0   circuit 1

Outage case  18              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60024 AMFLS PP 138.0   circuit 1

Outage case  19              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60070 BRADY    138.0   circuit 1

Outage case  20              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60295 PLST VLY 138.0   circuit 1

Outage case  21              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   61900 RAFT RVR 138.0   circuit 1

Outage case  22              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60035 BLISS    138.0 to   60175 KING     138.0   circuit 1

Outage case  23              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   60225 MICRON   138.0   circuit 1

Outage case  24              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61225 DRY CRK  138.0   circuit 1

Outage case  25              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61254 LOCUST   138.0   circuit 1

Outage case  26              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61261 MORA     138.0   circuit 1

Outage case  27              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 2

Outage case  28              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 3

Outage case  29              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 4

Outage case  30              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60110 CALDWELL 230.0   circuit 1

Outage case  31              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60130 DRAM     230.0   circuit 1

Outage case  32              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60232 MIDPOINT 230.0   circuit 2

Outage case  33              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60045 BOISEBCH 230.0 to   60232 MIDPOINT 230.0   circuit 3

Outage case  34              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60060 BORAH    345.0 to   60005 ADEL TAP 345.0   circuit 1

Outage case  35              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60060 BORAH    345.0 to   60006 ADELAIDE 345.0   circuit 2
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Outage case  36                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60062 BORAH    230.0 to   60073 BRADY    230.0   circuit 1

Outage case  37                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60062 BORAH    230.0 to   60073 BRADY    230.0   circuit 2

Outage case  38                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60065 BOWMONT  138.0 to   60330 SWANFALL 138.0   circuit 1

Outage case  39                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60065 BOWMONT  138.0 to   61261 MORA     138.0   circuit 1

Outage case  40                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60070 BRADY    138.0 to   60127 DON TAP  138.0   circuit 1

Outage case  41                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60073 BRADY    230.0 to   60185 KINPORT  230.0   circuit 1

Outage case  42                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60073 BRADY    230.0 to   60185 KINPORT  230.0   circuit 2

Outage case  43                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60085 BRIDGER  345.0 to   60060 BORAH    345.0   circuit 1

Outage case  44                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60085 BRIDGER  345.0 to   60190 KINPORT  345.0   circuit 1

Outage case  45                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60095 BROWNLEE 230.0 to   60310 QUARTZTP 230.0   circuit 1

Outage case  46                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60105 CALDWELL 138.0 to   60210 LOWELL   138.0   circuit 1

Outage case  47                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60105 CALDWELL 138.0 to   60255 NAMPA    138.0   circuit 1

Outage case  48                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60345 TWINFALL 138.0   circuit 1

Outage case  49                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60350 TFALL TP 138.0   circuit 1

Outage case  50                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  51                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60120 DALE     138.0 to   60340 TFAL JCT 138.0   circuit 1

Outage case  52                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60125 DON      138.0 to   60127 DON TAP  138.0   circuit 1

Outage case  53                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60127 DON TAP  138.0 to   60145 FREMONT  138.0   circuit 1

Outage case  54                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60130 DRAM     230.0 to   60232 MIDPOINT 230.0   circuit 1

Outage case  55                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60135 EDEN     138.0 to   60245 MILNER   138.0   circuit 1

Outage case  56                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60140 EMMETT   138.0 to   60220 MCCALL   138.0   circuit 1

Outage case  57                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60150 HELLSCYN 230.0 to   60095 BROWNLEE 230.0   circuit 1

Outage case  58                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60135 EDEN     138.0   circuit 1

Outage case  59                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60247 MLNR JCT 138.0   circuit 1

Outage case  60                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60285 PAUL     138.0   circuit 1

Outage case  61                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60350 TFALL TP 138.0   circuit 1

Outage case  62                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60170 HYBN JCT 138.0 to   60010 ADELAIDE 138.0   circuit 1

Outage case  63                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60170 HYBN JCT 138.0 to   61850 HEYBURN  138.0   circuit 1

Outage case  64                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60175 KING     138.0 to   60120 DALE     138.0   circuit 1

Outage case  65                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60175 KING     138.0 to   60195 L MALAD  138.0   circuit 1

Outage case  66                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60175 KING     138.0 to   60200 L SALMON 138.0   circuit 1

Outage case  67                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60175 KING     138.0 to   60200 L SALMON 138.0   circuit 2

Outage case  68                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60175 KING     138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  69                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60180 KINPORT  138.0 to   60125 DON      138.0   circuit 1

Outage case  70                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60180 KINPORT  138.0 to   60125 DON      138.0   circuit 2

Outage case  71                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60180 KINPORT  138.0 to   60315 SIPHON   138.0   circuit 1

Outage case  72                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60195 L MALAD  138.0 to   60250 MT HOME  138.0   circuit 1
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Outage case  73                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60210 LOWELL   138.0 to   60065 BOWMONT  138.0   circuit 1

Outage case  74                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60210 LOWELL   138.0 to   60255 NAMPA    138.0   circuit 1

Outage case  75                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60215 LUCKY PK 138.0 to   60225 MICRON   138.0   circuit 1

Outage case  76                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60215 LUCKY PK 138.0 to   60250 MT HOME  138.0   circuit 1

Outage case  77                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60220 MCCALL   138.0 to   60370 WEISER   138.0   circuit 1

Outage case  78                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60230 MIDPOINT 138.0 to   60345 TWINFALL 138.0   circuit 1

Outage case  79                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60232 MIDPOINT 230.0 to   60165 HUNT     230.0   circuit 1

Outage case  80                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60235 MIDPOINT 345.0 to   60190 KINPORT  345.0   circuit 1

Outage case  81                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60245 MILNER   138.0 to   60248 MLNR PP  138.0   circuit 1

Outage case  82                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60247 MLNR JCT 138.0 to   60170 HYBN JCT 138.0   circuit 1

Outage case  83                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60247 MLNR JCT 138.0 to   60245 MILNER   138.0   circuit 1

Outage case  84                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60250 MT HOME  138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  85                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60260 ONTARIO  138.0 to   60140 EMMETT   138.0   circuit 1

Outage case  86                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60270 OXBOW    138.0 to   60220 MCCALL   138.0   circuit 1

Outage case  87                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60275 OXBOW    230.0 to   60095 BROWNLEE 230.0   circuit 1

Outage case  88                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60285 PAUL     138.0 to   60010 ADELAIDE 138.0   circuit 1

Outage case  89                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60291 PINGREE  138.0 to   60031 BLACKFT  138.0   circuit 1

Outage case  90                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60291 PINGREE  138.0 to   60125 DON      138.0   circuit 1

Outage case  91                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60300 PORTNEUF 138.0 to   60145 FREMONT  138.0   circuit 1

Outage case  92                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60305 QUARTZ   138.0 to   61055 NELSN TP 138.0   circuit 1

Outage case  93                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60305 QUARTZ   138.0 to   61835 WJOHN DY 138.0   circuit 1

Outage case  94                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60310 QUARTZTP 230.0 to   60192 LADD     230.0   circuit 1

Outage case  95                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60310 QUARTZTP 230.0 to   60306 QUARTZ   230.0   circuit 1

Outage case  96                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60315 SIPHON   138.0 to   61640 HLND TAP 138.0   circuit 1

Outage case  97                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60320 STRIKE   138.0 to   60330 SWANFALL 138.0   circuit 1

Outage case  98                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60330 SWANFALL 138.0 to   60332 SWNFL PP 138.0   circuit 1

Outage case  99                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60335 TERRY    138.0 to   60300 PORTNEUF 138.0   circuit 1

Outage case 100                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60340 TFAL JCT 138.0 to   60160 HUNT     138.0   circuit 1

Outage case 101                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60340 TFAL JCT 138.0 to   60345 TWINFALL 138.0   circuit 1

Outage case 102                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60350 TFALL TP 138.0 to   60351 TFALL PP 138.0   circuit 1

Outage case 103                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60371 WEISR TP 138.0 to   60260 ONTARIO  138.0   circuit 1

Outage case 104                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60371 WEISR TP 138.0 to   60370 WEISER   138.0   circuit 1

Outage case 105                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60375 WOOD RVR 138.0 to   60175 KING     138.0   circuit 1

Outage case 106                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60375 WOOD RVR 138.0 to   60230 MIDPOINT 138.0   circuit 1

Outage case 107                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61055 NELSN TP 138.0 to   60371 WEISR TP 138.0   circuit 1

Outage case 108                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61225 DRY CRK  138.0 to   60140 EMMETT   138.0   circuit 1

Outage case 109                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        61225 DRY CRK  138.0 to   61254 LOCUST   138.0   circuit 1
Outage case 110               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61254 LOCUST   138.0 to   61261 MORA     138.0   circuit 1
Outage case 111               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61800 ANDERSN  115.0 to   61805 MT HOME  115.0   circuit 1
Outage case 112               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61810 MINIDOKA 138.0 to   61900 RAFT RVR 138.0   circuit 1
Outage case 113               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61810 MINIDOKA 138.0 to   61950 UNITY    138.0   circuit 1
Outage case 114               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61835 WJOHN DY 138.0 to   61825 HINES    138.0   circuit 1
Outage case 115               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61950 UNITY    138.0 to   61850 HEYBURN  138.0   circuit 1
Outage case 116               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 1
Outage case 117               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60095 BROWNLEE 230.0 to   60265 ONTARIO  230.0   circuit 1
Outage case 118               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60110 CALDWELL 230.0 to   60265 ONTARIO  230.0   circuit 1
Outage case 119               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60250 MT HOME  138.0 to   60390 DANSKIN  138.0   circuit 1
Outage case 120               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60320 STRIKE   138.0 to   60390 DANSKIN  138.0   circuit 1
Outage case 121               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60045 BOISEBCH 230.0 to   60207 LOCUST   230.0   circuit 1
Outage case 122               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60275 OXBOW    230.0 to   60278 IMNAHA   230.0   circuit 1
Outage case 123               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   62019 WILSALL  230.0   circuit 1
Outage case 124               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   62030 PTRSNFLT 230.0   circuit 1
Outage case 125               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62003 BONNERMT 161.0   circuit 1
Outage case 126               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62009 RATTLE S 161.0   circuit 1
Outage case 127               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62017 MT ASIMI 161.0   circuit 1
Outage case 128               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62017 MT ASIMI 161.0   circuit 2
Outage case 129               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62084 DILLON S 161.0   circuit 1
Outage case 130               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62006 TAFTAUTO 115.0 to   62085 CROWCR B 115.0   circuit 1
Outage case 131               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62003 BONNERMT 161.0   circuit 1
Outage case 132               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62007 KERR B   161.0   circuit 1
Outage case 133               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62008 KERR A   161.0   circuit 1
Outage case 134               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62078 RESERVST 161.0   circuit 1
Outage case 135               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62014 BUTTEMHD 161.0 to   62017 MT ASIMI 161.0   circuit 1
Outage case 136               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62031 CUTBANK  115.0 to   62027 SHELBY   115.0   circuit 1
Outage case 137               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62034 BOLE     230.0 to   62035 CNRDWAPA 230.0   circuit 1
Outage case 138               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62035 CNRDWAPA 230.0 to   62026 SHELBY   230.0   circuit 1
Outage case 139               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62046 BROADVU  500.0 to   62012 TOWN2    500.0   circuit 2
Outage case 140               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62046 BROADVU  500.0 to   62013 TOWN1    500.0   circuit 1
Outage case 141               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62053 BROADV&2 500.0 to   62046 BROADVU  500.0   circuit 2
Outage case 142               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62053 BROADV&2 500.0 to   62046 BROADVU  500.0   circuit 4
Outage case 143               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62054 BROADV&1 500.0 to   62046 BROADVU  500.0   circuit 1
Outage case 144               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62054 BROADV&1 500.0 to   62046 BROADVU  500.0   circuit 3
Outage case 145               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62057 COLSTRP  500.0 to   62053 BROADV&2 500.0   circuit 2
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Outage case 146                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62057 COLSTRP  500.0 to   62054 BROADV&1 500.0   circuit 1
Outage case 147                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62058 SHOREYRD 230.0 to   62019 WILSALL  230.0   circuit 1
Outage case 148                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62058 SHOREYRD 230.0 to   62052 ALKALI   230.0   circuit 1
Outage case 149                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62058 SHOREYRD 230.0 to   62055 BASELINE 230.0   circuit 1
Outage case 150                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62059 MONTANA1 115.0 to   62221 NICHOL-R 115.0   circuit 1
Outage case 151                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62060 COLSTRP  230.0 to   62051 HARDIN   230.0   circuit 1
Outage case 152                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62062 RIMROCK  161.0 to   62109 ALKALI   161.0   circuit 1
Outage case 153                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62065 ENNIS MT 161.0 to   62064 BRADLEYC 161.0   circuit 1
Outage case 154                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62066 KERR     115.0 to   62303 PLAINS   115.0   circuit 1
Outage case 155                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62066 KERR     115.0 to   62304 THFLPM T 115.0   circuit 1
Outage case 156                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62069 CNRDWAPA 115.0 to   62188 CNRD-SRA 115.0   circuit 1
Outage case 157                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62070 GT FALLS 115.0 to   62180 DUTTON   115.0   circuit 1
Outage case 158                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62071 GT FALLS 230.0 to   62034 BOLE     230.0   circuit 1
Outage case 159                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62071 GT FALLS 230.0 to   62036 JUDITHGP 230.0   circuit 1
Outage case 160                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62071 GT FALLS 230.0 to   62126 LANDRSFK 230.0   circuit 1
Outage case 161                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62076 TRIDENT  161.0 to   62108 CLYDE P  161.0   circuit 1
Outage case 162                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62077 BUTTE MT 161.0 to   62014 BUTTEMHD 161.0   circuit 1
Outage case 163                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62077 BUTTE MT 161.0 to   62017 MT ASIMI 161.0   circuit 1
Outage case 164                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62077 BUTTE MT 161.0 to   62159 GLDNSNLT 161.0   circuit 1
Outage case 165                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62079 MILLERCK 161.0 to   62003 BONNERMT 161.0   circuit 1
Outage case 166                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62079 MILLERCK 161.0 to   62311 HAMLTNMA 161.0   circuit 1
Outage case 167                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62079 MILLERCK 161.0 to   62312 HAMLTNMB 161.0   circuit 1
Outage case 168                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62081 COLSTRP  115.0 to   62059 MONTANA1 115.0   circuit 1
Outage case 169                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62081 COLSTRP  115.0 to   62210 ARMELLCR 115.0   circuit 1
Outage case 170                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62082 BILINGS  230.0 to   62052 ALKALI   230.0   circuit 1
Outage case 171                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62082 BILINGS  230.0 to   62056 HUNTLEY  230.0   circuit 1
Outage case 172                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62082 BILINGS  230.0 to   62125 BILINGSW 230.0   circuit 1
Outage case 173                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62084 DILLON S 161.0 to   62158 SHERDNMT 161.0   circuit 1
Outage case 174                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62085 CROWCR B 115.0   circuit 1
Outage case 175                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62305 TFALLCIT 115.0   circuit 1
Outage case 176                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62306 TFALCITA 115.0   circuit 1
Outage case 177                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62087 CONRAD   115.0 to   62069 CNRDWAPA 115.0   circuit 1
Outage case 178                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62087 CONRAD   115.0 to   62178 VAL-WILL 115.0   circuit 1
Outage case 179                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62088 CTBPUMP  115.0 to   62031 CUTBANK  115.0   circuit 1
Outage case 180                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62016 WILSALL  161.0   circuit 1
Outage case 181                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62249 EGALTN A 161.0   circuit 1
Outage case 182                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62250 BGTMBERA 161.0   circuit 99
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Outage case 183                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62257 EMIGT AT 161.0   circuit 1

Outage case 184                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62258 EGALTN B 161.0   circuit 1

Outage case 185                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62125 BILINGSW 230.0 to   62223 BROADVU  230.0   circuit 1

Outage case 186                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62126 LANDRSFK 230.0 to   62072 OVANDO   230.0   circuit 1

Outage case 187                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62158 SHERDNMT 161.0 to   62065 ENNIS MT 161.0   circuit 1

Outage case 188                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62159 GLDNSNLT 161.0 to   62076 TRIDENT  161.0   circuit 1

Outage case 189                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62178 VAL-WILL 115.0 to   62088 CTBPUMP  115.0   circuit 1

Outage case 190                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62180 DUTTON   115.0 to   62069 CNRDWAPA 115.0   circuit 1

Outage case 191                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62109 ALKALI   161.0   circuit 1

Outage case 192                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62214 CLMBUSPM 161.0   circuit 1

Outage case 193                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62250 BGTMBERA 161.0   circuit 1

Outage case 194                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62206 NICHOLPM 115.0 to   62221 NICHOL-R 115.0   circuit 1

Outage case 195                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62210 ARMELLCR 115.0 to   62211 CASTLERT 115.0   circuit 1

Outage case 196                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62211 CASTLERT 115.0 to   62212 CASTLERK 115.0   circuit 1

Outage case 197                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62211 CASTLERT 115.0 to   62219 SARPY AT 115.0   circuit 1

Outage case 198                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62219 SARPY AT 115.0 to   62080 HARDIN   115.0   circuit 1

Outage case 199                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62223 BROADVU  230.0 to   62036 JUDITHGP 230.0   circuit 1

Outage case 200                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62223 BROADVU  230.0 to   62052 ALKALI   230.0   circuit 1

Outage case 201                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62256 JACKRABT 161.0   circuit 1

Outage case 202                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62256 JACKRABT 161.0   circuit 99

Outage case 203                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62258 EGALTN B 161.0   circuit 1

Outage case 204                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62256 JACKRABT 161.0 to   62064 BRADLEYC 161.0   circuit 1

Outage case 205                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62256 JACKRABT 161.0 to   62258 EGALTN B 161.0   circuit 99

Outage case 206                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62303 PLAINS   115.0 to   62306 TFALCITA 115.0   circuit 1

Outage case 207                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62304 THFLPM T 115.0 to   62305 TFALLCIT 115.0   circuit 1

Outage case 208                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62304 THFLPM T 115.0 to   62310 THFALLPM 115.0   circuit 1

Outage case 209                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62305 TFALLCIT 115.0 to   62309 THFALL-R 115.0   circuit 1

Outage case 210                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62308 MISSLA 7 161.0 to   62078 RESERVST 161.0   circuit 1

Outage case 211                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62308 MISSLA 7 161.0 to   62079 MILLERCK 161.0   circuit 1

Outage case 212                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48001 4LAKE TP 115.0 to   40439 FOURLKS  115.0   circuit 1

Outage case 213                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48001 4LAKE TP 115.0 to   48145 HANGMAN  115.0   circuit 1

Outage case 214                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48003 4TH&HRLD 115.0   circuit 1

Outage case 215                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48069 CHESTER  115.0   circuit 1

Outage case 216                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48271 NINTHCNT 115.0   circuit 1

Outage case 217                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48071 CHEWELAH 115.0   circuit 1

Outage case 218                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   40263 COLV BPA 115.0   circuit 1

Outage case 219                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        40017 ADDY     115.0 to   48135 GIFFORD  115.0   circuit 1
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Outage case 220               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48213 LOON LK  115.0   circuit 1
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Outage case 221               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48223 METCHIP  115.0   circuit 1
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Outage case 222               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40019 ADDY     230.0 to   40021 ADDY 2   230.0   circuit 1
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Outage case 223               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40019 ADDY     230.0 to   40319 CUSICK   230.0   circuit 1
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Outage case 224               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40021 ADDY 2   230.0 to   40090 BELL SO  230.0   circuit 1
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Outage case 225               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40021 ADDY 2   230.0 to   40145 BOUNDARY 230.0   circuit 1
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Outage case 226               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40023 AHSAHKA  115.0 to   40367 DWORSHAK 115.0   circuit 1
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Outage case 227               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48010 AIRWAYTP 115.0   circuit 1
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Outage case 228               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48103 DEVIL GP 115.0   circuit 1
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Outage case 229               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   40397 FAIRCHLD 115.0   circuit 1
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Outage case 230               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48421 SUNSET   115.0   circuit 1
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Outage case 231               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48010 AIRWAYTP 115.0 to   48132 HAL&WHIT 115.0   circuit 1
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Outage case 232               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48010 AIRWAYTP 115.0 to   48387 SILVRLAK 115.0   circuit 1
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Outage case 233               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   47027 DIAM LAK 115.0   circuit 1
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Outage case 234               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   40779 NEWPORTB 115.0   circuit 1
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Outage case 235               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   48347 PRIEST A 115.0   circuit 1
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Outage case 236               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46001 ANC LK T 230.0 to   40261 COLUMBIA 230.0   circuit 1
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Outage case 237               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46001 ANC LK T 230.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 238               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46807 MCKENZIE 115.0   circuit 1
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Outage case 239               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46807 MCKENZIE 115.0   circuit 2
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Outage case 240               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46811 N WENATC 115.0   circuit 1
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Outage case 241               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46827 SUMMIT   115.0   circuit 1
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Outage case 242               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48011 APPLETAP 115.0 to   48095 DALTON2T 115.0   circuit 1
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Outage case 243               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48013 APPLEWAY 115.0 to   48011 APPLETAP 115.0   circuit 1
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Outage case 244               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48015 ARDEN    115.0 to   48301 ORIN     115.0   circuit 1
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Outage case 245               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47501 ARMSTRNG 115.0 to   48415 SPULMNTP 115.0   circuit 1
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Outage case 246               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40061 ASHE     500.0 to   40683 LOW MON  500.0   circuit 1
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Outage case 247               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40067 ATHOL    115.0 to   48017 ATHOLTAP 115.0   circuit 1
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Outage case 248               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48017 ATHOLTAP 115.0 to   40953 SCARCELO 115.0   circuit 1
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Outage case 249               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48019 AVONDALE 115.0 to   48356 RATHDRME 115.0   circuit 1
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Outage case 250               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48021 BARKER   115.0 to   48311 OTIS     115.0   circuit 1
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Outage case 251               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48029 BEACON S 115.0   circuit 1
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Outage case 252               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48271 NINTHCNT 115.0   circuit 1
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Outage case 253               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48277 NORTHEAS 115.0   circuit 1
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Outage case 254               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48312 OPORTUNW 115.0   circuit 1
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Outage case 255               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48371 ROSSPARK 115.0   circuit 1
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Outage case 256              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48405 SPKINDPK 115.0   circuit 1

Outage case 257              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   48031 BEACON S 230.0   circuit 1

Outage case 258              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   40090 BELL SO  230.0   circuit 5

Outage case 259              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   48037 BENEWAH  230.0   circuit 1

Outage case 260              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   40087 BELL BPA 115.0   circuit 1

Outage case 261              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48033 BELL TAP 115.0   circuit 1

Outage case 262              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48237 MILLWOOD 115.0   circuit 1

Outage case 263              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48271 NINTHCNT 115.0   circuit 1

Outage case 264              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48271 NINTHCNT 115.0   circuit 2

Outage case 265              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48031 BEACON S 230.0 to   40090 BELL SO  230.0   circuit 4

Outage case 266              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48031 BEACON S 230.0 to   48357 RATHDRUM 230.0   circuit 1

Outage case 267              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40113 BIGELOW  115.0   circuit 1

Outage case 268              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40255 COLBERTT 115.0   circuit 1

Outage case 269              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40281 COULEE   115.0   circuit 1

Outage case 270              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   47285 INLD EMP 115.0   circuit 1

Outage case 271              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   41015 SPRNGHIL 115.0   circuit 1

Outage case 272              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   48449 WAIKIKIT 115.0   circuit 1

Outage case 273              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40091 BELL BPA 500.0 to   41057 TAFT     500.0   circuit 1

Outage case 274              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   40086 BELL NO  230.0   circuit 1

Outage case 275              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   40090 BELL SO  230.0   circuit 1

Outage case 276              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   41358 COULEES3 230.0   circuit 5

Outage case 277              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   47091 USK      230.0   circuit 1

Outage case 278              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40086 BELL NO  230.0 to   40909 SACHEEN  230.0   circuit 1

Outage case 279              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40086 BELL NO  230.0 to   41275 WESTBPA1 230.0   circuit 1

Outage case 280              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40090 BELL SO  230.0 to   41356 COULEES1 230.0   circuit 3

Outage case 281              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40090 BELL SO  230.0 to   40624 LANCASTR 230.0   circuit 1

Outage case 282              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48033 BELL TAP 115.0 to   40087 BELL BPA 115.0   circuit 1

Outage case 283              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48033 BELL TAP 115.0 to   48381 SEVENTAP 115.0   circuit 1

Outage case 284              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48035 BENEWAH  115.0 to   48323 PLUMMER  115.0   circuit 1

Outage case 285              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48037 BENEWAH  230.0 to   48317 PINE CRK 230.0   circuit 1

Outage case 286              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48041 BIGCREEK 115.0 to   48049 BUNKRHIL 115.0   circuit 1

Outage case 287              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40113 BIGELOW  115.0 to   40483 GREEN BL 115.0   circuit 1

Outage case 288              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40113 BIGELOW  115.0 to   41089 TRENTWOD 115.0   circuit 1

Outage case 289              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46013 BKSAND T 115.0 to   40849 POTHOLES 115.0   circuit 1

Outage case 290              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48043 BLANCHRD 115.0 to   47505 HOODOO   115.0   circuit 1

Outage case 291              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48045 BLUECRK  115.0 to   48067 CDA      115.0   circuit 1

Outage case 292              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   41239 MOYIE T  115.0   circuit 1
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Outage case 293                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   47194 MT HALL  115.0   circuit 1

Outage case 294                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   40927 SAMUELS  115.0   circuit 1

Outage case 295                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40143 BOUNDARY 115.0 to   40731 METALINE 115.0   circuit 1

Outage case 296                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40145 BOUNDARY 230.0 to   40319 CUSICK   230.0   circuit 1

Outage case 297                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40145 BOUNDARY 230.0 to   40909 SACHEEN  230.0   circuit 1

Outage case 298                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47009 BOX CANY 115.0 to   40317 CUSICK   115.0   circuit 1

Outage case 299                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47126 BOX PS   115.0 to   41190 BOX TAP  115.0   circuit 1

Outage case 300                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41190 BOX TAP  115.0 to   40731 METALINE 115.0   circuit 1

Outage case 301                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41190 BOX TAP  115.0 to   48399 SPIRIT   115.0   circuit 1

Outage case 302                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47127 BRAYS LD 115.0 to   46805 CHELAN   115.0   circuit 1

Outage case 303                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47127 BRAYS LD 115.0 to   47069 ORONDO   115.0   circuit 1

Outage case 304                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   47129 BRIDGBAR 115.0   circuit 1

Outage case 305                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   40801 OPHIR T  115.0   circuit 1

Outage case 306                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   47209 PATEROS  115.0   circuit 1

Outage case 307                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47129 BRIDGBAR 115.0 to   47013 BRIDGPRT 115.0   circuit 1

Outage case 308                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47013 BRIDGPRT 115.0 to   47099 WELLS    115.0   circuit 1

Outage case 309                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40149 BRINKENS 115.0 to   48341 POTLAT A 115.0   circuit 1

Outage case 310                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48047 BRONX    115.0 to   48293 ODEN     115.0   circuit 1

Outage case 311                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48047 BRONX    115.0 to   48377 SANDPT A 115.0   circuit 1

Outage case 312                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48049 BUNKRHIL 115.0 to   48315 PINE CRK 115.0   circuit 1

Outage case 313                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48053 BURKAVAA 115.0   circuit 1

Outage case 314                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48055 BURKAVAB 115.0   circuit 1

Outage case 315                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48151 HECLA    115.0   circuit 1

Outage case 316                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48217 LUCKYFTP 115.0   circuit 1

Outage case 317                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48057 CAB GORG 115.0 to   48065 CABINETG 115.0   circuit 1

Outage case 318                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48059 CAB GORG 230.0 to   48179 LAKEVIEW 230.0   circuit 1

Outage case 319                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48059 CAB GORG 230.0 to   48281 NOXON    230.0   circuit 1

Outage case 320                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48065 CABINETG 115.0 to   48077 CLRKFORK 115.0   circuit 1

Outage case 321                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        42312 CASCADEP 230.0 to   46831 ROCKYRH1 230.0   circuit 1

Outage case 322                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48067 CDA      115.0 to   48097 DALTONT  115.0   circuit 1

Outage case 323                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48067 CDA      115.0 to   48349 RAMSEY   115.0   circuit 1

Outage case 324                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46805 CHELAN   115.0 to   48149 HEADWORK 115.0   circuit 1

Outage case 325                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46805 CHELAN   115.0 to   46821 ROCKY RH 115.0   circuit 1

Outage case 326                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40215 CHENEY   115.0 to   40439 FOURLKS  115.0   circuit 1

Outage case 327                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48069 CHESTER  115.0 to   48299 OPPORTUN 115.0   circuit 1

Outage case 328                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48071 CHEWELAH 115.0 to   48441 VALLEY A 115.0   circuit 1

Outage case 329                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        40223 CHIEF J3 345.0 to   40993 SNOHOMS3 345.0   circuit 3
Outage case 330               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40225 CHIEF J4 345.0 to   40994 SNOHOMS4 345.0   circuit 4
Outage case 331               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   41358 COULEES3 230.0   circuit 1
Outage case 332               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   41358 COULEES3 230.0   circuit 2
Outage case 333               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   40373 E OMAK   230.0   circuit 1
Outage case 334               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40287 COULEE   500.0   circuit 1
Outage case 335               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40749 MONROE   500.0   circuit 1
Outage case 336               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40973 SICKLER  500.0   circuit 1
Outage case 337               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48073 CHMBRSTP 115.0 to   47503 CHAMBERS 115.0   circuit 1
Outage case 338               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40239 CLARKSTN 115.0 to   48253 N LEWIST 115.0   circuit 1
Outage case 339               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40239 CLARKSTN 115.0 to   40835 POMEROY  115.0   circuit 1
Outage case 340               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40245 CLAYTON  115.0 to   40337 DEER PRK 115.0   circuit 1
Outage case 341               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40245 CLAYTON  115.0 to   48213 LOON LK  115.0   circuit 1
Outage case 342               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41753 CLE10_13 230.0 to   41357 COULEES2 230.0   circuit 1
Outage case 343               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41754 CLE14_18 230.0 to   41358 COULEES3 230.0   circuit 1
Outage case 344               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48195 LOLO     115.0   circuit 1
Outage case 345               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48429 TENTHSTW 115.0   circuit 1
Outage case 346               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48464 WHEATLND 115.0   circuit 1
Outage case 347               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48077 CLRKFORK 115.0 to   48293 ODEN     115.0   circuit 1
Outage case 348               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   41195 COL FAL2 230.0   circuit 1
Outage case 349               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   40267 CONKELLY 230.0   circuit 1
Outage case 350               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   40557 HUNGRY H 230.0   circuit 1
Outage case 351               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40249 COL FALL 230.0   circuit 1
Outage case 352               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40267 CONKELLY 230.0   circuit 1
Outage case 353               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40557 HUNGRY H 230.0   circuit 1
Outage case 354               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40247 COL FALL 115.0 to   40589 KALISPEL 115.0   circuit 1
Outage case 355               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40247 COL FALL 115.0 to   41039 STILLWTR 115.0   circuit 1
Outage case 356               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40249 COL FALL 230.0 to   40421 FLATHEAD 230.0   circuit 1
Outage case 357               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48079 COLBERT  115.0 to   40255 COLBERTT 115.0   circuit 1
Outage case 358               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40255 COLBERTT 115.0 to   40495 HALFMOON 115.0   circuit 1
Outage case 359               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48081 COLLWALN 115.0 to   48129 FTWRIGHT 115.0   circuit 1
Outage case 360               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48081 COLLWALN 115.0 to   48339 POSTSTRT 115.0   circuit 1
Outage case 361               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   46033 GB55     115.0   circuit 1
Outage case 362               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   40579 JENKINS  115.0   circuit 1
Outage case 363               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   47071 PALISADS 115.0   circuit 1
Outage case 364               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   41105 VALHALLA 115.0   circuit 1
Outage case 365               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   41105 VALHALLA 115.0   circuit 2
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Outage case 366                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41356 COULEES1 230.0   circuit 1

Outage case 367                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41358 COULEES3 230.0   circuit 3

Outage case 368                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   40303 COVINGTN 230.0   circuit 1

Outage case 369                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   46809 MCKENZIE 230.0   circuit 1

Outage case 370                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   46832 ROCKYRH2 230.0   circuit 1

Outage case 371                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 372                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48083 COLV AVA 115.0 to   48143 GREENWDA 115.0   circuit 1

Outage case 373                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40263 COLV BPA 115.0 to   40607 KETTLE T 115.0   circuit 1

Outage case 374                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40263 COLV BPA 115.0 to   48399 SPIRIT   115.0   circuit 1

Outage case 375                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40267 CONKELLY 230.0 to   45305 TRUMB CR 230.0   circuit 1

Outage case 376                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40275 COOK M T 115.0 to   40607 KETTLE T 115.0   circuit 1

Outage case 377                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40275 COOK M T 115.0 to   40879 REPUBLIC 115.0   circuit 1

Outage case 378                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46150 COUL2GPD 115.0 to   40281 COULEE   115.0   circuit 1

Outage case 379                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46150 COUL2GPD 115.0 to   41127 WAGNERLT 115.0   circuit 1

Outage case 380                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41751 COULE1_5 230.0 to   41356 COULEES1 230.0   circuit 1

Outage case 381                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41752 COULE6_9 230.0 to   41357 COULEES2 230.0   circuit 1

Outage case 382                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40281 COULEE   115.0 to   41222 KELLER T 115.0   circuit 1

Outage case 383                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40281 COULEE   115.0 to   47067 NILLES C 115.0   circuit 1

Outage case 384                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40285 COULEE   300.0 to   40795 OLYMPIA  300.0   circuit 1

Outage case 385                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40499 HANFORD  500.0   circuit 1

Outage case 386                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40957 SCHULTZ  500.0   circuit 1

Outage case 387                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40957 SCHULTZ  500.0   circuit 2

Outage case 388                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41356 COULEES1 230.0 to   41357 COULEES2 230.0   circuit 1

Outage case 389                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41356 COULEES1 230.0 to   40851 POTHOLES 230.0   circuit 1

Outage case 390                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   41358 COULEES3 230.0   circuit 1

Outage case 391                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   46156 ROCKYFD  230.0   circuit 1

Outage case 392                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   41276 WESTBPA2 230.0   circuit 1

Outage case 393                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40311 CRESTN   115.0 to   40637 LARENE   115.0   circuit 1

Outage case 394                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40311 CRESTN   115.0 to   41127 WAGNERLT 115.0   circuit 1

Outage case 395                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40317 CUSICK   115.0 to   47254 USK      115.0   circuit 1

Outage case 396                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40319 CUSICK   230.0 to   47091 USK      230.0   circuit 1

Outage case 397                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48095 DALTON2T 115.0 to   48019 AVONDALE 115.0   circuit 1

Outage case 398                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48097 DALTONT  115.0 to   48093 DALTON A 115.0   circuit 1

Outage case 399                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48097 DALTONT  115.0 to   48356 RATHDRME 115.0   circuit 1

Outage case 400                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40337 DEER PRK 115.0 to   48235 MILAN TP 115.0   circuit 1

Outage case 401                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47025 DELIGHT  115.0 to   48457 WASHTUNA 115.0   circuit 1

Outage case 402                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48103 DEVIL GP 115.0 to   48269 NINEMILE 115.0   circuit 1
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Outage case 403                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47027 DIAM LAK 115.0 to   40907 SACHEEN  115.0   circuit 1

Outage case 404                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40348 DIXON    230.0 to   40551 HOT SPR  230.0   circuit 1

Outage case 405                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40348 DIXON    230.0 to   40867 RATTLE S 230.0   circuit 1

Outage case 406                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47029 DOUGLAS  115.0 to   47089 TERRY T  115.0   circuit 1

Outage case 407                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   46833 ROCKYRH3 230.0   circuit 1

Outage case 408                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   47101 WELLS    230.0   circuit 1

Outage case 409                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   47101 WELLS    230.0   circuit 2

Outage case 410                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47033 DOWER RD 115.0 to   48111 DOWERRDT 115.0   circuit 1

Outage case 411                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48111 DOWERRDT 115.0 to   48329 POST FLS 115.0   circuit 1

Outage case 412                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40369 DWORSHAK 500.0 to   40521 HATWAI   500.0   circuit 1

Outage case 413                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40369 DWORSHAK 500.0 to   41057 TAFT     500.0   circuit 1

Outage case 414                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41202 E ELLNSB 115.0 to   40385 ELLENGTP 115.0   circuit 1

Outage case 415                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40437 FOSTER C 115.0   circuit 1

Outage case 416                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40789 OKANOGAN 115.0   circuit 1

Outage case 417                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40799 OMAK     115.0   circuit 1

Outage case 418                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   41085 TONASKET 115.0   circuit 1

Outage case 419                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   41151 WHITESTN 115.0   circuit 1

Outage case 420                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48117 EASTFARM 115.0 to   48329 POST FLS 115.0   circuit 1

Outage case 421                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47051 HANNA    115.0   circuit 1

Outage case 422                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47085 SO NILE  115.0   circuit 1

Outage case 423                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47089 TERRY T  115.0   circuit 1

Outage case 424                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48119 EGRANTAP 115.0 to   40383 EGRANVIL 115.0   circuit 1

Outage case 425                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40385 ELLENGTP 115.0 to   40387 ELLENSBG 115.0   circuit 1

Outage case 426                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40385 ELLENGTP 115.0 to   40579 JENKINS  115.0   circuit 1

Outage case 427                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40387 ELLENSBG 115.0 to   40755 MOXEE    115.0   circuit 1

Outage case 428                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40389 ELLISFRD 115.0 to   40807 OROVILLE 115.0   circuit 1

Outage case 429                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40389 ELLISFRD 115.0 to   41151 WHITESTN 115.0   circuit 1

Outage case 430                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40391 ELMO     115.0 to   40589 KALISPEL 115.0   circuit 1

Outage case 431                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40421 FLATHEAD 230.0 to   45175 LION MTN 230.0   circuit 1

Outage case 432                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40437 FOSTER C 115.0 to   47067 NILLES C 115.0   circuit 1

Outage case 433                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   40439 FOURLKS  115.0   circuit 1

Outage case 434                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   48132 HAL&WHIT 115.0   circuit 1

Outage case 435                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   40525 HAYFORD  115.0   circuit 1

Outage case 436                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   48387 SILVRLAK 115.0   circuit 1

Outage case 437                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48127 FRANCEDR 115.0 to   48219 LYONSTND 115.0   circuit 1

Outage case 438                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48127 FRANCEDR 115.0 to   48279 NORTHWES 115.0   circuit 1

Outage case 439                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        48129 FTWRIGHT 115.0 to   48461 WEST     115.0   circuit 1
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Outage case 440               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40449 GAFFNEY  115.0 to   48411 SPRAGUE  115.0   circuit 1
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Outage case 441               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40451 GAR1EAST 500.0 to   40459 GARRISON 500.0   circuit 1
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Outage case 442               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40453 GAR2EAST 500.0 to   40459 GARRISON 500.0   circuit 1
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Outage case 443               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48131 GARDENSP 115.0 to   40525 HAYFORD  115.0   circuit 1
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Outage case 444               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48131 GARDENSP 115.0 to   48409 SPKWASTE 115.0   circuit 1
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Outage case 445               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40457 GARRISON 230.0 to   40867 RATTLE S 230.0   circuit 1
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Outage case 446               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40459 GARRISON 500.0 to   41057 TAFT     500.0   circuit 1
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Outage case 447               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40459 GARRISON 500.0 to   41057 TAFT     500.0   circuit 2
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Outage case 448               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48139 GLENTAP  115.0 to   48137 GLENROSE 115.0   circuit 1
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Outage case 449               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48139 GLENTAP  115.0 to   48395 SOUTHEAS 115.0   circuit 1
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Outage case 450               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40479 GOOSE LK 115.0 to   40777 NESPELEM 115.0   circuit 1
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Outage case 451               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40479 GOOSE LK 115.0 to   40789 OKANOGAN 115.0   circuit 1
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Outage case 452               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48143 GREENWDA 115.0 to   48175 KETTLEAV 115.0   circuit 1
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Outage case 453               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48132 HAL&WHIT 115.0 to   48387 SILVRLAK 115.0   circuit 1
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Outage case 454               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40495 HALFMOON 115.0 to   41099 TUM TUM  115.0   circuit 1
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Outage case 455               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40499 HANFORD  500.0 to   40683 LOW MON  500.0   circuit 1
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Outage case 456               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40499 HANFORD  500.0 to   41113 VANTAGE  500.0   circuit 1
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Outage case 457               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47051 HANNA    115.0 to   41105 VALHALLA 115.0   circuit 1
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Outage case 458               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40513 HASKILL  230.0 to   40657 LIBBY    230.0   circuit 1
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Outage case 459               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40513 HASKILL  230.0 to   45305 TRUMB CR 230.0   circuit 1
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Outage case 460               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48197 LOLO     230.0   circuit 1
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Outage case 461               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48197 LOLO     230.0   circuit 2
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Outage case 462               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48249 MOSCOW   230.0   circuit 1
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Outage case 463               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48255 N LEWIST 230.0   circuit 1
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Outage case 464               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40521 HATWAI   500.0 to   40679 LOW GRAN 500.0   circuit 1
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Outage case 465               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48151 HECLA    115.0 to   48453 WALLACE  115.0   circuit 1
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Outage case 466               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48153 HECLAT   115.0 to   48041 BIGCREEK 115.0   circuit 1
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Outage case 467               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48155 HERN     115.0 to   48159 HUETTER  115.0   circuit 1
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Outage case 468               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47505 HOODOO   115.0 to   48403 SPIRITLT 115.0   circuit 1
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Outage case 469               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47507 HOPKINSB 115.0 to   48271 NINTHCNT 115.0   circuit 1
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Outage case 470               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   45175 LION MTN 230.0   circuit 1
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Outage case 471               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   48281 NOXON    230.0   circuit 2
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Outage case 472               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   41091 TROUT CR 230.0   circuit 1
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Outage case 473               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40553 HOT SPR  500.0 to   41057 TAFT     500.0   circuit 1
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Outage case 474               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48159 HUETTER  115.0 to   48355 RATHDRUM 115.0   circuit 1
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Outage case 475               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47285 INLD EMP 115.0 to   41089 TRENTWOD 115.0   circuit 1
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Outage case 476                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48165 IRVIN    115.0 to   48299 OPPORTUN 115.0   circuit 1
Outage case 477                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48165 IRVIN    115.0 to   48311 OTIS     115.0   circuit 1
Outage case 478                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40587 JOSO TAP 115.0 to   41340 NINEMI T 115.0   circuit 1
Outage case 479                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40603 KELLER   115.0 to   41222 KELLER T 115.0   circuit 1
Outage case 480                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41222 KELLER T 115.0 to   40777 NESPELEM 115.0   circuit 1
Outage case 481                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40607 KETTLE T 115.0 to   48175 KETTLEAV 115.0   circuit 1
Outage case 482                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48177 KOOSKIA  115.0 to   48379 SCOTPAPR 115.0   circuit 1
Outage case 483                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40617 LACLEDE  115.0 to   40857 PRIEST   115.0   circuit 1
Outage case 484                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40617 LACLEDE  115.0 to   40933 SANDPONT 115.0   circuit 1
Outage case 485                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40621 LAGRANDE 230.0 to   40905 ROUNDUP  230.0   circuit 1
Outage case 486                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48179 LAKEVIEW 230.0 to   48357 RATHDRUM 230.0   circuit 1
Outage case 487                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40624 LANCASTR 230.0 to   40787 NOXONBPA 230.0   circuit 1
Outage case 488                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40637 LARENE   115.0 to   41015 SPRNGHIL 115.0   circuit 1
Outage case 489                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40655 LIBBY    115.0 to   47278 LIBBYFEC 115.0   circuit 1
Outage case 490                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40657 LIBBY    230.0 to   40787 NOXONBPA 230.0   circuit 1
Outage case 491                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47278 LIBBYFEC 115.0 to   41097 TROY     115.0   circuit 1
Outage case 492                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48185 LIBTYLK  115.0 to   48299 OPPORTUN 115.0   circuit 1
Outage case 493                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48185 LIBTYLK  115.0 to   48311 OTIS     115.0   circuit 1
Outage case 494                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48187 LIND     115.0 to   47025 DELIGHT  115.0   circuit 1
Outage case 495                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48187 LIND     115.0 to   47073 RALSTONB 115.0   circuit 1
Outage case 496                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40679 LOW GRAN 500.0   circuit 1
Outage case 497                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40679 LOW GRAN 500.0   circuit 2
Outage case 498                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40683 LOW MON  500.0   circuit 1
Outage case 499                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40683 LOW MON  500.0   circuit 2
Outage case 500                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40683 LOW MON  500.0 to   40917 SACJWA T 500.0   circuit 1
Outage case 501                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48217 LUCKYFTP 115.0 to   48153 HECLAT   115.0   circuit 1
Outage case 502                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48217 LUCKYFTP 115.0 to   48215 LUCKY F  115.0   circuit 1
Outage case 503                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48219 LYONSTND 115.0 to   48371 ROSSPARK 115.0   circuit 1
Outage case 504                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46043 MAE VL T 230.0 to   40851 POTHOLES 230.0   circuit 1
Outage case 505                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47185 MALOTT   115.0 to   40789 OKANOGAN 115.0   circuit 1
Outage case 506                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47185 MALOTT   115.0 to   41157 WINTHR T 115.0   circuit 1
Outage case 507                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40691 MAPLE VL 345.0 to   40891 ROCKY RH 345.0   circuit 1
Outage case 508                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48221 MARENGO  115.0 to   47073 RALSTONB 115.0   circuit 1
Outage case 509                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46045 MATTAWA  230.0 to   41111 VANTAGE  230.0   circuit 1
Outage case 510                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46817 ROCK IS2 115.0   circuit 1
Outage case 511                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   41105 VALHALLA 115.0   circuit 1
Outage case 512                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46829 WENATCHE 115.0   circuit 1
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Outage case 513                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46829 WENATCHE 115.0   circuit 2

Outage case 514                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46809 MCKENZIE 230.0 to   46831 ROCKYRH1 230.0   circuit 1

Outage case 515                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41351 MCNRY S1 230.0 to   40905 ROUNDUP  230.0   circuit 1

Outage case 516                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48223 METCHIP  115.0 to   48015 ARDEN    115.0   circuit 1

Outage case 517                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48225 METRO    115.0 to   48339 POSTSTRT 115.0   circuit 1

Outage case 518                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48225 METRO    115.0 to   48421 SUNSET   115.0   circuit 1

Outage case 519                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47509 MICA     115.0 to   48231 MICA TAP 115.0   circuit 1

Outage case 520                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48231 MICA TAP 115.0 to   47507 HOPKINSB 115.0   circuit 1

Outage case 521                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41346 MIDWAYB1 230.0 to   40851 POTHOLES 230.0   circuit 1

Outage case 522                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41347 MIDWAYB2 230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 523                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48235 MILAN TP 115.0 to   41099 TUM TUM  115.0   circuit 1

Outage case 524                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48163 I.E.PAPR 115.0   circuit 1

Outage case 525                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48165 IRVIN    115.0   circuit 1

Outage case 526                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48312 OPORTUNW 115.0   circuit 1

Outage case 527                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48239 MISSION  115.0 to   48045 BLUECRK  115.0   circuit 1

Outage case 528                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47511 MOAB     115.0 to   48310 OPORTUNE 115.0   circuit 1

Outage case 529                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47511 MOAB     115.0 to   48319 PLEASANT 115.0   circuit 1

Outage case 530                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41239 MOYIE T  115.0 to   41240 MOYIE TX 115.0   circuit 1

Outage case 531                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41239 MOYIE T  115.0 to   41169 YAAK     115.0   circuit 1

Outage case 532                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41240 MOYIE TX 115.0 to   41241 N BENCH  115.0   circuit 1

Outage case 533                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47194 MT HALL  115.0 to   41299 SMITHFLS 115.0   circuit 1

Outage case 534                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48253 N LEWIST 115.0 to   48075 CLEARWTR 115.0   circuit 1

Outage case 535                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46811 N WENATC 115.0 to   46821 ROCKY RH 115.0   circuit 1

Outage case 536                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46811 N WENATC 115.0 to   46829 WENATCHE 115.0   circuit 1

Outage case 537                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40779 NEWPORTB 115.0 to   47086 PINE ST  115.0   circuit 1

Outage case 538                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48258 NEWPORTT 115.0 to   48043 BLANCHRD 115.0   circuit 1

Outage case 539                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48258 NEWPORTT 115.0 to   48259 NEWPORTA 115.0   circuit 1

Outage case 540                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48258 NEWPORTT 115.0 to   47086 PINE ST  115.0   circuit 1

Outage case 541                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41340 NINEMI T 115.0 to   41131 WALAWALA 115.0   circuit 1

Outage case 542                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47574 NINEMIF1 115.0 to   41340 NINEMI T 115.0   circuit 1

Outage case 543                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47572 NINEMIF2 230.0 to   45331 WALLULA  230.0   circuit 1

Outage case 544                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48269 NINEMILE 115.0 to   48461 WEST     115.0   circuit 1

Outage case 545                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48271 NINTHCNT 115.0 to   48139 GLENTAP  115.0   circuit 1

Outage case 546                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48271 NINTHCNT 115.0 to   48431 THIRHACH 115.0   circuit 1

Outage case 547                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48277 NORTHEAS 115.0 to   48224 MEAD     115.0   circuit 1

Outage case 548                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48279 NORTHWES 115.0 to   48461 WEST     115.0   circuit 1

Outage case 549                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        48281 NOXON    230.0 to   40787 NOXONBPA 230.0   circuit 1
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Outage case 550               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48281 NOXON    230.0 to   48317 PINE CRK 230.0   circuit 1
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Outage case 551               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40787 NOXONBPA 230.0 to   48289 NOXONCON 230.0   circuit 1
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Outage case 552               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48289 NOXONCON 230.0 to   41091 TROUT CR 230.0   circuit 1
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Outage case 553               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48295 ODESSA   115.0 to   40577 IRBY     115.0   circuit 1
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Outage case 554               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48297 OGARA    115.0 to   48315 PINE CRK 115.0   circuit 1
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Outage case 555               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40789 OKANOGAN 115.0 to   40801 OPHIR T  115.0   circuit 1
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Outage case 556               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48310 OPORTUNE 115.0 to   48312 OPORTUNW 115.0   circuit 1
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Outage case 557               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48310 OPORTUNE 115.0 to   48299 OPPORTUN 115.0   circuit 1
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Outage case 558               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48301 ORIN     115.0 to   48083 COLV AVA 115.0   circuit 1
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Outage case 559               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48303 OROFINO  115.0 to   40023 AHSAHKA  115.0   circuit 1
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Outage case 560               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47069 ORONDO   115.0 to   46821 ROCKY RH 115.0   circuit 1
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Outage case 561               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48305 OSBURN   115.0 to   48315 PINE CRK 115.0   circuit 1
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Outage case 562               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48311 OTIS     115.0 to   48117 EASTFARM 115.0   circuit 1
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Outage case 563               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48311 OTIS     115.0 to   47511 MOAB     115.0   circuit 1
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Outage case 564               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48031 BEACON S 230.0   circuit 1
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Outage case 565               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48357 RATHDRUM 230.0   circuit 1
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Outage case 566               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48357 RATHDRUM 230.0   circuit 2
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Outage case 567               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47071 PALISADS 115.0 to   46075 QUINCY T 115.0   circuit 1
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Outage case 568               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47209 PATEROS  115.0 to   47251 TWISP    115.0   circuit 1
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Outage case 569               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48315 PINE CRK 115.0 to   48473 YELOWSTN 115.0   circuit 1
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Outage case 570               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47086 PINE ST  115.0 to   47254 USK      115.0   circuit 1
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Outage case 571               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48319 PLEASANT 115.0 to   48355 RATHDRUM 115.0   circuit 1
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Outage case 572               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48323 PLUMMER  115.0 to   48297 OGARA    115.0   circuit 1
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Outage case 573               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40835 POMEROY  115.0 to   41131 WALAWALA 115.0   circuit 1
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Outage case 574               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        45245 POMONA   230.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 575               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48329 POST FLS 115.0 to   40855 PRAIRIEB 115.0   circuit 1
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Outage case 576               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48339 POSTSTRT 115.0 to   48431 THIRHACH 115.0   circuit 1
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Outage case 577               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40849 POTHOLES 115.0 to   46095 SEEP TP  115.0   circuit 1
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Outage case 578               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40855 PRAIRIEB 115.0 to   48349 RAMSEY   115.0   circuit 1
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Outage case 579               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40857 PRIEST   115.0 to   48347 PRIEST A 115.0   circuit 1
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Outage case 580               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48349 RAMSEY   115.0 to   48011 APPLETAP 115.0   circuit 1
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Outage case 581               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48349 RAMSEY   115.0 to   48155 HERN     115.0   circuit 1
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Outage case 582               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48351 RATHBUS1 115.0 to   48355 RATHDRUM 115.0   circuit 1
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Outage case 583               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48353 RATHBUS2 115.0 to   48356 RATHDRME 115.0   circuit 1
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Outage case 584               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48356 RATHDRME 115.0 to   48355 RATHDRUM 115.0   circuit 1
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Outage case 585               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48356 RATHDRME 115.0 to   40953 SCARCELO 115.0   circuit 1
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Outage case 586              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 1
Outage case 587              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 2
Outage case 588              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 3
Outage case 589              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 4
Outage case 590              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48363 REARDAN  115.0 to   40449 GAFFNEY  115.0   circuit 1
Outage case 591              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46817 ROCK IS2 115.0 to   41105 VALHALLA 115.0   circuit 1
Outage case 592              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48367 ROCKFORD 115.0 to   48231 MICA TAP 115.0   circuit 1
Outage case 593              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46821 ROCKY RH 115.0 to   46829 WENATCHE 115.0   circuit 1
Outage case 594              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46831 ROCKYRH1 230.0 to   46832 ROCKYRH2 230.0   circuit 1
Outage case 595              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46832 ROCKYRH2 230.0 to   46833 ROCKYRH3 230.0   circuit 1
Outage case 596              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48371 ROSSPARK 115.0 to   48431 THIRHACH 115.0   circuit 1
Outage case 597              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40927 SAMUELS  115.0 to   40965 SELLE    115.0   circuit 1
Outage case 598              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   40931 SAND TP  115.0   circuit 1
Outage case 599              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   48377 SANDPT A 115.0   circuit 1
Outage case 600              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   40965 SELLE    115.0   circuit 1
Outage case 601              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40931 SAND TP  115.0 to   40933 SANDPONT 115.0   circuit 1
Outage case 602              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        42448 SCENIC   115.0 to   46827 SUMMIT   115.0   circuit 1
Outage case 603              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40955 SCHRAG   115.0 to   46091 SCHRAG T 115.0   circuit 1
Outage case 604              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40957 SCHULTZ  500.0 to   40973 SICKLER  500.0   circuit 1
Outage case 605              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40957 SCHULTZ  500.0 to   41113 VANTAGE  500.0   circuit 1
Outage case 606              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48379 SCOTPAPR 115.0 to   48171 KAMIAH   115.0   circuit 1
Outage case 607              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48381 SEVENTAP 115.0 to   48127 FRANCEDR 115.0   circuit 1
Outage case 608              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48383 SHAWNEE  115.0 to   47501 ARMSTRNG 115.0   circuit 1
Outage case 609              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48395 SOUTHEAS 115.0 to   48421 SUNSET   115.0   circuit 1
Outage case 610              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48397 SPANGLE  115.0 to   48001 4LAKE TP 115.0   circuit 1
Outage case 611              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48403 SPIRITLT 115.0 to   48017 ATHOLTAP 115.0   circuit 1
Outage case 612              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48403 SPIRITLT 115.0 to   48401 SPIRITLK 115.0   circuit 1
Outage case 613              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48405 SPKINDPK 115.0 to   48021 BARKER   115.0   circuit 1
Outage case 614              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48405 SPKINDPK 115.0 to   48299 OPPORTUN 115.0   circuit 1
Outage case 615              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48409 SPKWASTE 115.0 to   48461 WEST     115.0   circuit 1
Outage case 616              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41039 STILLWTR 115.0 to   41087 TREGO    115.0   circuit 1
Outage case 617              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48417 STMARIES 115.0 to   48297 OGARA    115.0   circuit 1
Outage case 618              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48419 STRATFRD 115.0 to   46447 SUMERFAL 115.0   circuit 1
Outage case 619              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41260 SULLIVNB 115.0 to   41115 VERA     115.0   circuit 1
Outage case 620              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41260 SULLIVNB 115.0 to   41117 VERA TAP 115.0   circuit 1
Outage case 621              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48421 SUNSET   115.0 to   48131 GARDENSP 115.0   circuit 1
Outage case 622              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48421 SUNSET   115.0 to   48145 HANGMAN  115.0   circuit 1
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Outage case 623                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41089 TRENTWOD 115.0 to   41117 VERA TAP 115.0   circuit 1

Outage case 624                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41097 TROY     115.0 to   41169 YAAK     115.0   circuit 1

Outage case 625                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47251 TWISP    115.0 to   41157 WINTHR T 115.0   circuit 1

Outage case 626                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48441 VALLEY A 115.0 to   48123 FORD     115.0   circuit 1

Outage case 627                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41107 VALY WAY 115.0 to   41117 VERA TAP 115.0   circuit 1

Outage case 628                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48443 VANT AVA 230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 629                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48445 VIOLA    115.0 to   40149 BRINKENS 115.0   circuit 1

Outage case 630                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41125 WAGNERLK 115.0 to   48469 WILBURT  115.0   circuit 1

Outage case 631                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41127 WAGNERLT 115.0 to   48469 WILBURT  115.0   circuit 1

Outage case 632                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48449 WAIKIKIT 115.0 to   48277 NORTHEAS 115.0   circuit 1

Outage case 633                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48449 WAIKIKIT 115.0 to   48447 WAIKIKI  115.0   circuit 1

Outage case 634                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48453 WALLACE  115.0 to   48305 OSBURN   115.0   circuit 1

Outage case 635                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48463 WEST     230.0 to   41275 WESTBPA1 230.0   circuit 1

Outage case 636                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48463 WEST     230.0 to   41276 WESTBPA2 230.0   circuit 1

Outage case 637                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48471 WILSNCKT 115.0 to   40577 IRBY     115.0   circuit 1

Outage case 638                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41157 WINTHR T 115.0 to   41159 WINTHROP 115.0   circuit 1

Outage case 639                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48473 YELOWSTN 115.0 to   48239 MISSION  115.0   circuit 1

Outage case 640                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65000 5TH WEST 138.0 to   65865 JORDAN   138.0   circuit 1

Outage case 641                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65000 5TH WEST 138.0 to   66012 MORT CRT 138.0   circuit 1

Outage case 642                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65010 AEC IPC  138.0 to   65015 AEC SCOV 138.0   circuit 1

Outage case 643                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65015 AEC SCOV 138.0 to   65065 ANTLOP 1 138.0   circuit 1

Outage case 644                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65015 AEC SCOV 138.0 to   65070 ANTLOP 2 138.0   circuit 1

Outage case 645                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65020 AMAX     138.0 to   65790 HORSSHOE 138.0   circuit 1

Outage case 646                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65025 AMPS     230.0 to   65075 ANTLOPE  230.0   circuit 1

Outage case 647                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65030 ANACONDA 138.0 to   65345 CNTRATOR 138.0   circuit 1

Outage case 648                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65030 ANACONDA 138.0 to   66560 TOOELE   138.0   circuit 1

Outage case 649                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65040 ANGEL    138.0 to   65050 ANGEL ST 138.0   circuit 1

Outage case 650                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65045 ANGEL NT 138.0 to   66480 SYRACUSE 138.0   circuit 1

Outage case 651                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65050 ANGEL ST 138.0 to   65873 JCT STR  138.0   circuit 1

Outage case 652                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65050 ANGEL ST 138.0 to   66480 SYRACUSE 138.0   circuit 1

Outage case 653                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65055 ANSCHUTZ 138.0 to   66545 THIEF TP 138.0   circuit 1

Outage case 654                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65060 ANT MINE 230.0 to   66745 YELLOWCK 230.0   circuit 1

Outage case 655                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65075 ANTLOPE  230.0 to   65910 LOST RIV 230.0   circuit 1

Outage case 656                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65080 ANTLOPE  161.0 to   65670 GOSHEN   161.0   circuit 1

Outage case 657                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65085 ASHLEY   138.0 to   66590 UPALCO   138.0   circuit 1

Outage case 658                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65090 ATLANTIC 230.0 to   66315 ROCKSPGS 230.0   circuit 1

Outage case 659                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        65090 ATLANTIC 230.0 to   66740 WYOPO    230.0   circuit 1
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Outage case 660               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65095 BADWATER 230.0 to   66410 SPENCE   230.0   circuit 1
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Outage case 661               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65095 BADWATER 230.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 662               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65100 BAIROIL  115.0 to   65730 GREATDIV 115.0   circuit 1
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Outage case 663               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65100 BAIROIL  115.0 to   66685 WHISKEYP 115.0   circuit 1
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Outage case 664               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65105 BAR-X    230.0 to   66240 PLATTE   230.0   circuit 1
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Outage case 665               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65105 BAR-X    230.0 to   66250 PT ROCKS 230.0   circuit 1
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Outage case 666               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65110 BARNEY   138.0 to   65345 CNTRATOR 138.0   circuit 1
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Outage case 667               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65110 BARNEY   138.0 to   66135 OQUIRRH  138.0   circuit 1
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Outage case 668               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65125 BEKER IN 138.0 to   65360 CONDATAP 138.0   circuit 1
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Outage case 669               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   66134 OQUIRRH  345.0   circuit 1
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Outage case 670               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   66510 TERMINAL 345.0   circuit 1
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Outage case 671               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   65160 BIRCH CK 230.0   circuit 1
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Outage case 672               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   66050 NAUGHTON 230.0   circuit 1
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Outage case 673               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   66475 SYRACUSE 230.0   circuit 1
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Outage case 674               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65225 BRIGHAM  138.0   circuit 1
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Outage case 675               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65505 EL MONTE 138.0   circuit 1
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Outage case 676               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65505 EL MONTE 138.0   circuit 2
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Outage case 677               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65785 HONEYVIL 138.0   circuit 1
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Outage case 678               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66480 SYRACUSE 138.0   circuit 1
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Outage case 679               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66640 W OGDEN  138.0   circuit 1
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Outage case 680               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66650 WARREN   138.0   circuit 1
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Outage case 681               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66675 WESTZIRC 138.0   circuit 1
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Outage case 682               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66680 WHEELON  138.0   circuit 1
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Outage case 683               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65155 BIGGRASS 161.0 to   65860 JFRSNPHA 161.0   circuit 1
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Outage case 684               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65160 BIRCH CK 230.0 to   66050 NAUGHTON 230.0   circuit 1
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Outage case 685               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65160 BIRCH CK 230.0 to   66270 RAILROAD 230.0   circuit 1
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Outage case 686               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65165 BLACKSFK 230.0 to   66010 MONUMENT 230.0   circuit 1
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Outage case 687               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65165 BLACKSFK 230.0 to   66670 WESTVACO 230.0   circuit 1
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Outage case 688               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65175 BLUE RIM 230.0 to   65215 BRDGR PP 230.0   circuit 1
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Outage case 689               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65175 BLUE RIM 230.0 to   66325 S. TRONA 230.0   circuit 1
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Outage case 690               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65180 BANGERTR 138.0 to   65255 CAMP TAP 138.0   circuit 1
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Outage case 691               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65180 BANGERTR 138.0 to   66135 OQUIRRH  138.0   circuit 1
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Outage case 692               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65192 BONANZA  138.0 to   65457 DG UPLCO 138.0   circuit 1
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Outage case 693               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65192 BONANZA  138.0 to   66278 RANGELY  138.0   circuit 1
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Outage case 694               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65193 BONANZA  345.0 to   65995 MONA     345.0   circuit 1
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Outage case 695               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65195 BONNEVIL 161.0 to   65485 EAGLE RK 161.0   circuit 1
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Outage case 696                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65205 BOUNTIFL 138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 697                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65210 BPA RIGB 161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 698                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65215 BRDGR PP 230.0 to   65555 FIREHOLE 230.0   circuit 1

Outage case 699                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66020 MUSTANG  230.0   circuit 1

Outage case 700                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66250 PT ROCKS 230.0   circuit 1

Outage case 701                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66315 ROCKSPGS 230.0   circuit 1

Outage case 702                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65225 BRIGHAM  138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 703                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   65293 CARR DRA 230.0   circuit 1

Outage case 704                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   65875 KAYCEE   230.0   circuit 1

Outage case 705                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   66335 SHERIDAN 230.0   circuit 1

Outage case 706                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65240 BUTVILLE 138.0 to   65750 HAMMER   138.0   circuit 1

Outage case 707                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65240 BUTVILLE 138.0 to   66085 NINETY S 138.0   circuit 1

Outage case 708                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65255 CAMP TAP 138.0 to   66577 TRI CITY 138.0   circuit 1

Outage case 709                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65805 HUNTNGTN 345.0   circuit 1

Outage case 710                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65945 MIDVALLY 345.0   circuit 1

Outage case 711                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65995 MONA     345.0   circuit 1

Outage case 712                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65995 MONA     345.0   circuit 2

Outage case 713                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66080 NINETY S 345.0   circuit 1

Outage case 714                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66134 OQUIRRH  345.0   circuit 1

Outage case 715                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66400 SPAN FRK 345.0   circuit 1

Outage case 716                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 717                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66578 TRI CITY 345.0   circuit 1

Outage case 718                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65261 CAMP WIL 138.0 to   65906 LONEPEK2 138.0   circuit 1

Outage case 719                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   65755 HELPER   138.0   circuit 1

Outage case 720                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   65760 HELPER T 138.0   circuit 1

Outage case 721                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66183 PANTHER  138.0   circuit 1

Outage case 722                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66395 SPAN F&1 138.0   circuit 1

Outage case 723                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66405 SPAN FRK 138.0   circuit 2

Outage case 724                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   65360 CONDATAP 138.0   circuit 1

Outage case 725                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   66000 MONSANT1 138.0   circuit 1

Outage case 726                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   66385 SODA     138.0   circuit 1

Outage case 727                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65290 CARIBO 2 138.0 to   65695 GRACE    138.0   circuit 1

Outage case 728                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65290 CARIBO 2 138.0 to   66005 MONSANT2 138.0   circuit 2

Outage case 729                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65293 CARR DRA 230.0 to   66725 WYODAK   230.0   circuit 1

Outage case 730                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65295 CARTER   138.0 to   66365 SKULL TP 138.0   circuit 1

Outage case 731                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   65420 DAVEJOHN 230.0   circuit 1

Outage case 732                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   65955 MIDWEST  230.0   circuit 1
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Outage case 733                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   66305 RIVERTON 230.0   circuit 1

Outage case 734                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65310 CENTENAL 138.0 to   65455 DECKLAKE 138.0   circuit 1

Outage case 735                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65310 CENTENAL 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 736                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65320 CHAPPELC 230.0 to   66132 OPAL TAP 230.0   circuit 1

Outage case 737                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65340 CLINTON  138.0 to   66310 RIVRDALE 138.0   circuit 1

Outage case 738                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65340 CLINTON  138.0 to   66480 SYRACUSE 138.0   circuit 1

Outage case 739                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65345 CNTRATOR 138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 740                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65355 COLUMBIA 138.0 to   66015 MOUND SW 138.0   circuit 1

Outage case 741                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65355 COLUMBIA 138.0 to   66450 SUNNYSID 138.0   circuit 1

Outage case 742                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   65750 HAMMER   138.0   circuit 1

Outage case 743                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   65930 MCCELAND 138.0   circuit 1

Outage case 744                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   66386 SNYDERTP 138.0   circuit 1

Outage case 745                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 746                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65380 CRYSTALX 115.0 to   65480 E JACKSN 115.0   circuit 1

Outage case 747                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65380 CRYSTALX 115.0 to   66530 TETON    115.0   circuit 1

Outage case 748                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   65740 GROW     138.0   circuit 1

Outage case 749                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 750                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 751                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65395 CUTLER   138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 752                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65415 DAVEJO&1 230.0 to   65420 DAVEJOHN 230.0   circuit 1

Outage case 753                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65415 DAVEJO&1 230.0 to   66410 SPENCE   230.0   circuit 1

Outage case 754                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   65460 DIFICULT 230.0   circuit 1

Outage case 755                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   66745 YELLOWCK 230.0   circuit 1

Outage case 756                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65450 DECKER   230.0 to   65660 GOOSE CK 230.0   circuit 1

Outage case 757                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65450 DECKER   230.0 to   66735 WYOMONT  230.0   circuit 1

Outage case 758                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65454 DIMP DEL 138.0 to   65475 DUMAS    138.0   circuit 1

Outage case 759                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65454 DIMP DEL 138.0 to   66256 QUARRY   138.0   circuit 1

Outage case 760                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65455 DECKLAKE 138.0 to   66190 PARKWAY  138.0   circuit 1

Outage case 761                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65457 DG UPLCO 138.0 to   66590 UPALCO   138.0   circuit 1

Outage case 762                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65460 DIFICULT 230.0 to   65975 MINERS   230.0   circuit 1

Outage case 763                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   65675 GOSHEN   115.0   circuit 1

Outage case 764                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   65915 MACKS IN 115.0   circuit 1

Outage case 765                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   66495 TARGHEE  115.0   circuit 1

Outage case 766                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65475 DUMAS    138.0 to   66085 NINETY S 138.0   circuit 1

Outage case 767                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65475 DUMAS    138.0 to   66391 SOUTH MT 138.0   circuit 1

Outage case 768                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65480 E JACKSN 115.0 to   65845 JACKSONJ 115.0   circuit 1

Outage case 769                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        65485 EAGLE RK 161.0 to   65670 GOSHEN   161.0   circuit 1
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Outage case 770               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65485 EAGLE RK 161.0 to   66695 WIDFALLS 161.0   circuit 1
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Outage case 771               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   65805 HUNTNGTN 345.0   circuit 1
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Outage case 772               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66340 SIGURD   345.0   circuit 1
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Outage case 773               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66340 SIGURD   345.0   circuit 2
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Outage case 774               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66401 SPAN TAP 345.0   circuit 1
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Outage case 775               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65520 EMMAPARK 138.0 to   66183 PANTHER  138.0   circuit 1
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Outage case 776               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65520 EMMAPARK 138.0 to   66590 UPALCO   138.0   circuit 1
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Outage case 777               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65535 ETNA     115.0 to   66380 SNAKE RV 115.0   circuit 1
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Outage case 778               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65540 EVANSTON 138.0 to   66275 RAILROAD 138.0   circuit 1
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Outage case 779               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65540 EVANSTON 138.0 to   66545 THIEF TP 138.0   circuit 1
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Outage case 780               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65545 EXXON WY 230.0 to   66010 MONUMENT 230.0   circuit 1
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Outage case 781               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65555 FIREHOLE 230.0 to   65895 LITTLEMT 230.0   circuit 1
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Outage case 782               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65555 FIREHOLE 230.0 to   66315 ROCKSPGS 230.0   circuit 1
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Outage case 783               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65560 FISHCREK 161.0 to   65670 GOSHEN   161.0   circuit 1
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Outage case 784               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65560 FISHCREK 161.0 to   65690 GRACE    161.0   circuit 1
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Outage case 785               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65565 FLAMGORG 230.0 to   65895 LITTLEMT 230.0   circuit 1
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Outage case 786               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65570 FRANKLIN 138.0 to   65725 GRCYN TP 138.0   circuit 1
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Outage case 787               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65570 FRANKLIN 138.0 to   66570 TREASTON 138.0   circuit 1
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Outage case 788               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65575 FRANNIE  230.0 to   65620 GARLAND  230.0   circuit 1
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Outage case 789               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65575 FRANNIE  230.0 to   66750 YELOWTLP 230.0   circuit 1
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Outage case 790               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65580 FT CREEK 230.0 to   65975 MINERS   230.0   circuit 1
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Outage case 791               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   65611 GAD GAST 138.0   circuit 1
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Outage case 792               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   65865 JORDAN   138.0   circuit 1
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Outage case 793               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   66520 TERMINAL 138.0   circuit 2
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Outage case 794               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65620 GARLAND  230.0 to   66145 OREBASIN 230.0   circuit 1
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Outage case 795               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   65635 GEMSTATE 161.0   circuit 1
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Outage case 796               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   66392 SOUTEAST 161.0   circuit 1
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Outage case 797               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   66695 WIDFALLS 161.0   circuit 1
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Outage case 798               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65655 GLENCO J 138.0 to   66045 NAUGHTN2 138.0   circuit 1
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Outage case 799               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65655 GLENCO J 138.0 to   66425 STR 204  138.0   circuit 1
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Outage case 800               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65660 GOOSE CK 230.0 to   66335 SHERIDAN 230.0   circuit 1
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Outage case 801               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65660 GOOSE CK 230.0 to   66750 YELOWTLP 230.0   circuit 1
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Outage case 802               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   65840 IONA     161.0   circuit 1
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Outage case 803               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   65850 JEFFERSN 161.0   circuit 1
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Outage case 804               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66295 RIGBY    161.0   circuit 1
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Outage case 805               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66430 SUGARMIL 161.0   circuit 1
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Outage case 806              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66465 SWAN VAL 161.0   circuit 1

Outage case 807              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65675 GOSHEN   115.0 to   66185 PALISADE 115.0   circuit 1

Outage case 808              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66130 ONEIDA   138.0   circuit 1

Outage case 809              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66385 SODA     138.0   circuit 1

Outage case 810              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66570 TREASTON 138.0   circuit 1

Outage case 811              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66570 TREASTON 138.0   circuit 2

Outage case 812              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65720 GRASS CK 230.0 to   66145 OREBASIN 230.0   circuit 1

Outage case 813              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65720 GRASS CK 230.0 to   66535 THERMOPL 230.0   circuit 1

Outage case 814              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65725 GRCYN TP 138.0 to   65735 GREENCYN 138.0   circuit 1

Outage case 815              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65725 GRCYN TP 138.0 to   66375 SMITHFLD 138.0   circuit 1

Outage case 816              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65730 GREATDIV 115.0 to   66025 MUSTANG  115.0   circuit 1

Outage case 817              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65735 GREENCYN 138.0 to   65900 LOGAN    138.0   circuit 1

Outage case 818              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65735 GREENCYN 138.0 to   66370 SMFLD TP 138.0   circuit 1

Outage case 819              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65740 GROW     138.0 to   65873 JCT STR  138.0   circuit 1

Outage case 820              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65740 GROW     138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 821              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65760 HELPER T 138.0 to   66015 MOUND SW 138.0   circuit 1

Outage case 822              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65770 HIGHLD T 138.0 to   65905 LONEPEK1 138.0   circuit 1

Outage case 823              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65775 HOBACK   115.0 to   66265 RAFTER J 115.0   circuit 1

Outage case 824              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65775 HOBACK   115.0 to   66380 SNAKE RV 115.0   circuit 1

Outage case 825              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65780 HOGGARD  138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 826              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65780 HOGGARD  138.0 to   66642 W VAL    138.0   circuit 1

Outage case 827              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65785 HONEYVIL 138.0 to   65890 LAMPO    138.0   circuit 1

Outage case 828              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65785 HONEYVIL 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 829              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65790 HORSSHOE 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 830              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65805 HUNTNGTN 345.0 to   66225 PINTO    345.0   circuit 1

Outage case 831              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65805 HUNTNGTN 345.0 to   66400 SPAN FRK 345.0   circuit 1

Outage case 832              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65810 HUNTNGTN 138.0 to   65935 MCFADDEN 138.0   circuit 1

Outage case 833              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65840 IONA     161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 834              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65845 JACKSONJ 115.0 to   66265 RAFTER J 115.0   circuit 1

Outage case 835              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65845 JACKSONJ 115.0 to   66710 WILSON   115.0   circuit 1

Outage case 836              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65850 JEFFERSN 161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 837              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65865 JORDAN   138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 838              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65870 JOSPH TP 138.0 to   66110 NUCORS F 138.0   circuit 1

Outage case 839              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65870 JOSPH TP 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 840              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65873 JCT STR  138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 841              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65875 KAYCEE   230.0 to   65955 MIDWEST  230.0   circuit 1

Outage case 842              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65880 KIM CLRK 138.0 to   66650 WARREN   138.0   circuit 1
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Outage case 843                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65885 LAKEPARK 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 844                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65885 LAKEPARK 138.0 to   66642 W VAL    138.0   circuit 1

Outage case 845                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65905 LONEPEK1 138.0 to   65906 LONEPEK2 138.0   circuit 1

Outage case 846                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65905 LONEPEK1 138.0 to   66391 SOUTH MT 138.0   circuit 1

Outage case 847                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65915 MACKS IN 115.0 to   66665 WEST YEL 115.0   circuit 1

Outage case 848                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65920 MALAD    138.0 to   66105 NUCOR TP 138.0   circuit 1

Outage case 849                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65925 MART MAR 138.0 to   66070 NEBO     138.0   circuit 1

Outage case 850                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65930 MCCELAND 138.0 to   66012 MORT CRT 138.0   circuit 1

Outage case 851                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65930 MCCELAND 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 852                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65937 MEADOWBR 138.0 to   66500 TAYLORSV 138.0   circuit 1

Outage case 853                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65937 MEADOWBR 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 854                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65945 MIDVALLY 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 855                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65950 MIDWAY   138.0 to   66360 SILVR CR 138.0   circuit 1

Outage case 856                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65975 MINERS   230.0 to   66240 PLATTE   230.0   circuit 1

Outage case 857                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65995 MONA     345.0 to   66340 SIGURD   345.0   circuit 1

Outage case 858                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65995 MONA     345.0 to   66340 SIGURD   345.0   circuit 2

Outage case 859                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66010 MONUMENT 230.0 to   66050 NAUGHTON 230.0   circuit 1

Outage case 860                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66010 MONUMENT 230.0 to   66325 S. TRONA 230.0   circuit 1

Outage case 861                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66015 MOUND SW 138.0 to   66415 SPHINX T 138.0   circuit 1

Outage case 862                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66020 MUSTANG  230.0 to   66410 SPENCE   230.0   circuit 1

Outage case 863                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66035 NAT SM T 138.0 to   66085 NINETY S 138.0   circuit 1

Outage case 864                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66035 NAT SM T 138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 865                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66040 NAUGHTN1 138.0 to   66365 SKULL TP 138.0   circuit 1

Outage case 866                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66050 NAUGHTON 230.0 to   66132 OPAL TAP 230.0   circuit 1

Outage case 867                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66050 NAUGHTON 230.0 to   66565 TREASTON 230.0   circuit 1

Outage case 868                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66080 NINETY S 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 869                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66256 QUARRY   138.0   circuit 1

Outage case 870                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66285 RIDING R 138.0   circuit 1

Outage case 871                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66326 SANDYX   138.0   circuit 1

Outage case 872                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66660 WEST JOR 138.0   circuit 1

Outage case 873                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66105 NUCOR TP 138.0 to   66115 NUCORS O 138.0   circuit 1

Outage case 874                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66105 NUCOR TP 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 875                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66110 NUCORS F 138.0 to   66115 NUCORS O 138.0   circuit 1

Outage case 876                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66130 ONEIDA   138.0 to   66150 OVID     138.0   circuit 1

Outage case 877                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66130 ONEIDA   138.0 to   66570 TREASTON 138.0   circuit 1

Outage case 878                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66135 OQUIRRH  138.0 to   66455 SW RK 2  138.0   circuit 1

Outage case 879                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        66155 PAINTER  138.0 to   66275 RAILROAD 138.0   circuit 1
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Outage case 880               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66155 PAINTER  138.0 to   66425 STR 204  138.0   circuit 1
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Outage case 881               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66180 PALISADE 230.0 to   66266 RAVEN    230.0   circuit 1
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Outage case 882               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66180 PALISADE 230.0 to   66315 ROCKSPGS 230.0   circuit 1
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Outage case 883               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66183 PANTHER  138.0 to   66707 WILLOW C 138.0   circuit 1
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Outage case 884               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66185 PALISADE 115.0 to   66380 SNAKE RV 115.0   circuit 1
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Outage case 885               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66185 PALISADE 115.0 to   66470 SWAN VAL 115.0   circuit 1
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Outage case 886               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66190 PARKWAY  138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 887               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66205 PARRISH  138.0 to   66520 TERMINAL 138.0   circuit 1
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Outage case 888               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66205 PARRISH  138.0 to   66520 TERMINAL 138.0   circuit 2
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Outage case 889               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66215 PEPCON   138.0 to   66220 PEPCON I 138.0   circuit 1
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Outage case 890               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66215 PEPCON   138.0 to   66635 W CEDAR  138.0   circuit 1
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Outage case 891               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66222 PINE CYN 138.0 to   66560 TOOELE   138.0   circuit 1
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Outage case 892               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66222 PINE CYN 138.0 to   66585 U CARB T 138.0   circuit 1
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Outage case 893               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66245 PLATTE   115.0 to   66685 WHISKEYP 115.0   circuit 1
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Outage case 894               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66266 RAVEN    230.0 to   66670 WESTVACO 230.0   circuit 1
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Outage case 895               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66275 RAILROAD 138.0 to   66690 WHITNEY  138.0   circuit 1
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Outage case 896               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66285 RIDING R 138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 897               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66290 RIDGLD T 138.0 to   66520 TERMINAL 138.0   circuit 1
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Outage case 898               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66290 RIDGLD T 138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 899               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66295 RIGBY    161.0 to   66430 SUGARMIL 161.0   circuit 1
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Outage case 900               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66305 RIVERTON 230.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 901               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66305 RIVERTON 230.0 to   66740 WYOPO    230.0   circuit 1
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Outage case 902               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66310 RIVRDALE 138.0 to   66640 W OGDEN  138.0   circuit 1
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Outage case 903               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66320 RYCMN TP 138.0 to   66425 STR 204  138.0   circuit 1
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Outage case 904               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66325 S. TRONA 230.0 to   66715 WOLD     230.0   circuit 1
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Outage case 905               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66360 SILVR CR 138.0 to   66386 SNYDERTP 138.0   circuit 1
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Outage case 906               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66370 SMFLD TP 138.0 to   66375 SMITHFLD 138.0   circuit 1
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Outage case 907               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66370 SMFLD TP 138.0 to   66680 WHEELON  138.0   circuit 1
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Outage case 908               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66386 SNYDERTP 138.0 to   66387 SNYDERVL 138.0   circuit 1
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Outage case 909               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66392 SOUTEAST 161.0 to   66430 SUGARMIL 161.0   circuit 1
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Outage case 910               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66395 SPAN F&1 138.0 to   66405 SPAN FRK 138.0   circuit 1
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Outage case 911               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66401 SPAN TAP 345.0 to   66578 TRI CITY 345.0   circuit 1
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Outage case 912               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66470 SWAN VAL 115.0 to   66490 TARGHE T 115.0   circuit 1
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Outage case 913               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66475 SYRACUSE 230.0 to   66515 TERMINAL 230.0   circuit 1
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Outage case 914               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66480 SYRACUSE 138.0 to   66650 WARREN   138.0   circuit 1
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Outage case 915               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66490 TARGHE T 115.0 to   66495 TARGHEE  115.0   circuit 1
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Outage case 916              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66490 TARGHE T 115.0 to   66530 TETON    115.0   circuit 1
Outage case 917              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66500 TAYLORSV 138.0 to   66660 WEST JOR 138.0   circuit 1
Outage case 918              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66520 TERMINAL 138.0 to   66585 U CARB T 138.0   circuit 1
Outage case 919              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66520 TERMINAL 138.0 to   66595 UPP      138.0   circuit 1
Outage case 920              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66530 TETON    115.0 to   66710 WILSON   115.0   circuit 1
Outage case 921              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66540 THERPACE 115.0 to   66720 WORLAND  115.0   circuit 1
Outage case 922              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 1
Outage case 923              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 2
Outage case 924              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 3
Outage case 925              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70021 ROCKYTMP 115.0 to   70322 PLAINVW  115.0   circuit 1
Outage case 926              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70023 ALLISON  115.0 to   70242 KENDRICK 115.0   circuit 1
Outage case 927              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70037 ARAPAHOB 115.0   circuit 1
Outage case 928              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70384 SHERIDAN 115.0   circuit 1
Outage case 929              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70531 AIR LIQ  115.0   circuit 1
Outage case 930              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70037 ARAPAHOB 115.0 to   70165 ENGLE3TP 115.0   circuit 1
Outage case 931              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70038 ARAPAHOE 230.0 to   70527 SANTEFE  230.0   circuit 1
Outage case 932              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70040 ARSENAL  115.0 to   70217 HAVANA2  115.0   circuit 1
Outage case 933              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70046 BUCKLEY2 230.0 to   70491 TOLGATE  230.0   circuit 1
Outage case 934              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70047 BARRLAKE 230.0   circuit 1
Outage case 935              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70392 SKYRANCH 230.0   circuit 1
Outage case 936              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70393 SKYRANCT 230.0   circuit 1
Outage case 937              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70058 BO HYDRO 115.0 to   70295 NCAR     115.0   circuit 1
Outage case 938              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70058 BO HYDRO 115.0 to   70424 SUNSHTAP 115.0   circuit 1
Outage case 939              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70059 BO TERM  115.0 to   70424 SUNSHTAP 115.0   circuit 1
Outage case 940              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70059 BO TERM  115.0 to   70444 VALMONT  115.0   circuit 1
Outage case 941              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70065 BROMFLD1 115.0 to   70066 BROMFLD2 115.0   circuit 1
Outage case 942              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70067 BUCKLEY1 230.0 to   70512 JEWELL1  230.0   circuit 1
Outage case 943              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70071 CABINCRK 115.0 to   70197 GEORGETN 115.0   circuit 1
Outage case 944              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70073 CALIFOR1 115.0 to   70075 CALIFOR3 115.0   circuit 1
Outage case 945              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70073 CALIFOR1 115.0 to   70299 NORTH542 115.0   circuit 1
Outage case 946              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70074 CALIFOR2 115.0 to   70215 HARRISPS 115.0   circuit 1
Outage case 947              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70075 CALIFOR3 115.0 to   70074 CALIFOR2 115.0   circuit 1
Outage case 948              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70087 CAPHILL1 115.0 to   70088 CAPHILL2 115.0   circuit 1
Outage case 949              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70087 CAPHILL1 115.0 to   70300 NORTH547 115.0   circuit 1
Outage case 950              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70088 CAPHILL2 115.0 to   70148 DENVTM   115.0   circuit 1
Outage case 951              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70088 CAPHILL2 115.0 to   70215 HARRISPS 115.0   circuit 1
Outage case 952              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70091 CASTLRCK 115.0 to   70138 DANIELPK 115.0   circuit 1
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Outage case 953                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70047 BARRLAKE 230.0   circuit 1

Outage case 954                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70324 LACOMBE  230.0   circuit 1

Outage case 955                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70355 RIDGE    230.0   circuit 1

Outage case 956                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70362 RIVERDAL 230.0   circuit 1

Outage case 957                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70153 DERBY 1  115.0   circuit 1

Outage case 958                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70154 DERBY 2  115.0   circuit 1

Outage case 959                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70175 FEDERHT2 115.0   circuit 2

Outage case 960                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70307 P.VALLEY 115.0   circuit 1

Outage case 961                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70039 ARGO     115.0   circuit 1

Outage case 962                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70041 ARVADA   115.0   circuit 1

Outage case 963                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70108 CHEROKEN 115.0   circuit 1

Outage case 964                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70126 CONOCO   115.0   circuit 1

Outage case 965                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70174 FEDERHT1 115.0   circuit 1

Outage case 966                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70276 MAPLETO1 115.0   circuit 1

Outage case 967                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70277 MAPLETO2 115.0   circuit 1

Outage case 968                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70298 NORTH PS 115.0   circuit 1

Outage case 969                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70299 NORTH542 115.0   circuit 2

Outage case 970                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70112 CLARK    230.0 to   70241 JORDAN   230.0   circuit 1

Outage case 971                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70124 CONIFER  115.0 to   70429 TINYTOWN 115.0   circuit 1

Outage case 972                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70127 COORSREC 115.0 to   70194 FULTONTS 115.0   circuit 1

Outage case 973                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70137 DAKOTA   115.0 to   70036 ARAPAHOA 115.0   circuit 1

Outage case 974                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70212 GREENWD  230.0   circuit 1

Outage case 975                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70278 MARCY    230.0   circuit 1

Outage case 976                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70284 SURREYRG 230.0   circuit 1

Outage case 977                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70286 MIDWAYPS 230.0   circuit 1

Outage case 978                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70331 PRAIRIE  230.0   circuit 1

Outage case 979                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70142 DEERCREK 115.0 to   70463 WATERTON 115.0   circuit 1

Outage case 980                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70153 DERBY 1  115.0 to   70040 ARSENAL  115.0   circuit 1

Outage case 981                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70154 DERBY 2  115.0 to   70216 HAVANA1  115.0   circuit 1

Outage case 982                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70156 DILLON   230.0 to   70072 CABINCRK 230.0   circuit 1

Outage case 983                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70162 EAST     115.0 to   70430 TOLGATE1 115.0   circuit 1

Outage case 984                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70162 EAST     115.0 to   70431 TOLGATE2 115.0   circuit 1

Outage case 985                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70163 ELATI1   230.0 to   70149 DENVTM   230.0   circuit 1

Outage case 986                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70163 ELATI1   230.0 to   70170 ELATI2   230.0   circuit 1

Outage case 987                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70295 NCAR     115.0   circuit 1

Outage case 988                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70322 PLAINVW  115.0   circuit 1

Outage case 989                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        70164 ELDORADO 115.0 to   70365 ROCKYFLA 115.0   circuit 1
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Outage case 990               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70444 VALMONT  115.0   circuit 1
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Outage case 991               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70165 ENGLE3TP 115.0 to   70168 ENGLEWD3 115.0   circuit 1
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Outage case 992               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70165 ENGLE3TP 115.0 to   70263 LITTLET1 115.0   circuit 1
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Outage case 993               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70166 ENGLEWD1 115.0 to   70384 SHERIDAN 115.0   circuit 1
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Outage case 994               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70167 ENGLEWD2 115.0 to   70037 ARAPAHOB 115.0   circuit 1
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Outage case 995               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70169 ENNIS    115.0 to   70234 HUDSON   115.0   circuit 1
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Outage case 996               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70172 FED CNTR 115.0 to   70173 FEDCTRTP 115.0   circuit 1
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Outage case 997               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70173 FEDCTRTP 115.0 to   70148 DENVTM   115.0   circuit 1
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Outage case 998               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70175 FEDERHT2 115.0 to   70066 BROMFLD2 115.0   circuit 1
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Outage case 999               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70127 COORSREC 115.0   circuit 1
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Outage case 1000              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70234 HUDSON   115.0   circuit 1
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Outage case 1001              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70450 VASQUEZ  115.0   circuit 1
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Outage case 1002              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70048 GREENVAL 230.0   circuit 1
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Outage case 1003              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70311 PAWNEE   230.0   circuit 1
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Outage case 1004              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70362 RIVERDAL 230.0   circuit 1
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Outage case 1005              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70461 WASHINGT 230.0   circuit 1
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Outage case 1006              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70194 FULTONTS 115.0 to   70171 ERIETAP  115.0   circuit 1
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Outage case 1007              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70197 GEORGETN 115.0 to   70218 HENDERPS 115.0   circuit 1
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Outage case 1008              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70198 GILCREST 115.0 to   70450 VASQUEZ  115.0   circuit 1
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Outage case 1009              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70200 GLENN PS 230.0 to   70107 CHEROKEE 230.0   circuit 1
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Outage case 1010              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70200 GLENN PS 230.0 to   70461 WASHINGT 230.0   circuit 1
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Outage case 1011              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70198 GILCREST 115.0   circuit 1
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Outage case 1012              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70209 GREELEY  115.0   circuit 1
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Outage case 1013              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70240 JOHNSTN  115.0   circuit 1
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Outage case 1014              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70045 BANCROFT 115.0   circuit 1
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Outage case 1015              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70148 DENVTM   115.0   circuit 1
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Outage case 1016              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70402 SOUTH 2  115.0   circuit 1
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Outage case 1017              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70209 GREELEY  115.0 to   70290 MONFORT  115.0   circuit 1
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Outage case 1018              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70209 GREELEY  115.0 to   70470 WELD  PS 115.0   circuit 1
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Outage case 1019              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70112 CLARK    230.0   circuit 1
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Outage case 1020              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70331 PRAIRIE  230.0   circuit 1
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Outage case 1021              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70428 TECH CTR 230.0   circuit 1
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Outage case 1022              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70216 HAVANA1  115.0 to   70537 FITZSMNS 115.0   circuit 1
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Outage case 1023              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70217 HAVANA2  115.0 to   70162 EAST     115.0   circuit 1
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Outage case 1024              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70224 HOGBACK  115.0 to   70050 BERGENPK 115.0   circuit 1
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Outage case 1025              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70224 HOGBACK  115.0 to   70400 SODALAKE 115.0   circuit 1
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Outage case 1026              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70237 IDAHOSPG 230.0 to   70072 CABINCRK 230.0   circuit 1

Outage case 1027              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70239 JEWELL2  230.0 to   70260 LEETSDAL 230.0   circuit 1

Outage case 1028              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70241 JORDAN   230.0 to   70283 MEADOWHL 230.0   circuit 1

Outage case 1029              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70242 KENDRICK 115.0 to   70045 BANCROFT 115.0   circuit 1

Outage case 1030              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70244 LAFAYETT 115.0 to   70171 ERIETAP  115.0   circuit 1

Outage case 1031              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70251 LAKEWOD1 115.0 to   70208 GRAY ST  115.0   circuit 1

Outage case 1032              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70252 LAKEWOD2 115.0 to   70208 GRAY ST  115.0   circuit 1

Outage case 1033              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70259 LEETSDAL 115.0 to   70215 HARRISPS 115.0   circuit 1

Outage case 1034              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70259 LEETSDAL 115.0 to   70443 UNIVRSTP 115.0   circuit 1

Outage case 1035              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70260 LEETSDAL 230.0 to   70530 MONACO   230.0   circuit 1

Outage case 1036              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70261 LEGGETT  230.0 to   70297 NIWOT    230.0   circuit 1

Outage case 1037              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70262 LEYDEN   115.0 to   70322 PLAINVW  115.0   circuit 1

Outage case 1038              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70262 LEYDEN   115.0 to   70340 QUAKER1  115.0   circuit 1

Outage case 1039              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70263 LITTLET1 115.0 to   70264 LITTLET2 115.0   circuit 1

Outage case 1040              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70264 LITTLET2 115.0 to   70463 WATERTON 115.0   circuit 1

Outage case 1041              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70265 LOOKOUT  115.0 to   70224 HOGBACK  115.0   circuit 1

Outage case 1042              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70265 LOOKOUT  115.0 to   70342 QUAKERTP 115.0   circuit 1

Outage case 1043              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70072 CABINCRK 230.0   circuit 2

Outage case 1044              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70100 CHATFLD  230.0   circuit 1

Outage case 1045              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70237 IDAHOSPG 230.0   circuit 1

Outage case 1046              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70261 LEGGETT  230.0   circuit 1

Outage case 1047              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70355 RIDGE    230.0   circuit 1

Outage case 1048              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70480 WESTPS   230.0   circuit 1

Outage case 1049              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70570 INDIANA  230.0   circuit 1

Outage case 1050              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70269 LOUISVIL 115.0 to   70066 BROMFLD2 115.0   circuit 1

Outage case 1051              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70276 MAPLETO1 115.0 to   70300 NORTH547 115.0   circuit 1

Outage case 1052              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70279 MARTIN 1 115.0 to   70463 WATERTON 115.0   circuit 1

Outage case 1053              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70280 MARTIN 2 115.0 to   70463 WATERTON 115.0   circuit 1

Outage case 1054              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70284 SURREYRG 230.0 to   70551 MURPHY   230.0   circuit 1

Outage case 1055              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70291 MONROEPS 230.0 to   70170 ELATI2   230.0   circuit 1

Outage case 1056              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70291 MONROEPS 230.0 to   70260 LEETSDAL 230.0   circuit 1

Outage case 1057              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70297 NIWOT    230.0 to   70213 GUNBARRE 230.0   circuit 1

Outage case 1058              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70298 NORTH PS 115.0 to   70377 SANDOWN  115.0   circuit 1

Outage case 1059              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70307 P.VALLEY 115.0 to   70191 FTLUPTON 115.0   circuit 1

Outage case 1060              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70311 PAWNEE   230.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1061              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70311 PAWNEE   230.0 to   70343 QUINCY   230.0   circuit 1

Outage case 1062              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70323 PLATTEPS 115.0 to   70039 ARGO     115.0   circuit 1
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Outage case 1063              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70323 PLATTEPS 115.0 to   70148 DENVTM   115.0   circuit 1

Outage case 1064              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70324 LACOMBE  230.0 to   70149 DENVTM   230.0   circuit 1

Outage case 1065              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70328 PORTAL   115.0 to   70218 HENDERPS 115.0   circuit 1

Outage case 1066              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70340 QUAKER1  115.0 to   70341 QUAKER2  115.0   circuit 1

Outage case 1067              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70342 QUAKERTP 115.0 to   70173 FEDCTRTP 115.0   circuit 1

Outage case 1068              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70342 QUAKERTP 115.0 to   70341 QUAKER2  115.0   circuit 1

Outage case 1069              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70343 QUINCY   230.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1070              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70345 RALSTON1 115.0 to   70354 RIDGE    115.0   circuit 1

Outage case 1071              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70346 RALSTON2 115.0 to   70365 ROCKYFLA 115.0   circuit 1

Outage case 1072              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70251 LAKEWOD1 115.0   circuit 1

Outage case 1073              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70252 LAKEWOD2 115.0   circuit 1

Outage case 1074              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70262 LEYDEN   115.0   circuit 1

Outage case 1075              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70346 RALSTON2 115.0   circuit 1

Outage case 1076              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70369 RUSSELL  115.0   circuit 1

Outage case 1077              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70368 ROSEDALE 115.0 to   70439 UNC      115.0   circuit 1

Outage case 1078              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70368 ROSEDALE 115.0 to   70470 WELD  PS 115.0   circuit 1

Outage case 1079              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70369 RUSSELL  115.0 to   70041 ARVADA   115.0   circuit 1

Outage case 1080              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70377 SANDOWN  115.0 to   70277 MAPLETO2 115.0   circuit 1

Outage case 1081              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70382 SEMPER   115.0 to   70065 BROMFLD1 115.0   circuit 1

Outage case 1082              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70382 SEMPER   115.0 to   70174 FEDERHT1 115.0   circuit 1

Outage case 1083              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70392 SKYRANCH 230.0 to   70432 TOWER    230.0   circuit 1

Outage case 1084              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70393 SKYRANCT 230.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1085              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70416 STRASBRG 115.0   circuit 1

Outage case 1086              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70430 TOLGATE1 115.0   circuit 1

Outage case 1087              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70431 TOLGATE2 115.0   circuit 1

Outage case 1088              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70521 PEAKVIEW 115.0   circuit 1

Outage case 1089              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70396 SMOKYHIL 230.0 to   70046 BUCKLEY2 230.0   circuit 1

Outage case 1090              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70396 SMOKYHIL 230.0 to   70067 BUCKLEY1 230.0   circuit 1

Outage case 1091              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70396 SMOKYHIL 230.0 to   70283 MEADOWHL 230.0   circuit 1

Outage case 1092              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70398 SOUTH1TP 115.0 to   70037 ARAPAHOB 115.0   circuit 1

Outage case 1093              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70398 SOUTH1TP 115.0 to   70045 BANCROFT 115.0   circuit 1

Outage case 1094              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70023 ALLISON  115.0   circuit 1

Outage case 1095              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70142 DEERCREK 115.0   circuit 1

Outage case 1096              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70429 TINYTOWN 115.0   circuit 1

Outage case 1097              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70401 SOUTH 1  115.0 to   70398 SOUTH1TP 115.0   circuit 1

Outage case 1098              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70048 GREENVAL 230.0   circuit 1

Outage case 1099              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        70410 ST.VRAIN 230.0 to   70192 FTLUPTON 230.0   circuit 1
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Outage case 1100              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70192 FTLUPTON 230.0   circuit 2
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Outage case 1101              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70297 NIWOT    230.0   circuit 1
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Outage case 1102              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70474 WINDSOR  230.0   circuit 1
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Outage case 1103              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70424 SUNSHTAP 115.0 to   70423 SUNSHINE 115.0   circuit 1
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Outage case 1104              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70427 TARRYALL 230.0 to   70139 DANIELPK 230.0   circuit 1
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Outage case 1105              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70428 TECH CTR 230.0 to   70417 SULLIVN  230.0   circuit 1
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Outage case 1106              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70432 TOWER    230.0 to   70396 SMOKYHIL 230.0   circuit 1
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Outage case 1107              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70439 UNC      115.0 to   70290 MONFORT  115.0   circuit 1
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Outage case 1108              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70441 UNIVERS1 115.0 to   70442 UNIVERS2 115.0   circuit 1
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Outage case 1109              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70441 UNIVERS1 115.0 to   70443 UNIVRSTP 115.0   circuit 1
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Outage case 1110              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70442 UNIVERS2 115.0 to   70036 ARAPAHOA 115.0   circuit 1
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Outage case 1111              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70059 BO TERM  115.0   circuit 2
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Outage case 1112              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70065 BROMFLD1 115.0   circuit 1
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Outage case 1113              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70244 LAFAYETT 115.0   circuit 1
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Outage case 1114              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70269 LOUISVIL 115.0   circuit 1
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Outage case 1115              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70345 RALSTON1 115.0   circuit 1
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Outage case 1116              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70447 VALMONT  230.0 to   70410 ST.VRAIN 230.0   circuit 1
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Outage case 1117              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70447 VALMONT  230.0 to   70543 SIMMS    230.0   circuit 1
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Outage case 1118              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70463 WATERTON 115.0 to   70522 ROXBOROU 115.0   circuit 1
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Outage case 1119              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70464 WATERTON 230.0 to   70100 CHATFLD  230.0   circuit 1
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Outage case 1120              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70464 WATERTON 230.0 to   70278 MARCY    230.0   circuit 1
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Outage case 1121              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70470 WELD  PS 115.0 to   70240 JOHNSTN  115.0   circuit 1
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Outage case 1122              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70471 WELD  PS 230.0 to   70410 ST.VRAIN 230.0   circuit 1
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Outage case 1123              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70480 WESTPS   230.0 to   70149 DENVTM   230.0   circuit 1
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Outage case 1124              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70491 TOLGATE  230.0 to   70239 JEWELL2  230.0   circuit 1
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Outage case 1125              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70512 JEWELL1  230.0 to   70417 SULLIVN  230.0   circuit 1
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Outage case 1126              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70527 SANTEFE  230.0 to   70139 DANIELPK 230.0   circuit 1
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Outage case 1127              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70530 MONACO   230.0 to   70212 GREENWD  230.0   circuit 1
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Outage case 1128              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70531 AIR LIQ  115.0 to   70402 SOUTH 2  115.0   circuit 1
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Outage case 1129              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70537 FITZSMNS 115.0 to   70162 EAST     115.0   circuit 1
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Outage case 1130              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70543 SIMMS    230.0 to   70570 INDIANA  230.0   circuit 1
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Outage case 1131              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70551 MURPHY   230.0 to   70396 SMOKYHIL 230.0   circuit 1
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Outage case 1132              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73002 AIRPORT  115.0 to   73026 BOYD     115.0   circuit 1
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Outage case 1133              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73002 AIRPORT  115.0 to   73432 KODAKWTP 115.0   circuit 1
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Outage case 1134              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73003 AKRON    115.0 to   73020 BEAVERCK 115.0   circuit 1
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Outage case 1135              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73003 AKRON    115.0 to   73372 OTIS LM  115.0   circuit 1
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Outage case 1136              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73042 CASPERLM 115.0   circuit 1
Outage case 1137              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73042 CASPERLM 115.0   circuit 2
Outage case 1138              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73062 FREMONT  115.0   circuit 1
Outage case 1139              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73137 MIRACLEM 115.0   circuit 1
Outage case 1140              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73137 MIRACLEM 115.0   circuit 2
Outage case 1141              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73162 RADERVIL 115.0   circuit 1
Outage case 1142              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73175 SANDHILL 115.0   circuit 1
Outage case 1143              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73210 WAUNETA  115.0   circuit 1
Outage case 1144              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73304 CRETESWT 115.0   circuit 1
Outage case 1145              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73006 ANTON    115.0 to   73010 ARICKARE 115.0   circuit 1
Outage case 1146              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73006 ANTON    115.0 to   73125 LSCHANCE 115.0   circuit 1
Outage case 1147              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73007 ARAPASUB 115.0 to   73207 WAANIBE  115.0   circuit 1
Outage case 1148              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73043 CHEYENNE 115.0   circuit 1
Outage case 1149              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73140 MYERS TP 115.0   circuit 1
Outage case 1150              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73152 PINEBLUF 115.0   circuit 1
Outage case 1151              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73183 SKYLINE  115.0   circuit 1
Outage case 1152              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73480 CROWCRK  115.0   circuit 1
Outage case 1153              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   73011 AULT     230.0   circuit 1
Outage case 1154              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1155              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   79039 HAYDEN   230.0   circuit 1
Outage case 1156              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73010 ARICKARE 115.0 to   73094 JOES     115.0   circuit 1
Outage case 1157              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73165 RAWHIDE  230.0   circuit 1
Outage case 1158              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73199 TIMBERLN 230.0   circuit 1
Outage case 1159              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73212 WELD  LM 230.0   circuit 1
Outage case 1160              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73212 WELD  LM 230.0   circuit 2
Outage case 1161              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73012 AULT     345.0 to   73108 LAR.RIVR 345.0   circuit 1
Outage case 1162              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73012 AULT     345.0 to   79014 CRAIG    345.0   circuit 1
Outage case 1163              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73013 B.CK PS  115.0 to   73020 BEAVERCK 115.0   circuit 1
Outage case 1164              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73014 B.CK PS  230.0 to   73192 STORY    230.0   circuit 1
Outage case 1165              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73015 B.CK TRI 115.0 to   73020 BEAVERCK 115.0   circuit 1
Outage case 1166              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73016 B.CK TRI 230.0 to   73192 STORY    230.0   circuit 1
Outage case 1167              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73017 B.SANDY  115.0 to   73125 LSCHANCE 115.0   circuit 1
Outage case 1168              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73017 B.SANDY  115.0 to   73318 LIMON    115.0   circuit 1
Outage case 1169              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73018 B.SANDY  230.0 to   73036 BURLNGTN 230.0   circuit 1
Outage case 1170              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73018 B.SANDY  230.0 to   73531 LINCOLNT 230.0   circuit 1
Outage case 1171              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73019 BASIN    115.0 to   73075 GREYBULL 115.0   circuit 1
Outage case 1172              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73019 BASIN    115.0 to   73222 WORLANTP 115.0   circuit 1
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Outage case 1173              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73031 BRUSHTAP 115.0   circuit 1

Outage case 1174              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73065 GARY     115.0   circuit 1

Outage case 1175              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73136 MESSEX   115.0   circuit 1

Outage case 1176              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73464 ADENA    115.0   circuit 1

Outage case 1177              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73022 BGEORGE  115.0 to   73123 LOVELL   115.0   circuit 1

Outage case 1178              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73022 BGEORGE  115.0 to   73534 MEETSETP 115.0   circuit 1

Outage case 1179              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73023 BIJOUTAP 115.0 to   73097 KIOWA CK 115.0   circuit 1

Outage case 1180              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73023 BIJOUTAP 115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1181              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73024 BLKHLWTP 115.0 to   73044 COBBLKTP 115.0   circuit 1

Outage case 1182              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73024 BLKHLWTP 115.0 to   73145 NUNN     115.0   circuit 1

Outage case 1183              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73025 BONNY CK 115.0 to   73035 BURLNGTN 115.0   circuit 1

Outage case 1184              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73025 BONNY CK 115.0 to   73185 SO. FORK 115.0   circuit 1

Outage case 1185              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73050 DERBYHIL 115.0   circuit 1

Outage case 1186              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73114 LONETREE 115.0   circuit 1

Outage case 1187              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73118 LOVE E   115.0   circuit 1

Outage case 1188              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73027 BOYD     230.0 to   73078 HARMONY  230.0   circuit 1

Outage case 1189              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73027 BOYD     230.0 to   73116 LONGPEAK 230.0   circuit 1

Outage case 1190              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73045 COPPERMT 115.0   circuit 1

Outage case 1191              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73197 THERMOPL 115.0   circuit 1

Outage case 1192              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73479 HARRSBRG 115.0   circuit 1

Outage case 1193              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73029 BRIDGEPT 115.0 to   73131 MCGREW   115.0   circuit 1

Outage case 1194              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73029 BRIDGEPT 115.0 to   73236 GREENWOD 115.0   circuit 1

Outage case 1195              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73030 BRIGHTNW 115.0 to   73493 SANDCRK  115.0   circuit 1

Outage case 1196              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73030 BRIGHTNW 115.0 to   73503 ERIE TAP 115.0   circuit 1

Outage case 1197              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73031 BRUSHTAP 115.0 to   73305 EFMORGTP 115.0   circuit 1

Outage case 1198              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73034 BURL PSC 115.0 to   73209 WANIBETP 115.0   circuit 1

Outage case 1199              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73034 BURL PSC 115.0 to   73485 BURL KC  115.0   circuit 1

Outage case 1200              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73035 BURLNGTN 115.0 to   73485 BURL KC  115.0   circuit 1

Outage case 1201              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73037 BUSHNELL 115.0 to   73038 BUSHNLTP 115.0   circuit 1

Outage case 1202              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73038 BUSHNLTP 115.0 to   73096 KIMBALL  115.0   circuit 1

Outage case 1203              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73038 BUSHNLTP 115.0 to   73152 PINEBLUF 115.0   circuit 1

Outage case 1204              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73039 CARTERLK 115.0 to   73058 FLATIRON 115.0   circuit 1

Outage case 1205              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73039 CARTERLK 115.0 to   73124 LOVEWTAP 115.0   circuit 1

Outage case 1206              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73041 CARTERMT 115.0 to   73197 THERMOPL 115.0   circuit 1

Outage case 1207              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73041 CARTERMT 115.0 to   73534 MEETSETP 115.0   circuit 1

Outage case 1208              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73042 CASPERLM 115.0 to   73070 GLENRCKN 115.0   circuit 1

Outage case 1209              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73043 CHEYENNE 115.0 to   73077 HAPPYJCK 115.0   circuit 1
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Outage case 1210              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73109 LARAMIE  115.0   circuit 1
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Outage case 1211              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73480 CROWCRK  115.0   circuit 1
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Outage case 1212              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73504 PONNEQUI 115.0   circuit 1
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Outage case 1213              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73044 COBBLKTP 115.0 to   73201 TIMNTHTP 115.0   circuit 1
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Outage case 1214              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73045 COPPERMT 115.0 to   73162 RADERVIL 115.0   circuit 1
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Outage case 1215              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73046 DALTON   115.0 to   73179 SIDNEY   115.0   circuit 1
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Outage case 1216              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73046 DALTON   115.0 to   73236 GREENWOD 115.0   circuit 1
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Outage case 1217              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73053 ECKLEY   115.0   circuit 1
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Outage case 1218              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73142 N.YUMA   115.0   circuit 1
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Outage case 1219              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73230 YUMA     115.0   circuit 1
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Outage case 1220              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73372 OTIS LM  115.0   circuit 1
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Outage case 1221              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73049 DELCAMIN 115.0   circuit 1
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Outage case 1222              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73115 LONGPEAK 115.0   circuit 1
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Outage case 1223              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73133 MEADOW   115.0   circuit 1
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Outage case 1224              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73049 DELCAMIN 115.0 to   73501 RINNVALL 115.0   circuit 1
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Outage case 1225              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73050 DERBYHIL 115.0 to   73373 VALLEYLM 115.0   circuit 1
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Outage case 1226              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73052 DRAKE RD 115.0   circuit 1
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Outage case 1227              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73089 HRSTHTAP 115.0   circuit 1
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Outage case 1228              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73149 OVERLAND 115.0   circuit 1
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Outage case 1229              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73052 DRAKE RD 115.0 to   73198 TIMBERLN 115.0   circuit 1
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Outage case 1230              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73225 WRAY TAP 115.0   circuit 1
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Outage case 1231              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73326 ROBB     115.0   circuit 1
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Outage case 1232              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73371 BETHELLM 115.0   circuit 1
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Outage case 1233              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73127 LYONS    115.0   circuit 1
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Outage case 1234              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73155 POLEHILL 115.0   circuit 1
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Outage case 1235              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73232 MARYLKSB 115.0   circuit 1
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Outage case 1236              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73233 MARYLKTP 115.0   circuit 1
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Outage case 1237              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73058 FLATIRON 115.0 to   73089 HRSTHTAP 115.0   circuit 1
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Outage case 1238              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73058 FLATIRON 115.0 to   73155 POLEHILL 115.0   circuit 1
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Outage case 1239              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73059 FLEMING  115.0 to   73080 HAXTUN   115.0   circuit 1
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Outage case 1240              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73059 FLEMING  115.0 to   73478 GALIEN   115.0   circuit 1
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Outage case 1241              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73113 LNGMNTNW 115.0   circuit 1
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Outage case 1242              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73196 TERRY    115.0   circuit 1
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Outage case 1243              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73437 ROGERSRD 115.0   circuit 1
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Outage case 1244              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73061 FRASER   138.0 to   73220 WINDYGAP 138.0   circuit 1
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Outage case 1245              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73063 FRENCHCK 115.0 to   73080 HAXTUN   115.0   circuit 1
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Outage case 1246              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73063 FRENCHCK 115.0 to   73210 WAUNETA  115.0   circuit 1
Outage case 1247              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73065 GARY     115.0 to   73221 WOODROW  115.0   circuit 1
Outage case 1248              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73077 HAPPYJCK 115.0   circuit 1
Outage case 1249              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73146 OASISTAP 115.0   circuit 1
Outage case 1250              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73187 SPRINGCK 115.0   circuit 1
Outage case 1251              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73131 MCGREW   115.0   circuit 1
Outage case 1252              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73189 STEGALL  115.0   circuit 1
Outage case 1253              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73365 EMIGRANT 115.0   circuit 1
Outage case 1254              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73070 GLENRCKN 115.0   circuit 1
Outage case 1255              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73076 GUERNTAP 115.0   circuit 1
Outage case 1256              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73153 PODOLAK  115.0   circuit 1
Outage case 1257              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73255 LINGLETP 115.0   circuit 1
Outage case 1258              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73366 WAGNHNDS 115.0   circuit 1
Outage case 1259              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73071 GLENRCKS 115.0 to   73167 REFNRYTP 115.0   circuit 1
Outage case 1260              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73071 GLENRCKS 115.0 to   73366 WAGNHNDS 115.0   circuit 1
Outage case 1261              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   73102 KREMLING 138.0   circuit 1
Outage case 1262              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   73220 WINDYGAP 138.0   circuit 1
Outage case 1263              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   79038 HAYDEN   138.0   circuit 1
Outage case 1264              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73075 GREYBULL 115.0 to   73123 LOVELL   115.0   circuit 1
Outage case 1265              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73075 GREYBULL 115.0 to   73340 NAHNEJEN 115.0   circuit 1
Outage case 1266              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73189 STEGALL  115.0   circuit 1
Outage case 1267              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73359 LIMESTON 115.0   circuit 1
Outage case 1268              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73368 GUERNRRL 115.0   circuit 1
Outage case 1269              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73077 HAPPYJCK 115.0 to   73348 CORLETT  115.0   circuit 1
Outage case 1270              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73078 HARMONY  230.0 to   73199 TIMBERLN 230.0   circuit 1
Outage case 1271              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73079 HARVARD  115.0 to   73113 LNGMNTNW 115.0   circuit 1
Outage case 1272              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73081 HDOME    115.0 to   73234 JIMRDYTP 115.0   circuit 1
Outage case 1273              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73083 HELL CK  115.0 to   73084 HELL TAP 115.0   circuit 1
Outage case 1274              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73083 HELL CK  115.0 to   73174 SAGEBRSH 115.0   circuit 1
Outage case 1275              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73084 HELL TAP 115.0 to   73110 LIBERTY  115.0   circuit 1
Outage case 1276              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73084 HELL TAP 115.0 to   73185 SO. FORK 115.0   circuit 1
Outage case 1277              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73086 HORSESHO 115.0 to   73120 LOVE W   115.0   circuit 1
Outage case 1278              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73086 HORSESHO 115.0 to   73499 BOYDLAKE 115.0   circuit 1
Outage case 1279              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73087 WESTHILL 230.0 to   73148 OSAGE    230.0   circuit 1
Outage case 1280              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73087 WESTHILL 230.0 to   73164 LANGE    230.0   circuit 1
Outage case 1281              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73103 L.MEADOW 115.0   circuit 1
Outage case 1282              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73464 ADENA    115.0   circuit 1
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Outage case 1283              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73493 SANDCRK  115.0   circuit 1

Outage case 1284              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73089 HRSTHTAP 115.0 to   73203 TRILBY   115.0   circuit 1

Outage case 1285              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73089 HRSTHTAP 115.0 to   73235 MASONVIL 115.0   circuit 1

Outage case 1286              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73090 HYGIENE  115.0 to   73113 LNGMNTNW 115.0   circuit 1

Outage case 1287              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73090 HYGIENE  115.0 to   73127 LYONS    115.0   circuit 1

Outage case 1288              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73091 IDALIA   115.0 to   73185 SO. FORK 115.0   circuit 1

Outage case 1289              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73091 IDALIA   115.0 to   73206 VERNONTP 115.0   circuit 1

Outage case 1290              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73092 JACINTO  115.0 to   73096 KIMBALL  115.0   circuit 1

Outage case 1291              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73092 JACINTO  115.0 to   73179 SIDNEY   115.0   circuit 1

Outage case 1292              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73093 JIMREADY 115.0 to   73234 JIMRDYTP 115.0   circuit 1

Outage case 1293              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73095 KERSEYTP 115.0 to   73158 PROSPEC  115.0   circuit 1

Outage case 1294              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73095 KERSEYTP 115.0 to   73211 WELD  LM 115.0   circuit 1

Outage case 1295              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73096 KIMBALL  115.0 to   73355 KIMBALLC 115.0   circuit 1

Outage case 1296              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73147 ORCHARD  115.0   circuit 1

Outage case 1297              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73158 PROSPEC  115.0   circuit 1

Outage case 1298              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73213 WIGGINS  115.0   circuit 1

Outage case 1299              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73098 KODAK    115.0 to   73369 KODAKETP 115.0   circuit 1

Outage case 1300              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73098 KODAK    115.0 to   73432 KODAKWTP 115.0   circuit 1

Outage case 1301              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73099 KORTES   115.0 to   73100 KORTESTP 115.0   circuit 1

Outage case 1302              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73099 KORTES   115.0 to   73137 MIRACLEM 115.0   circuit 1

Outage case 1303              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73100 KORTESTP 115.0 to   73137 MIRACLEM 115.0   circuit 1

Outage case 1304              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73100 KORTESTP 115.0 to   73176 SEMINOE  115.0   circuit 1

Outage case 1305              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73102 KREMLING 138.0 to   73204 TROUBLE  138.0   circuit 1

Outage case 1306              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73103 L.MEADOW 115.0 to   73213 WIGGINS  115.0   circuit 1

Outage case 1307              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73104 LAGRANGE 115.0 to   73173 ROUNDTOP 115.0   circuit 1

Outage case 1308              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73104 LAGRANGE 115.0 to   73189 STEGALL  115.0   circuit 1

Outage case 1309              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73105 LAPORTE  115.0 to   73298 BELLVUTP 115.0   circuit 1

Outage case 1310              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73105 LAPORTE  115.0 to   73506 LAPORTAP 115.0   circuit 1

Outage case 1311              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73106 LAPORTE  230.0 to   73165 RAWHIDE  230.0   circuit 1

Outage case 1312              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73107 LAR.RIVR 230.0 to   73190 STEGALL  230.0   circuit 1

Outage case 1313              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73108 LAR.RIVR 345.0 to   73193 STORY    345.0   circuit 1

Outage case 1314              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73109 LARAMIE  115.0 to   73362 MEDBOWTP 115.0   circuit 1

Outage case 1315              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73111 LINDEN   115.0 to   73156 POUDRE   115.0   circuit 1

Outage case 1316              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73111 LINDEN   115.0 to   73198 TIMBERLN 115.0   circuit 1

Outage case 1317              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73112 LINGLE   115.0 to   73255 LINGLETP 115.0   circuit 1

Outage case 1318              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73113 LNGMNTNW 115.0 to   73133 MEADOW   115.0   circuit 1

Outage case 1319              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73115 LONGPEAK 115.0 to   73196 TERRY    115.0   circuit 1
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Outage case 1320              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73117 LOST CK  115.0 to   73370 LOSTCKTP 115.0   circuit 1
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Outage case 1321              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73118 LOVE E   115.0 to   73499 BOYDLAKE 115.0   circuit 1
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Outage case 1322              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73120 LOVE W   115.0 to   73124 LOVEWTAP 115.0   circuit 1
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Outage case 1323              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73123 LOVELL   115.0 to   73228 YELLOWBR 115.0   circuit 1
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Outage case 1324              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73123 LOVELL   115.0 to   73228 YELLOWBR 115.0   circuit 2
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Outage case 1325              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73124 LOVEWTAP 115.0 to   73373 VALLEYLM 115.0   circuit 1
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Outage case 1326              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73125 LSCHANCE 115.0 to   73194 SWOODROW 115.0   circuit 1
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Outage case 1327              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73126 LYMAN    115.0 to   73202 TORRNGTN 115.0   circuit 1
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Outage case 1328              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73126 LYMAN    115.0 to   73256 LYMANTP  115.0   circuit 1
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Outage case 1329              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73127 LYONS    115.0 to   73171 ROCKMTCM 115.0   circuit 1
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Outage case 1330              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73128 MAY      115.0 to   73146 OASISTAP 115.0   circuit 1
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Outage case 1331              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73134 MED BOW  115.0 to   73362 MEDBOWTP 115.0   circuit 1
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Outage case 1332              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73136 MESSEX   115.0 to   73191 STERLING 115.0   circuit 1
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Outage case 1333              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73146 OASISTAP 115.0   circuit 1
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Outage case 1334              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73177 SEMINOTP 115.0   circuit 1
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Outage case 1335              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73362 MEDBOWTP 115.0   circuit 1
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Outage case 1336              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73139 MYERS    115.0 to   73140 MYERS TP 115.0   circuit 1
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Outage case 1337              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73140 MYERS TP 115.0 to   73154 POLE CK  115.0   circuit 1
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Outage case 1338              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73142 N.YUMA   115.0 to   73166 REDWILLW 115.0   circuit 1
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Outage case 1339              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73180 SIDNEY   230.0   circuit 1
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Outage case 1340              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73192 STORY    230.0   circuit 1
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Outage case 1341              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73224 WRAY     230.0   circuit 1
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Outage case 1342              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73144 NCWCD    138.0 to   73220 WINDYGAP 138.0   circuit 1
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Outage case 1343              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73145 NUNN     115.0 to   73172 ROCKPRTP 115.0   circuit 1
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Outage case 1344              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73148 OSAGE    230.0 to   73283 YELOWCRK 230.0   circuit 1
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Outage case 1345              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73149 OVERLAND 115.0 to   73506 LAPORTAP 115.0   circuit 1
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Outage case 1346              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73150 PEETZ    115.0 to   73179 SIDNEY   115.0   circuit 1
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Outage case 1347              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73150 PEETZ    115.0 to   73191 STERLING 115.0   circuit 1
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Outage case 1348              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73151 PILOT BU 115.0 to   73217 WINDRIVT 115.0   circuit 1
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Outage case 1349              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73151 PILOT BU 115.0 to   73479 HARRSBRG 115.0   circuit 1
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Outage case 1350              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73154 POLE CK  115.0 to   73161 QUALLS   115.0   circuit 1
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Outage case 1351              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73154 POLE CK  115.0 to   73173 ROUNDTOP 115.0   circuit 1
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Outage case 1352              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73156 POUDRE   115.0 to   73169 RICHARDS 115.0   circuit 1
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Outage case 1353              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73156 POUDRE   115.0 to   73506 LAPORTAP 115.0   circuit 1
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Outage case 1354              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73158 PROSPEC  115.0 to   73370 LOSTCKTP 115.0   circuit 1
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Outage case 1355              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73159 PROSPVAL 115.0 to   73493 SANDCRK  115.0   circuit 1
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Outage case 1356              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73162 RADERVIL 115.0 to   73336 ERVAYBAS 115.0   circuit 1

Outage case 1357              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73164 LANGE    230.0 to   73186 LOOKOUT  230.0   circuit 1

Outage case 1358              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73165 RAWHIDE  230.0 to   73199 TIMBERLN 230.0   circuit 1

Outage case 1359              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73165 RAWHIDE  230.0 to   73199 TIMBERLN 230.0   circuit 2

Outage case 1360              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73166 REDWILLW 115.0 to   73208 WAGES    115.0   circuit 1

Outage case 1361              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73168 RENO     230.0 to   73276 TEKLA    230.0   circuit 1

Outage case 1362              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73169 RICHARDS 115.0 to   73201 TIMNTHTP 115.0   circuit 1

Outage case 1363              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73170 RIVERTON 115.0 to   73217 WINDRIVT 115.0   circuit 1

Outage case 1364              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73172 ROCKPRTP 115.0 to   73504 PONNEQUI 115.0   circuit 1

Outage case 1365              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73173 ROUNDTOP 115.0 to   73178 SENTINEL 115.0   circuit 1

Outage case 1366              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73175 SANDHILL 115.0 to   73223 WRAY     115.0   circuit 1

Outage case 1367              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73176 SEMINOE  115.0 to   73177 SEMINOTP 115.0   circuit 1

Outage case 1368              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73177 SEMINOTP 115.0 to   73182 SINCLAIR 115.0   circuit 1

Outage case 1369              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73180 SIDNEY   230.0 to   73190 STEGALL  230.0   circuit 1

Outage case 1370              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73182 SINCLAIR 115.0 to   73205 TROWBRDG 115.0   circuit 1

Outage case 1371              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73183 SKYLINE  115.0 to   73375 WARRENLM 115.0   circuit 1

Outage case 1372              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73184 SMOKYHLW 115.0 to   73209 WANIBETP 115.0   circuit 1

Outage case 1373              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73186 LOOKOUT  230.0 to   73283 YELOWCRK 230.0   circuit 1

Outage case 1374              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73186 LOOKOUT  230.0 to   73294 HUGHES   230.0   circuit 1

Outage case 1375              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73187 SPRINGCK 115.0 to   73367 FTSANDER 115.0   circuit 1

Outage case 1376              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73188 STEGALDC 230.0 to   73190 STEGALL  230.0   circuit 1

Outage case 1377              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73189 STEGALL  115.0 to   73256 LYMANTP  115.0   circuit 1

Outage case 1378              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73189 STEGALL  115.0 to   73365 EMIGRANT 115.0   circuit 1

Outage case 1379              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73190 STEGALL  230.0 to   73087 WESTHILL 230.0   circuit 1

Outage case 1380              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73191 STERLING 115.0 to   73478 GALIEN   115.0   circuit 1

Outage case 1381              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73194 SWOODROW 115.0 to   73221 WOODROW  115.0   circuit 1

Outage case 1382              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73195 TCAPS    115.0 to   73197 THERMOPL 115.0   circuit 1

Outage case 1383              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73195 TCAPS    115.0 to   73234 JIMRDYTP 115.0   circuit 1

Outage case 1384              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73196 TERRY    115.0 to   73437 ROGERSRD 115.0   circuit 1

Outage case 1385              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73196 TERRY    115.0 to   73503 ERIE TAP 115.0   circuit 1

Outage case 1386              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73197 THERMOPL 115.0 to   73222 WORLANTP 115.0   circuit 1

Outage case 1387              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73200 TIMNATH  115.0 to   73201 TIMNTHTP 115.0   circuit 1

Outage case 1388              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73204 TROUBLE  138.0 to   73220 WINDYGAP 138.0   circuit 1

Outage case 1389              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73206 VERNONTP 115.0 to   73223 WRAY     115.0   circuit 1

Outage case 1390              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73207 WAANIBE  115.0 to   73209 WANIBETP 115.0   circuit 1

Outage case 1391              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73208 WAGES    115.0 to   73210 WAUNETA  115.0   circuit 1

Outage case 1392              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73211 WELD  LM 115.0 to   73369 KODAKETP 115.0   circuit 1
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Outage case 1393              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73214 WILDCAT  115.0 to   73365 EMIGRANT 115.0   circuit 1

Outage case 1394              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73216 WINDRIVR 115.0 to   73217 WINDRIVT 115.0   circuit 1

Outage case 1395              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73218 WINDSOR  115.0 to   73369 KODAKETP 115.0   circuit 1

Outage case 1396              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73223 WRAY     115.0 to   73225 WRAY TAP 115.0   circuit 1

Outage case 1397              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73225 WRAY TAP 115.0 to   73331 WRAYWAPA 115.0   circuit 1

Outage case 1398              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73231 MARYLKPP 115.0 to   73233 MARYLKTP 115.0   circuit 1

Outage case 1399              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73232 MARYLKSB 115.0 to   73233 MARYLKTP 115.0   circuit 1

Outage case 1400              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73255 LINGLETP 115.0 to   73256 LYMANTP  115.0   circuit 1

Outage case 1401              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73297 BELLEVUE 115.0 to   73298 BELLVUTP 115.0   circuit 1

Outage case 1402              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73298 BELLVUTP 115.0 to   73325 RIPPLE   115.0   circuit 1

Outage case 1403              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73310 FME      115.0   circuit 1

Outage case 1404              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73378 FMN      115.0   circuit 1

Outage case 1405              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1406              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73311 FMS      115.0 to   73377 EXCEL    115.0   circuit 1

Outage case 1407              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73311 FMS      115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1408              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73335 DUTONBAS 115.0 to   73336 ERVAYBAS 115.0   circuit 1

Outage case 1409              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73348 CORLETT  115.0 to   73375 WARRENLM 115.0   circuit 1

Outage case 1410              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73354 JACKLOPE 115.0 to   73364 WARMSPGS 115.0   circuit 1

Outage case 1411              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73361 MEDBOWHS 115.0 to   73362 MEDBOWTP 115.0   circuit 1

Outage case 1412              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73364 WARMSPGS 115.0 to   73366 WAGNHNDS 115.0   circuit 1

Outage case 1413              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73371 BETHELLM 115.0 to   73374 VERNONLM 115.0   circuit 1

Outage case 1414              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73380 ARIES    230.0 to   73419 RD NIXON 230.0   circuit 1

Outage case 1415              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73380 ARIES    230.0 to   73421 STETSON  230.0   circuit 1

Outage case 1416              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73384 BIRDSALE 115.0 to   73387 BIRDSALW 115.0   circuit 1

Outage case 1417              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73384 BIRDSALE 115.0 to   73422 TEMPLTON 115.0   circuit 1

Outage case 1418              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73387 BIRDSALW 115.0 to   73411 MESA12KV 115.0   circuit 1

Outage case 1419              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73387 BIRDSALW 115.0 to   73425 WOODMEN  115.0   circuit 1

Outage case 1420              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73388 BRADLEY  115.0 to   73404 FOUNTAIN 115.0   circuit 1

Outage case 1421              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73388 BRADLEY  115.0 to   73409 KELKER W 115.0   circuit 1

Outage case 1422              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73389 BRIARGAT 115.0 to   73391 CTTNWD N 115.0   circuit 1

Outage case 1423              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73389 BRIARGAT 115.0 to   73410 KETTLECK 115.0   circuit 1

Outage case 1424              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73390 CSOC     115.0 to   73405 GEESEN   115.0   circuit 1

Outage case 1425              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73391 CTTNWD N 115.0 to   73410 KETTLECK 115.0   circuit 1

Outage case 1426              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73392 CTTNWD N 230.0 to   73394 CTTNWD S 230.0   circuit 1

Outage case 1427              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73392 CTTNWD N 230.0 to   73477 FULLER   230.0   circuit 1

Outage case 1428              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73406 IND PARK 115.0   circuit 1

Outage case 1429              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73393 CTTNWD S 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1430              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73425 WOODMEN  115.0   circuit 1
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Outage case 1431              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73490 RAMPART  115.0   circuit 1
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Outage case 1432              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73394 CTTNWD S 230.0 to   73421 STETSON  230.0   circuit 1
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Outage case 1433              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73398 DRAKE S  115.0   circuit 1
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Outage case 1434              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73430 FAIRVWCS 115.0   circuit 1
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Outage case 1435              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73494 ATMELDTP 115.0   circuit 1
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Outage case 1436              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73398 DRAKE S  115.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1437              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73398 DRAKE S  115.0 to   73490 RAMPART  115.0   circuit 1
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Outage case 1438              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73400 EMIL AND 115.0 to   73414 MONUMENT 115.0   circuit 1
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Outage case 1439              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73402 FALCONMV 115.0 to   73405 GEESEN   115.0   circuit 1
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Outage case 1440              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73402 FALCONMV 115.0 to   73481 FULLER   115.0   circuit 1
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Outage case 1441              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73404 FOUNTAIN 115.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1442              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73405 GEESEN   115.0 to   73416 RANCHO   115.0   circuit 1
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Outage case 1443              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73407 KELKER   230.0 to   73419 RD NIXON 230.0   circuit 1
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Outage case 1444              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1445              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1446              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73495 ATMELKTP 115.0   circuit 1
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Outage case 1447              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73409 KELKER W 115.0 to   73420 ROCKISLD 115.0   circuit 1
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Outage case 1448              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73410 KETTLECK 115.0 to   73414 MONUMENT 115.0   circuit 1
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Outage case 1449              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73411 MESA12KV 115.0 to   73430 FAIRVWCS 115.0   circuit 1
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Outage case 1450              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   73416 RANCHO   115.0   circuit 1
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Outage case 1451              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1452              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73413 MIDWAYBR 230.0 to   73419 RD NIXON 230.0   circuit 1
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Outage case 1453              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73419 RD NIXON 230.0 to   73477 FULLER   230.0   circuit 1
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Outage case 1454              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73420 ROCKISLD 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1455              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73432 KODAKWTP 115.0 to   73433 WINDSOR1 115.0   circuit 1
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Outage case 1456              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73494 ATMELDTP 115.0 to   73496 ATMELSUB 115.0   circuit 1
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Outage case 1457              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73495 ATMELKTP 115.0 to   73496 ATMELSUB 115.0   circuit 1
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Outage case 1458              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73501 RINNVALL 115.0 to   73502 DACONO   115.0   circuit 1
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Outage case 1459              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73502 DACONO   115.0 to   73503 ERIE TAP 115.0   circuit 1
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Outage case 1460              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73531 LINCOLNT 230.0 to   73413 MIDWAYBR 230.0   circuit 1
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Outage case 1461              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73551 W CANON  230.0 to   73413 MIDWAYBR 230.0   circuit 1
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Outage case 1462              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   79038 HAYDEN   138.0   circuit 1
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Outage case 1463              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   79067 VERNAL   138.0   circuit 1
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Outage case 1464              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79002 AXIAL    138.0 to   79038 HAYDEN   138.0   circuit 1
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Outage case 1465              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79002 AXIAL    138.0 to   79046 MEEKER   138.0   circuit 1
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Outage case 1466              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79005 BEARS    345.0 to   79014 CRAIG    345.0   circuit 1
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Outage case 1467              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79020 CURECANT 115.0   circuit 1
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Outage case 1468              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79084 LAKECITY 115.0   circuit 1
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Outage case 1469              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79090 SKITO    115.0   circuit 1
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Outage case 1470              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79052 NUCLA    115.0   circuit 1
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Outage case 1471              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79117 Y.JACK 2 115.0   circuit 1
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Outage case 1472              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79180 GRCUT TP 115.0   circuit 1
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Outage case 1473              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79012 CORTEZ   115.0 to   79073 BLUEDOOR 115.0   circuit 1
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Outage case 1474              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79012 CORTEZ   115.0 to   79075 EMPIRETS 115.0   circuit 1
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Outage case 1475              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79039 HAYDEN   230.0   circuit 1
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Outage case 1476              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79039 HAYDEN   230.0   circuit 2
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Outage case 1477              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79059 RIFLE WA 230.0   circuit 1
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Outage case 1478              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79020 CURECANT 115.0 to   79192 SOCANAL  115.0   circuit 1
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Outage case 1479              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79020 CURECANT 115.0 to   79253 CRYSTAL  115.0   circuit 1
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Outage case 1480              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79045 LOSTCANY 230.0   circuit 1
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Outage case 1481              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79054 PONCHABR 230.0   circuit 1
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Outage case 1482              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79070 NORTHFRK 230.0   circuit 1
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Outage case 1483              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79163 MORROWPT 230.0   circuit 1
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Outage case 1484              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79077 BAYFIELD 115.0   circuit 1
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Outage case 1485              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79078 BODO     115.0   circuit 1
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Outage case 1486              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79089 SHENDOAH 115.0   circuit 1
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Outage case 1487              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79191 COYOTE G 115.0   circuit 1
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Outage case 1488              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79026 FLAMGORG 138.0 to   79067 VERNAL   138.0   circuit 1
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Outage case 1489              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79026 FLAMGORG 138.0 to   79067 VERNAL   138.0   circuit 2
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Outage case 1490              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79036 GRANDJCT 345.0 to   79049 MONTROSE 345.0   circuit 1
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Outage case 1491              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79037 GUNNISON 115.0 to   79090 SKITO    115.0   circuit 1
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Outage case 1492              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79042 HOTCHKIS 115.0 to   79050 NORTHFRK 115.0   circuit 1
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Outage case 1493              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79042 HOTCHKIS 115.0 to   79104 GARNETAP 115.0   circuit 1
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Outage case 1494              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79074 E.CORTEZ 115.0   circuit 1
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Outage case 1495              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79075 EMPIRETS 115.0   circuit 1
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Outage case 1496              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79111 MANCOSTP 115.0   circuit 1
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Outage case 1497              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79122 TOWAOC   115.0   circuit 1
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Outage case 1498              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79045 LOSTCANY 230.0 to   79061 SHIP PS  230.0   circuit 1
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Outage case 1499              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79052 NUCLA    115.0   circuit 1
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Outage case 1500              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79082 HAPPYCAN 115.0   circuit 1
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Outage case 1501              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79115 SPRCKTAP 115.0   circuit 1
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Outage case 1502              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79192 SOCANAL  115.0   circuit 1
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Outage case 1503              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79049 MONTROSE 345.0 to   79072 HESPERUS 345.0   circuit 1

Outage case 1504              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79050 NORTHFRK 115.0 to   79083 JUANITA  115.0   circuit 1

Outage case 1505              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79052 NUCLA    115.0 to   79187 NORWOOD  115.0   circuit 1

Outage case 1506              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79054 PONCHABR 230.0 to   73551 W CANON  230.0   circuit 1

Outage case 1507              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79059 RIFLE WA 230.0 to   79070 NORTHFRK 230.0   circuit 1

Outage case 1508              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79060 SANJN PS 345.0 to   79072 HESPERUS 345.0   circuit 1

Outage case 1509              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79078 BODO     115.0   circuit 1

Outage case 1510              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79088 ROCKWOOD 115.0   circuit 1

Outage case 1511              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79099 FLOR.RIV 115.0   circuit 1

Outage case 1512              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79073 BLUEDOOR 115.0 to   79074 E.CORTEZ 115.0   circuit 1

Outage case 1513              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79075 EMPIRETS 115.0 to   79180 GRCUT TP 115.0   circuit 1

Outage case 1514              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79076 AM EAST  115.0 to   79077 BAYFIELD 115.0   circuit 1

Outage case 1515              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79076 AM EAST  115.0 to   79099 FLOR.RIV 115.0   circuit 1

Outage case 1516              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79077 BAYFIELD 115.0 to   79086 PAGOSA   115.0   circuit 1

Outage case 1517              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79079 BULLOCK  115.0 to   79082 HAPPYCAN 115.0   circuit 1

Outage case 1518              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79079 BULLOCK  115.0 to   79115 SPRCKTAP 115.0   circuit 1

Outage case 1519              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79080 CASCADEL 115.0 to   79088 ROCKWOOD 115.0   circuit 1

Outage case 1520              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79080 CASCADEL 115.0 to   79256 SILVERTN 115.0   circuit 1

Outage case 1521              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79081 CRSTBUTT 115.0 to   79090 SKITO    115.0   circuit 1

Outage case 1522              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79085 NORTHMSA 115.0 to   79104 GARNETAP 115.0   circuit 1

Outage case 1523              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79085 NORTHMSA 115.0 to   79115 SPRCKTAP 115.0   circuit 1

Outage case 1524              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79089 SHENDOAH 115.0 to   79111 MANCOSTP 115.0   circuit 1

Outage case 1525              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79103 GARNET M 115.0 to   79104 GARNETAP 115.0   circuit 1

Outage case 1526              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79107 HOVEN NO 115.0 to   79117 Y.JACK 2 115.0   circuit 1

Outage case 1527              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79108 HOVENWEP 115.0 to   79121 SANDCANY 115.0   circuit 1

Outage case 1528              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79118 Y.JACK W 115.0   circuit 1

Outage case 1529              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79120 MOQUI C  115.0   circuit 1

Outage case 1530              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79121 SANDCANY 115.0   circuit 1

Outage case 1531              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79262 CEMNT CK 115.0   circuit 1

Outage case 1532              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79117 Y.JACK 2 115.0 to   79118 Y.JACK W 115.0   circuit 1

Outage case 1533              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79122 TOWAOC   115.0 to   79262 CEMNT CK 115.0   circuit 1

Outage case 1534              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79174 MOLINA-L 115.0 to   79175 MOLINA-U 115.0   circuit 1

Outage case 1535              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79179 GRT CUT  115.0 to   79180 GRCUT TP 115.0   circuit 1

Outage case 1536              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79187 NORWOOD  115.0 to   79189 SUNSH SM 115.0   circuit 1

Outage case 1537              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79188 TELLURID 115.0 to   79189 SUNSH SM 115.0   circuit 1

Outage case 1538              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79189 SUNSH SM 115.0 to   79257 AMES     115.0   circuit 1

Outage case 1539              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        79190 DALLASCR 115.0 to   79193 MCKENZIX 115.0   circuit 1
Outage case 1540              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79191 COYOTE G 115.0 to   79260 ELPASOTP 115.0   circuit 1
Outage case 1541              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79192 SOCANAL  115.0 to   79193 MCKENZIX 115.0   circuit 1
Outage case 1542              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79194 BURROBDG 115.0 to   79256 SILVERTN 115.0   circuit 1
Outage case 1543              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79194 BURROBDG 115.0 to   79257 AMES     115.0   circuit 1
Outage case 1544              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63003 CUSTER   230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1545              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63003 CUSTER   230.0 to   63012 ROSEBUD  230.0   circuit 1
Outage case 1546              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63004 FT PECK  161.0 to   63011 RICHARDC 161.0   circuit 1
Outage case 1547              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90204 MTSFTPCK 230.0 to   90211 MTSRICHC 230.0   circuit 1
Outage case 1548              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63006 HARLEM   161.0 to   63008 HAVRE    161.0   circuit 1
Outage case 1549              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90206 MTSHARLM 230.0 to   90208 MTSHAVRE 230.0   circuit 1
Outage case 1550              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63007 HAVRE    115.0 to   63013 RUDYARD  115.0   circuit 1
Outage case 1551              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63008 HAVRE    161.0 to   63015 VERONA   161.0   circuit 1
Outage case 1552              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90208 MTSHAVRE 230.0 to   90215 MTSVER   230.0   circuit 1
Outage case 1553              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63009 MALTA UM 161.0 to   63006 HARLEM   161.0   circuit 1
Outage case 1554              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90209 MTSMALTA 230.0 to   90206 MTSHARLM 230.0   circuit 1
Outage case 1555              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63010 MILCTYDC 230.0 to   63012 ROSEBUD  230.0   circuit 1
Outage case 1556              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63011 RICHARDC 161.0 to   63009 MALTA UM 161.0   circuit 1
Outage case 1557              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90211 MTSRICHC 230.0 to   90209 MTSMALTA 230.0   circuit 1
Outage case 1558              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63013 RUDYARD  115.0 to   63014 TIBERTAP 115.0   circuit 1
Outage case 1559              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        26043 INTERMT  345.0 to   65995 MONA     345.0   circuit 1
Outage case 1560              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        26043 INTERMT  345.0 to   65995 MONA     345.0   circuit 2
Outage case 1561              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40391 ELMO     115.0 to   62066 KERR     115.0   circuit 1
Outage case 1562              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40457 GARRISON 230.0 to   62072 OVANDO   230.0   circuit 1
Outage case 1563              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   62072 OVANDO   230.0   circuit 1
Outage case 1564              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        50822 NLYPHS   230.0 to   40145 BOUNDARY 230.0   circuit 1
Outage case 1565              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   40457 GARRISON 230.0   circuit 1
Outage case 1566              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   40457 GARRISON 230.0   circuit 2
Outage case 1567              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62012 TOWN2    500.0 to   40453 GAR2EAST 500.0   circuit 2
Outage case 1568              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62013 TOWN1    500.0 to   40451 GAR1EAST 500.0   circuit 1
Outage case 1569              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62027 SHELBY   115.0 to   63014 TIBERTAP 115.0   circuit 1
Outage case 1570              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62030 PTRSNFLT 230.0 to   65025 AMPS     230.0   circuit 1
Outage case 1571              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62051 HARDIN   230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1572              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62056 HUNTLEY  230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1573              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62084 DILLON S 161.0 to   65155 BIGGRASS 161.0   circuit 1
Outage case 1574              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62085 CROWCR B 115.0 to   48055 BURKAVAB 115.0   circuit 1
Outage case 1575              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   48053 BURKAVAA 115.0   circuit 1
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Outage case 1576              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63008 HAVRE    161.0 to   62023 GT FALLS 161.0   circuit 1
Outage case 1577              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90208 MTSHAVRE 230.0 to   90223 MTSGFALL 230.0   circuit 1
Outage case 1578              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65060 ANT MINE 230.0 to   73276 TEKLA    230.0   circuit 1
Outage case 1579              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65085 ASHLEY   138.0 to   79067 VERNAL   138.0   circuit 1
Outage case 1580              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65305 CASPERPP 115.0 to   73167 REFNRYTP 115.0   circuit 1
Outage case 1581              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   73107 LAR.RIVR 230.0   circuit 1
Outage case 1582              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1583              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65425 DAVEJOHN 115.0 to   73070 GLENRCKN 115.0   circuit 1
Outage case 1584              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65425 DAVEJOHN 115.0 to   73071 GLENRCKS 115.0   circuit 1
Outage case 1585              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66235 PINTO PS 345.0 to   14101 FOURCORN 345.0   circuit 1
Outage case 1586              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66540 THERPACE 115.0 to   73197 THERMOPL 115.0   circuit 1
Outage case 1587              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66720 WORLAND  115.0 to   73222 WORLANTP 115.0   circuit 1
Outage case 1588              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73148 OSAGE    230.0   circuit 1
Outage case 1589              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73168 RENO     230.0   circuit 1
Outage case 1590              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73294 HUGHES   230.0   circuit 1
Outage case 1591              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66750 YELOWTLP 230.0 to   62045 BLGS PHA 230.0   circuit 1
Outage case 1592              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66755 YELOWTLP 161.0 to   62061 RMRK PHA 161.0   circuit 1
Outage case 1593              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66750 YELOWTLP 230.0 to   73229 YELLOWBR 230.0   circuit 1
Outage case 1594              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73042 CASPERLM 115.0 to   65305 CASPERPP 115.0   circuit 1
Outage case 1595              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73229 YELLOWBR 230.0 to   63001 CROS PHA 230.0   circuit 1
Outage case 1596              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   66278 RANGELY  138.0   circuit 1
Outage case 1597              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79005 BEARS    345.0 to   65193 BONANZA  345.0   circuit 1
Outage case 1598              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79046 MEEKER   138.0 to   66278 RANGELY  138.0   circuit 1
Outage case 1599              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79067 VERNAL   138.0 to   65192 BONANZA  138.0   circuit 1
Outage case 1600              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        45029 BURNS    500.0 to   60240 MIDPOINT 500.0   circuit 1
Outage case 1601              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60030 BLACKFT  161.0 to   65670 GOSHEN   161.0   circuit 1
Outage case 1602              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60073 BRADY    230.0 to   65075 ANTLOPE  230.0   circuit 1
Outage case 1603              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60085 BRIDGER  345.0 to   65665 GOSHEN   345.0   circuit 1
Outage case 1604              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60150 HELLSCYN 230.0 to   45103 ENTERPRS 230.0   circuit 1
Outage case 1605              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60235 MIDPOINT 345.0 to   64061 IDAHO-NV 345.0   circuit 1
Outage case 1606              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61826 HINES    115.0 to   40507 HARNEY   115.0   circuit 1
Outage case 1607              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   60060 BORAH    345.0   circuit 1
Outage case 1608              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65665 GOSHEN   345.0 to   60190 KINPORT  345.0   circuit 1
Outage case 1609              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65920 MALAD    138.0 to   60020 AMFLS    138.0   circuit 1
Outage case 1610              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66565 TREASTON 230.0 to   60073 BRADY    230.0   circuit 1
Outage case 1611              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70193 FTN VALL 115.0 to   73412 MIDWAYBR 115.0   circuit 1
Outage case 1612              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70274 MALTA    230.0 to   73138 MT.ELBRT 230.0   circuit 1
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Outage case 1613              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70287 MILL     115.0 to   73296 FRASER   115.0   circuit 1

Outage case 1614              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70308 PALMER   115.0 to   73414 MONUMENT 115.0   circuit 1

Outage case 1615              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70327 PONCHA   115.0 to   79037 GUNNISON 115.0   circuit 1

Outage case 1616              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70358 RIFLE PS 230.0 to   79059 RIFLE WA 230.0   circuit 1

Outage case 1617              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   73116 LONGPEAK 230.0   circuit 1

Outage case 1618              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70470 WELD  PS 115.0 to   73211 WELD  LM 115.0   circuit 1

Outage case 1619              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70471 WELD  PS 230.0 to   73212 WELD  LM 230.0   circuit 1

Outage case 1620              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70476 WOODLAND 115.0 to   73400 EMIL AND 115.0   circuit 1

Outage case 1621              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   70474 WINDSOR  230.0   circuit 1

Outage case 1622              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70005 BRUSHCPP 115.0 to   73013 B.CK PS  115.0   circuit 1

Outage case 1623              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70005 BRUSHCPP 115.0 to   73013 B.CK PS  115.0   circuit 2

Outage case 1624              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73044 COBBLKTP 115.0 to   70116 COBBLAKE 115.0   circuit 1

Outage case 1625              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73105 LAPORTE  115.0 to   70256 LAPORTPS 115.0   circuit 1

Outage case 1626              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73192 STORY    230.0 to   70311 PAWNEE   230.0   circuit 1

Outage case 1627              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73477 FULLER   230.0 to   70122 COMANCHE 230.0   circuit 1

Outage case 1628              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73477 FULLER   230.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1629              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73413 MIDWAYBR 230.0 to   70286 MIDWAYPS 230.0   circuit 1

Outage case 1630              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79054 PONCHABR 230.0 to   70375 SAN LUIS 230.0   circuit 1

Outage case 1631              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79105 GLADETAP 115.0 to   79260 ELPASOTP 115.0   circuit 1

Outage case 1632              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63015 VERONA   161.0 to   62024 RAINBOW  161.0   circuit 1

Outage case 1633              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90215 MTSVER   230.0 to   90224 MTSRNBW  230.0   circuit 1

Outage case 1634              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70358 RIFLE PS 230.0 to   79250 AMATLAS  230.0   circuit 1

Outage case 1635              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70525 MTHARRIS 138.0 to   79038 HAYDEN   138.0   circuit 1

Outage case 1636              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79173 COLBRAN  115.0 to   79174 MOLINA-L 115.0   circuit 1

Outage case 1637              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79033 GOREPASS 230.0 to   79039 HAYDEN   230.0   circuit 1

Outage case 1638              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79034 GRANDJCT 115.0 to   79048 MONTROSE 115.0   circuit 1

Outage case 1639              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79039 HAYDEN   230.0 to   79091 WOLCOTTP 230.0   circuit 1

Outage case 1640              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79046 MEEKER   138.0 to   79056 RIFLE CU 138.0   circuit 1

Outage case 1641              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79057 RIFLE CU 230.0 to   79059 RIFLE WA 230.0   circuit 1

Outage case 1642              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79014 CRAIG    345.0 to   79058 RIFLE CU 345.0   circuit 1

Outage case 1643              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79036 GRANDJCT 345.0 to   79058 RIFLE CU 345.0   circuit 1

Outage case 1644              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48197 LOLO     230.0 to   60278 IMNAHA   230.0   circuit 1

Outage case 1645              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   70285 MIDWAYPS 115.0   circuit 1

Outage case 1646              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60006 ADELAIDE 345.0 to   60010 ADELAIDE 138.0   circuit 1

Outage case 1647              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60006 ADELAIDE 345.0 to   60010 ADELAIDE 138.0   circuit 2

Outage case 1648              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60030 BLACKFT  161.0 to   60031 BLACKFT  138.0   circuit 1

Outage case 1649              Y, WAPA UGP, JUNE 2002
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    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 1
Outage case 1650              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 2
Outage case 1651              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 3
Outage case 1652              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 4
Outage case 1653              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60060 BORAH    345.0 to   60062 BORAH    230.0   circuit 1
Outage case 1654              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 1
Outage case 1655              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 2
Outage case 1656              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 3
Outage case 1657              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60110 CALDWELL 230.0 to   60105 CALDWELL 138.0   circuit 1
Outage case 1658              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60110 CALDWELL 230.0 to   60105 CALDWELL 138.0   circuit 2
Outage case 1659              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60130 DRAM     230.0 to   60225 MICRON   138.0   circuit 1
Outage case 1660              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60130 DRAM     230.0 to   60225 MICRON   138.0   circuit 2
Outage case 1661              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 1
Outage case 1662              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 2
Outage case 1663              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 3
Outage case 1664              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60185 KINPORT  230.0 to   60180 KINPORT  138.0   circuit 1
Outage case 1665              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60185 KINPORT  230.0 to   60180 KINPORT  138.0   circuit 2
Outage case 1666              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60190 KINPORT  345.0 to   60185 KINPORT  230.0   circuit 1
Outage case 1667              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60232 MIDPOINT 230.0 to   60230 MIDPOINT 138.0   circuit 1
Outage case 1668              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60235 MIDPOINT 345.0 to   60232 MIDPOINT 230.0   circuit 1
Outage case 1669              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60235 MIDPOINT 345.0 to   60232 MIDPOINT 230.0   circuit 2
Outage case 1670              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60240 MIDPOINT 500.0 to   60235 MIDPOINT 345.0   circuit 1
Outage case 1671              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60250 MT HOME  138.0 to   61805 MT HOME  115.0   circuit 1
Outage case 1672              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60265 ONTARIO  230.0 to   60260 ONTARIO  138.0   circuit 1
Outage case 1673              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60275 OXBOW    230.0 to   60270 OXBOW    138.0   circuit 1
Outage case 1674              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60306 QUARTZ   230.0 to   60305 QUARTZ   138.0   circuit 1
Outage case 1675              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 61825 HINES    138.0 to   61826 HINES    115.0   circuit 1
Outage case 1676              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60265 ONTARIO  230.0 to   60260 ONTARIO  138.0   circuit 2
Outage case 1677              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60207 LOCUST   230.0 to   61254 LOCUST   138.0   circuit 1
Outage case 1678              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90208 MTSHAVRE 230.0 to   63007 HAVRE    115.0   circuit 1
Outage case 1679              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62004 ANACOND  230.0 to   62005 ANACOND  161.0   circuit 1
Outage case 1680              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62004 ANACOND  230.0 to   62005 ANACOND  161.0   circuit 2
Outage case 1681              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62005 ANACOND  161.0 to   62115 ANACOND  100.0   circuit 1
Outage case 1682              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62005 ANACOND  161.0 to   62115 ANACOND  100.0   circuit 2
Outage case 1683              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62006 TAFTAUTO 115.0 to   62090 TAFTAUTO 100.0   circuit 1
Outage case 1684              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62007 KERR B   161.0 to   62066 KERR     115.0   circuit 1
Outage case 1685              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62007 KERR B   161.0 to   62066 KERR     115.0   circuit 2
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Outage case 1686              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62008 KERR A   161.0 to   62066 KERR     115.0   circuit 1

Outage case 1687              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62008 KERR A   161.0 to   62066 KERR     115.0   circuit 2

Outage case 1688              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   62114 MISOULA  100.0   circuit 1

Outage case 1689              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   62114 MISOULA  100.0   circuit 2

Outage case 1690              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62019 WILSALL  230.0 to   62016 WILSALL  161.0   circuit 1

Outage case 1691              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62019 WILSALL  230.0 to   62016 WILSALL  161.0   circuit 2

Outage case 1692              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62023 GT FALLS 161.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1693              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90223 MTSGFALL 230.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1694              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62024 RAINBOW  161.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1695              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90224 MTSRNBW  230.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1696              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62026 SHELBY   230.0 to   62027 SHELBY   115.0   circuit 1

Outage case 1697              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62033 ANA BPA  115.0 to   62004 ANACOND  230.0   circuit 1

Outage case 1698              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62035 CNRDWAPA 230.0 to   62069 CNRDWAPA 115.0   circuit 1

Outage case 1699              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62036 JUDITHGP 230.0 to   62104 JUDITHGP 100.0   circuit 1

Outage case 1700              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62046 BROADVU  500.0 to   62223 BROADVU  230.0   circuit 1

Outage case 1701              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62046 BROADVU  500.0 to   62223 BROADVU  230.0   circuit 2

Outage case 1702              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62051 HARDIN   230.0 to   62080 HARDIN   115.0   circuit 1

Outage case 1703              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62052 ALKALI   230.0 to   62109 ALKALI   161.0   circuit 1

Outage case 1704              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62052 ALKALI   230.0 to   62109 ALKALI   161.0   circuit 2

Outage case 1705              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62055 BASELINE 230.0 to   62099 BASELINE 100.0   circuit 1

Outage case 1706              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62057 COLSTRP  500.0 to   62060 COLSTRP  230.0   circuit 1

Outage case 1707              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62057 COLSTRP  500.0 to   62060 COLSTRP  230.0   circuit 2

Outage case 1708              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62060 COLSTRP  230.0 to   62081 COLSTRP  115.0   circuit 1

Outage case 1709              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62060 COLSTRP  230.0 to   62081 COLSTRP  115.0   circuit 2

Outage case 1710              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62061 RMRK PHA 161.0   circuit 1

Outage case 1711              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62096 RIMROCK  100.0   circuit 1

Outage case 1712              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62096 RIMROCK  100.0   circuit 2

Outage case 1713              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62064 BRADLEYC 161.0 to   62105 BRADLEYC 100.0   circuit 1

Outage case 1714              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62070 GT FALLS 115.0 to   62118 GT FALLS 100.0   circuit 1

Outage case 1715              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   62118 GT FALLS 100.0   circuit 1

Outage case 1716              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   62118 GT FALLS 100.0   circuit 2

Outage case 1717              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62076 TRIDENT  161.0 to   62021 THREERIV 100.0   circuit 1

Outage case 1718              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62077 BUTTE MT 161.0 to   62116 BUTTE MT 100.0   circuit 1

Outage case 1719              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62077 BUTTE MT 161.0 to   62116 BUTTE MT 100.0   circuit 2

Outage case 1720              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62078 RESERVST 161.0 to   62113 RESERVST 100.0   circuit 1

Outage case 1721              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62079 MILLERCK 161.0 to   62112 MILLERCK 100.0   circuit 1

Outage case 1722              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62045 BLGS PHA 230.0   circuit 1
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Outage case 1723              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62097 BILINGS  100.0   circuit 1

Outage case 1724              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62097 BILINGS  100.0   circuit 2

Outage case 1725              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62205 COLRPLJE 161.0 to   62220 COLRPLJE 100.0   circuit 1

Outage case 1726              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62223 BROADVU  230.0 to   62089 BROADVU  100.0   circuit 2

Outage case 1727              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40021 ADDY 2   230.0 to   40017 ADDY     115.0   circuit 1

Outage case 1728              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48025 BEACON N 230.0 to   48023 BEACON N 115.0   circuit 1

Outage case 1729              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48031 BEACON S 230.0 to   48029 BEACON S 115.0   circuit 1

Outage case 1730              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40091 BELL BPA 500.0 to   40090 BELL SO  230.0   circuit 1

Outage case 1731              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40088 BELL MI  230.0 to   40087 BELL BPA 115.0   circuit 1

Outage case 1732              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40145 BOUNDARY 230.0 to   40143 BOUNDARY 115.0   circuit 1

Outage case 1733              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47126 BOX PS   115.0 to   47009 BOX CANY 115.0   circuit 1

Outage case 1734              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48059 CAB GORG 230.0 to   48057 CAB GORG 115.0   circuit 1

Outage case 1735              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40223 CHIEF J3 345.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1736              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40225 CHIEF J4 345.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1737              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40233 CHIEF JO 500.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1738              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41195 COL FAL2 230.0 to   40247 COL FALL 115.0   circuit 1

Outage case 1739              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40249 COL FALL 230.0 to   40247 COL FALL 115.0   circuit 1

Outage case 1740              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40261 COLUMBIA 230.0 to   40259 COLUMBIA 115.0   circuit 1

Outage case 1741              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40261 COLUMBIA 230.0 to   40259 COLUMBIA 115.0   circuit 2

Outage case 1742              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40285 COULEE   300.0 to   41357 COULEES2 230.0   circuit 1

Outage case 1743              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40287 COULEE   500.0 to   41357 COULEES2 230.0   circuit 1

Outage case 1744              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41356 COULEES1 230.0 to   40281 COULEE   115.0   circuit 1

Outage case 1745              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47031 DOUGLAS  230.0 to   47029 DOUGLAS  115.0   circuit 1

Outage case 1746              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40369 DWORSHAK 500.0 to   41201 DWOR     100.0   circuit 1

Outage case 1747              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40373 E OMAK   230.0 to   40371 E OMAK   115.0   circuit 1

Outage case 1748              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40459 GARRISON 500.0 to   40457 GARRISON 230.0   circuit 1

Outage case 1749              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40521 HATWAI   500.0 to   40519 HATWAI   230.0   circuit 1

Outage case 1750              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40553 HOT SPR  500.0 to   40551 HOT SPR  230.0   circuit 1

Outage case 1751              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40657 LIBBY    230.0 to   40655 LIBBY    115.0   circuit 1

Outage case 1752              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48306 OTIS     230.0 to   48311 OTIS     115.0   circuit 1

Outage case 1753              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48317 PINE CRK 230.0 to   48315 PINE CRK 115.0   circuit 1

Outage case 1754              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48323 PLUMMER  115.0 to   48327 PLUMMWEA  13.8   circuit 1

Outage case 1755              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40851 POTHOLES 230.0 to   40849 POTHOLES 115.0   circuit 1

Outage case 1756              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48357 RATHDRUM 230.0 to   48356 RATHDRME 115.0   circuit 1

Outage case 1757              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48357 RATHDRUM 230.0 to   48355 RATHDRUM 115.0   circuit 1

Outage case 1758              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 46821 ROCKY RH 115.0 to   46831 ROCKYRH1 230.0   circuit 1

Outage case 1759              Y, WAPA UGP, JUNE 2002
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    switched OUT TRANSFORMER 46821 ROCKY RH 115.0 to   46831 ROCKYRH1 230.0   circuit 2
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Outage case 1760              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40891 ROCKY RH 345.0 to   46832 ROCKYRH2 230.0   circuit 1
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Outage case 1761              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40909 SACHEEN  230.0 to   40907 SACHEEN  115.0   circuit 1
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Outage case 1762              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40973 SICKLER  500.0 to   47031 DOUGLAS  230.0   circuit 1
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Outage case 1763              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47091 USK      230.0 to   47254 USK      115.0   circuit 1
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Outage case 1764              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41113 VANTAGE  500.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 1765              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41113 VANTAGE  500.0 to   41111 VANTAGE  230.0   circuit 2
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Outage case 1766              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47101 WELLS    230.0 to   47099 WELLS    115.0   circuit 1
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Outage case 1767              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48463 WEST     230.0 to   48461 WEST     115.0   circuit 1
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Outage case 1768              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48463 WEST     230.0 to   48461 WEST     115.0   circuit 2
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Outage case 1769              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65075 ANTLOPE  230.0 to   65080 ANTLOPE  161.0   circuit 1
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Outage case 1770              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65080 ANTLOPE  161.0 to   65065 ANTLOP 1 138.0   circuit 1
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Outage case 1771              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65080 ANTLOPE  161.0 to   65070 ANTLOP 2 138.0   circuit 1
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Outage case 1772              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65140 BENLOMND 230.0   circuit 1
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Outage case 1773              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65145 BENLOMND 138.0   circuit 1
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Outage case 1774              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65190 BNLMD MP 100.0   circuit 2
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Outage case 1775              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65145 BENLOMND 138.0   circuit 1
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Outage case 1776              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65145 BENLOMND 138.0   circuit 2
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Outage case 1777              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65190 BNLMD MP 100.0   circuit 2
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Outage case 1778              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65193 BONANZA  345.0 to   65192 BONANZA  138.0   circuit 1
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Outage case 1779              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65260 CAMP WIL 345.0 to   65261 CAMP WIL 138.0   circuit 1
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Outage case 1780              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65300 CASPERPP 230.0 to   65305 CASPERPP 115.0   circuit 1
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Outage case 1781              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65395 CUTLER   138.0 to   65385 CTLR MP  100.0   circuit 1
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Outage case 1782              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65420 DAVEJOHN 230.0 to   65425 DAVEJOHN 115.0   circuit 1
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Outage case 1783              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65510 EMERY    345.0 to   65515 EMERY    138.0   circuit 1
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Outage case 1784              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65510 EMERY    345.0 to   65515 EMERY    138.0   circuit 2
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Outage case 1785              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65665 GOSHEN   345.0 to   65670 GOSHEN   161.0   circuit 1
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Outage case 1786              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65665 GOSHEN   345.0 to   65685 GOSHN MP 100.0   circuit 2
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Outage case 1787              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65675 GOSHEN   115.0   circuit 1
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Outage case 1788              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65675 GOSHEN   115.0   circuit 2
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Outage case 1789              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65685 GOSHN MP 100.0   circuit 2
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Outage case 1790              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65690 GRACE    161.0 to   65695 GRACE    138.0   circuit 1
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Outage case 1791              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65805 HUNTNGTN 345.0 to   65810 HUNTNGTN 138.0   circuit 1
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Outage case 1792              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65805 HUNTNGTN 345.0 to   65810 HUNTNGTN 138.0   circuit 2
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Outage case 1793              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65860 JFRSNPHA 161.0 to   65850 JEFFERSN 161.0   circuit 1
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Outage case 1794              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65945 MIDVALLY 345.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 1795              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65945 MIDVALLY 345.0 to   66550 THIRTY S 138.0   circuit 2
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Outage case 1796              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66020 MUSTANG  230.0 to   66025 MUSTANG  115.0   circuit 1

Outage case 1797              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66050 NAUGHTON 230.0 to   66040 NAUGHTN1 138.0   circuit 1

Outage case 1798              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66050 NAUGHTON 230.0 to   66045 NAUGHTN2 138.0   circuit 1

Outage case 1799              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 1

Outage case 1800              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 2

Outage case 1801              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 3

Outage case 1802              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 4

Outage case 1803              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66134 OQUIRRH  345.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 1804              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66226 PINT MP2 100.0   circuit 2

Outage case 1805              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66227 PINT MP3 100.0   circuit 3

Outage case 1806              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66230 PINTO    138.0   circuit 1

Outage case 1807              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66230 PINTO    138.0   circuit 2

Outage case 1808              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66235 PINTO PS 345.0   circuit 1

Outage case 1809              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66240 PLATTE   230.0 to   66245 PLATTE   115.0   circuit 1

Outage case 1810              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66270 RAILROAD 230.0 to   66275 RAILROAD 138.0   circuit 1

Outage case 1811              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66270 RAILROAD 230.0 to   66275 RAILROAD 138.0   circuit 2

Outage case 1812              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66465 SWAN VAL 161.0 to   66470 SWAN VAL 115.0   circuit 1

Outage case 1813              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66510 TERMINAL 345.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 1814              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66510 TERMINAL 345.0 to   66520 TERMINAL 138.0   circuit 2

Outage case 1815              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66515 TERMINAL 230.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 1816              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66515 TERMINAL 230.0 to   66520 TERMINAL 138.0   circuit 2

Outage case 1817              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66540 THERPACE 115.0 to   66535 THERMOPL 230.0   circuit 1

Outage case 1818              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66565 TREASTON 230.0 to   66570 TREASTON 138.0   circuit 1

Outage case 1819              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66565 TREASTON 230.0 to   66580 TRSTN MP 100.0   circuit 2

Outage case 1820              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66570 TREASTON 138.0 to   66580 TRSTN MP 100.0   circuit 2

Outage case 1821              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66578 TRI CITY 345.0 to   66577 TRI CITY 138.0   circuit 1

Outage case 1822              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66750 YELOWTLP 230.0 to   66755 YELOWTLP 161.0   circuit 1

Outage case 1823              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   90400 MTSGFALL 500.0   circuit 1

Outage case 1824              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70037 ARAPAHOB 115.0 to   70038 ARAPAHOE 230.0   circuit 1

Outage case 1825              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70071 CABINCRK 115.0 to   70072 CABINCRK 230.0   circuit 1

Outage case 1826              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70071 CABINCRK 115.0 to   70072 CABINCRK 230.0   circuit 2

Outage case 1827              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70109 CHEROKES 115.0 to   70107 CHEROKEE 230.0   circuit 1

Outage case 1828              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70109 CHEROKES 115.0 to   70107 CHEROKEE 230.0   circuit 2

Outage case 1829              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70138 DANIELPK 115.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1830              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70148 DENVTM   115.0 to   70149 DENVTM   230.0   circuit 1

Outage case 1831              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70191 FTLUPTON 115.0 to   70192 FTLUPTON 230.0   circuit 1

Outage case 1832              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70259 LEETSDAL 115.0 to   70260 LEETSDAL 230.0   circuit 1
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Outage case 1833              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70265 LOOKOUT  115.0 to   70266 LOOKOUT  230.0   circuit 1

Outage case 1834              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70265 LOOKOUT  115.0 to   70266 LOOKOUT  230.0   circuit 2

Outage case 1835              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70354 RIDGE    115.0 to   70355 RIDGE    230.0   circuit 1

Outage case 1836              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70354 RIDGE    115.0 to   70355 RIDGE    230.0   circuit 2

Outage case 1837              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70395 SMOKYHIL 115.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1838              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70395 SMOKYHIL 115.0 to   70396 SMOKYHIL 230.0   circuit 2

Outage case 1839              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70444 VALMONT  115.0 to   70447 VALMONT  230.0   circuit 1

Outage case 1840              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70463 WATERTON 115.0 to   70464 WATERTON 230.0   circuit 1

Outage case 1841              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70463 WATERTON 115.0 to   70464 WATERTON 230.0   circuit 2

Outage case 1842              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70470 WELD  PS 115.0 to   70471 WELD  PS 230.0   circuit 2

Outage case 1843              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73009 ARCHER   230.0 to   73008 ARCHER   115.0   circuit 1

Outage case 1844              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 1

Outage case 1845              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 2

Outage case 1846              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 3

Outage case 1847              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73013 B.CK PS  115.0 to   73014 B.CK PS  230.0   circuit 1

Outage case 1848              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73015 B.CK TRI 115.0 to   73016 B.CK TRI 230.0   circuit 1

Outage case 1849              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73017 B.SANDY  115.0 to   73018 B.SANDY  230.0   circuit 1

Outage case 1850              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73027 BOYD     230.0 to   73026 BOYD     115.0   circuit 1

Outage case 1851              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73035 BURLNGTN 115.0 to   73036 BURLNGTN 230.0   circuit 1

Outage case 1852              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73035 BURLNGTN 115.0 to   73036 BURLNGTN 230.0   circuit 2

Outage case 1853              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73061 FRASER   138.0 to   73296 FRASER   115.0   circuit 1

Outage case 1854              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73106 LAPORTE  230.0 to   73105 LAPORTE  115.0   circuit 1

Outage case 1855              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73107 LAR.RIVR 230.0 to   73108 LAR.RIVR 345.0   circuit 1

Outage case 1856              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73116 LONGPEAK 230.0 to   73115 LONGPEAK 115.0   circuit 1

Outage case 1857              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73116 LONGPEAK 230.0 to   73115 LONGPEAK 115.0   circuit 2

Outage case 1858              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73142 N.YUMA   115.0 to   73143 N.YUMA   230.0   circuit 1

Outage case 1859              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73179 SIDNEY   115.0 to   73180 SIDNEY   230.0   circuit 1

Outage case 1860              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73180 SIDNEY   230.0 to   73181 SIDNEYDC 230.0   circuit 1

Outage case 1861              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73190 STEGALL  230.0 to   73189 STEGALL  115.0   circuit 1

Outage case 1862              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73190 STEGALL  230.0 to   73189 STEGALL  115.0   circuit 2

Outage case 1863              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73192 STORY    230.0 to   73193 STORY    345.0   circuit 1

Outage case 1864              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73192 STORY    230.0 to   73193 STORY    345.0   circuit 2

Outage case 1865              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73199 TIMBERLN 230.0 to   73198 TIMBERLN 115.0   circuit 1

Outage case 1866              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73211 WELD  LM 115.0 to   73212 WELD  LM 230.0   circuit 1

Outage case 1867              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73224 WRAY     230.0 to   73223 WRAY     115.0   circuit 1

Outage case 1868              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73228 YELLOWBR 115.0 to   73229 YELLOWBR 230.0   circuit 1

Outage case 1869              Y, WAPA UGP, JUNE 2002
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    switched OUT TRANSFORMER 73392 CTTNWD N 230.0 to   73391 CTTNWD N 115.0   circuit 1
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Outage case 1870              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73394 CTTNWD S 230.0 to   73393 CTTNWD S 115.0   circuit 1
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Outage case 1871              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73407 KELKER   230.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1872              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73413 MIDWAYBR 230.0 to   73412 MIDWAYBR 115.0   circuit 1
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Outage case 1873              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73419 RD NIXON 230.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1874              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73477 FULLER   230.0 to   73481 FULLER   115.0   circuit 1
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Outage case 1875              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79014 CRAIG    345.0 to   79013 CRAIG    230.0   circuit 1
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Outage case 1876              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79014 CRAIG    345.0 to   79013 CRAIG    230.0   circuit 2
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Outage case 1877              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79021 CURECANT 230.0 to   79020 CURECANT 115.0   circuit 1
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Outage case 1878              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79039 HAYDEN   230.0 to   79038 HAYDEN   138.0   circuit 1
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Outage case 1879              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79039 HAYDEN   230.0 to   79038 HAYDEN   138.0   circuit 2
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Outage case 1880              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79045 LOSTCANY 230.0 to   79044 LOSTCANY 115.0   circuit 1
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Outage case 1881              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79049 MONTROSE 345.0 to   79048 MONTROSE 115.0   circuit 1
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Outage case 1882              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79070 NORTHFRK 230.0 to   79050 NORTHFRK 115.0   circuit 1
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Outage case 1883              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79070 NORTHFRK 230.0 to   79050 NORTHFRK 115.0   circuit 2
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Outage case 1884              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79072 HESPERUS 345.0 to   79071 HESPERUS 115.0   circuit 1
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Outage case 1885              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 63002 CRSOVRUM 230.0 to   63001 CROS PHA 230.0   circuit 1
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Outage case 1886              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 63008 HAVRE    161.0 to   63007 HAVRE    115.0   circuit 1
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Outage case 1887              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60192 LADD     230.0 to   40621 LAGRANDE 230.0   circuit 1
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Outage case 1888              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   40867 RATTLE S 230.0   circuit 1
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Outage case 1889              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65565 FLAMGORG 230.0 to   79026 FLAMGORG 138.0   circuit 1
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Outage case 1890              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65565 FLAMGORG 230.0 to   79026 FLAMGORG 138.0   circuit 2
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Outage case 1891              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73170 RIVERTON 115.0 to   66305 RIVERTON 230.0   circuit 1
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Outage case 1892              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73197 THERMOPL 115.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 1893              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79033 GOREPASS 230.0 to   73072 GOREPASS 138.0   circuit 1
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Outage case 1894              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79060 SANJN PS 345.0 to   10292 SAN_JUAN 345.0   circuit 1
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Outage case 1895              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 1
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Outage case 1896              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 2
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Outage case 1897              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 3
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Outage case 1898              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70205 GRANDJCT 230.0 to   79036 GRANDJCT 345.0   circuit 1
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Outage case 1899              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79061 SHIP PS  230.0 to   79063 SHIPROCK 230.0   circuit 1
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Outage case 1900              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73551 W CANON  230.0 to   70550 W CANON  115.0   circuit 1
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                        SUMMARY OF CONTINGENCY (CNT) NUMBERS
                     APPLIES TO HSBS, DENL2, SLCL2, SLCL3, LBL3
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Outage case   1              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90100 MTSGFL2  500.0 to   90400 MTSGFALL 500.0   circuit 1

Outage case   2              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90100 MTSGFL2  500.0 to   90400 MTSGFALL 500.0   circuit 2

Outage case   3              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90200 MTSDAVEJ 500.0 to   62057 COLSTRP  500.0   circuit 1

Outage case   4              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90200 MTSDAVEJ 500.0 to   90300 MTSDAN   500.0   circuit 1

Outage case   5              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90204 MTSFTPCK 230.0 to   62060 COLSTRP  230.0   circuit 1

Outage case   6              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90400 MTSGFALL 500.0 to   62046 BROADVU  500.0   circuit 1

Outage case   7              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90400 MTSGFALL 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case   8              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90400 MTSGFALL 500.0 to   90500 MTSLETHB 500.0   circuit 1

Outage case   9              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90400 MTSGFALL 500.0 to   62013 TOWN1    500.0   circuit 1

Outage case  10              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       62013 TOWN1    500.0 to   90600 MTSDILL  500.0   circuit 1

Outage case  11              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       62012 TOWN2    500.0 to   62013 TOWN1    500.0   circuit 1

Outage case  12              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90700 MTSKINP  500.0 to   90600 MTSDILL  500.0   circuit 1

Outage case  13              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       90700 MTSKINP  500.0 to   90800 MTSBENL  500.0   circuit 1

Outage case  14              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40091 BELL BPA 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case  15              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40459 GARRISON 500.0 to   40553 HOT SPR  500.0   circuit 1

Outage case  16              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       40459 GARRISON 500.0 to   62046 BROADVU  500.0   circuit 1

Outage case  17              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       62057 COLSTRP  500.0 to   62046 BROADVU  500.0   circuit 1

Outage case  18              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60005 ADEL TAP 345.0 to   60006 ADELAIDE 345.0   circuit 1

Outage case  19              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60005 ADEL TAP 345.0 to   60235 MIDPOINT 345.0   circuit 1

Outage case  20              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60006 ADELAIDE 345.0 to   60235 MIDPOINT 345.0   circuit 2

Outage case  21              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   60295 PLST VLY 138.0   circuit 1

Outage case  22              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   61810 MINIDOKA 138.0   circuit 1

Outage case  23              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60010 ADELAIDE 138.0 to   61850 HEYBURN  138.0   circuit 1

Outage case  24              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   60015 ALAMEDA  138.0   circuit 1

Outage case  25              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   60335 TERRY    138.0   circuit 1

Outage case  26              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60016 ALMDA TP 138.0 to   61640 HLND TAP 138.0   circuit 1

Outage case  27              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60024 AMFLS PP 138.0   circuit 1

Outage case  28              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60070 BRADY    138.0   circuit 1

Outage case  29              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   60295 PLST VLY 138.0   circuit 1

Outage case  30              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60020 AMFLS    138.0 to   61900 RAFT RVR 138.0   circuit 1

Outage case  31              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60035 BLISS    138.0 to   60175 KING     138.0   circuit 1

Outage case  32              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   60225 MICRON   138.0   circuit 1

Outage case  33              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61225 DRY CRK  138.0   circuit 1

Outage case  34              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61254 LOCUST   138.0   circuit 1

Outage case  35              Y, WAPA UGP, JUNE 2002
    switched OUT LINE       60040 BOISEBCH 138.0 to   61261 MORA     138.0   circuit 1
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Outage case  36                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 2

Outage case  37                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 3

Outage case  38                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 4

Outage case  39                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60110 CALDWELL 230.0   circuit 1

Outage case  40                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60130 DRAM     230.0   circuit 1

Outage case  41                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60232 MIDPOINT 230.0   circuit 2

Outage case  42                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60045 BOISEBCH 230.0 to   60232 MIDPOINT 230.0   circuit 3

Outage case  43                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60060 BORAH    345.0 to   60005 ADEL TAP 345.0   circuit 1

Outage case  44                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60060 BORAH    345.0 to   60006 ADELAIDE 345.0   circuit 2

Outage case  45                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60062 BORAH    230.0 to   60073 BRADY    230.0   circuit 1

Outage case  46                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60062 BORAH    230.0 to   60073 BRADY    230.0   circuit 2

Outage case  47                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60065 BOWMONT  138.0 to   60330 SWANFALL 138.0   circuit 1

Outage case  48                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60065 BOWMONT  138.0 to   61261 MORA     138.0   circuit 1

Outage case  49                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60070 BRADY    138.0 to   60127 DON TAP  138.0   circuit 1

Outage case  50                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60073 BRADY    230.0 to   60185 KINPORT  230.0   circuit 1

Outage case  51                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60073 BRADY    230.0 to   60185 KINPORT  230.0   circuit 2

Outage case  52                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60085 BRIDGER  345.0 to   60060 BORAH    345.0   circuit 1

Outage case  53                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60085 BRIDGER  345.0 to   60190 KINPORT  345.0   circuit 1

Outage case  54                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60095 BROWNLEE 230.0 to   60310 QUARTZTP 230.0   circuit 1

Outage case  55                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60105 CALDWELL 138.0 to   60210 LOWELL   138.0   circuit 1

Outage case  56                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60105 CALDWELL 138.0 to   60255 NAMPA    138.0   circuit 1

Outage case  57                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60345 TWINFALL 138.0   circuit 1

Outage case  58                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60350 TFALL TP 138.0   circuit 1

Outage case  59                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60115 CLIFF    138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  60                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60120 DALE     138.0 to   60340 TFAL JCT 138.0   circuit 1

Outage case  61                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60125 DON      138.0 to   60127 DON TAP  138.0   circuit 1

Outage case  62                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60127 DON TAP  138.0 to   60145 FREMONT  138.0   circuit 1

Outage case  63                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60130 DRAM     230.0 to   60232 MIDPOINT 230.0   circuit 1

Outage case  64                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60135 EDEN     138.0 to   60245 MILNER   138.0   circuit 1

Outage case  65                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60140 EMMETT   138.0 to   60220 MCCALL   138.0   circuit 1

Outage case  66                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60150 HELLSCYN 230.0 to   60095 BROWNLEE 230.0   circuit 1

Outage case  67                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60135 EDEN     138.0   circuit 1

Outage case  68                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60247 MLNR JCT 138.0   circuit 1

Outage case  69                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60285 PAUL     138.0   circuit 1

Outage case  70                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60160 HUNT     138.0 to   60350 TFALL TP 138.0   circuit 1

Outage case  71                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60170 HYBN JCT 138.0 to   60010 ADELAIDE 138.0   circuit 1

Outage case  72                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         60170 HYBN JCT 138.0 to   61850 HEYBURN  138.0   circuit 1
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Outage case  73                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60175 KING     138.0 to   60120 DALE     138.0   circuit 1

Outage case  74                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60175 KING     138.0 to   60195 L MALAD  138.0   circuit 1

Outage case  75                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60175 KING     138.0 to   60200 L SALMON 138.0   circuit 1

Outage case  76                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60175 KING     138.0 to   60200 L SALMON 138.0   circuit 2

Outage case  77                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60175 KING     138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  78                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60180 KINPORT  138.0 to   60125 DON      138.0   circuit 1

Outage case  79                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60180 KINPORT  138.0 to   60125 DON      138.0   circuit 2

Outage case  80                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60180 KINPORT  138.0 to   60315 SIPHON   138.0   circuit 1

Outage case  81                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60195 L MALAD  138.0 to   60250 MT HOME  138.0   circuit 1

Outage case  82                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60210 LOWELL   138.0 to   60065 BOWMONT  138.0   circuit 1

Outage case  83                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60210 LOWELL   138.0 to   60255 NAMPA    138.0   circuit 1

Outage case  84                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60215 LUCKY PK 138.0 to   60225 MICRON   138.0   circuit 1

Outage case  85                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60215 LUCKY PK 138.0 to   60250 MT HOME  138.0   circuit 1

Outage case  86                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60220 MCCALL   138.0 to   60370 WEISER   138.0   circuit 1

Outage case  87                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60230 MIDPOINT 138.0 to   60345 TWINFALL 138.0   circuit 1

Outage case  88                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60232 MIDPOINT 230.0 to   60165 HUNT     230.0   circuit 1

Outage case  89                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60235 MIDPOINT 345.0 to   60190 KINPORT  345.0   circuit 1

Outage case  90                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60245 MILNER   138.0 to   60248 MLNR PP  138.0   circuit 1

Outage case  91                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60247 MLNR JCT 138.0 to   60170 HYBN JCT 138.0   circuit 1

Outage case  92                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60247 MLNR JCT 138.0 to   60245 MILNER   138.0   circuit 1

Outage case  93                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60250 MT HOME  138.0 to   60360 U SALMON 138.0   circuit 1

Outage case  94                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60260 ONTARIO  138.0 to   60140 EMMETT   138.0   circuit 1

Outage case  95                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60270 OXBOW    138.0 to   60220 MCCALL   138.0   circuit 1

Outage case  96                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60275 OXBOW    230.0 to   60095 BROWNLEE 230.0   circuit 1

Outage case  97                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60285 PAUL     138.0 to   60010 ADELAIDE 138.0   circuit 1

Outage case  98                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60291 PINGREE  138.0 to   60031 BLACKFT  138.0   circuit 1

Outage case  99                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60291 PINGREE  138.0 to   60125 DON      138.0   circuit 1

Outage case 100                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60300 PORTNEUF 138.0 to   60145 FREMONT  138.0   circuit 1

Outage case 101                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60305 QUARTZ   138.0 to   61055 NELSN TP 138.0   circuit 1

Outage case 102                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60305 QUARTZ   138.0 to   61835 WJOHN DY 138.0   circuit 1

Outage case 103                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60310 QUARTZTP 230.0 to   60192 LADD     230.0   circuit 1

Outage case 104                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60310 QUARTZTP 230.0 to   60306 QUARTZ   230.0   circuit 1

Outage case 105                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60315 SIPHON   138.0 to   61640 HLND TAP 138.0   circuit 1

Outage case 106                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60320 STRIKE   138.0 to   60330 SWANFALL 138.0   circuit 1

Outage case 107                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60330 SWANFALL 138.0 to   60332 SWNFL PP 138.0   circuit 1

Outage case 108                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60335 TERRY    138.0 to   60300 PORTNEUF 138.0   circuit 1

Outage case 109                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        60340 TFAL JCT 138.0 to   60160 HUNT     138.0   circuit 1
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Outage case 110               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60340 TFAL JCT 138.0 to   60345 TWINFALL 138.0   circuit 1
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Outage case 111               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60350 TFALL TP 138.0 to   60351 TFALL PP 138.0   circuit 1
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Outage case 112               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60371 WEISR TP 138.0 to   60260 ONTARIO  138.0   circuit 1
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Outage case 113               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60371 WEISR TP 138.0 to   60370 WEISER   138.0   circuit 1
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Outage case 114               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60375 WOOD RVR 138.0 to   60175 KING     138.0   circuit 1
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Outage case 115               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60375 WOOD RVR 138.0 to   60230 MIDPOINT 138.0   circuit 1
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Outage case 116               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61055 NELSN TP 138.0 to   60371 WEISR TP 138.0   circuit 1
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Outage case 117               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61225 DRY CRK  138.0 to   60140 EMMETT   138.0   circuit 1
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Outage case 118               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61225 DRY CRK  138.0 to   61254 LOCUST   138.0   circuit 1
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Outage case 119               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61254 LOCUST   138.0 to   61261 MORA     138.0   circuit 1
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Outage case 120               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61800 ANDERSN  115.0 to   61805 MT HOME  115.0   circuit 1
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Outage case 121               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61810 MINIDOKA 138.0 to   61900 RAFT RVR 138.0   circuit 1
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Outage case 122               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61810 MINIDOKA 138.0 to   61950 UNITY    138.0   circuit 1
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Outage case 123               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61835 WJOHN DY 138.0 to   61825 HINES    138.0   circuit 1
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Outage case 124               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61950 UNITY    138.0 to   61850 HEYBURN  138.0   circuit 1
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Outage case 125               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60045 BOISEBCH 230.0 to   60095 BROWNLEE 230.0   circuit 1
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Outage case 126               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60095 BROWNLEE 230.0 to   60265 ONTARIO  230.0   circuit 1
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Outage case 127               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60110 CALDWELL 230.0 to   60265 ONTARIO  230.0   circuit 1
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Outage case 128               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60250 MT HOME  138.0 to   60390 DANSKIN  138.0   circuit 1
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Outage case 129               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60320 STRIKE   138.0 to   60390 DANSKIN  138.0   circuit 1
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Outage case 130               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60045 BOISEBCH 230.0 to   60207 LOCUST   230.0   circuit 1
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Outage case 131               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60275 OXBOW    230.0 to   60278 IMNAHA   230.0   circuit 1
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Outage case 132               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   62019 WILSALL  230.0   circuit 1
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Outage case 133               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   62030 PTRSNFLT 230.0   circuit 1
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Outage case 134               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62003 BONNERMT 161.0   circuit 1
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Outage case 135               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62009 RATTLE S 161.0   circuit 1
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Outage case 136               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62017 MT ASIMI 161.0   circuit 1
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Outage case 137               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62017 MT ASIMI 161.0   circuit 2
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Outage case 138               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62005 ANACOND  161.0 to   62084 DILLON S 161.0   circuit 1
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Outage case 139               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62006 TAFTAUTO 115.0 to   62085 CROWCR B 115.0   circuit 1
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Outage case 140               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62003 BONNERMT 161.0   circuit 1
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Outage case 141               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62007 KERR B   161.0   circuit 1
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Outage case 142               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62008 KERR A   161.0   circuit 1
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Outage case 143               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62009 RATTLE S 161.0 to   62078 RESERVST 161.0   circuit 1
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Outage case 144               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62014 BUTTEMHD 161.0 to   62017 MT ASIMI 161.0   circuit 1
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Outage case 145               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62031 CUTBANK  115.0 to   62027 SHELBY   115.0   circuit 1
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Outage case 146                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62034 BOLE     230.0 to   62035 CNRDWAPA 230.0   circuit 1

Outage case 147                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62035 CNRDWAPA 230.0 to   62026 SHELBY   230.0   circuit 1

Outage case 148                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62046 BROADVU  500.0 to   62012 TOWN2    500.0   circuit 2

Outage case 149                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62046 BROADVU  500.0 to   62013 TOWN1    500.0   circuit 1

Outage case 150                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62053 BROADV&2 500.0 to   62046 BROADVU  500.0   circuit 2

Outage case 151                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62053 BROADV&2 500.0 to   62046 BROADVU  500.0   circuit 4

Outage case 152                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62054 BROADV&1 500.0 to   62046 BROADVU  500.0   circuit 1

Outage case 153                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62054 BROADV&1 500.0 to   62046 BROADVU  500.0   circuit 3

Outage case 154                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62057 COLSTRP  500.0 to   62053 BROADV&2 500.0   circuit 2

Outage case 155                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62057 COLSTRP  500.0 to   62054 BROADV&1 500.0   circuit 1

Outage case 156                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62058 SHOREYRD 230.0 to   62019 WILSALL  230.0   circuit 1

Outage case 157                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62058 SHOREYRD 230.0 to   62052 ALKALI   230.0   circuit 1

Outage case 158                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62058 SHOREYRD 230.0 to   62055 BASELINE 230.0   circuit 1

Outage case 159                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62059 MONTANA1 115.0 to   62221 NICHOL-R 115.0   circuit 1

Outage case 160                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62060 COLSTRP  230.0 to   62051 HARDIN   230.0   circuit 1

Outage case 161                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62062 RIMROCK  161.0 to   62109 ALKALI   161.0   circuit 1

Outage case 162                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62065 ENNIS MT 161.0 to   62064 BRADLEYC 161.0   circuit 1

Outage case 163                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62066 KERR     115.0 to   62303 PLAINS   115.0   circuit 1

Outage case 164                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62066 KERR     115.0 to   62304 THFLPM T 115.0   circuit 1

Outage case 165                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62069 CNRDWAPA 115.0 to   62188 CNRD-SRA 115.0   circuit 1

Outage case 166                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62070 GT FALLS 115.0 to   62180 DUTTON   115.0   circuit 1

Outage case 167                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62071 GT FALLS 230.0 to   62034 BOLE     230.0   circuit 1

Outage case 168                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62071 GT FALLS 230.0 to   62036 JUDITHGP 230.0   circuit 1

Outage case 169                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62071 GT FALLS 230.0 to   62126 LANDRSFK 230.0   circuit 1

Outage case 170                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62076 TRIDENT  161.0 to   62108 CLYDE P  161.0   circuit 1

Outage case 171                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62077 BUTTE MT 161.0 to   62014 BUTTEMHD 161.0   circuit 1

Outage case 172                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62077 BUTTE MT 161.0 to   62017 MT ASIMI 161.0   circuit 1

Outage case 173                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62077 BUTTE MT 161.0 to   62159 GLDNSNLT 161.0   circuit 1

Outage case 174                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62079 MILLERCK 161.0 to   62003 BONNERMT 161.0   circuit 1

Outage case 175                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62079 MILLERCK 161.0 to   62311 HAMLTNMA 161.0   circuit 1

Outage case 176                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62079 MILLERCK 161.0 to   62312 HAMLTNMB 161.0   circuit 1

Outage case 177                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62081 COLSTRP  115.0 to   62059 MONTANA1 115.0   circuit 1

Outage case 178                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62081 COLSTRP  115.0 to   62210 ARMELLCR 115.0   circuit 1

Outage case 179                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62082 BILINGS  230.0 to   62052 ALKALI   230.0   circuit 1

Outage case 180                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62082 BILINGS  230.0 to   62056 HUNTLEY  230.0   circuit 1

Outage case 181                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62082 BILINGS  230.0 to   62125 BILINGSW 230.0   circuit 1

Outage case 182                Y, WAPA UGP, JUNE 2002
    switched OUT LINE         62084 DILLON S 161.0 to   62158 SHERDNMT 161.0   circuit 1
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Outage case 183                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62085 CROWCR B 115.0   circuit 1

Outage case 184                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62305 TFALLCIT 115.0   circuit 1

Outage case 185                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   62306 TFALCITA 115.0   circuit 1

Outage case 186                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62087 CONRAD   115.0 to   62069 CNRDWAPA 115.0   circuit 1

Outage case 187                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62087 CONRAD   115.0 to   62178 VAL-WILL 115.0   circuit 1

Outage case 188                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62088 CTBPUMP  115.0 to   62031 CUTBANK  115.0   circuit 1

Outage case 189                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62016 WILSALL  161.0   circuit 1

Outage case 190                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62249 EGALTN A 161.0   circuit 1

Outage case 191                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62250 BGTMBERA 161.0   circuit 99

Outage case 192                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62257 EMIGT AT 161.0   circuit 1

Outage case 193                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62108 CLYDE P  161.0 to   62258 EGALTN B 161.0   circuit 1

Outage case 194                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62125 BILINGSW 230.0 to   62223 BROADVU  230.0   circuit 1

Outage case 195                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62126 LANDRSFK 230.0 to   62072 OVANDO   230.0   circuit 1

Outage case 196                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62158 SHERDNMT 161.0 to   62065 ENNIS MT 161.0   circuit 1

Outage case 197                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62159 GLDNSNLT 161.0 to   62076 TRIDENT  161.0   circuit 1

Outage case 198                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62178 VAL-WILL 115.0 to   62088 CTBPUMP  115.0   circuit 1

Outage case 199                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62180 DUTTON   115.0 to   62069 CNRDWAPA 115.0   circuit 1

Outage case 200                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62109 ALKALI   161.0   circuit 1

Outage case 201                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62214 CLMBUSPM 161.0   circuit 1

Outage case 202                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62205 COLRPLJE 161.0 to   62250 BGTMBERA 161.0   circuit 1

Outage case 203                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62206 NICHOLPM 115.0 to   62221 NICHOL-R 115.0   circuit 1

Outage case 204                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62210 ARMELLCR 115.0 to   62211 CASTLERT 115.0   circuit 1

Outage case 205                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62211 CASTLERT 115.0 to   62212 CASTLERK 115.0   circuit 1

Outage case 206                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62211 CASTLERT 115.0 to   62219 SARPY AT 115.0   circuit 1

Outage case 207                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62219 SARPY AT 115.0 to   62080 HARDIN   115.0   circuit 1

Outage case 208                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62223 BROADVU  230.0 to   62036 JUDITHGP 230.0   circuit 1

Outage case 209                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62223 BROADVU  230.0 to   62052 ALKALI   230.0   circuit 1

Outage case 210                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62256 JACKRABT 161.0   circuit 1

Outage case 211                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62256 JACKRABT 161.0   circuit 99

Outage case 212                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62249 EGALTN A 161.0 to   62258 EGALTN B 161.0   circuit 1

Outage case 213                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62256 JACKRABT 161.0 to   62064 BRADLEYC 161.0   circuit 1

Outage case 214                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62256 JACKRABT 161.0 to   62258 EGALTN B 161.0   circuit 99

Outage case 215                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62303 PLAINS   115.0 to   62306 TFALCITA 115.0   circuit 1

Outage case 216                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62304 THFLPM T 115.0 to   62305 TFALLCIT 115.0   circuit 1

Outage case 217                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62304 THFLPM T 115.0 to   62310 THFALLPM 115.0   circuit 1

Outage case 218                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62305 TFALLCIT 115.0 to   62309 THFALL-R 115.0   circuit 1

Outage case 219                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        62308 MISSLA 7 161.0 to   62078 RESERVST 161.0   circuit 1
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Outage case 220               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62308 MISSLA 7 161.0 to   62079 MILLERCK 161.0   circuit 1
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Outage case 221               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48001 4LAKE TP 115.0 to   40439 FOURLKS  115.0   circuit 1
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Outage case 222               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48001 4LAKE TP 115.0 to   48145 HANGMAN  115.0   circuit 1
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Outage case 223               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48003 4TH&HRLD 115.0   circuit 1
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Outage case 224               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48069 CHESTER  115.0   circuit 1
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Outage case 225               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48005 4TH&HRTP 115.0 to   48271 NINTHCNT 115.0   circuit 1
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Outage case 226               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48071 CHEWELAH 115.0   circuit 1
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Outage case 227               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   40263 COLV BPA 115.0   circuit 1
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Outage case 228               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48135 GIFFORD  115.0   circuit 1
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Outage case 229               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48213 LOON LK  115.0   circuit 1
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Outage case 230               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40017 ADDY     115.0 to   48223 METCHIP  115.0   circuit 1
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Outage case 231               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40019 ADDY     230.0 to   40021 ADDY 2   230.0   circuit 1
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Outage case 232               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40019 ADDY     230.0 to   40319 CUSICK   230.0   circuit 1
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Outage case 233               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40021 ADDY 2   230.0 to   40090 BELL SO  230.0   circuit 1
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Outage case 234               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40021 ADDY 2   230.0 to   40145 BOUNDARY 230.0   circuit 1
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Outage case 235               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40023 AHSAHKA  115.0 to   40367 DWORSHAK 115.0   circuit 1
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Outage case 236               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48010 AIRWAYTP 115.0   circuit 1
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Outage case 237               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48103 DEVIL GP 115.0   circuit 1
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Outage case 238               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   40397 FAIRCHLD 115.0   circuit 1
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Outage case 239               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48009 AIRWAYHT 115.0 to   48421 SUNSET   115.0   circuit 1
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Outage case 240               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48010 AIRWAYTP 115.0 to   48132 HAL&WHIT 115.0   circuit 1
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Outage case 241               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48010 AIRWAYTP 115.0 to   48387 SILVRLAK 115.0   circuit 1
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Outage case 242               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   47027 DIAM LAK 115.0   circuit 1
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Outage case 243               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   40779 NEWPORTB 115.0   circuit 1
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Outage case 244               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40029 ALBENI F 115.0 to   48347 PRIEST A 115.0   circuit 1
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Outage case 245               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46001 ANC LK T 230.0 to   40261 COLUMBIA 230.0   circuit 1
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Outage case 246               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46001 ANC LK T 230.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 247               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46807 MCKENZIE 115.0   circuit 1
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Outage case 248               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46807 MCKENZIE 115.0   circuit 2
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Outage case 249               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46811 N WENATC 115.0   circuit 1
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Outage case 250               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46801 ANDRS CN 115.0 to   46827 SUMMIT   115.0   circuit 1
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Outage case 251               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48011 APPLETAP 115.0 to   48095 DALTON2T 115.0   circuit 1
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Outage case 252               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48013 APPLEWAY 115.0 to   48011 APPLETAP 115.0   circuit 1
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Outage case 253               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48015 ARDEN    115.0 to   48301 ORIN     115.0   circuit 1
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Outage case 254               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47501 ARMSTRNG 115.0 to   48415 SPULMNTP 115.0   circuit 1
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Outage case 255               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40061 ASHE     500.0 to   40683 LOW MON  500.0   circuit 1
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Outage case 256              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40067 ATHOL    115.0 to   48017 ATHOLTAP 115.0   circuit 1
Outage case 257              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48017 ATHOLTAP 115.0 to   40953 SCARCELO 115.0   circuit 1
Outage case 258              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48019 AVONDALE 115.0 to   48356 RATHDRME 115.0   circuit 1
Outage case 259              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48021 BARKER   115.0 to   48311 OTIS     115.0   circuit 1
Outage case 260              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48029 BEACON S 115.0   circuit 1
Outage case 261              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48271 NINTHCNT 115.0   circuit 1
Outage case 262              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48277 NORTHEAS 115.0   circuit 1
Outage case 263              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48312 OPORTUNW 115.0   circuit 1
Outage case 264              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48371 ROSSPARK 115.0   circuit 1
Outage case 265              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48023 BEACON N 115.0 to   48405 SPKINDPK 115.0   circuit 1
Outage case 266              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   48031 BEACON S 230.0   circuit 1
Outage case 267              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   40090 BELL SO  230.0   circuit 5
Outage case 268              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48025 BEACON N 230.0 to   48037 BENEWAH  230.0   circuit 1
Outage case 269              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   40087 BELL BPA 115.0   circuit 1
Outage case 270              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48033 BELL TAP 115.0   circuit 1
Outage case 271              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48237 MILLWOOD 115.0   circuit 1
Outage case 272              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48271 NINTHCNT 115.0   circuit 1
Outage case 273              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48029 BEACON S 115.0 to   48271 NINTHCNT 115.0   circuit 2
Outage case 274              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48031 BEACON S 230.0 to   40090 BELL SO  230.0   circuit 4
Outage case 275              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48031 BEACON S 230.0 to   48357 RATHDRUM 230.0   circuit 1
Outage case 276              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40113 BIGELOW  115.0   circuit 1
Outage case 277              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40255 COLBERTT 115.0   circuit 1
Outage case 278              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   40281 COULEE   115.0   circuit 1
Outage case 279              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   47285 INLD EMP 115.0   circuit 1
Outage case 280              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   41015 SPRNGHIL 115.0   circuit 1
Outage case 281              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40087 BELL BPA 115.0 to   48449 WAIKIKIT 115.0   circuit 1
Outage case 282              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40091 BELL BPA 500.0 to   41057 TAFT     500.0   circuit 1
Outage case 283              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   40086 BELL NO  230.0   circuit 1
Outage case 284              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   40090 BELL SO  230.0   circuit 1
Outage case 285              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   41358 COULEES3 230.0   circuit 5
Outage case 286              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40088 BELL MI  230.0 to   47091 USK      230.0   circuit 1
Outage case 287              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40086 BELL NO  230.0 to   40909 SACHEEN  230.0   circuit 1
Outage case 288              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40086 BELL NO  230.0 to   41275 WESTBPA1 230.0   circuit 1
Outage case 289              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40090 BELL SO  230.0 to   41356 COULEES1 230.0   circuit 3
Outage case 290              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40090 BELL SO  230.0 to   40624 LANCASTR 230.0   circuit 1
Outage case 291              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48033 BELL TAP 115.0 to   40087 BELL BPA 115.0   circuit 1
Outage case 292              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48033 BELL TAP 115.0 to   48381 SEVENTAP 115.0   circuit 1
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Outage case 293                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48035 BENEWAH  115.0 to   48323 PLUMMER  115.0   circuit 1

Outage case 294                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48037 BENEWAH  230.0 to   48317 PINE CRK 230.0   circuit 1

Outage case 295                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48041 BIGCREEK 115.0 to   48049 BUNKRHIL 115.0   circuit 1

Outage case 296                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40113 BIGELOW  115.0 to   40483 GREEN BL 115.0   circuit 1

Outage case 297                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40113 BIGELOW  115.0 to   41089 TRENTWOD 115.0   circuit 1

Outage case 298                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46013 BKSAND T 115.0 to   40849 POTHOLES 115.0   circuit 1

Outage case 299                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48043 BLANCHRD 115.0 to   47505 HOODOO   115.0   circuit 1

Outage case 300                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48045 BLUECRK  115.0 to   48067 CDA      115.0   circuit 1

Outage case 301                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   41239 MOYIE T  115.0   circuit 1

Outage case 302                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   47194 MT HALL  115.0   circuit 1

Outage case 303                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40133 BONNERS  115.0 to   40927 SAMUELS  115.0   circuit 1

Outage case 304                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40143 BOUNDARY 115.0 to   40731 METALINE 115.0   circuit 1

Outage case 305                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40145 BOUNDARY 230.0 to   40319 CUSICK   230.0   circuit 1

Outage case 306                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40145 BOUNDARY 230.0 to   40909 SACHEEN  230.0   circuit 1

Outage case 307                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47009 BOX CANY 115.0 to   40317 CUSICK   115.0   circuit 1

Outage case 308                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47126 BOX PS   115.0 to   41190 BOX TAP  115.0   circuit 1

Outage case 309                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41190 BOX TAP  115.0 to   40731 METALINE 115.0   circuit 1

Outage case 310                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41190 BOX TAP  115.0 to   48399 SPIRIT   115.0   circuit 1

Outage case 311                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47127 BRAYS LD 115.0 to   46805 CHELAN   115.0   circuit 1

Outage case 312                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47127 BRAYS LD 115.0 to   47069 ORONDO   115.0   circuit 1

Outage case 313                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   47129 BRIDGBAR 115.0   circuit 1

Outage case 314                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   40801 OPHIR T  115.0   circuit 1

Outage case 315                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40147 BREWSTER 115.0 to   47209 PATEROS  115.0   circuit 1

Outage case 316                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47129 BRIDGBAR 115.0 to   47013 BRIDGPRT 115.0   circuit 1

Outage case 317                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47013 BRIDGPRT 115.0 to   47099 WELLS    115.0   circuit 1

Outage case 318                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40149 BRINKENS 115.0 to   48341 POTLAT A 115.0   circuit 1

Outage case 319                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48047 BRONX    115.0 to   48293 ODEN     115.0   circuit 1

Outage case 320                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48047 BRONX    115.0 to   48377 SANDPT A 115.0   circuit 1

Outage case 321                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48049 BUNKRHIL 115.0 to   48315 PINE CRK 115.0   circuit 1

Outage case 322                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48053 BURKAVAA 115.0   circuit 1

Outage case 323                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48055 BURKAVAB 115.0   circuit 1

Outage case 324                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48151 HECLA    115.0   circuit 1

Outage case 325                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48051 BURKE    115.0 to   48217 LUCKYFTP 115.0   circuit 1

Outage case 326                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48057 CAB GORG 115.0 to   48065 CABINETG 115.0   circuit 1

Outage case 327                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48059 CAB GORG 230.0 to   48179 LAKEVIEW 230.0   circuit 1

Outage case 328                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48059 CAB GORG 230.0 to   48281 NOXON    230.0   circuit 1

Outage case 329                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        48065 CABINETG 115.0 to   48077 CLRKFORK 115.0   circuit 1
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Outage case 330               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        42312 CASCADEP 230.0 to   46831 ROCKYRH1 230.0   circuit 1
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Outage case 331               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48067 CDA      115.0 to   48097 DALTONT  115.0   circuit 1
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Outage case 332               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48067 CDA      115.0 to   48349 RAMSEY   115.0   circuit 1
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Outage case 333               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46805 CHELAN   115.0 to   48149 HEADWORK 115.0   circuit 1
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Outage case 334               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46805 CHELAN   115.0 to   46821 ROCKY RH 115.0   circuit 1
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Outage case 335               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40215 CHENEY   115.0 to   40439 FOURLKS  115.0   circuit 1
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Outage case 336               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48069 CHESTER  115.0 to   48299 OPPORTUN 115.0   circuit 1
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Outage case 337               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48071 CHEWELAH 115.0 to   48441 VALLEY A 115.0   circuit 1
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Outage case 338               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40223 CHIEF J3 345.0 to   40993 SNOHOMS3 345.0   circuit 3
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Outage case 339               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40225 CHIEF J4 345.0 to   40994 SNOHOMS4 345.0   circuit 4
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Outage case 340               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   41358 COULEES3 230.0   circuit 1
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Outage case 341               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   41358 COULEES3 230.0   circuit 2
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Outage case 342               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40231 CHIEF JO 230.0 to   40373 E OMAK   230.0   circuit 1
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Outage case 343               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40287 COULEE   500.0   circuit 1
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Outage case 344               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40749 MONROE   500.0   circuit 1
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Outage case 345               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40233 CHIEF JO 500.0 to   40973 SICKLER  500.0   circuit 1
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Outage case 346               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48073 CHMBRSTP 115.0 to   47503 CHAMBERS 115.0   circuit 1
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Outage case 347               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40239 CLARKSTN 115.0 to   48253 N LEWIST 115.0   circuit 1
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Outage case 348               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40239 CLARKSTN 115.0 to   40835 POMEROY  115.0   circuit 1
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Outage case 349               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40245 CLAYTON  115.0 to   40337 DEER PRK 115.0   circuit 1
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Outage case 350               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40245 CLAYTON  115.0 to   48213 LOON LK  115.0   circuit 1
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Outage case 351               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41753 CLE10_13 230.0 to   41357 COULEES2 230.0   circuit 1
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Outage case 352               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41754 CLE14_18 230.0 to   41358 COULEES3 230.0   circuit 1
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Outage case 353               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48195 LOLO     115.0   circuit 1
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Outage case 354               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48429 TENTHSTW 115.0   circuit 1
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Outage case 355               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48075 CLEARWTR 115.0 to   48464 WHEATLND 115.0   circuit 1
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Outage case 356               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48077 CLRKFORK 115.0 to   48293 ODEN     115.0   circuit 1
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Outage case 357               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   41195 COL FAL2 230.0   circuit 1
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Outage case 358               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   40267 CONKELLY 230.0   circuit 1
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Outage case 359               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41194 COL FAL1 230.0 to   40557 HUNGRY H 230.0   circuit 1
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Outage case 360               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40249 COL FALL 230.0   circuit 1
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Outage case 361               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40267 CONKELLY 230.0   circuit 1
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Outage case 362               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41196 COL FAL3 230.0 to   40557 HUNGRY H 230.0   circuit 1
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Outage case 363               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40247 COL FALL 115.0 to   40589 KALISPEL 115.0   circuit 1
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Outage case 364               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40247 COL FALL 115.0 to   41039 STILLWTR 115.0   circuit 1
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Outage case 365               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40249 COL FALL 230.0 to   40421 FLATHEAD 230.0   circuit 1
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Outage case 366                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48079 COLBERT  115.0 to   40255 COLBERTT 115.0   circuit 1
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Outage case 367                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40255 COLBERTT 115.0 to   40495 HALFMOON 115.0   circuit 1
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Outage case 368                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48081 COLLWALN 115.0 to   48129 FTWRIGHT 115.0   circuit 1
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Outage case 369                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48081 COLLWALN 115.0 to   48339 POSTSTRT 115.0   circuit 1
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Outage case 370                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   46033 GB55     115.0   circuit 1
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Outage case 371                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   40579 JENKINS  115.0   circuit 1
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Outage case 372                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   47071 PALISADS 115.0   circuit 1
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Outage case 373                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   41105 VALHALLA 115.0   circuit 1
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Outage case 374                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40259 COLUMBIA 115.0 to   41105 VALHALLA 115.0   circuit 2
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Outage case 375                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41356 COULEES1 230.0   circuit 1
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Outage case 376                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41358 COULEES3 230.0   circuit 3
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Outage case 377                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   40303 COVINGTN 230.0   circuit 1
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Outage case 378                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   46809 MCKENZIE 230.0   circuit 1
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Outage case 379                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   46832 ROCKYRH2 230.0   circuit 1
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Outage case 380                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40261 COLUMBIA 230.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 381                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48083 COLV AVA 115.0 to   48143 GREENWDA 115.0   circuit 1
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Outage case 382                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40263 COLV BPA 115.0 to   40607 KETTLE T 115.0   circuit 1
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Outage case 383                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40263 COLV BPA 115.0 to   48399 SPIRIT   115.0   circuit 1
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Outage case 384                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40267 CONKELLY 230.0 to   45305 TRUMB CR 230.0   circuit 1
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Outage case 385                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40275 COOK M T 115.0 to   40607 KETTLE T 115.0   circuit 1
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Outage case 386                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40275 COOK M T 115.0 to   40879 REPUBLIC 115.0   circuit 1
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Outage case 387                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46150 COUL2GPD 115.0 to   40281 COULEE   115.0   circuit 1
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Outage case 388                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46150 COUL2GPD 115.0 to   41127 WAGNERLT 115.0   circuit 1
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Outage case 389                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41751 COULE1_5 230.0 to   41356 COULEES1 230.0   circuit 1
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Outage case 390                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41752 COULE6_9 230.0 to   41357 COULEES2 230.0   circuit 1
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Outage case 391                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40281 COULEE   115.0 to   41222 KELLER T 115.0   circuit 1
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Outage case 392                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40281 COULEE   115.0 to   47067 NILLES C 115.0   circuit 1
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Outage case 393                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40285 COULEE   300.0 to   40795 OLYMPIA  300.0   circuit 1
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Outage case 394                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40499 HANFORD  500.0   circuit 1
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Outage case 395                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40957 SCHULTZ  500.0   circuit 1
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Outage case 396                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40287 COULEE   500.0 to   40957 SCHULTZ  500.0   circuit 2
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Outage case 397                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41356 COULEES1 230.0 to   41357 COULEES2 230.0   circuit 1
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Outage case 398                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41356 COULEES1 230.0 to   40851 POTHOLES 230.0   circuit 1
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Outage case 399                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   41358 COULEES3 230.0   circuit 1
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Outage case 400                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   46156 ROCKYFD  230.0   circuit 1
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Outage case 401                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41357 COULEES2 230.0 to   41276 WESTBPA2 230.0   circuit 1
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Outage case 402                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40311 CRESTN   115.0 to   40637 LARENE   115.0   circuit 1
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Outage case 403                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40311 CRESTN   115.0 to   41127 WAGNERLT 115.0   circuit 1

Outage case 404                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40317 CUSICK   115.0 to   47254 USK      115.0   circuit 1

Outage case 405                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40319 CUSICK   230.0 to   47091 USK      230.0   circuit 1

Outage case 406                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48095 DALTON2T 115.0 to   48019 AVONDALE 115.0   circuit 1

Outage case 407                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48097 DALTONT  115.0 to   48093 DALTON A 115.0   circuit 1

Outage case 408                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48097 DALTONT  115.0 to   48356 RATHDRME 115.0   circuit 1

Outage case 409                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40337 DEER PRK 115.0 to   48235 MILAN TP 115.0   circuit 1

Outage case 410                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47025 DELIGHT  115.0 to   48457 WASHTUNA 115.0   circuit 1

Outage case 411                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48103 DEVIL GP 115.0 to   48269 NINEMILE 115.0   circuit 1

Outage case 412                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47027 DIAM LAK 115.0 to   40907 SACHEEN  115.0   circuit 1

Outage case 413                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40348 DIXON    230.0 to   40551 HOT SPR  230.0   circuit 1

Outage case 414                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40348 DIXON    230.0 to   40867 RATTLE S 230.0   circuit 1

Outage case 415                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47029 DOUGLAS  115.0 to   47089 TERRY T  115.0   circuit 1

Outage case 416                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   46833 ROCKYRH3 230.0   circuit 1

Outage case 417                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   47101 WELLS    230.0   circuit 1

Outage case 418                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47031 DOUGLAS  230.0 to   47101 WELLS    230.0   circuit 2

Outage case 419                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47033 DOWER RD 115.0 to   48111 DOWERRDT 115.0   circuit 1

Outage case 420                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48111 DOWERRDT 115.0 to   48329 POST FLS 115.0   circuit 1

Outage case 421                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40369 DWORSHAK 500.0 to   40521 HATWAI   500.0   circuit 1

Outage case 422                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40369 DWORSHAK 500.0 to   41057 TAFT     500.0   circuit 1

Outage case 423                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41202 E ELLNSB 115.0 to   40385 ELLENGTP 115.0   circuit 1

Outage case 424                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40437 FOSTER C 115.0   circuit 1

Outage case 425                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40789 OKANOGAN 115.0   circuit 1

Outage case 426                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   40799 OMAK     115.0   circuit 1

Outage case 427                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   41085 TONASKET 115.0   circuit 1

Outage case 428                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40371 E OMAK   115.0 to   41151 WHITESTN 115.0   circuit 1

Outage case 429                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48117 EASTFARM 115.0 to   48329 POST FLS 115.0   circuit 1

Outage case 430                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47051 HANNA    115.0   circuit 1

Outage case 431                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47085 SO NILE  115.0   circuit 1

Outage case 432                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47037 EASTMONT 115.0 to   47089 TERRY T  115.0   circuit 1

Outage case 433                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48119 EGRANTAP 115.0 to   40383 EGRANVIL 115.0   circuit 1

Outage case 434                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40385 ELLENGTP 115.0 to   40387 ELLENSBG 115.0   circuit 1

Outage case 435                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40385 ELLENGTP 115.0 to   40579 JENKINS  115.0   circuit 1

Outage case 436                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40387 ELLENSBG 115.0 to   40755 MOXEE    115.0   circuit 1

Outage case 437                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40389 ELLISFRD 115.0 to   40807 OROVILLE 115.0   circuit 1

Outage case 438                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40389 ELLISFRD 115.0 to   41151 WHITESTN 115.0   circuit 1

Outage case 439                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        40391 ELMO     115.0 to   40589 KALISPEL 115.0   circuit 1
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Outage case 440               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40421 FLATHEAD 230.0 to   45175 LION MTN 230.0   circuit 1
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Outage case 441               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40437 FOSTER C 115.0 to   47067 NILLES C 115.0   circuit 1
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Outage case 442               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   40439 FOURLKS  115.0   circuit 1
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Outage case 443               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   48132 HAL&WHIT 115.0   circuit 1
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Outage case 444               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   40525 HAYFORD  115.0   circuit 1
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Outage case 445               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48125 FOURLBPA 115.0 to   48387 SILVRLAK 115.0   circuit 1
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Outage case 446               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48127 FRANCEDR 115.0 to   48219 LYONSTND 115.0   circuit 1
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Outage case 447               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48127 FRANCEDR 115.0 to   48279 NORTHWES 115.0   circuit 1
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Outage case 448               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48129 FTWRIGHT 115.0 to   48461 WEST     115.0   circuit 1
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Outage case 449               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40449 GAFFNEY  115.0 to   48411 SPRAGUE  115.0   circuit 1
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Outage case 450               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40451 GAR1EAST 500.0 to   40459 GARRISON 500.0   circuit 1
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Outage case 451               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40453 GAR2EAST 500.0 to   40459 GARRISON 500.0   circuit 1
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Outage case 452               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48131 GARDENSP 115.0 to   40525 HAYFORD  115.0   circuit 1
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Outage case 453               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48131 GARDENSP 115.0 to   48409 SPKWASTE 115.0   circuit 1
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Outage case 454               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40457 GARRISON 230.0 to   40867 RATTLE S 230.0   circuit 1
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Outage case 455               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40459 GARRISON 500.0 to   41057 TAFT     500.0   circuit 1
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Outage case 456               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40459 GARRISON 500.0 to   41057 TAFT     500.0   circuit 2
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Outage case 457               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48139 GLENTAP  115.0 to   48137 GLENROSE 115.0   circuit 1
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Outage case 458               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48139 GLENTAP  115.0 to   48395 SOUTHEAS 115.0   circuit 1
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Outage case 459               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40479 GOOSE LK 115.0 to   40777 NESPELEM 115.0   circuit 1
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Outage case 460               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40479 GOOSE LK 115.0 to   40789 OKANOGAN 115.0   circuit 1
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Outage case 461               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48143 GREENWDA 115.0 to   48175 KETTLEAV 115.0   circuit 1
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Outage case 462               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48132 HAL&WHIT 115.0 to   48387 SILVRLAK 115.0   circuit 1
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Outage case 463               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40495 HALFMOON 115.0 to   41099 TUM TUM  115.0   circuit 1
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Outage case 464               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40499 HANFORD  500.0 to   40683 LOW MON  500.0   circuit 1
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Outage case 465               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40499 HANFORD  500.0 to   41113 VANTAGE  500.0   circuit 1
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Outage case 466               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47051 HANNA    115.0 to   41105 VALHALLA 115.0   circuit 1
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Outage case 467               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40513 HASKILL  230.0 to   40657 LIBBY    230.0   circuit 1
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Outage case 468               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40513 HASKILL  230.0 to   45305 TRUMB CR 230.0   circuit 1
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Outage case 469               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48197 LOLO     230.0   circuit 1
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Outage case 470               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48197 LOLO     230.0   circuit 2
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Outage case 471               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48249 MOSCOW   230.0   circuit 1
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Outage case 472               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40519 HATWAI   230.0 to   48255 N LEWIST 230.0   circuit 1
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Outage case 473               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40521 HATWAI   500.0 to   40679 LOW GRAN 500.0   circuit 1
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Outage case 474               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48151 HECLA    115.0 to   48453 WALLACE  115.0   circuit 1
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Outage case 475               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48153 HECLAT   115.0 to   48041 BIGCREEK 115.0   circuit 1
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Outage case 476              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48155 HERN     115.0 to   48159 HUETTER  115.0   circuit 1
Outage case 477              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47505 HOODOO   115.0 to   48403 SPIRITLT 115.0   circuit 1
Outage case 478              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47507 HOPKINSB 115.0 to   48271 NINTHCNT 115.0   circuit 1
Outage case 479              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   45175 LION MTN 230.0   circuit 1
Outage case 480              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   48281 NOXON    230.0   circuit 2
Outage case 481              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   41091 TROUT CR 230.0   circuit 1
Outage case 482              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40553 HOT SPR  500.0 to   41057 TAFT     500.0   circuit 1
Outage case 483              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48159 HUETTER  115.0 to   48355 RATHDRUM 115.0   circuit 1
Outage case 484              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47285 INLD EMP 115.0 to   41089 TRENTWOD 115.0   circuit 1
Outage case 485              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48165 IRVIN    115.0 to   48299 OPPORTUN 115.0   circuit 1
Outage case 486              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48165 IRVIN    115.0 to   48311 OTIS     115.0   circuit 1
Outage case 487              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40587 JOSO TAP 115.0 to   41340 NINEMI T 115.0   circuit 1
Outage case 488              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40603 KELLER   115.0 to   41222 KELLER T 115.0   circuit 1
Outage case 489              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41222 KELLER T 115.0 to   40777 NESPELEM 115.0   circuit 1
Outage case 490              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40607 KETTLE T 115.0 to   48175 KETTLEAV 115.0   circuit 1
Outage case 491              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48177 KOOSKIA  115.0 to   48379 SCOTPAPR 115.0   circuit 1
Outage case 492              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40617 LACLEDE  115.0 to   40857 PRIEST   115.0   circuit 1
Outage case 493              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40617 LACLEDE  115.0 to   40933 SANDPONT 115.0   circuit 1
Outage case 494              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40621 LAGRANDE 230.0 to   40905 ROUNDUP  230.0   circuit 1
Outage case 495              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48179 LAKEVIEW 230.0 to   48357 RATHDRUM 230.0   circuit 1
Outage case 496              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40624 LANCASTR 230.0 to   40787 NOXONBPA 230.0   circuit 1
Outage case 497              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40637 LARENE   115.0 to   41015 SPRNGHIL 115.0   circuit 1
Outage case 498              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40655 LIBBY    115.0 to   47278 LIBBYFEC 115.0   circuit 1
Outage case 499              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40657 LIBBY    230.0 to   40787 NOXONBPA 230.0   circuit 1
Outage case 500              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47278 LIBBYFEC 115.0 to   41097 TROY     115.0   circuit 1
Outage case 501              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48185 LIBTYLK  115.0 to   48299 OPPORTUN 115.0   circuit 1
Outage case 502              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48185 LIBTYLK  115.0 to   48311 OTIS     115.0   circuit 1
Outage case 503              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48187 LIND     115.0 to   47025 DELIGHT  115.0   circuit 1
Outage case 504              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48187 LIND     115.0 to   47073 RALSTONB 115.0   circuit 1
Outage case 505              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40679 LOW GRAN 500.0   circuit 1
Outage case 506              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40679 LOW GRAN 500.0   circuit 2
Outage case 507              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40683 LOW MON  500.0   circuit 1
Outage case 508              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40665 LIT GOOS 500.0 to   40683 LOW MON  500.0   circuit 2
Outage case 509              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40683 LOW MON  500.0 to   40917 SACJWA T 500.0   circuit 1
Outage case 510              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48217 LUCKYFTP 115.0 to   48153 HECLAT   115.0   circuit 1
Outage case 511              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48217 LUCKYFTP 115.0 to   48215 LUCKY F  115.0   circuit 1
Outage case 512              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48219 LYONSTND 115.0 to   48371 ROSSPARK 115.0   circuit 1
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Outage case 513                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46043 MAE VL T 230.0 to   40851 POTHOLES 230.0   circuit 1

Outage case 514                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47185 MALOTT   115.0 to   40789 OKANOGAN 115.0   circuit 1

Outage case 515                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47185 MALOTT   115.0 to   41157 WINTHR T 115.0   circuit 1

Outage case 516                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40691 MAPLE VL 345.0 to   40891 ROCKY RH 345.0   circuit 1

Outage case 517                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48221 MARENGO  115.0 to   47073 RALSTONB 115.0   circuit 1

Outage case 518                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46045 MATTAWA  230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 519                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46817 ROCK IS2 115.0   circuit 1

Outage case 520                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   41105 VALHALLA 115.0   circuit 1

Outage case 521                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46829 WENATCHE 115.0   circuit 1

Outage case 522                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46807 MCKENZIE 115.0 to   46829 WENATCHE 115.0   circuit 2

Outage case 523                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46809 MCKENZIE 230.0 to   46831 ROCKYRH1 230.0   circuit 1

Outage case 524                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41351 MCNRY S1 230.0 to   40905 ROUNDUP  230.0   circuit 1

Outage case 525                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48223 METCHIP  115.0 to   48015 ARDEN    115.0   circuit 1

Outage case 526                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48225 METRO    115.0 to   48339 POSTSTRT 115.0   circuit 1

Outage case 527                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48225 METRO    115.0 to   48421 SUNSET   115.0   circuit 1

Outage case 528                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47509 MICA     115.0 to   48231 MICA TAP 115.0   circuit 1

Outage case 529                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48231 MICA TAP 115.0 to   47507 HOPKINSB 115.0   circuit 1

Outage case 530                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41346 MIDWAYB1 230.0 to   40851 POTHOLES 230.0   circuit 1

Outage case 531                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41347 MIDWAYB2 230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 532                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48235 MILAN TP 115.0 to   41099 TUM TUM  115.0   circuit 1

Outage case 533                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48163 I.E.PAPR 115.0   circuit 1

Outage case 534                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48165 IRVIN    115.0   circuit 1

Outage case 535                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48237 MILLWOOD 115.0 to   48312 OPORTUNW 115.0   circuit 1

Outage case 536                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48239 MISSION  115.0 to   48045 BLUECRK  115.0   circuit 1

Outage case 537                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47511 MOAB     115.0 to   48310 OPORTUNE 115.0   circuit 1

Outage case 538                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47511 MOAB     115.0 to   48319 PLEASANT 115.0   circuit 1

Outage case 539                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41239 MOYIE T  115.0 to   41240 MOYIE TX 115.0   circuit 1

Outage case 540                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41239 MOYIE T  115.0 to   41169 YAAK     115.0   circuit 1

Outage case 541                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41240 MOYIE TX 115.0 to   41241 N BENCH  115.0   circuit 1

Outage case 542                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47194 MT HALL  115.0 to   41299 SMITHFLS 115.0   circuit 1

Outage case 543                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48253 N LEWIST 115.0 to   48075 CLEARWTR 115.0   circuit 1

Outage case 544                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46811 N WENATC 115.0 to   46821 ROCKY RH 115.0   circuit 1

Outage case 545                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46811 N WENATC 115.0 to   46829 WENATCHE 115.0   circuit 1

Outage case 546                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40779 NEWPORTB 115.0 to   47086 PINE ST  115.0   circuit 1

Outage case 547                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48258 NEWPORTT 115.0 to   48043 BLANCHRD 115.0   circuit 1

Outage case 548                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48258 NEWPORTT 115.0 to   48259 NEWPORTA 115.0   circuit 1

Outage case 549                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        48258 NEWPORTT 115.0 to   47086 PINE ST  115.0   circuit 1
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Outage case 550               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41340 NINEMI T 115.0 to   41131 WALAWALA 115.0   circuit 1
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Outage case 551               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47574 NINEMIF1 115.0 to   41340 NINEMI T 115.0   circuit 1
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Outage case 552               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47572 NINEMIF2 230.0 to   45331 WALLULA  230.0   circuit 1
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Outage case 553               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48269 NINEMILE 115.0 to   48461 WEST     115.0   circuit 1
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Outage case 554               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48271 NINTHCNT 115.0 to   48139 GLENTAP  115.0   circuit 1
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Outage case 555               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48271 NINTHCNT 115.0 to   48431 THIRHACH 115.0   circuit 1
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Outage case 556               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48277 NORTHEAS 115.0 to   48224 MEAD     115.0   circuit 1
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Outage case 557               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48279 NORTHWES 115.0 to   48461 WEST     115.0   circuit 1
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Outage case 558               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48281 NOXON    230.0 to   40787 NOXONBPA 230.0   circuit 1
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Outage case 559               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48281 NOXON    230.0 to   48317 PINE CRK 230.0   circuit 1
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Outage case 560               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40787 NOXONBPA 230.0 to   48289 NOXONCON 230.0   circuit 1
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Outage case 561               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48289 NOXONCON 230.0 to   41091 TROUT CR 230.0   circuit 1
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Outage case 562               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48295 ODESSA   115.0 to   40577 IRBY     115.0   circuit 1
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Outage case 563               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48297 OGARA    115.0 to   48315 PINE CRK 115.0   circuit 1
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Outage case 564               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40789 OKANOGAN 115.0 to   40801 OPHIR T  115.0   circuit 1
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Outage case 565               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48310 OPORTUNE 115.0 to   48312 OPORTUNW 115.0   circuit 1
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Outage case 566               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48310 OPORTUNE 115.0 to   48299 OPPORTUN 115.0   circuit 1
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Outage case 567               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48301 ORIN     115.0 to   48083 COLV AVA 115.0   circuit 1
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Outage case 568               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48303 OROFINO  115.0 to   40023 AHSAHKA  115.0   circuit 1
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Outage case 569               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47069 ORONDO   115.0 to   46821 ROCKY RH 115.0   circuit 1
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Outage case 570               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48305 OSBURN   115.0 to   48315 PINE CRK 115.0   circuit 1
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Outage case 571               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48311 OTIS     115.0 to   48117 EASTFARM 115.0   circuit 1
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Outage case 572               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48311 OTIS     115.0 to   47511 MOAB     115.0   circuit 1
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Outage case 573               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48031 BEACON S 230.0   circuit 1
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Outage case 574               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48357 RATHDRUM 230.0   circuit 1
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Outage case 575               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48306 OTIS     230.0 to   48357 RATHDRUM 230.0   circuit 2
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Outage case 576               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47071 PALISADS 115.0 to   46075 QUINCY T 115.0   circuit 1
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Outage case 577               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47209 PATEROS  115.0 to   47251 TWISP    115.0   circuit 1
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Outage case 578               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48315 PINE CRK 115.0 to   48473 YELOWSTN 115.0   circuit 1
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Outage case 579               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47086 PINE ST  115.0 to   47254 USK      115.0   circuit 1
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Outage case 580               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48319 PLEASANT 115.0 to   48355 RATHDRUM 115.0   circuit 1
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Outage case 581               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48323 PLUMMER  115.0 to   48297 OGARA    115.0   circuit 1
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Outage case 582               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40835 POMEROY  115.0 to   41131 WALAWALA 115.0   circuit 1
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Outage case 583               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        45245 POMONA   230.0 to   41111 VANTAGE  230.0   circuit 1
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Outage case 584               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48329 POST FLS 115.0 to   40855 PRAIRIEB 115.0   circuit 1
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Outage case 585               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48339 POSTSTRT 115.0 to   48431 THIRHACH 115.0   circuit 1
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Outage case 586              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40849 POTHOLES 115.0 to   46095 SEEP TP  115.0   circuit 1

Outage case 587              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40855 PRAIRIEB 115.0 to   48349 RAMSEY   115.0   circuit 1

Outage case 588              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40857 PRIEST   115.0 to   48347 PRIEST A 115.0   circuit 1

Outage case 589              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48349 RAMSEY   115.0 to   48011 APPLETAP 115.0   circuit 1

Outage case 590              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48349 RAMSEY   115.0 to   48155 HERN     115.0   circuit 1

Outage case 591              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48351 RATHBUS1 115.0 to   48355 RATHDRUM 115.0   circuit 1

Outage case 592              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48353 RATHBUS2 115.0 to   48356 RATHDRME 115.0   circuit 1

Outage case 593              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48356 RATHDRME 115.0 to   48355 RATHDRUM 115.0   circuit 1

Outage case 594              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48356 RATHDRME 115.0 to   40953 SCARCELO 115.0   circuit 1

Outage case 595              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 1

Outage case 596              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 2

Outage case 597              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 3

Outage case 598              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40869 RAVER    500.0 to   40957 SCHULTZ  500.0   circuit 4

Outage case 599              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48363 REARDAN  115.0 to   40449 GAFFNEY  115.0   circuit 1

Outage case 600              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46817 ROCK IS2 115.0 to   41105 VALHALLA 115.0   circuit 1

Outage case 601              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48367 ROCKFORD 115.0 to   48231 MICA TAP 115.0   circuit 1

Outage case 602              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46821 ROCKY RH 115.0 to   46829 WENATCHE 115.0   circuit 1

Outage case 603              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46831 ROCKYRH1 230.0 to   46832 ROCKYRH2 230.0   circuit 1

Outage case 604              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        46832 ROCKYRH2 230.0 to   46833 ROCKYRH3 230.0   circuit 1

Outage case 605              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48371 ROSSPARK 115.0 to   48431 THIRHACH 115.0   circuit 1

Outage case 606              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40927 SAMUELS  115.0 to   40965 SELLE    115.0   circuit 1

Outage case 607              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   40931 SAND TP  115.0   circuit 1

Outage case 608              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   48377 SANDPT A 115.0   circuit 1

Outage case 609              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40929 SAND CRK 115.0 to   40965 SELLE    115.0   circuit 1

Outage case 610              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40931 SAND TP  115.0 to   40933 SANDPONT 115.0   circuit 1

Outage case 611              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        42448 SCENIC   115.0 to   46827 SUMMIT   115.0   circuit 1

Outage case 612              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40955 SCHRAG   115.0 to   46091 SCHRAG T 115.0   circuit 1

Outage case 613              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40957 SCHULTZ  500.0 to   40973 SICKLER  500.0   circuit 1

Outage case 614              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40957 SCHULTZ  500.0 to   41113 VANTAGE  500.0   circuit 1

Outage case 615              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48379 SCOTPAPR 115.0 to   48171 KAMIAH   115.0   circuit 1

Outage case 616              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48381 SEVENTAP 115.0 to   48127 FRANCEDR 115.0   circuit 1

Outage case 617              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48383 SHAWNEE  115.0 to   47501 ARMSTRNG 115.0   circuit 1

Outage case 618              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48395 SOUTHEAS 115.0 to   48421 SUNSET   115.0   circuit 1

Outage case 619              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48397 SPANGLE  115.0 to   48001 4LAKE TP 115.0   circuit 1

Outage case 620              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48403 SPIRITLT 115.0 to   48017 ATHOLTAP 115.0   circuit 1

Outage case 621              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48403 SPIRITLT 115.0 to   48401 SPIRITLK 115.0   circuit 1

Outage case 622              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48405 SPKINDPK 115.0 to   48021 BARKER   115.0   circuit 1
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Outage case 623                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48405 SPKINDPK 115.0 to   48299 OPPORTUN 115.0   circuit 1

Outage case 624                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48409 SPKWASTE 115.0 to   48461 WEST     115.0   circuit 1

Outage case 625                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41039 STILLWTR 115.0 to   41087 TREGO    115.0   circuit 1

Outage case 626                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48417 STMARIES 115.0 to   48297 OGARA    115.0   circuit 1

Outage case 627                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48419 STRATFRD 115.0 to   46447 SUMERFAL 115.0   circuit 1

Outage case 628                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41260 SULLIVNB 115.0 to   41115 VERA     115.0   circuit 1

Outage case 629                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41260 SULLIVNB 115.0 to   41117 VERA TAP 115.0   circuit 1

Outage case 630                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48421 SUNSET   115.0 to   48131 GARDENSP 115.0   circuit 1

Outage case 631                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48421 SUNSET   115.0 to   48145 HANGMAN  115.0   circuit 1

Outage case 632                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41089 TRENTWOD 115.0 to   41117 VERA TAP 115.0   circuit 1

Outage case 633                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41097 TROY     115.0 to   41169 YAAK     115.0   circuit 1

Outage case 634                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        47251 TWISP    115.0 to   41157 WINTHR T 115.0   circuit 1

Outage case 635                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48441 VALLEY A 115.0 to   48123 FORD     115.0   circuit 1

Outage case 636                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41107 VALY WAY 115.0 to   41117 VERA TAP 115.0   circuit 1

Outage case 637                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48443 VANT AVA 230.0 to   41111 VANTAGE  230.0   circuit 1

Outage case 638                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48445 VIOLA    115.0 to   40149 BRINKENS 115.0   circuit 1

Outage case 639                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41125 WAGNERLK 115.0 to   48469 WILBURT  115.0   circuit 1

Outage case 640                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41127 WAGNERLT 115.0 to   48469 WILBURT  115.0   circuit 1

Outage case 641                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48449 WAIKIKIT 115.0 to   48277 NORTHEAS 115.0   circuit 1

Outage case 642                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48449 WAIKIKIT 115.0 to   48447 WAIKIKI  115.0   circuit 1

Outage case 643                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48453 WALLACE  115.0 to   48305 OSBURN   115.0   circuit 1

Outage case 644                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48463 WEST     230.0 to   41275 WESTBPA1 230.0   circuit 1

Outage case 645                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48463 WEST     230.0 to   41276 WESTBPA2 230.0   circuit 1

Outage case 646                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48471 WILSNCKT 115.0 to   40577 IRBY     115.0   circuit 1

Outage case 647                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        41157 WINTHR T 115.0 to   41159 WINTHROP 115.0   circuit 1

Outage case 648                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48473 YELOWSTN 115.0 to   48239 MISSION  115.0   circuit 1

Outage case 649                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65000 5TH WEST 138.0 to   65865 JORDAN   138.0   circuit 1

Outage case 650                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65000 5TH WEST 138.0 to   66012 MORT CRT 138.0   circuit 1

Outage case 651                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65010 AEC IPC  138.0 to   65015 AEC SCOV 138.0   circuit 1

Outage case 652                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65015 AEC SCOV 138.0 to   65065 ANTLOP 1 138.0   circuit 1

Outage case 653                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65015 AEC SCOV 138.0 to   65070 ANTLOP 2 138.0   circuit 1

Outage case 654                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65020 AMAX     138.0 to   65790 HORSSHOE 138.0   circuit 1

Outage case 655                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65025 AMPS     230.0 to   65075 ANTLOPE  230.0   circuit 1

Outage case 656                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65030 ANACONDA 138.0 to   65345 CNTRATOR 138.0   circuit 1

Outage case 657                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65030 ANACONDA 138.0 to   66560 TOOELE   138.0   circuit 1

Outage case 658                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65040 ANGEL    138.0 to   65050 ANGEL ST 138.0   circuit 1

Outage case 659                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        65045 ANGEL NT 138.0 to   66480 SYRACUSE 138.0   circuit 1
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Outage case 660               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65050 ANGEL ST 138.0 to   65873 JCT STR  138.0   circuit 1
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Outage case 661               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65050 ANGEL ST 138.0 to   66480 SYRACUSE 138.0   circuit 1
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Outage case 662               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65055 ANSCHUTZ 138.0 to   66545 THIEF TP 138.0   circuit 1
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Outage case 663               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65060 ANT MINE 230.0 to   66745 YELLOWCK 230.0   circuit 1
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Outage case 664               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65075 ANTLOPE  230.0 to   65910 LOST RIV 230.0   circuit 1
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Outage case 665               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65080 ANTLOPE  161.0 to   65670 GOSHEN   161.0   circuit 1
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Outage case 666               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65085 ASHLEY   138.0 to   66590 UPALCO   138.0   circuit 1
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Outage case 667               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65090 ATLANTIC 230.0 to   66315 ROCKSPGS 230.0   circuit 1
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Outage case 668               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65090 ATLANTIC 230.0 to   66740 WYOPO    230.0   circuit 1
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Outage case 669               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65095 BADWATER 230.0 to   66410 SPENCE   230.0   circuit 1
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Outage case 670               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65095 BADWATER 230.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 671               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65100 BAIROIL  115.0 to   65730 GREATDIV 115.0   circuit 1
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Outage case 672               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65100 BAIROIL  115.0 to   66685 WHISKEYP 115.0   circuit 1
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Outage case 673               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65105 BAR-X    230.0 to   66240 PLATTE   230.0   circuit 1
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Outage case 674               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65105 BAR-X    230.0 to   66250 PT ROCKS 230.0   circuit 1
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Outage case 675               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65110 BARNEY   138.0 to   65345 CNTRATOR 138.0   circuit 1
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Outage case 676               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65110 BARNEY   138.0 to   66135 OQUIRRH  138.0   circuit 1
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Outage case 677               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65125 BEKER IN 138.0 to   65360 CONDATAP 138.0   circuit 1
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Outage case 678               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   66134 OQUIRRH  345.0   circuit 1
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Outage case 679               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   66510 TERMINAL 345.0   circuit 1
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Outage case 680               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   65160 BIRCH CK 230.0   circuit 1
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Outage case 681               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   66050 NAUGHTON 230.0   circuit 1
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Outage case 682               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65140 BENLOMND 230.0 to   66475 SYRACUSE 230.0   circuit 1
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Outage case 683               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65225 BRIGHAM  138.0   circuit 1
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Outage case 684               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65505 EL MONTE 138.0   circuit 1
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Outage case 685               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65505 EL MONTE 138.0   circuit 2
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Outage case 686               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   65785 HONEYVIL 138.0   circuit 1
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Outage case 687               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66480 SYRACUSE 138.0   circuit 1
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Outage case 688               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66640 W OGDEN  138.0   circuit 1
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Outage case 689               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66650 WARREN   138.0   circuit 1
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Outage case 690               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66675 WESTZIRC 138.0   circuit 1
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Outage case 691               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65145 BENLOMND 138.0 to   66680 WHEELON  138.0   circuit 1
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Outage case 692               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65155 BIGGRASS 161.0 to   65860 JFRSNPHA 161.0   circuit 1
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Outage case 693               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65160 BIRCH CK 230.0 to   66050 NAUGHTON 230.0   circuit 1
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Outage case 694               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65160 BIRCH CK 230.0 to   66270 RAILROAD 230.0   circuit 1
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Outage case 695               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65165 BLACKSFK 230.0 to   66010 MONUMENT 230.0   circuit 1
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Outage case 696                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65165 BLACKSFK 230.0 to   66670 WESTVACO 230.0   circuit 1

Outage case 697                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65175 BLUE RIM 230.0 to   65215 BRDGR PP 230.0   circuit 1

Outage case 698                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65175 BLUE RIM 230.0 to   66325 S. TRONA 230.0   circuit 1

Outage case 699                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65180 BANGERTR 138.0 to   65255 CAMP TAP 138.0   circuit 1

Outage case 700                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65180 BANGERTR 138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 701                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65192 BONANZA  138.0 to   65457 DG UPLCO 138.0   circuit 1

Outage case 702                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65192 BONANZA  138.0 to   66278 RANGELY  138.0   circuit 1

Outage case 703                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65193 BONANZA  345.0 to   65995 MONA     345.0   circuit 1

Outage case 704                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65195 BONNEVIL 161.0 to   65485 EAGLE RK 161.0   circuit 1

Outage case 705                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65205 BOUNTIFL 138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 706                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65210 BPA RIGB 161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 707                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65215 BRDGR PP 230.0 to   65555 FIREHOLE 230.0   circuit 1

Outage case 708                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66020 MUSTANG  230.0   circuit 1

Outage case 709                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66250 PT ROCKS 230.0   circuit 1

Outage case 710                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65220 BRIDGER  230.0 to   66315 ROCKSPGS 230.0   circuit 1

Outage case 711                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65225 BRIGHAM  138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 712                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   65293 CARR DRA 230.0   circuit 1

Outage case 713                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   65875 KAYCEE   230.0   circuit 1

Outage case 714                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65235 BUFFALO  230.0 to   66335 SHERIDAN 230.0   circuit 1

Outage case 715                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65240 BUTVILLE 138.0 to   65750 HAMMER   138.0   circuit 1

Outage case 716                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65240 BUTVILLE 138.0 to   66085 NINETY S 138.0   circuit 1

Outage case 717                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65255 CAMP TAP 138.0 to   66577 TRI CITY 138.0   circuit 1

Outage case 718                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65805 HUNTNGTN 345.0   circuit 1

Outage case 719                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65945 MIDVALLY 345.0   circuit 1

Outage case 720                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65995 MONA     345.0   circuit 1

Outage case 721                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   65995 MONA     345.0   circuit 2

Outage case 722                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66080 NINETY S 345.0   circuit 1

Outage case 723                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66134 OQUIRRH  345.0   circuit 1

Outage case 724                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66400 SPAN FRK 345.0   circuit 1

Outage case 725                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 726                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65260 CAMP WIL 345.0 to   66578 TRI CITY 345.0   circuit 1

Outage case 727                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65261 CAMP WIL 138.0 to   65906 LONEPEK2 138.0   circuit 1

Outage case 728                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   65755 HELPER   138.0   circuit 1

Outage case 729                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   65760 HELPER T 138.0   circuit 1

Outage case 730                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66183 PANTHER  138.0   circuit 1

Outage case 731                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66395 SPAN F&1 138.0   circuit 1

Outage case 732                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65280 CARBON   138.0 to   66405 SPAN FRK 138.0   circuit 2
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Outage case 733                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   65360 CONDATAP 138.0   circuit 1

Outage case 734                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   66000 MONSANT1 138.0   circuit 1

Outage case 735                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65285 CARIBO 1 138.0 to   66385 SODA     138.0   circuit 1

Outage case 736                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65290 CARIBO 2 138.0 to   65695 GRACE    138.0   circuit 1

Outage case 737                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65290 CARIBO 2 138.0 to   66005 MONSANT2 138.0   circuit 2

Outage case 738                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65293 CARR DRA 230.0 to   66725 WYODAK   230.0   circuit 1

Outage case 739                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65295 CARTER   138.0 to   66365 SKULL TP 138.0   circuit 1

Outage case 740                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   65420 DAVEJOHN 230.0   circuit 1

Outage case 741                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   65955 MIDWEST  230.0   circuit 1

Outage case 742                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65300 CASPERPP 230.0 to   66305 RIVERTON 230.0   circuit 1

Outage case 743                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65310 CENTENAL 138.0 to   65455 DECKLAKE 138.0   circuit 1

Outage case 744                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65310 CENTENAL 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 745                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65320 CHAPPELC 230.0 to   66132 OPAL TAP 230.0   circuit 1

Outage case 746                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65340 CLINTON  138.0 to   66310 RIVRDALE 138.0   circuit 1

Outage case 747                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65340 CLINTON  138.0 to   66480 SYRACUSE 138.0   circuit 1

Outage case 748                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65345 CNTRATOR 138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 749                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65355 COLUMBIA 138.0 to   66015 MOUND SW 138.0   circuit 1

Outage case 750                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65355 COLUMBIA 138.0 to   66450 SUNNYSID 138.0   circuit 1

Outage case 751                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   65750 HAMMER   138.0   circuit 1

Outage case 752                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   65930 MCCELAND 138.0   circuit 1

Outage case 753                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   66386 SNYDERTP 138.0   circuit 1

Outage case 754                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65365 COTTONWD 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 755                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65380 CRYSTALX 115.0 to   65480 E JACKSN 115.0   circuit 1

Outage case 756                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65380 CRYSTALX 115.0 to   66530 TETON    115.0   circuit 1

Outage case 757                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   65740 GROW     138.0   circuit 1

Outage case 758                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 759                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65390 CUDAHY   138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 760                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65395 CUTLER   138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 761                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65415 DAVEJO&1 230.0 to   65420 DAVEJOHN 230.0   circuit 1

Outage case 762                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65415 DAVEJO&1 230.0 to   66410 SPENCE   230.0   circuit 1

Outage case 763                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   65460 DIFICULT 230.0   circuit 1

Outage case 764                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   66745 YELLOWCK 230.0   circuit 1

Outage case 765                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65450 DECKER   230.0 to   65660 GOOSE CK 230.0   circuit 1

Outage case 766                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65450 DECKER   230.0 to   66735 WYOMONT  230.0   circuit 1

Outage case 767                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65454 DIMP DEL 138.0 to   65475 DUMAS    138.0   circuit 1

Outage case 768                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65454 DIMP DEL 138.0 to   66256 QUARRY   138.0   circuit 1

Outage case 769                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        65455 DECKLAKE 138.0 to   66190 PARKWAY  138.0   circuit 1
Outage case 770               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65457 DG UPLCO 138.0 to   66590 UPALCO   138.0   circuit 1
Outage case 771               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65460 DIFICULT 230.0 to   65975 MINERS   230.0   circuit 1
Outage case 772               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   65675 GOSHEN   115.0   circuit 1
Outage case 773               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   65915 MACKS IN 115.0   circuit 1
Outage case 774               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65470 DRUMMOND 115.0 to   66495 TARGHEE  115.0   circuit 1
Outage case 775               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65475 DUMAS    138.0 to   66085 NINETY S 138.0   circuit 1
Outage case 776               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65475 DUMAS    138.0 to   66391 SOUTH MT 138.0   circuit 1
Outage case 777               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65480 E JACKSN 115.0 to   65845 JACKSONJ 115.0   circuit 1
Outage case 778               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65485 EAGLE RK 161.0 to   65670 GOSHEN   161.0   circuit 1
Outage case 779               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65485 EAGLE RK 161.0 to   66695 WIDFALLS 161.0   circuit 1
Outage case 780               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   65805 HUNTNGTN 345.0   circuit 1
Outage case 781               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66340 SIGURD   345.0   circuit 1
Outage case 782               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66340 SIGURD   345.0   circuit 2
Outage case 783               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65510 EMERY    345.0 to   66401 SPAN TAP 345.0   circuit 1
Outage case 784               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65520 EMMAPARK 138.0 to   66183 PANTHER  138.0   circuit 1
Outage case 785               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65520 EMMAPARK 138.0 to   66590 UPALCO   138.0   circuit 1
Outage case 786               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65535 ETNA     115.0 to   66380 SNAKE RV 115.0   circuit 1
Outage case 787               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65540 EVANSTON 138.0 to   66275 RAILROAD 138.0   circuit 1
Outage case 788               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65540 EVANSTON 138.0 to   66545 THIEF TP 138.0   circuit 1
Outage case 789               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65545 EXXON WY 230.0 to   66010 MONUMENT 230.0   circuit 1
Outage case 790               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65555 FIREHOLE 230.0 to   65895 LITTLEMT 230.0   circuit 1
Outage case 791               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65555 FIREHOLE 230.0 to   66315 ROCKSPGS 230.0   circuit 1
Outage case 792               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65560 FISHCREK 161.0 to   65670 GOSHEN   161.0   circuit 1
Outage case 793               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65560 FISHCREK 161.0 to   65690 GRACE    161.0   circuit 1
Outage case 794               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65565 FLAMGORG 230.0 to   65895 LITTLEMT 230.0   circuit 1
Outage case 795               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65570 FRANKLIN 138.0 to   65725 GRCYN TP 138.0   circuit 1
Outage case 796               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65570 FRANKLIN 138.0 to   66570 TREASTON 138.0   circuit 1
Outage case 797               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65575 FRANNIE  230.0 to   65620 GARLAND  230.0   circuit 1
Outage case 798               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65575 FRANNIE  230.0 to   66750 YELOWTLP 230.0   circuit 1
Outage case 799               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65580 FT CREEK 230.0 to   65975 MINERS   230.0   circuit 1
Outage case 800               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   65611 GAD GAST 138.0   circuit 1
Outage case 801               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   65865 JORDAN   138.0   circuit 1
Outage case 802               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65590 GADSBY   138.0 to   66520 TERMINAL 138.0   circuit 2
Outage case 803               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65620 GARLAND  230.0 to   66145 OREBASIN 230.0   circuit 1
Outage case 804               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   65635 GEMSTATE 161.0   circuit 1
Outage case 805               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   66392 SOUTEAST 161.0   circuit 1
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Outage case 806              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65630 GEMST TP 161.0 to   66695 WIDFALLS 161.0   circuit 1

Outage case 807              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65655 GLENCO J 138.0 to   66045 NAUGHTN2 138.0   circuit 1

Outage case 808              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65655 GLENCO J 138.0 to   66425 STR 204  138.0   circuit 1

Outage case 809              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65660 GOOSE CK 230.0 to   66335 SHERIDAN 230.0   circuit 1

Outage case 810              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65660 GOOSE CK 230.0 to   66750 YELOWTLP 230.0   circuit 1

Outage case 811              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   65840 IONA     161.0   circuit 1

Outage case 812              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   65850 JEFFERSN 161.0   circuit 1

Outage case 813              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 814              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66430 SUGARMIL 161.0   circuit 1

Outage case 815              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65670 GOSHEN   161.0 to   66465 SWAN VAL 161.0   circuit 1

Outage case 816              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65675 GOSHEN   115.0 to   66185 PALISADE 115.0   circuit 1

Outage case 817              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66130 ONEIDA   138.0   circuit 1

Outage case 818              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66385 SODA     138.0   circuit 1

Outage case 819              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66570 TREASTON 138.0   circuit 1

Outage case 820              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65695 GRACE    138.0 to   66570 TREASTON 138.0   circuit 2

Outage case 821              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65720 GRASS CK 230.0 to   66145 OREBASIN 230.0   circuit 1

Outage case 822              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65720 GRASS CK 230.0 to   66535 THERMOPL 230.0   circuit 1

Outage case 823              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65725 GRCYN TP 138.0 to   65735 GREENCYN 138.0   circuit 1

Outage case 824              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65725 GRCYN TP 138.0 to   66375 SMITHFLD 138.0   circuit 1

Outage case 825              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65730 GREATDIV 115.0 to   66025 MUSTANG  115.0   circuit 1

Outage case 826              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65735 GREENCYN 138.0 to   65900 LOGAN    138.0   circuit 1

Outage case 827              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65735 GREENCYN 138.0 to   66370 SMFLD TP 138.0   circuit 1

Outage case 828              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65740 GROW     138.0 to   65873 JCT STR  138.0   circuit 1

Outage case 829              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65740 GROW     138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 830              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65760 HELPER T 138.0 to   66015 MOUND SW 138.0   circuit 1

Outage case 831              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65770 HIGHLD T 138.0 to   65905 LONEPEK1 138.0   circuit 1

Outage case 832              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65775 HOBACK   115.0 to   66265 RAFTER J 115.0   circuit 1

Outage case 833              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65775 HOBACK   115.0 to   66380 SNAKE RV 115.0   circuit 1

Outage case 834              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65780 HOGGARD  138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 835              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65780 HOGGARD  138.0 to   66642 W VAL    138.0   circuit 1

Outage case 836              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65785 HONEYVIL 138.0 to   65890 LAMPO    138.0   circuit 1

Outage case 837              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65785 HONEYVIL 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 838              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65790 HORSSHOE 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 839              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65805 HUNTNGTN 345.0 to   66225 PINTO    345.0   circuit 1

Outage case 840              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65805 HUNTNGTN 345.0 to   66400 SPAN FRK 345.0   circuit 1

Outage case 841              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65810 HUNTNGTN 138.0 to   65935 MCFADDEN 138.0   circuit 1

Outage case 842              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65840 IONA     161.0 to   66295 RIGBY    161.0   circuit 1
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Outage case 843                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65845 JACKSONJ 115.0 to   66265 RAFTER J 115.0   circuit 1

Outage case 844                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65845 JACKSONJ 115.0 to   66710 WILSON   115.0   circuit 1

Outage case 845                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65850 JEFFERSN 161.0 to   66295 RIGBY    161.0   circuit 1

Outage case 846                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65865 JORDAN   138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 847                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65870 JOSPH TP 138.0 to   66110 NUCORS F 138.0   circuit 1

Outage case 848                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65870 JOSPH TP 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 849                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65873 JCT STR  138.0 to   66205 PARRISH  138.0   circuit 1

Outage case 850                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65875 KAYCEE   230.0 to   65955 MIDWEST  230.0   circuit 1

Outage case 851                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65880 KIM CLRK 138.0 to   66650 WARREN   138.0   circuit 1

Outage case 852                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65885 LAKEPARK 138.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 853                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65885 LAKEPARK 138.0 to   66642 W VAL    138.0   circuit 1

Outage case 854                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65905 LONEPEK1 138.0 to   65906 LONEPEK2 138.0   circuit 1

Outage case 855                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65905 LONEPEK1 138.0 to   66391 SOUTH MT 138.0   circuit 1

Outage case 856                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65915 MACKS IN 115.0 to   66665 WEST YEL 115.0   circuit 1

Outage case 857                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65920 MALAD    138.0 to   66105 NUCOR TP 138.0   circuit 1

Outage case 858                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65925 MART MAR 138.0 to   66070 NEBO     138.0   circuit 1

Outage case 859                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65930 MCCELAND 138.0 to   66012 MORT CRT 138.0   circuit 1

Outage case 860                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65930 MCCELAND 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 861                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65937 MEADOWBR 138.0 to   66500 TAYLORSV 138.0   circuit 1

Outage case 862                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65937 MEADOWBR 138.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 863                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65945 MIDVALLY 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 864                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65950 MIDWAY   138.0 to   66360 SILVR CR 138.0   circuit 1

Outage case 865                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65975 MINERS   230.0 to   66240 PLATTE   230.0   circuit 1

Outage case 866                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65995 MONA     345.0 to   66340 SIGURD   345.0   circuit 1

Outage case 867                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65995 MONA     345.0 to   66340 SIGURD   345.0   circuit 2

Outage case 868                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66010 MONUMENT 230.0 to   66050 NAUGHTON 230.0   circuit 1

Outage case 869                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66010 MONUMENT 230.0 to   66325 S. TRONA 230.0   circuit 1

Outage case 870                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66015 MOUND SW 138.0 to   66415 SPHINX T 138.0   circuit 1

Outage case 871                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66020 MUSTANG  230.0 to   66410 SPENCE   230.0   circuit 1

Outage case 872                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66035 NAT SM T 138.0 to   66085 NINETY S 138.0   circuit 1

Outage case 873                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66035 NAT SM T 138.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 874                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66040 NAUGHTN1 138.0 to   66365 SKULL TP 138.0   circuit 1

Outage case 875                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66050 NAUGHTON 230.0 to   66132 OPAL TAP 230.0   circuit 1

Outage case 876                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66050 NAUGHTON 230.0 to   66565 TREASTON 230.0   circuit 1

Outage case 877                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66080 NINETY S 345.0 to   66510 TERMINAL 345.0   circuit 1

Outage case 878                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66256 QUARRY   138.0   circuit 1

Outage case 879                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        66085 NINETY S 138.0 to   66285 RIDING R 138.0   circuit 1
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Outage case 880               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66326 SANDYX   138.0   circuit 1
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Outage case 881               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66085 NINETY S 138.0 to   66660 WEST JOR 138.0   circuit 1
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Outage case 882               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66105 NUCOR TP 138.0 to   66115 NUCORS O 138.0   circuit 1
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Outage case 883               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66105 NUCOR TP 138.0 to   66680 WHEELON  138.0   circuit 1
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Outage case 884               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66110 NUCORS F 138.0 to   66115 NUCORS O 138.0   circuit 1
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Outage case 885               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66130 ONEIDA   138.0 to   66150 OVID     138.0   circuit 1
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Outage case 886               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66130 ONEIDA   138.0 to   66570 TREASTON 138.0   circuit 1
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Outage case 887               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66135 OQUIRRH  138.0 to   66455 SW RK 2  138.0   circuit 1
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Outage case 888               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66155 PAINTER  138.0 to   66275 RAILROAD 138.0   circuit 1
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Outage case 889               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66155 PAINTER  138.0 to   66425 STR 204  138.0   circuit 1
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Outage case 890               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66180 PALISADE 230.0 to   66266 RAVEN    230.0   circuit 1
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Outage case 891               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66180 PALISADE 230.0 to   66315 ROCKSPGS 230.0   circuit 1
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Outage case 892               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66183 PANTHER  138.0 to   66707 WILLOW C 138.0   circuit 1
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Outage case 893               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66185 PALISADE 115.0 to   66380 SNAKE RV 115.0   circuit 1
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Outage case 894               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66185 PALISADE 115.0 to   66470 SWAN VAL 115.0   circuit 1
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Outage case 895               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66190 PARKWAY  138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 896               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66205 PARRISH  138.0 to   66520 TERMINAL 138.0   circuit 1
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Outage case 897               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66205 PARRISH  138.0 to   66520 TERMINAL 138.0   circuit 2
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Outage case 898               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66215 PEPCON   138.0 to   66220 PEPCON I 138.0   circuit 1
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Outage case 899               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66215 PEPCON   138.0 to   66635 W CEDAR  138.0   circuit 1
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Outage case 900               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66222 PINE CYN 138.0 to   66560 TOOELE   138.0   circuit 1
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Outage case 901               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66222 PINE CYN 138.0 to   66585 U CARB T 138.0   circuit 1
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Outage case 902               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66245 PLATTE   115.0 to   66685 WHISKEYP 115.0   circuit 1
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Outage case 903               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66266 RAVEN    230.0 to   66670 WESTVACO 230.0   circuit 1
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Outage case 904               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66275 RAILROAD 138.0 to   66690 WHITNEY  138.0   circuit 1
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Outage case 905               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66285 RIDING R 138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 906               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66290 RIDGLD T 138.0 to   66520 TERMINAL 138.0   circuit 1
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Outage case 907               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66290 RIDGLD T 138.0 to   66550 THIRTY S 138.0   circuit 1
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Outage case 908               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66295 RIGBY    161.0 to   66430 SUGARMIL 161.0   circuit 1
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Outage case 909               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66305 RIVERTON 230.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 910               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66305 RIVERTON 230.0 to   66740 WYOPO    230.0   circuit 1
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Outage case 911               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66310 RIVRDALE 138.0 to   66640 W OGDEN  138.0   circuit 1
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Outage case 912               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66320 RYCMN TP 138.0 to   66425 STR 204  138.0   circuit 1
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Outage case 913               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66325 S. TRONA 230.0 to   66715 WOLD     230.0   circuit 1
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Outage case 914               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66360 SILVR CR 138.0 to   66386 SNYDERTP 138.0   circuit 1
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Outage case 915               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66370 SMFLD TP 138.0 to   66375 SMITHFLD 138.0   circuit 1
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Outage case 916              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66370 SMFLD TP 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 917              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66386 SNYDERTP 138.0 to   66387 SNYDERVL 138.0   circuit 1

Outage case 918              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66392 SOUTEAST 161.0 to   66430 SUGARMIL 161.0   circuit 1

Outage case 919              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66395 SPAN F&1 138.0 to   66405 SPAN FRK 138.0   circuit 1

Outage case 920              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66401 SPAN TAP 345.0 to   66578 TRI CITY 345.0   circuit 1

Outage case 921              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66470 SWAN VAL 115.0 to   66490 TARGHE T 115.0   circuit 1

Outage case 922              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66475 SYRACUSE 230.0 to   66515 TERMINAL 230.0   circuit 1

Outage case 923              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66480 SYRACUSE 138.0 to   66650 WARREN   138.0   circuit 1

Outage case 924              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66490 TARGHE T 115.0 to   66495 TARGHEE  115.0   circuit 1

Outage case 925              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66490 TARGHE T 115.0 to   66530 TETON    115.0   circuit 1

Outage case 926              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66500 TAYLORSV 138.0 to   66660 WEST JOR 138.0   circuit 1

Outage case 927              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66520 TERMINAL 138.0 to   66585 U CARB T 138.0   circuit 1

Outage case 928              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66520 TERMINAL 138.0 to   66595 UPP      138.0   circuit 1

Outage case 929              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66530 TETON    115.0 to   66710 WILSON   115.0   circuit 1

Outage case 930              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66540 THERPACE 115.0 to   66720 WORLAND  115.0   circuit 1

Outage case 931              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 1

Outage case 932              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 2

Outage case 933              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66570 TREASTON 138.0 to   66680 WHEELON  138.0   circuit 3

Outage case 934              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70021 ROCKYTMP 115.0 to   70322 PLAINVW  115.0   circuit 1

Outage case 935              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70023 ALLISON  115.0 to   70242 KENDRICK 115.0   circuit 1

Outage case 936              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70037 ARAPAHOB 115.0   circuit 1

Outage case 937              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70384 SHERIDAN 115.0   circuit 1

Outage case 938              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70036 ARAPAHOA 115.0 to   70531 AIR LIQ  115.0   circuit 1

Outage case 939              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70037 ARAPAHOB 115.0 to   70165 ENGLE3TP 115.0   circuit 1

Outage case 940              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70038 ARAPAHOE 230.0 to   70527 SANTEFE  230.0   circuit 1

Outage case 941              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70040 ARSENAL  115.0 to   70217 HAVANA2  115.0   circuit 1

Outage case 942              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70046 BUCKLEY2 230.0 to   70491 TOLGATE  230.0   circuit 1

Outage case 943              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70047 BARRLAKE 230.0   circuit 1

Outage case 944              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70392 SKYRANCH 230.0   circuit 1

Outage case 945              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70048 GREENVAL 230.0 to   70393 SKYRANCT 230.0   circuit 1

Outage case 946              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70058 BO HYDRO 115.0 to   70295 NCAR     115.0   circuit 1

Outage case 947              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70058 BO HYDRO 115.0 to   70424 SUNSHTAP 115.0   circuit 1

Outage case 948              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70059 BO TERM  115.0 to   70424 SUNSHTAP 115.0   circuit 1

Outage case 949              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70059 BO TERM  115.0 to   70444 VALMONT  115.0   circuit 1

Outage case 950              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70065 BROMFLD1 115.0 to   70066 BROMFLD2 115.0   circuit 1

Outage case 951              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70067 BUCKLEY1 230.0 to   70512 JEWELL1  230.0   circuit 1

Outage case 952              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70071 CABINCRK 115.0 to   70197 GEORGETN 115.0   circuit 1
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Outage case 953                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70073 CALIFOR1 115.0 to   70075 CALIFOR3 115.0   circuit 1

Outage case 954                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70073 CALIFOR1 115.0 to   70299 NORTH542 115.0   circuit 1

Outage case 955                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70074 CALIFOR2 115.0 to   70215 HARRISPS 115.0   circuit 1

Outage case 956                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70075 CALIFOR3 115.0 to   70074 CALIFOR2 115.0   circuit 1

Outage case 957                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70087 CAPHILL1 115.0 to   70088 CAPHILL2 115.0   circuit 1

Outage case 958                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70087 CAPHILL1 115.0 to   70300 NORTH547 115.0   circuit 1

Outage case 959                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70088 CAPHILL2 115.0 to   70148 DENVTM   115.0   circuit 1

Outage case 960                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70088 CAPHILL2 115.0 to   70215 HARRISPS 115.0   circuit 1

Outage case 961                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70091 CASTLRCK 115.0 to   70138 DANIELPK 115.0   circuit 1

Outage case 962                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70047 BARRLAKE 230.0   circuit 1

Outage case 963                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70324 LACOMBE  230.0   circuit 1

Outage case 964                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70355 RIDGE    230.0   circuit 1

Outage case 965                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70107 CHEROKEE 230.0 to   70362 RIVERDAL 230.0   circuit 1

Outage case 966                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70153 DERBY 1  115.0   circuit 1

Outage case 967                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70154 DERBY 2  115.0   circuit 1

Outage case 968                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70175 FEDERHT2 115.0   circuit 2

Outage case 969                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70108 CHEROKEN 115.0 to   70307 P.VALLEY 115.0   circuit 1

Outage case 970                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70039 ARGO     115.0   circuit 1

Outage case 971                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70041 ARVADA   115.0   circuit 1

Outage case 972                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70108 CHEROKEN 115.0   circuit 1

Outage case 973                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70126 CONOCO   115.0   circuit 1

Outage case 974                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70174 FEDERHT1 115.0   circuit 1

Outage case 975                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70276 MAPLETO1 115.0   circuit 1

Outage case 976                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70277 MAPLETO2 115.0   circuit 1

Outage case 977                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70298 NORTH PS 115.0   circuit 1

Outage case 978                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70109 CHEROKES 115.0 to   70299 NORTH542 115.0   circuit 2

Outage case 979                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70112 CLARK    230.0 to   70241 JORDAN   230.0   circuit 1

Outage case 980                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70124 CONIFER  115.0 to   70429 TINYTOWN 115.0   circuit 1

Outage case 981                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70127 COORSREC 115.0 to   70194 FULTONTS 115.0   circuit 1

Outage case 982                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70137 DAKOTA   115.0 to   70036 ARAPAHOA 115.0   circuit 1

Outage case 983                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70212 GREENWD  230.0   circuit 1

Outage case 984                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70278 MARCY    230.0   circuit 1

Outage case 985                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70284 SURREYRG 230.0   circuit 1

Outage case 986                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70286 MIDWAYPS 230.0   circuit 1

Outage case 987                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70139 DANIELPK 230.0 to   70331 PRAIRIE  230.0   circuit 1

Outage case 988                Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70142 DEERCREK 115.0 to   70463 WATERTON 115.0   circuit 1

Outage case 989                Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        70153 DERBY 1  115.0 to   70040 ARSENAL  115.0   circuit 1
Outage case 990               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70154 DERBY 2  115.0 to   70216 HAVANA1  115.0   circuit 1
Outage case 991               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70156 DILLON   230.0 to   70072 CABINCRK 230.0   circuit 1
Outage case 992               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70162 EAST     115.0 to   70430 TOLGATE1 115.0   circuit 1
Outage case 993               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70162 EAST     115.0 to   70431 TOLGATE2 115.0   circuit 1
Outage case 994               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70163 ELATI1   230.0 to   70149 DENVTM   230.0   circuit 1
Outage case 995               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70163 ELATI1   230.0 to   70170 ELATI2   230.0   circuit 1
Outage case 996               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70295 NCAR     115.0   circuit 1
Outage case 997               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70322 PLAINVW  115.0   circuit 1
Outage case 998               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70365 ROCKYFLA 115.0   circuit 1
Outage case 999               Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70164 ELDORADO 115.0 to   70444 VALMONT  115.0   circuit 1
Outage case 1000              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70165 ENGLE3TP 115.0 to   70168 ENGLEWD3 115.0   circuit 1
Outage case 1001              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70165 ENGLE3TP 115.0 to   70263 LITTLET1 115.0   circuit 1
Outage case 1002              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70166 ENGLEWD1 115.0 to   70384 SHERIDAN 115.0   circuit 1
Outage case 1003              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70167 ENGLEWD2 115.0 to   70037 ARAPAHOB 115.0   circuit 1
Outage case 1004              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70169 ENNIS    115.0 to   70234 HUDSON   115.0   circuit 1
Outage case 1005              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70172 FED CNTR 115.0 to   70173 FEDCTRTP 115.0   circuit 1
Outage case 1006              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70173 FEDCTRTP 115.0 to   70148 DENVTM   115.0   circuit 1
Outage case 1007              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70175 FEDERHT2 115.0 to   70066 BROMFLD2 115.0   circuit 1
Outage case 1008              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70127 COORSREC 115.0   circuit 1
Outage case 1009              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70234 HUDSON   115.0   circuit 1
Outage case 1010              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70191 FTLUPTON 115.0 to   70450 VASQUEZ  115.0   circuit 1
Outage case 1011              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70048 GREENVAL 230.0   circuit 1
Outage case 1012              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70311 PAWNEE   230.0   circuit 1
Outage case 1013              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70362 RIVERDAL 230.0   circuit 1
Outage case 1014              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70192 FTLUPTON 230.0 to   70461 WASHINGT 230.0   circuit 1
Outage case 1015              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70194 FULTONTS 115.0 to   70171 ERIETAP  115.0   circuit 1
Outage case 1016              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70197 GEORGETN 115.0 to   70218 HENDERPS 115.0   circuit 1
Outage case 1017              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70198 GILCREST 115.0 to   70450 VASQUEZ  115.0   circuit 1
Outage case 1018              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70200 GLENN PS 230.0 to   70107 CHEROKEE 230.0   circuit 1
Outage case 1019              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70200 GLENN PS 230.0 to   70461 WASHINGT 230.0   circuit 1
Outage case 1020              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70198 GILCREST 115.0   circuit 1
Outage case 1021              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70209 GREELEY  115.0   circuit 1
Outage case 1022              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70202 GODFRETP 115.0 to   70240 JOHNSTN  115.0   circuit 1
Outage case 1023              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70045 BANCROFT 115.0   circuit 1
Outage case 1024              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70148 DENVTM   115.0   circuit 1
Outage case 1025              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70208 GRAY ST  115.0 to   70402 SOUTH 2  115.0   circuit 1
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Outage case 1026              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70209 GREELEY  115.0 to   70290 MONFORT  115.0   circuit 1
Outage case 1027              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70209 GREELEY  115.0 to   70470 WELD  PS 115.0   circuit 1
Outage case 1028              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70112 CLARK    230.0   circuit 1
Outage case 1029              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70331 PRAIRIE  230.0   circuit 1
Outage case 1030              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70212 GREENWD  230.0 to   70428 TECH CTR 230.0   circuit 1
Outage case 1031              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70216 HAVANA1  115.0 to   70537 FITZSMNS 115.0   circuit 1
Outage case 1032              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70217 HAVANA2  115.0 to   70162 EAST     115.0   circuit 1
Outage case 1033              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70224 HOGBACK  115.0 to   70050 BERGENPK 115.0   circuit 1
Outage case 1034              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70224 HOGBACK  115.0 to   70400 SODALAKE 115.0   circuit 1
Outage case 1035              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70237 IDAHOSPG 230.0 to   70072 CABINCRK 230.0   circuit 1
Outage case 1036              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70239 JEWELL2  230.0 to   70260 LEETSDAL 230.0   circuit 1
Outage case 1037              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70241 JORDAN   230.0 to   70283 MEADOWHL 230.0   circuit 1
Outage case 1038              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70242 KENDRICK 115.0 to   70045 BANCROFT 115.0   circuit 1
Outage case 1039              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70244 LAFAYETT 115.0 to   70171 ERIETAP  115.0   circuit 1
Outage case 1040              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70251 LAKEWOD1 115.0 to   70208 GRAY ST  115.0   circuit 1
Outage case 1041              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70252 LAKEWOD2 115.0 to   70208 GRAY ST  115.0   circuit 1
Outage case 1042              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70259 LEETSDAL 115.0 to   70215 HARRISPS 115.0   circuit 1
Outage case 1043              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70259 LEETSDAL 115.0 to   70443 UNIVRSTP 115.0   circuit 1
Outage case 1044              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70260 LEETSDAL 230.0 to   70530 MONACO   230.0   circuit 1
Outage case 1045              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70261 LEGGETT  230.0 to   70297 NIWOT    230.0   circuit 1
Outage case 1046              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70262 LEYDEN   115.0 to   70322 PLAINVW  115.0   circuit 1
Outage case 1047              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70262 LEYDEN   115.0 to   70340 QUAKER1  115.0   circuit 1
Outage case 1048              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70263 LITTLET1 115.0 to   70264 LITTLET2 115.0   circuit 1
Outage case 1049              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70264 LITTLET2 115.0 to   70463 WATERTON 115.0   circuit 1
Outage case 1050              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70265 LOOKOUT  115.0 to   70224 HOGBACK  115.0   circuit 1
Outage case 1051              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70265 LOOKOUT  115.0 to   70342 QUAKERTP 115.0   circuit 1
Outage case 1052              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70072 CABINCRK 230.0   circuit 2
Outage case 1053              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70100 CHATFLD  230.0   circuit 1
Outage case 1054              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70237 IDAHOSPG 230.0   circuit 1
Outage case 1055              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70261 LEGGETT  230.0   circuit 1
Outage case 1056              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70355 RIDGE    230.0   circuit 1
Outage case 1057              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70480 WESTPS   230.0   circuit 1
Outage case 1058              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70266 LOOKOUT  230.0 to   70570 INDIANA  230.0   circuit 1
Outage case 1059              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70269 LOUISVIL 115.0 to   70066 BROMFLD2 115.0   circuit 1
Outage case 1060              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70276 MAPLETO1 115.0 to   70300 NORTH547 115.0   circuit 1
Outage case 1061              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70279 MARTIN 1 115.0 to   70463 WATERTON 115.0   circuit 1
Outage case 1062              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70280 MARTIN 2 115.0 to   70463 WATERTON 115.0   circuit 1
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Outage case 1063              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70284 SURREYRG 230.0 to   70551 MURPHY   230.0   circuit 1

Outage case 1064              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70291 MONROEPS 230.0 to   70170 ELATI2   230.0   circuit 1

Outage case 1065              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70291 MONROEPS 230.0 to   70260 LEETSDAL 230.0   circuit 1

Outage case 1066              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70297 NIWOT    230.0 to   70213 GUNBARRE 230.0   circuit 1

Outage case 1067              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70298 NORTH PS 115.0 to   70377 SANDOWN  115.0   circuit 1

Outage case 1068              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70307 P.VALLEY 115.0 to   70191 FTLUPTON 115.0   circuit 1

Outage case 1069              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70311 PAWNEE   230.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1070              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70311 PAWNEE   230.0 to   70343 QUINCY   230.0   circuit 1

Outage case 1071              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70323 PLATTEPS 115.0 to   70039 ARGO     115.0   circuit 1

Outage case 1072              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70323 PLATTEPS 115.0 to   70148 DENVTM   115.0   circuit 1

Outage case 1073              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70324 LACOMBE  230.0 to   70149 DENVTM   230.0   circuit 1

Outage case 1074              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70328 PORTAL   115.0 to   70218 HENDERPS 115.0   circuit 1

Outage case 1075              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70340 QUAKER1  115.0 to   70341 QUAKER2  115.0   circuit 1

Outage case 1076              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70342 QUAKERTP 115.0 to   70173 FEDCTRTP 115.0   circuit 1

Outage case 1077              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70342 QUAKERTP 115.0 to   70341 QUAKER2  115.0   circuit 1

Outage case 1078              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70343 QUINCY   230.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1079              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70345 RALSTON1 115.0 to   70354 RIDGE    115.0   circuit 1

Outage case 1080              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70346 RALSTON2 115.0 to   70365 ROCKYFLA 115.0   circuit 1

Outage case 1081              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70251 LAKEWOD1 115.0   circuit 1

Outage case 1082              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70252 LAKEWOD2 115.0   circuit 1

Outage case 1083              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70262 LEYDEN   115.0   circuit 1

Outage case 1084              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70346 RALSTON2 115.0   circuit 1

Outage case 1085              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70354 RIDGE    115.0 to   70369 RUSSELL  115.0   circuit 1

Outage case 1086              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70368 ROSEDALE 115.0 to   70439 UNC      115.0   circuit 1

Outage case 1087              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70368 ROSEDALE 115.0 to   70470 WELD  PS 115.0   circuit 1

Outage case 1088              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70369 RUSSELL  115.0 to   70041 ARVADA   115.0   circuit 1

Outage case 1089              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70377 SANDOWN  115.0 to   70277 MAPLETO2 115.0   circuit 1

Outage case 1090              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70382 SEMPER   115.0 to   70065 BROMFLD1 115.0   circuit 1

Outage case 1091              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70382 SEMPER   115.0 to   70174 FEDERHT1 115.0   circuit 1

Outage case 1092              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70392 SKYRANCH 230.0 to   70432 TOWER    230.0   circuit 1

Outage case 1093              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70393 SKYRANCT 230.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1094              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70416 STRASBRG 115.0   circuit 1

Outage case 1095              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70430 TOLGATE1 115.0   circuit 1

Outage case 1096              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70431 TOLGATE2 115.0   circuit 1

Outage case 1097              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70395 SMOKYHIL 115.0 to   70521 PEAKVIEW 115.0   circuit 1

Outage case 1098              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70396 SMOKYHIL 230.0 to   70046 BUCKLEY2 230.0   circuit 1

Outage case 1099              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        70396 SMOKYHIL 230.0 to   70067 BUCKLEY1 230.0   circuit 1
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Outage case 1100              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70396 SMOKYHIL 230.0 to   70283 MEADOWHL 230.0   circuit 1
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Outage case 1101              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70398 SOUTH1TP 115.0 to   70037 ARAPAHOB 115.0   circuit 1
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Outage case 1102              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70398 SOUTH1TP 115.0 to   70045 BANCROFT 115.0   circuit 1
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Outage case 1103              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70023 ALLISON  115.0   circuit 1
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Outage case 1104              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70142 DEERCREK 115.0   circuit 1
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Outage case 1105              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70400 SODALAKE 115.0 to   70429 TINYTOWN 115.0   circuit 1
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Outage case 1106              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70401 SOUTH 1  115.0 to   70398 SOUTH1TP 115.0   circuit 1
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Outage case 1107              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70048 GREENVAL 230.0   circuit 1
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Outage case 1108              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70192 FTLUPTON 230.0   circuit 1
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Outage case 1109              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70192 FTLUPTON 230.0   circuit 2
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Outage case 1110              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70297 NIWOT    230.0   circuit 1
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Outage case 1111              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   70474 WINDSOR  230.0   circuit 1
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Outage case 1112              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70424 SUNSHTAP 115.0 to   70423 SUNSHINE 115.0   circuit 1
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Outage case 1113              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70427 TARRYALL 230.0 to   70139 DANIELPK 230.0   circuit 1
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Outage case 1114              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70428 TECH CTR 230.0 to   70417 SULLIVN  230.0   circuit 1
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Outage case 1115              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70432 TOWER    230.0 to   70396 SMOKYHIL 230.0   circuit 1
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Outage case 1116              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70439 UNC      115.0 to   70290 MONFORT  115.0   circuit 1
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Outage case 1117              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70441 UNIVERS1 115.0 to   70442 UNIVERS2 115.0   circuit 1
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Outage case 1118              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70441 UNIVERS1 115.0 to   70443 UNIVRSTP 115.0   circuit 1
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Outage case 1119              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70442 UNIVERS2 115.0 to   70036 ARAPAHOA 115.0   circuit 1
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Outage case 1120              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70059 BO TERM  115.0   circuit 2
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Outage case 1121              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70065 BROMFLD1 115.0   circuit 1
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Outage case 1122              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70244 LAFAYETT 115.0   circuit 1
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Outage case 1123              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70269 LOUISVIL 115.0   circuit 1
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Outage case 1124              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70444 VALMONT  115.0 to   70345 RALSTON1 115.0   circuit 1
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Outage case 1125              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70447 VALMONT  230.0 to   70410 ST.VRAIN 230.0   circuit 1
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Outage case 1126              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70447 VALMONT  230.0 to   70543 SIMMS    230.0   circuit 1
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Outage case 1127              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70463 WATERTON 115.0 to   70522 ROXBOROU 115.0   circuit 1
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Outage case 1128              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70464 WATERTON 230.0 to   70100 CHATFLD  230.0   circuit 1
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Outage case 1129              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70464 WATERTON 230.0 to   70278 MARCY    230.0   circuit 1
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Outage case 1130              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70470 WELD  PS 115.0 to   70240 JOHNSTN  115.0   circuit 1
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Outage case 1131              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70471 WELD  PS 230.0 to   70410 ST.VRAIN 230.0   circuit 1
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Outage case 1132              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70480 WESTPS   230.0 to   70149 DENVTM   230.0   circuit 1
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Outage case 1133              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70491 TOLGATE  230.0 to   70239 JEWELL2  230.0   circuit 1
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Outage case 1134              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70512 JEWELL1  230.0 to   70417 SULLIVN  230.0   circuit 1
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Outage case 1135              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70527 SANTEFE  230.0 to   70139 DANIELPK 230.0   circuit 1
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Outage case 1136              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70530 MONACO   230.0 to   70212 GREENWD  230.0   circuit 1
Outage case 1137              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70531 AIR LIQ  115.0 to   70402 SOUTH 2  115.0   circuit 1
Outage case 1138              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70537 FITZSMNS 115.0 to   70162 EAST     115.0   circuit 1
Outage case 1139              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70543 SIMMS    230.0 to   70570 INDIANA  230.0   circuit 1
Outage case 1140              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70551 MURPHY   230.0 to   70396 SMOKYHIL 230.0   circuit 1
Outage case 1141              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73002 AIRPORT  115.0 to   73026 BOYD     115.0   circuit 1
Outage case 1142              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73002 AIRPORT  115.0 to   73432 KODAKWTP 115.0   circuit 1
Outage case 1143              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73003 AKRON    115.0 to   73020 BEAVERCK 115.0   circuit 1
Outage case 1144              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73003 AKRON    115.0 to   73372 OTIS LM  115.0   circuit 1
Outage case 1145              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73042 CASPERLM 115.0   circuit 1
Outage case 1146              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73042 CASPERLM 115.0   circuit 2
Outage case 1147              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73062 FREMONT  115.0   circuit 1
Outage case 1148              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73137 MIRACLEM 115.0   circuit 1
Outage case 1149              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73137 MIRACLEM 115.0   circuit 2
Outage case 1150              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73004 ALCOVA   115.0 to   73162 RADERVIL 115.0   circuit 1
Outage case 1151              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73175 SANDHILL 115.0   circuit 1
Outage case 1152              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73210 WAUNETA  115.0   circuit 1
Outage case 1153              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73005 ALVIN    115.0 to   73304 CRETESWT 115.0   circuit 1
Outage case 1154              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73006 ANTON    115.0 to   73010 ARICKARE 115.0   circuit 1
Outage case 1155              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73006 ANTON    115.0 to   73125 LSCHANCE 115.0   circuit 1
Outage case 1156              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73007 ARAPASUB 115.0 to   73207 WAANIBE  115.0   circuit 1
Outage case 1157              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73043 CHEYENNE 115.0   circuit 1
Outage case 1158              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73140 MYERS TP 115.0   circuit 1
Outage case 1159              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73152 PINEBLUF 115.0   circuit 1
Outage case 1160              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73183 SKYLINE  115.0   circuit 1
Outage case 1161              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73008 ARCHER   115.0 to   73480 CROWCRK  115.0   circuit 1
Outage case 1162              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   73011 AULT     230.0   circuit 1
Outage case 1163              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1164              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73009 ARCHER   230.0 to   79039 HAYDEN   230.0   circuit 1
Outage case 1165              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73010 ARICKARE 115.0 to   73094 JOES     115.0   circuit 1
Outage case 1166              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73165 RAWHIDE  230.0   circuit 1
Outage case 1167              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73199 TIMBERLN 230.0   circuit 1
Outage case 1168              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73212 WELD  LM 230.0   circuit 1
Outage case 1169              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   73212 WELD  LM 230.0   circuit 2
Outage case 1170              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73012 AULT     345.0 to   73108 LAR.RIVR 345.0   circuit 1
Outage case 1171              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73012 AULT     345.0 to   79014 CRAIG    345.0   circuit 1
Outage case 1172              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73013 B.CK PS  115.0 to   73020 BEAVERCK 115.0   circuit 1
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Outage case 1173              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73014 B.CK PS  230.0 to   73192 STORY    230.0   circuit 1

Outage case 1174              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73015 B.CK TRI 115.0 to   73020 BEAVERCK 115.0   circuit 1

Outage case 1175              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73016 B.CK TRI 230.0 to   73192 STORY    230.0   circuit 1

Outage case 1176              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73017 B.SANDY  115.0 to   73125 LSCHANCE 115.0   circuit 1

Outage case 1177              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73017 B.SANDY  115.0 to   73318 LIMON    115.0   circuit 1

Outage case 1178              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73018 B.SANDY  230.0 to   73036 BURLNGTN 230.0   circuit 1

Outage case 1179              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73018 B.SANDY  230.0 to   73531 LINCOLNT 230.0   circuit 1

Outage case 1180              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73019 BASIN    115.0 to   73075 GREYBULL 115.0   circuit 1

Outage case 1181              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73019 BASIN    115.0 to   73222 WORLANTP 115.0   circuit 1

Outage case 1182              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73031 BRUSHTAP 115.0   circuit 1

Outage case 1183              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73065 GARY     115.0   circuit 1

Outage case 1184              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73136 MESSEX   115.0   circuit 1

Outage case 1185              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73020 BEAVERCK 115.0 to   73464 ADENA    115.0   circuit 1

Outage case 1186              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73022 BGEORGE  115.0 to   73123 LOVELL   115.0   circuit 1

Outage case 1187              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73022 BGEORGE  115.0 to   73534 MEETSETP 115.0   circuit 1

Outage case 1188              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73023 BIJOUTAP 115.0 to   73097 KIOWA CK 115.0   circuit 1

Outage case 1189              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73023 BIJOUTAP 115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1190              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73024 BLKHLWTP 115.0 to   73044 COBBLKTP 115.0   circuit 1

Outage case 1191              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73024 BLKHLWTP 115.0 to   73145 NUNN     115.0   circuit 1

Outage case 1192              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73025 BONNY CK 115.0 to   73035 BURLNGTN 115.0   circuit 1

Outage case 1193              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73025 BONNY CK 115.0 to   73185 SO. FORK 115.0   circuit 1

Outage case 1194              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73050 DERBYHIL 115.0   circuit 1

Outage case 1195              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73114 LONETREE 115.0   circuit 1

Outage case 1196              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73026 BOYD     115.0 to   73118 LOVE E   115.0   circuit 1

Outage case 1197              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73027 BOYD     230.0 to   73078 HARMONY  230.0   circuit 1

Outage case 1198              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73027 BOYD     230.0 to   73116 LONGPEAK 230.0   circuit 1

Outage case 1199              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73045 COPPERMT 115.0   circuit 1

Outage case 1200              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73197 THERMOPL 115.0   circuit 1

Outage case 1201              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73028 BOYSEN   115.0 to   73479 HARRSBRG 115.0   circuit 1

Outage case 1202              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73029 BRIDGEPT 115.0 to   73131 MCGREW   115.0   circuit 1

Outage case 1203              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73029 BRIDGEPT 115.0 to   73236 GREENWOD 115.0   circuit 1

Outage case 1204              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73030 BRIGHTNW 115.0 to   73493 SANDCRK  115.0   circuit 1

Outage case 1205              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73030 BRIGHTNW 115.0 to   73503 ERIE TAP 115.0   circuit 1

Outage case 1206              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73031 BRUSHTAP 115.0 to   73305 EFMORGTP 115.0   circuit 1

Outage case 1207              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73034 BURL PSC 115.0 to   73209 WANIBETP 115.0   circuit 1

Outage case 1208              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73034 BURL PSC 115.0 to   73485 BURL KC  115.0   circuit 1

Outage case 1209              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73035 BURLNGTN 115.0 to   73485 BURL KC  115.0   circuit 1
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Outage case 1210              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73037 BUSHNELL 115.0 to   73038 BUSHNLTP 115.0   circuit 1
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Outage case 1211              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73038 BUSHNLTP 115.0 to   73096 KIMBALL  115.0   circuit 1
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Outage case 1212              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73038 BUSHNLTP 115.0 to   73152 PINEBLUF 115.0   circuit 1
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Outage case 1213              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73039 CARTERLK 115.0 to   73058 FLATIRON 115.0   circuit 1
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Outage case 1214              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73039 CARTERLK 115.0 to   73124 LOVEWTAP 115.0   circuit 1
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Outage case 1215              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73041 CARTERMT 115.0 to   73197 THERMOPL 115.0   circuit 1
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Outage case 1216              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73041 CARTERMT 115.0 to   73534 MEETSETP 115.0   circuit 1
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Outage case 1217              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73042 CASPERLM 115.0 to   73070 GLENRCKN 115.0   circuit 1
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Outage case 1218              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73077 HAPPYJCK 115.0   circuit 1
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Outage case 1219              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73109 LARAMIE  115.0   circuit 1
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Outage case 1220              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73480 CROWCRK  115.0   circuit 1
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Outage case 1221              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73043 CHEYENNE 115.0 to   73504 PONNEQUI 115.0   circuit 1
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Outage case 1222              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73044 COBBLKTP 115.0 to   73201 TIMNTHTP 115.0   circuit 1
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Outage case 1223              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73045 COPPERMT 115.0 to   73162 RADERVIL 115.0   circuit 1
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Outage case 1224              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73046 DALTON   115.0 to   73179 SIDNEY   115.0   circuit 1
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Outage case 1225              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73046 DALTON   115.0 to   73236 GREENWOD 115.0   circuit 1
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Outage case 1226              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73053 ECKLEY   115.0   circuit 1
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Outage case 1227              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73142 N.YUMA   115.0   circuit 1
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Outage case 1228              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73230 YUMA     115.0   circuit 1
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Outage case 1229              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73047 DEERINGL 115.0 to   73372 OTIS LM  115.0   circuit 1
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Outage case 1230              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73049 DELCAMIN 115.0   circuit 1
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Outage case 1231              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73115 LONGPEAK 115.0   circuit 1
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Outage case 1232              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73048 DEL CTAP 115.0 to   73133 MEADOW   115.0   circuit 1
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Outage case 1233              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73049 DELCAMIN 115.0 to   73501 RINNVALL 115.0   circuit 1
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Outage case 1234              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73050 DERBYHIL 115.0 to   73373 VALLEYLM 115.0   circuit 1
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Outage case 1235              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73052 DRAKE RD 115.0   circuit 1
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Outage case 1236              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73089 HRSTHTAP 115.0   circuit 1
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Outage case 1237              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73051 DIXON CK 115.0 to   73149 OVERLAND 115.0   circuit 1
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Outage case 1238              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73052 DRAKE RD 115.0 to   73198 TIMBERLN 115.0   circuit 1
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Outage case 1239              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73225 WRAY TAP 115.0   circuit 1
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Outage case 1240              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73326 ROBB     115.0   circuit 1
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Outage case 1241              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73053 ECKLEY   115.0 to   73371 BETHELLM 115.0   circuit 1
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Outage case 1242              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73127 LYONS    115.0   circuit 1
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Outage case 1243              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73155 POLEHILL 115.0   circuit 1
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Outage case 1244              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73232 MARYLKSB 115.0   circuit 1
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Outage case 1245              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73056 ESTES    115.0 to   73233 MARYLKTP 115.0   circuit 1
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Outage case 1246              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73058 FLATIRON 115.0 to   73089 HRSTHTAP 115.0   circuit 1
Outage case 1247              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73058 FLATIRON 115.0 to   73155 POLEHILL 115.0   circuit 1
Outage case 1248              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73059 FLEMING  115.0 to   73080 HAXTUN   115.0   circuit 1
Outage case 1249              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73059 FLEMING  115.0 to   73478 GALIEN   115.0   circuit 1
Outage case 1250              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73113 LNGMNTNW 115.0   circuit 1
Outage case 1251              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73196 TERRY    115.0   circuit 1
Outage case 1252              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73060 FORDHAM  115.0 to   73437 ROGERSRD 115.0   circuit 1
Outage case 1253              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73061 FRASER   138.0 to   73220 WINDYGAP 138.0   circuit 1
Outage case 1254              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73063 FRENCHCK 115.0 to   73080 HAXTUN   115.0   circuit 1
Outage case 1255              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73063 FRENCHCK 115.0 to   73210 WAUNETA  115.0   circuit 1
Outage case 1256              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73065 GARY     115.0 to   73221 WOODROW  115.0   circuit 1
Outage case 1257              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73077 HAPPYJCK 115.0   circuit 1
Outage case 1258              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73146 OASISTAP 115.0   circuit 1
Outage case 1259              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73066 GEMCTYTP 115.0 to   73187 SPRINGCK 115.0   circuit 1
Outage case 1260              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73131 MCGREW   115.0   circuit 1
Outage case 1261              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73189 STEGALL  115.0   circuit 1
Outage case 1262              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73067 GERING   115.0 to   73365 EMIGRANT 115.0   circuit 1
Outage case 1263              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73070 GLENRCKN 115.0   circuit 1
Outage case 1264              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73076 GUERNTAP 115.0   circuit 1
Outage case 1265              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73153 PODOLAK  115.0   circuit 1
Outage case 1266              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73255 LINGLETP 115.0   circuit 1
Outage case 1267              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73069 GLENDO   115.0 to   73366 WAGNHNDS 115.0   circuit 1
Outage case 1268              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73071 GLENRCKS 115.0 to   73167 REFNRYTP 115.0   circuit 1
Outage case 1269              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73071 GLENRCKS 115.0 to   73366 WAGNHNDS 115.0   circuit 1
Outage case 1270              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   73102 KREMLING 138.0   circuit 1
Outage case 1271              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   73220 WINDYGAP 138.0   circuit 1
Outage case 1272              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73072 GOREPASS 138.0 to   79038 HAYDEN   138.0   circuit 1
Outage case 1273              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73075 GREYBULL 115.0 to   73123 LOVELL   115.0   circuit 1
Outage case 1274              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73075 GREYBULL 115.0 to   73340 NAHNEJEN 115.0   circuit 1
Outage case 1275              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73189 STEGALL  115.0   circuit 1
Outage case 1276              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73359 LIMESTON 115.0   circuit 1
Outage case 1277              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73076 GUERNTAP 115.0 to   73368 GUERNRRL 115.0   circuit 1
Outage case 1278              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73077 HAPPYJCK 115.0 to   73348 CORLETT  115.0   circuit 1
Outage case 1279              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73078 HARMONY  230.0 to   73199 TIMBERLN 230.0   circuit 1
Outage case 1280              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73079 HARVARD  115.0 to   73113 LNGMNTNW 115.0   circuit 1
Outage case 1281              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73081 HDOME    115.0 to   73234 JIMRDYTP 115.0   circuit 1
Outage case 1282              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73083 HELL CK  115.0 to   73084 HELL TAP 115.0   circuit 1
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Outage case 1283              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73083 HELL CK  115.0 to   73174 SAGEBRSH 115.0   circuit 1

Outage case 1284              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73084 HELL TAP 115.0 to   73110 LIBERTY  115.0   circuit 1

Outage case 1285              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73084 HELL TAP 115.0 to   73185 SO. FORK 115.0   circuit 1

Outage case 1286              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73086 HORSESHO 115.0 to   73120 LOVE W   115.0   circuit 1

Outage case 1287              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73086 HORSESHO 115.0 to   73499 BOYDLAKE 115.0   circuit 1

Outage case 1288              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73087 WESTHILL 230.0 to   73148 OSAGE    230.0   circuit 1

Outage case 1289              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73087 WESTHILL 230.0 to   73164 LANGE    230.0   circuit 1

Outage case 1290              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73103 L.MEADOW 115.0   circuit 1

Outage case 1291              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73464 ADENA    115.0   circuit 1

Outage case 1292              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73088 HOYT     115.0 to   73493 SANDCRK  115.0   circuit 1

Outage case 1293              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73089 HRSTHTAP 115.0 to   73203 TRILBY   115.0   circuit 1

Outage case 1294              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73089 HRSTHTAP 115.0 to   73235 MASONVIL 115.0   circuit 1

Outage case 1295              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73090 HYGIENE  115.0 to   73113 LNGMNTNW 115.0   circuit 1

Outage case 1296              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73090 HYGIENE  115.0 to   73127 LYONS    115.0   circuit 1

Outage case 1297              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73091 IDALIA   115.0 to   73185 SO. FORK 115.0   circuit 1

Outage case 1298              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73091 IDALIA   115.0 to   73206 VERNONTP 115.0   circuit 1

Outage case 1299              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73092 JACINTO  115.0 to   73096 KIMBALL  115.0   circuit 1

Outage case 1300              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73092 JACINTO  115.0 to   73179 SIDNEY   115.0   circuit 1

Outage case 1301              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73093 JIMREADY 115.0 to   73234 JIMRDYTP 115.0   circuit 1

Outage case 1302              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73095 KERSEYTP 115.0 to   73158 PROSPEC  115.0   circuit 1

Outage case 1303              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73095 KERSEYTP 115.0 to   73211 WELD  LM 115.0   circuit 1

Outage case 1304              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73096 KIMBALL  115.0 to   73355 KIMBALLC 115.0   circuit 1

Outage case 1305              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73147 ORCHARD  115.0   circuit 1

Outage case 1306              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73158 PROSPEC  115.0   circuit 1

Outage case 1307              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73097 KIOWA CK 115.0 to   73213 WIGGINS  115.0   circuit 1

Outage case 1308              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73098 KODAK    115.0 to   73369 KODAKETP 115.0   circuit 1

Outage case 1309              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73098 KODAK    115.0 to   73432 KODAKWTP 115.0   circuit 1

Outage case 1310              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73099 KORTES   115.0 to   73100 KORTESTP 115.0   circuit 1

Outage case 1311              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73099 KORTES   115.0 to   73137 MIRACLEM 115.0   circuit 1

Outage case 1312              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73100 KORTESTP 115.0 to   73137 MIRACLEM 115.0   circuit 1

Outage case 1313              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73100 KORTESTP 115.0 to   73176 SEMINOE  115.0   circuit 1

Outage case 1314              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73102 KREMLING 138.0 to   73204 TROUBLE  138.0   circuit 1

Outage case 1315              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73103 L.MEADOW 115.0 to   73213 WIGGINS  115.0   circuit 1

Outage case 1316              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73104 LAGRANGE 115.0 to   73173 ROUNDTOP 115.0   circuit 1

Outage case 1317              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73104 LAGRANGE 115.0 to   73189 STEGALL  115.0   circuit 1

Outage case 1318              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73105 LAPORTE  115.0 to   73298 BELLVUTP 115.0   circuit 1

Outage case 1319              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73105 LAPORTE  115.0 to   73506 LAPORTAP 115.0   circuit 1
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Outage case 1320              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73106 LAPORTE  230.0 to   73165 RAWHIDE  230.0   circuit 1
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Outage case 1321              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73107 LAR.RIVR 230.0 to   73190 STEGALL  230.0   circuit 1
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Outage case 1322              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73108 LAR.RIVR 345.0 to   73193 STORY    345.0   circuit 1
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Outage case 1323              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73109 LARAMIE  115.0 to   73362 MEDBOWTP 115.0   circuit 1
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Outage case 1324              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73111 LINDEN   115.0 to   73156 POUDRE   115.0   circuit 1
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Outage case 1325              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73111 LINDEN   115.0 to   73198 TIMBERLN 115.0   circuit 1
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Outage case 1326              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73112 LINGLE   115.0 to   73255 LINGLETP 115.0   circuit 1
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Outage case 1327              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73113 LNGMNTNW 115.0 to   73133 MEADOW   115.0   circuit 1
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Outage case 1328              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73115 LONGPEAK 115.0 to   73196 TERRY    115.0   circuit 1
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Outage case 1329              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73117 LOST CK  115.0 to   73370 LOSTCKTP 115.0   circuit 1
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Outage case 1330              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73118 LOVE E   115.0 to   73499 BOYDLAKE 115.0   circuit 1
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Outage case 1331              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73120 LOVE W   115.0 to   73124 LOVEWTAP 115.0   circuit 1
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Outage case 1332              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73123 LOVELL   115.0 to   73228 YELLOWBR 115.0   circuit 1
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Outage case 1333              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73123 LOVELL   115.0 to   73228 YELLOWBR 115.0   circuit 2
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Outage case 1334              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73124 LOVEWTAP 115.0 to   73373 VALLEYLM 115.0   circuit 1
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Outage case 1335              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73125 LSCHANCE 115.0 to   73194 SWOODROW 115.0   circuit 1
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Outage case 1336              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73126 LYMAN    115.0 to   73202 TORRNGTN 115.0   circuit 1
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Outage case 1337              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73126 LYMAN    115.0 to   73256 LYMANTP  115.0   circuit 1
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Outage case 1338              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73127 LYONS    115.0 to   73171 ROCKMTCM 115.0   circuit 1
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Outage case 1339              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73128 MAY      115.0 to   73146 OASISTAP 115.0   circuit 1
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Outage case 1340              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73134 MED BOW  115.0 to   73362 MEDBOWTP 115.0   circuit 1
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Outage case 1341              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73136 MESSEX   115.0 to   73191 STERLING 115.0   circuit 1
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Outage case 1342              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73146 OASISTAP 115.0   circuit 1
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Outage case 1343              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73177 SEMINOTP 115.0   circuit 1
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Outage case 1344              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73137 MIRACLEM 115.0 to   73362 MEDBOWTP 115.0   circuit 1
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Outage case 1345              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73139 MYERS    115.0 to   73140 MYERS TP 115.0   circuit 1
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Outage case 1346              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73140 MYERS TP 115.0 to   73154 POLE CK  115.0   circuit 1
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Outage case 1347              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73142 N.YUMA   115.0 to   73166 REDWILLW 115.0   circuit 1
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Outage case 1348              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73180 SIDNEY   230.0   circuit 1
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Outage case 1349              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73192 STORY    230.0   circuit 1
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Outage case 1350              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73143 N.YUMA   230.0 to   73224 WRAY     230.0   circuit 1
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Outage case 1351              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73144 NCWCD    138.0 to   73220 WINDYGAP 138.0   circuit 1
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Outage case 1352              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73145 NUNN     115.0 to   73172 ROCKPRTP 115.0   circuit 1
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Outage case 1353              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73148 OSAGE    230.0 to   73283 YELOWCRK 230.0   circuit 1
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Outage case 1354              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73149 OVERLAND 115.0 to   73506 LAPORTAP 115.0   circuit 1
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Outage case 1355              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73150 PEETZ    115.0 to   73179 SIDNEY   115.0   circuit 1
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Outage case 1356              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73150 PEETZ    115.0 to   73191 STERLING 115.0   circuit 1
Outage case 1357              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73151 PILOT BU 115.0 to   73217 WINDRIVT 115.0   circuit 1
Outage case 1358              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73151 PILOT BU 115.0 to   73479 HARRSBRG 115.0   circuit 1
Outage case 1359              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73154 POLE CK  115.0 to   73161 QUALLS   115.0   circuit 1
Outage case 1360              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73154 POLE CK  115.0 to   73173 ROUNDTOP 115.0   circuit 1
Outage case 1361              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73156 POUDRE   115.0 to   73169 RICHARDS 115.0   circuit 1
Outage case 1362              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73156 POUDRE   115.0 to   73506 LAPORTAP 115.0   circuit 1
Outage case 1363              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73158 PROSPEC  115.0 to   73370 LOSTCKTP 115.0   circuit 1
Outage case 1364              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73159 PROSPVAL 115.0 to   73493 SANDCRK  115.0   circuit 1
Outage case 1365              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73162 RADERVIL 115.0 to   73336 ERVAYBAS 115.0   circuit 1
Outage case 1366              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73164 LANGE    230.0 to   73186 LOOKOUT  230.0   circuit 1
Outage case 1367              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73165 RAWHIDE  230.0 to   73199 TIMBERLN 230.0   circuit 1
Outage case 1368              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73165 RAWHIDE  230.0 to   73199 TIMBERLN 230.0   circuit 2
Outage case 1369              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73166 REDWILLW 115.0 to   73208 WAGES    115.0   circuit 1
Outage case 1370              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73168 RENO     230.0 to   73276 TEKLA    230.0   circuit 1
Outage case 1371              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73169 RICHARDS 115.0 to   73201 TIMNTHTP 115.0   circuit 1
Outage case 1372              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73170 RIVERTON 115.0 to   73217 WINDRIVT 115.0   circuit 1
Outage case 1373              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73172 ROCKPRTP 115.0 to   73504 PONNEQUI 115.0   circuit 1
Outage case 1374              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73173 ROUNDTOP 115.0 to   73178 SENTINEL 115.0   circuit 1
Outage case 1375              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73175 SANDHILL 115.0 to   73223 WRAY     115.0   circuit 1
Outage case 1376              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73176 SEMINOE  115.0 to   73177 SEMINOTP 115.0   circuit 1
Outage case 1377              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73177 SEMINOTP 115.0 to   73182 SINCLAIR 115.0   circuit 1
Outage case 1378              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73180 SIDNEY   230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1379              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73182 SINCLAIR 115.0 to   73205 TROWBRDG 115.0   circuit 1
Outage case 1380              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73183 SKYLINE  115.0 to   73375 WARRENLM 115.0   circuit 1
Outage case 1381              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73184 SMOKYHLW 115.0 to   73209 WANIBETP 115.0   circuit 1
Outage case 1382              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73186 LOOKOUT  230.0 to   73283 YELOWCRK 230.0   circuit 1
Outage case 1383              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73186 LOOKOUT  230.0 to   73294 HUGHES   230.0   circuit 1
Outage case 1384              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73187 SPRINGCK 115.0 to   73367 FTSANDER 115.0   circuit 1
Outage case 1385              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73188 STEGALDC 230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1386              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73189 STEGALL  115.0 to   73256 LYMANTP  115.0   circuit 1
Outage case 1387              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73189 STEGALL  115.0 to   73365 EMIGRANT 115.0   circuit 1
Outage case 1388              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73190 STEGALL  230.0 to   73087 WESTHILL 230.0   circuit 1
Outage case 1389              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73191 STERLING 115.0 to   73478 GALIEN   115.0   circuit 1
Outage case 1390              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73194 SWOODROW 115.0 to   73221 WOODROW  115.0   circuit 1
Outage case 1391              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73195 TCAPS    115.0 to   73197 THERMOPL 115.0   circuit 1
Outage case 1392              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73195 TCAPS    115.0 to   73234 JIMRDYTP 115.0   circuit 1
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Outage case 1393              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73196 TERRY    115.0 to   73437 ROGERSRD 115.0   circuit 1

Outage case 1394              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73196 TERRY    115.0 to   73503 ERIE TAP 115.0   circuit 1

Outage case 1395              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73197 THERMOPL 115.0 to   73222 WORLANTP 115.0   circuit 1

Outage case 1396              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73200 TIMNATH  115.0 to   73201 TIMNTHTP 115.0   circuit 1

Outage case 1397              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73204 TROUBLE  138.0 to   73220 WINDYGAP 138.0   circuit 1

Outage case 1398              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73206 VERNONTP 115.0 to   73223 WRAY     115.0   circuit 1

Outage case 1399              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73207 WAANIBE  115.0 to   73209 WANIBETP 115.0   circuit 1

Outage case 1400              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73208 WAGES    115.0 to   73210 WAUNETA  115.0   circuit 1

Outage case 1401              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73211 WELD  LM 115.0 to   73369 KODAKETP 115.0   circuit 1

Outage case 1402              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73214 WILDCAT  115.0 to   73365 EMIGRANT 115.0   circuit 1

Outage case 1403              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73216 WINDRIVR 115.0 to   73217 WINDRIVT 115.0   circuit 1

Outage case 1404              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73218 WINDSOR  115.0 to   73369 KODAKETP 115.0   circuit 1

Outage case 1405              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73223 WRAY     115.0 to   73225 WRAY TAP 115.0   circuit 1

Outage case 1406              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73225 WRAY TAP 115.0 to   73331 WRAYWAPA 115.0   circuit 1

Outage case 1407              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73231 MARYLKPP 115.0 to   73233 MARYLKTP 115.0   circuit 1

Outage case 1408              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73232 MARYLKSB 115.0 to   73233 MARYLKTP 115.0   circuit 1

Outage case 1409              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73255 LINGLETP 115.0 to   73256 LYMANTP  115.0   circuit 1

Outage case 1410              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73297 BELLEVUE 115.0 to   73298 BELLVUTP 115.0   circuit 1

Outage case 1411              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73298 BELLVUTP 115.0 to   73325 RIPPLE   115.0   circuit 1

Outage case 1412              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73310 FME      115.0   circuit 1

Outage case 1413              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73378 FMN      115.0   circuit 1

Outage case 1414              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73305 EFMORGTP 115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1415              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73311 FMS      115.0 to   73377 EXCEL    115.0   circuit 1

Outage case 1416              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73311 FMS      115.0 to   73379 FMWEST   115.0   circuit 1

Outage case 1417              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73335 DUTONBAS 115.0 to   73336 ERVAYBAS 115.0   circuit 1

Outage case 1418              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73348 CORLETT  115.0 to   73375 WARRENLM 115.0   circuit 1

Outage case 1419              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73354 JACKLOPE 115.0 to   73364 WARMSPGS 115.0   circuit 1

Outage case 1420              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73361 MEDBOWHS 115.0 to   73362 MEDBOWTP 115.0   circuit 1

Outage case 1421              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73364 WARMSPGS 115.0 to   73366 WAGNHNDS 115.0   circuit 1

Outage case 1422              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73371 BETHELLM 115.0 to   73374 VERNONLM 115.0   circuit 1

Outage case 1423              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73380 ARIES    230.0 to   73419 RD NIXON 230.0   circuit 1

Outage case 1424              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73380 ARIES    230.0 to   73421 STETSON  230.0   circuit 1

Outage case 1425              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73384 BIRDSALE 115.0 to   73387 BIRDSALW 115.0   circuit 1

Outage case 1426              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73384 BIRDSALE 115.0 to   73422 TEMPLTON 115.0   circuit 1

Outage case 1427              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73387 BIRDSALW 115.0 to   73411 MESA12KV 115.0   circuit 1

Outage case 1428              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73387 BIRDSALW 115.0 to   73425 WOODMEN  115.0   circuit 1

Outage case 1429              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        73388 BRADLEY  115.0 to   73404 FOUNTAIN 115.0   circuit 1
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Outage case 1430              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73388 BRADLEY  115.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1431              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73389 BRIARGAT 115.0 to   73391 CTTNWD N 115.0   circuit 1
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Outage case 1432              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73389 BRIARGAT 115.0 to   73410 KETTLECK 115.0   circuit 1
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Outage case 1433              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73390 CSOC     115.0 to   73405 GEESEN   115.0   circuit 1
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Outage case 1434              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73391 CTTNWD N 115.0 to   73410 KETTLECK 115.0   circuit 1
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Outage case 1435              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73392 CTTNWD N 230.0 to   73394 CTTNWD S 230.0   circuit 1
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Outage case 1436              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73392 CTTNWD N 230.0 to   73477 FULLER   230.0   circuit 1
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Outage case 1437              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73406 IND PARK 115.0   circuit 1
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Outage case 1438              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1439              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73425 WOODMEN  115.0   circuit 1
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Outage case 1440              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73393 CTTNWD S 115.0 to   73490 RAMPART  115.0   circuit 1
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Outage case 1441              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73394 CTTNWD S 230.0 to   73421 STETSON  230.0   circuit 1
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Outage case 1442              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73398 DRAKE S  115.0   circuit 1
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Outage case 1443              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73430 FAIRVWCS 115.0   circuit 1
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Outage case 1444              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73397 DRAKE N  115.0 to   73494 ATMELDTP 115.0   circuit 1
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Outage case 1445              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73398 DRAKE S  115.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1446              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73398 DRAKE S  115.0 to   73490 RAMPART  115.0   circuit 1
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Outage case 1447              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73400 EMIL AND 115.0 to   73414 MONUMENT 115.0   circuit 1
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Outage case 1448              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73402 FALCONMV 115.0 to   73405 GEESEN   115.0   circuit 1
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Outage case 1449              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73402 FALCONMV 115.0 to   73481 FULLER   115.0   circuit 1
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Outage case 1450              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73404 FOUNTAIN 115.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1451              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73405 GEESEN   115.0 to   73416 RANCHO   115.0   circuit 1
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Outage case 1452              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73407 KELKER   230.0 to   73419 RD NIXON 230.0   circuit 1
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Outage case 1453              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1454              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1455              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73408 KELKER E 115.0 to   73495 ATMELKTP 115.0   circuit 1
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Outage case 1456              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73409 KELKER W 115.0 to   73420 ROCKISLD 115.0   circuit 1
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Outage case 1457              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73410 KETTLECK 115.0 to   73414 MONUMENT 115.0   circuit 1
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Outage case 1458              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73411 MESA12KV 115.0 to   73430 FAIRVWCS 115.0   circuit 1
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Outage case 1459              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   73416 RANCHO   115.0   circuit 1
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Outage case 1460              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1461              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73413 MIDWAYBR 230.0 to   73419 RD NIXON 230.0   circuit 1
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Outage case 1462              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73419 RD NIXON 230.0 to   73477 FULLER   230.0   circuit 1
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Outage case 1463              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73420 ROCKISLD 115.0 to   73422 TEMPLTON 115.0   circuit 1
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Outage case 1464              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73432 KODAKWTP 115.0 to   73433 WINDSOR1 115.0   circuit 1
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Outage case 1465              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73494 ATMELDTP 115.0 to   73496 ATMELSUB 115.0   circuit 1
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Outage case 1466              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73495 ATMELKTP 115.0 to   73496 ATMELSUB 115.0   circuit 1
Outage case 1467              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73501 RINNVALL 115.0 to   73502 DACONO   115.0   circuit 1
Outage case 1468              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73502 DACONO   115.0 to   73503 ERIE TAP 115.0   circuit 1
Outage case 1469              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73531 LINCOLNT 230.0 to   73413 MIDWAYBR 230.0   circuit 1
Outage case 1470              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73551 W CANON  230.0 to   73413 MIDWAYBR 230.0   circuit 1
Outage case 1471              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   79038 HAYDEN   138.0   circuit 1
Outage case 1472              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   79067 VERNAL   138.0   circuit 1
Outage case 1473              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79002 AXIAL    138.0 to   79038 HAYDEN   138.0   circuit 1
Outage case 1474              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79002 AXIAL    138.0 to   79046 MEEKER   138.0   circuit 1
Outage case 1475              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79005 BEARS    345.0 to   79014 CRAIG    345.0   circuit 1
Outage case 1476              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79020 CURECANT 115.0   circuit 1
Outage case 1477              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79084 LAKECITY 115.0   circuit 1
Outage case 1478              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79007 BLUEMESA 115.0 to   79090 SKITO    115.0   circuit 1
Outage case 1479              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79052 NUCLA    115.0   circuit 1
Outage case 1480              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79117 Y.JACK 2 115.0   circuit 1
Outage case 1481              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79011 CAHONE   115.0 to   79180 GRCUT TP 115.0   circuit 1
Outage case 1482              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79012 CORTEZ   115.0 to   79073 BLUEDOOR 115.0   circuit 1
Outage case 1483              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79012 CORTEZ   115.0 to   79075 EMPIRETS 115.0   circuit 1
Outage case 1484              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79039 HAYDEN   230.0   circuit 1
Outage case 1485              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79039 HAYDEN   230.0   circuit 2
Outage case 1486              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79013 CRAIG    230.0 to   79059 RIFLE WA 230.0   circuit 1
Outage case 1487              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79020 CURECANT 115.0 to   79192 SOCANAL  115.0   circuit 1
Outage case 1488              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79020 CURECANT 115.0 to   79253 CRYSTAL  115.0   circuit 1
Outage case 1489              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79045 LOSTCANY 230.0   circuit 1
Outage case 1490              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79054 PONCHABR 230.0   circuit 1
Outage case 1491              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79070 NORTHFRK 230.0   circuit 1
Outage case 1492              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79021 CURECANT 230.0 to   79163 MORROWPT 230.0   circuit 1
Outage case 1493              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79077 BAYFIELD 115.0   circuit 1
Outage case 1494              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79078 BODO     115.0   circuit 1
Outage case 1495              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79089 SHENDOAH 115.0   circuit 1
Outage case 1496              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79023 DURANGO  115.0 to   79191 COYOTE G 115.0   circuit 1
Outage case 1497              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79026 FLAMGORG 138.0 to   79067 VERNAL   138.0   circuit 1
Outage case 1498              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79026 FLAMGORG 138.0 to   79067 VERNAL   138.0   circuit 2
Outage case 1499              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79036 GRANDJCT 345.0 to   79049 MONTROSE 345.0   circuit 1
Outage case 1500              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79037 GUNNISON 115.0 to   79090 SKITO    115.0   circuit 1
Outage case 1501              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79042 HOTCHKIS 115.0 to   79050 NORTHFRK 115.0   circuit 1
Outage case 1502              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79042 HOTCHKIS 115.0 to   79104 GARNETAP 115.0   circuit 1
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Outage case 1503              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79074 E.CORTEZ 115.0   circuit 1

Outage case 1504              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79075 EMPIRETS 115.0   circuit 1

Outage case 1505              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79111 MANCOSTP 115.0   circuit 1

Outage case 1506              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79044 LOSTCANY 115.0 to   79122 TOWAOC   115.0   circuit 1

Outage case 1507              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79045 LOSTCANY 230.0 to   79061 SHIP PS  230.0   circuit 1

Outage case 1508              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79052 NUCLA    115.0   circuit 1

Outage case 1509              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79082 HAPPYCAN 115.0   circuit 1

Outage case 1510              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79115 SPRCKTAP 115.0   circuit 1

Outage case 1511              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79048 MONTROSE 115.0 to   79192 SOCANAL  115.0   circuit 1

Outage case 1512              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79049 MONTROSE 345.0 to   79072 HESPERUS 345.0   circuit 1

Outage case 1513              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79050 NORTHFRK 115.0 to   79083 JUANITA  115.0   circuit 1

Outage case 1514              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79052 NUCLA    115.0 to   79187 NORWOOD  115.0   circuit 1

Outage case 1515              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79054 PONCHABR 230.0 to   73551 W CANON  230.0   circuit 1

Outage case 1516              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79059 RIFLE WA 230.0 to   79070 NORTHFRK 230.0   circuit 1

Outage case 1517              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79060 SANJN PS 345.0 to   79072 HESPERUS 345.0   circuit 1

Outage case 1518              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79078 BODO     115.0   circuit 1

Outage case 1519              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79088 ROCKWOOD 115.0   circuit 1

Outage case 1520              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79071 HESPERUS 115.0 to   79099 FLOR.RIV 115.0   circuit 1

Outage case 1521              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79073 BLUEDOOR 115.0 to   79074 E.CORTEZ 115.0   circuit 1

Outage case 1522              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79075 EMPIRETS 115.0 to   79180 GRCUT TP 115.0   circuit 1

Outage case 1523              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79076 AM EAST  115.0 to   79077 BAYFIELD 115.0   circuit 1

Outage case 1524              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79076 AM EAST  115.0 to   79099 FLOR.RIV 115.0   circuit 1

Outage case 1525              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79077 BAYFIELD 115.0 to   79086 PAGOSA   115.0   circuit 1

Outage case 1526              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79079 BULLOCK  115.0 to   79082 HAPPYCAN 115.0   circuit 1

Outage case 1527              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79079 BULLOCK  115.0 to   79115 SPRCKTAP 115.0   circuit 1

Outage case 1528              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79080 CASCADEL 115.0 to   79088 ROCKWOOD 115.0   circuit 1

Outage case 1529              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79080 CASCADEL 115.0 to   79256 SILVERTN 115.0   circuit 1

Outage case 1530              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79081 CRSTBUTT 115.0 to   79090 SKITO    115.0   circuit 1

Outage case 1531              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79085 NORTHMSA 115.0 to   79104 GARNETAP 115.0   circuit 1

Outage case 1532              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79085 NORTHMSA 115.0 to   79115 SPRCKTAP 115.0   circuit 1

Outage case 1533              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79089 SHENDOAH 115.0 to   79111 MANCOSTP 115.0   circuit 1

Outage case 1534              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79103 GARNET M 115.0 to   79104 GARNETAP 115.0   circuit 1

Outage case 1535              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79107 HOVEN NO 115.0 to   79117 Y.JACK 2 115.0   circuit 1

Outage case 1536              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79108 HOVENWEP 115.0 to   79121 SANDCANY 115.0   circuit 1

Outage case 1537              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79118 Y.JACK W 115.0   circuit 1

Outage case 1538              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79120 MOQUI C  115.0   circuit 1

Outage case 1539              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        79110 MAIN  CO 115.0 to   79121 SANDCANY 115.0   circuit 1
Outage case 1540              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79110 MAIN  CO 115.0 to   79262 CEMNT CK 115.0   circuit 1
Outage case 1541              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79117 Y.JACK 2 115.0 to   79118 Y.JACK W 115.0   circuit 1
Outage case 1542              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79122 TOWAOC   115.0 to   79262 CEMNT CK 115.0   circuit 1
Outage case 1543              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79174 MOLINA-L 115.0 to   79175 MOLINA-U 115.0   circuit 1
Outage case 1544              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79179 GRT CUT  115.0 to   79180 GRCUT TP 115.0   circuit 1
Outage case 1545              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79187 NORWOOD  115.0 to   79189 SUNSH SM 115.0   circuit 1
Outage case 1546              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79188 TELLURID 115.0 to   79189 SUNSH SM 115.0   circuit 1
Outage case 1547              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79189 SUNSH SM 115.0 to   79257 AMES     115.0   circuit 1
Outage case 1548              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79190 DALLASCR 115.0 to   79193 MCKENZIX 115.0   circuit 1
Outage case 1549              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79191 COYOTE G 115.0 to   79260 ELPASOTP 115.0   circuit 1
Outage case 1550              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79192 SOCANAL  115.0 to   79193 MCKENZIX 115.0   circuit 1
Outage case 1551              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79194 BURROBDG 115.0 to   79256 SILVERTN 115.0   circuit 1
Outage case 1552              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79194 BURROBDG 115.0 to   79257 AMES     115.0   circuit 1
Outage case 1553              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63003 CUSTER   230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1554              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63003 CUSTER   230.0 to   63012 ROSEBUD  230.0   circuit 1
Outage case 1555              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63004 FT PECK  161.0 to   63011 RICHARDC 161.0   circuit 1
Outage case 1556              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90204 MTSFTPCK 230.0 to   90211 MTSRICHC 230.0   circuit 1
Outage case 1557              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63006 HARLEM   161.0 to   63008 HAVRE    161.0   circuit 1
Outage case 1558              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90206 MTSHARLM 230.0 to   90208 MTSHAVRE 230.0   circuit 1
Outage case 1559              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63007 HAVRE    115.0 to   63013 RUDYARD  115.0   circuit 1
Outage case 1560              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63008 HAVRE    161.0 to   63015 VERONA   161.0   circuit 1
Outage case 1561              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90208 MTSHAVRE 230.0 to   90215 MTSVER   230.0   circuit 1
Outage case 1562              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63009 MALTA UM 161.0 to   63006 HARLEM   161.0   circuit 1
Outage case 1563              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90209 MTSMALTA 230.0 to   90206 MTSHARLM 230.0   circuit 1
Outage case 1564              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63010 MILCTYDC 230.0 to   63012 ROSEBUD  230.0   circuit 1
Outage case 1565              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63011 RICHARDC 161.0 to   63009 MALTA UM 161.0   circuit 1
Outage case 1566              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90211 MTSRICHC 230.0 to   90209 MTSMALTA 230.0   circuit 1
Outage case 1567              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63013 RUDYARD  115.0 to   63014 TIBERTAP 115.0   circuit 1
Outage case 1568              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        26043 INTERMT  345.0 to   65995 MONA     345.0   circuit 1
Outage case 1569              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        26043 INTERMT  345.0 to   65995 MONA     345.0   circuit 2
Outage case 1570              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40391 ELMO     115.0 to   62066 KERR     115.0   circuit 1
Outage case 1571              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40457 GARRISON 230.0 to   62072 OVANDO   230.0   circuit 1
Outage case 1572              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        40551 HOT SPR  230.0 to   62072 OVANDO   230.0   circuit 1
Outage case 1573              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        50822 NLYPHS   230.0 to   40145 BOUNDARY 230.0   circuit 1
Outage case 1574              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   40457 GARRISON 230.0   circuit 1
Outage case 1575              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62004 ANACOND  230.0 to   40457 GARRISON 230.0   circuit 2
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Outage case 1576              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62012 TOWN2    500.0 to   40453 GAR2EAST 500.0   circuit 2
Outage case 1577              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62013 TOWN1    500.0 to   40451 GAR1EAST 500.0   circuit 1
Outage case 1578              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62027 SHELBY   115.0 to   63014 TIBERTAP 115.0   circuit 1
Outage case 1579              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62030 PTRSNFLT 230.0 to   65025 AMPS     230.0   circuit 1
Outage case 1580              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62051 HARDIN   230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1581              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62056 HUNTLEY  230.0 to   63002 CRSOVRUM 230.0   circuit 1
Outage case 1582              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62084 DILLON S 161.0 to   65155 BIGGRASS 161.0   circuit 1
Outage case 1583              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62085 CROWCR B 115.0 to   48055 BURKAVAB 115.0   circuit 1
Outage case 1584              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        62086 THOMSON  115.0 to   48053 BURKAVAA 115.0   circuit 1
Outage case 1585              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63008 HAVRE    161.0 to   62023 GT FALLS 161.0   circuit 1
Outage case 1586              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90208 MTSHAVRE 230.0 to   90223 MTSGFALL 230.0   circuit 1
Outage case 1587              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65060 ANT MINE 230.0 to   73276 TEKLA    230.0   circuit 1
Outage case 1588              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65085 ASHLEY   138.0 to   79067 VERNAL   138.0   circuit 1
Outage case 1589              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65305 CASPERPP 115.0 to   73167 REFNRYTP 115.0   circuit 1
Outage case 1590              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   73107 LAR.RIVR 230.0   circuit 1
Outage case 1591              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65420 DAVEJOHN 230.0 to   73190 STEGALL  230.0   circuit 1
Outage case 1592              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65425 DAVEJOHN 115.0 to   73070 GLENRCKN 115.0   circuit 1
Outage case 1593              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65425 DAVEJOHN 115.0 to   73071 GLENRCKS 115.0   circuit 1
Outage case 1594              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66235 PINTO PS 345.0 to   14101 FOURCORN 345.0   circuit 1
Outage case 1595              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66540 THERPACE 115.0 to   73197 THERMOPL 115.0   circuit 1
Outage case 1596              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66720 WORLAND  115.0 to   73222 WORLANTP 115.0   circuit 1
Outage case 1597              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73148 OSAGE    230.0   circuit 1
Outage case 1598              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73168 RENO     230.0   circuit 1
Outage case 1599              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66725 WYODAK   230.0 to   73294 HUGHES   230.0   circuit 1
Outage case 1600              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66750 YELOWTLP 230.0 to   62045 BLGS PHA 230.0   circuit 1
Outage case 1601              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66755 YELOWTLP 161.0 to   62061 RMRK PHA 161.0   circuit 1
Outage case 1602              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66750 YELOWTLP 230.0 to   73229 YELLOWBR 230.0   circuit 1
Outage case 1603              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73042 CASPERLM 115.0 to   65305 CASPERPP 115.0   circuit 1
Outage case 1604              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73229 YELLOWBR 230.0 to   63001 CROS PHA 230.0   circuit 1
Outage case 1605              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79001 ARTESIA  138.0 to   66278 RANGELY  138.0   circuit 1
Outage case 1606              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79005 BEARS    345.0 to   65193 BONANZA  345.0   circuit 1
Outage case 1607              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79046 MEEKER   138.0 to   66278 RANGELY  138.0   circuit 1
Outage case 1608              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79067 VERNAL   138.0 to   65192 BONANZA  138.0   circuit 1
Outage case 1609              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        45029 BURNS    500.0 to   60240 MIDPOINT 500.0   circuit 1
Outage case 1610              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60030 BLACKFT  161.0 to   65670 GOSHEN   161.0   circuit 1
Outage case 1611              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60073 BRADY    230.0 to   65075 ANTLOPE  230.0   circuit 1
Outage case 1612              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60085 BRIDGER  345.0 to   65665 GOSHEN   345.0   circuit 1
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Outage case 1613              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60150 HELLSCYN 230.0 to   45103 ENTERPRS 230.0   circuit 1

Outage case 1614              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        60235 MIDPOINT 345.0 to   64061 IDAHO-NV 345.0   circuit 1

Outage case 1615              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        61826 HINES    115.0 to   40507 HARNEY   115.0   circuit 1

Outage case 1616              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65135 BENLOMND 345.0 to   60060 BORAH    345.0   circuit 1

Outage case 1617              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65665 GOSHEN   345.0 to   60190 KINPORT  345.0   circuit 1

Outage case 1618              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        65920 MALAD    138.0 to   60020 AMFLS    138.0   circuit 1

Outage case 1619              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        66565 TREASTON 230.0 to   60073 BRADY    230.0   circuit 1

Outage case 1620              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70193 FTN VALL 115.0 to   73412 MIDWAYBR 115.0   circuit 1

Outage case 1621              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70274 MALTA    230.0 to   73138 MT.ELBRT 230.0   circuit 1

Outage case 1622              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70287 MILL     115.0 to   73296 FRASER   115.0   circuit 1

Outage case 1623              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70308 PALMER   115.0 to   73414 MONUMENT 115.0   circuit 1

Outage case 1624              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70327 PONCHA   115.0 to   79037 GUNNISON 115.0   circuit 1

Outage case 1625              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70358 RIFLE PS 230.0 to   79059 RIFLE WA 230.0   circuit 1

Outage case 1626              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70410 ST.VRAIN 230.0 to   73116 LONGPEAK 230.0   circuit 1

Outage case 1627              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70470 WELD  PS 115.0 to   73211 WELD  LM 115.0   circuit 1

Outage case 1628              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70471 WELD  PS 230.0 to   73212 WELD  LM 230.0   circuit 1

Outage case 1629              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70476 WOODLAND 115.0 to   73400 EMIL AND 115.0   circuit 1

Outage case 1630              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73011 AULT     230.0 to   70474 WINDSOR  230.0   circuit 1

Outage case 1631              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70005 BRUSHCPP 115.0 to   73013 B.CK PS  115.0   circuit 1

Outage case 1632              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70005 BRUSHCPP 115.0 to   73013 B.CK PS  115.0   circuit 2

Outage case 1633              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73044 COBBLKTP 115.0 to   70116 COBBLAKE 115.0   circuit 1

Outage case 1634              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73105 LAPORTE  115.0 to   70256 LAPORTPS 115.0   circuit 1

Outage case 1635              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73192 STORY    230.0 to   70311 PAWNEE   230.0   circuit 1

Outage case 1636              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73477 FULLER   230.0 to   70122 COMANCHE 230.0   circuit 1

Outage case 1637              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73477 FULLER   230.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1638              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73413 MIDWAYBR 230.0 to   70286 MIDWAYPS 230.0   circuit 1

Outage case 1639              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79054 PONCHABR 230.0 to   70375 SAN LUIS 230.0   circuit 1

Outage case 1640              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79105 GLADETAP 115.0 to   79260 ELPASOTP 115.0   circuit 1

Outage case 1641              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        63015 VERONA   161.0 to   62024 RAINBOW  161.0   circuit 1

Outage case 1642              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        90215 MTSVER   230.0 to   90224 MTSRNBW  230.0   circuit 1

Outage case 1643              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70358 RIFLE PS 230.0 to   79250 AMATLAS  230.0   circuit 1

Outage case 1644              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        70525 MTHARRIS 138.0 to   79038 HAYDEN   138.0   circuit 1

Outage case 1645              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79173 COLBRAN  115.0 to   79174 MOLINA-L 115.0   circuit 1

Outage case 1646              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79033 GOREPASS 230.0 to   79039 HAYDEN   230.0   circuit 1

Outage case 1647              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79034 GRANDJCT 115.0 to   79048 MONTROSE 115.0   circuit 1

Outage case 1648              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79039 HAYDEN   230.0 to   79091 WOLCOTTP 230.0   circuit 1

Outage case 1649              Y, WAPA UGP, JUNE 2002
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    switched OUT LINE        79046 MEEKER   138.0 to   79056 RIFLE CU 138.0   circuit 1
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Outage case 1650              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79057 RIFLE CU 230.0 to   79059 RIFLE WA 230.0   circuit 1
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Outage case 1651              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79014 CRAIG    345.0 to   79058 RIFLE CU 345.0   circuit 1
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Outage case 1652              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        79036 GRANDJCT 345.0 to   79058 RIFLE CU 345.0   circuit 1
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Outage case 1653              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        48197 LOLO     230.0 to   60278 IMNAHA   230.0   circuit 1
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Outage case 1654              Y, WAPA UGP, JUNE 2002
    switched OUT LINE        73412 MIDWAYBR 115.0 to   70285 MIDWAYPS 115.0   circuit 1
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Outage case 1655              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90700 MTSKINP  500.0 to   60190 KINPORT  345.0   circuit 1
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Outage case 1656              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90800 MTSBENL  500.0 to   65135 BENLOMND 345.0   circuit 1
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Outage case 1657              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60006 ADELAIDE 345.0 to   60010 ADELAIDE 138.0   circuit 1
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Outage case 1658              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60006 ADELAIDE 345.0 to   60010 ADELAIDE 138.0   circuit 2
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Outage case 1659              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60030 BLACKFT  161.0 to   60031 BLACKFT  138.0   circuit 1
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Outage case 1660              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 1
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Outage case 1661              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 2
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Outage case 1662              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 3
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Outage case 1663              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60045 BOISEBCH 230.0 to   60040 BOISEBCH 138.0   circuit 4
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Outage case 1664              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60060 BORAH    345.0 to   60062 BORAH    230.0   circuit 1
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Outage case 1665              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 1
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Outage case 1666              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 2
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Outage case 1667              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60073 BRADY    230.0 to   60070 BRADY    138.0   circuit 3
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Outage case 1668              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60110 CALDWELL 230.0 to   60105 CALDWELL 138.0   circuit 1
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Outage case 1669              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60110 CALDWELL 230.0 to   60105 CALDWELL 138.0   circuit 2
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Outage case 1670              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60130 DRAM     230.0 to   60225 MICRON   138.0   circuit 1
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Outage case 1671              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60130 DRAM     230.0 to   60225 MICRON   138.0   circuit 2
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Outage case 1672              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 1
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Outage case 1673              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 2
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Outage case 1674              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60165 HUNT     230.0 to   60160 HUNT     138.0   circuit 3
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Outage case 1675              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60185 KINPORT  230.0 to   60180 KINPORT  138.0   circuit 1
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Outage case 1676              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60185 KINPORT  230.0 to   60180 KINPORT  138.0   circuit 2
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Outage case 1677              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60190 KINPORT  345.0 to   60185 KINPORT  230.0   circuit 1
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Outage case 1678              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60232 MIDPOINT 230.0 to   60230 MIDPOINT 138.0   circuit 1
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Outage case 1679              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60235 MIDPOINT 345.0 to   60232 MIDPOINT 230.0   circuit 1
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Outage case 1680              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60235 MIDPOINT 345.0 to   60232 MIDPOINT 230.0   circuit 2
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Outage case 1681              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60240 MIDPOINT 500.0 to   60235 MIDPOINT 345.0   circuit 1
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Outage case 1682              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60250 MT HOME  138.0 to   61805 MT HOME  115.0   circuit 1
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Outage case 1683              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60265 ONTARIO  230.0 to   60260 ONTARIO  138.0   circuit 1
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Outage case 1684              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60275 OXBOW    230.0 to   60270 OXBOW    138.0   circuit 1
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Outage case 1685              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60306 QUARTZ   230.0 to   60305 QUARTZ   138.0   circuit 1
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Outage case 1686              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 61825 HINES    138.0 to   61826 HINES    115.0   circuit 1

Outage case 1687              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60265 ONTARIO  230.0 to   60260 ONTARIO  138.0   circuit 2

Outage case 1688              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60207 LOCUST   230.0 to   61254 LOCUST   138.0   circuit 1

Outage case 1689              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90208 MTSHAVRE 230.0 to   63007 HAVRE    115.0   circuit 1

Outage case 1690              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62004 ANACOND  230.0 to   62005 ANACOND  161.0   circuit 1

Outage case 1691              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62004 ANACOND  230.0 to   62005 ANACOND  161.0   circuit 2

Outage case 1692              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62005 ANACOND  161.0 to   62115 ANACOND  100.0   circuit 1

Outage case 1693              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62005 ANACOND  161.0 to   62115 ANACOND  100.0   circuit 2

Outage case 1694              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62006 TAFTAUTO 115.0 to   62090 TAFTAUTO 100.0   circuit 1

Outage case 1695              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62007 KERR B   161.0 to   62066 KERR     115.0   circuit 1

Outage case 1696              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62007 KERR B   161.0 to   62066 KERR     115.0   circuit 2

Outage case 1697              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62008 KERR A   161.0 to   62066 KERR     115.0   circuit 1

Outage case 1698              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62008 KERR A   161.0 to   62066 KERR     115.0   circuit 2

Outage case 1699              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   62114 MISOULA  100.0   circuit 1

Outage case 1700              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   62114 MISOULA  100.0   circuit 2

Outage case 1701              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62019 WILSALL  230.0 to   62016 WILSALL  161.0   circuit 1

Outage case 1702              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62019 WILSALL  230.0 to   62016 WILSALL  161.0   circuit 2

Outage case 1703              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62023 GT FALLS 161.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1704              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90223 MTSGFALL 230.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1705              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62024 RAINBOW  161.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1706              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 90224 MTSRNBW  230.0 to   62119 RAINBOW  100.0   circuit 1

Outage case 1707              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62026 SHELBY   230.0 to   62027 SHELBY   115.0   circuit 1

Outage case 1708              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62033 ANA BPA  115.0 to   62004 ANACOND  230.0   circuit 1

Outage case 1709              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62035 CNRDWAPA 230.0 to   62069 CNRDWAPA 115.0   circuit 1

Outage case 1710              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62036 JUDITHGP 230.0 to   62104 JUDITHGP 100.0   circuit 1

Outage case 1711              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62046 BROADVU  500.0 to   62223 BROADVU  230.0   circuit 1

Outage case 1712              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62046 BROADVU  500.0 to   62223 BROADVU  230.0   circuit 2

Outage case 1713              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62051 HARDIN   230.0 to   62080 HARDIN   115.0   circuit 1

Outage case 1714              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62052 ALKALI   230.0 to   62109 ALKALI   161.0   circuit 1

Outage case 1715              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62052 ALKALI   230.0 to   62109 ALKALI   161.0   circuit 2

Outage case 1716              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62055 BASELINE 230.0 to   62099 BASELINE 100.0   circuit 1

Outage case 1717              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62057 COLSTRP  500.0 to   62060 COLSTRP  230.0   circuit 1

Outage case 1718              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62057 COLSTRP  500.0 to   62060 COLSTRP  230.0   circuit 2

Outage case 1719              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62060 COLSTRP  230.0 to   62081 COLSTRP  115.0   circuit 1

Outage case 1720              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62060 COLSTRP  230.0 to   62081 COLSTRP  115.0   circuit 2

Outage case 1721              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62061 RMRK PHA 161.0   circuit 1

Outage case 1722              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62096 RIMROCK  100.0   circuit 1
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Outage case 1723              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62062 RIMROCK  161.0 to   62096 RIMROCK  100.0   circuit 2

Outage case 1724              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62064 BRADLEYC 161.0 to   62105 BRADLEYC 100.0   circuit 1

Outage case 1725              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62070 GT FALLS 115.0 to   62118 GT FALLS 100.0   circuit 1

Outage case 1726              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   62118 GT FALLS 100.0   circuit 1

Outage case 1727              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   62118 GT FALLS 100.0   circuit 2

Outage case 1728              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62076 TRIDENT  161.0 to   62021 THREERIV 100.0   circuit 1

Outage case 1729              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62077 BUTTE MT 161.0 to   62116 BUTTE MT 100.0   circuit 1

Outage case 1730              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62077 BUTTE MT 161.0 to   62116 BUTTE MT 100.0   circuit 2

Outage case 1731              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62078 RESERVST 161.0 to   62113 RESERVST 100.0   circuit 1

Outage case 1732              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62079 MILLERCK 161.0 to   62112 MILLERCK 100.0   circuit 1

Outage case 1733              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62045 BLGS PHA 230.0   circuit 1

Outage case 1734              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62097 BILINGS  100.0   circuit 1

Outage case 1735              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62082 BILINGS  230.0 to   62097 BILINGS  100.0   circuit 2

Outage case 1736              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62205 COLRPLJE 161.0 to   62220 COLRPLJE 100.0   circuit 1

Outage case 1737              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62223 BROADVU  230.0 to   62089 BROADVU  100.0   circuit 2

Outage case 1738              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40021 ADDY 2   230.0 to   40017 ADDY     115.0   circuit 1

Outage case 1739              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48025 BEACON N 230.0 to   48023 BEACON N 115.0   circuit 1

Outage case 1740              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48031 BEACON S 230.0 to   48029 BEACON S 115.0   circuit 1

Outage case 1741              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40091 BELL BPA 500.0 to   40090 BELL SO  230.0   circuit 1

Outage case 1742              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40088 BELL MI  230.0 to   40087 BELL BPA 115.0   circuit 1

Outage case 1743              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40145 BOUNDARY 230.0 to   40143 BOUNDARY 115.0   circuit 1

Outage case 1744              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47126 BOX PS   115.0 to   47009 BOX CANY 115.0   circuit 1

Outage case 1745              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48059 CAB GORG 230.0 to   48057 CAB GORG 115.0   circuit 1

Outage case 1746              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40223 CHIEF J3 345.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1747              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40225 CHIEF J4 345.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1748              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40233 CHIEF JO 500.0 to   40231 CHIEF JO 230.0   circuit 1

Outage case 1749              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41195 COL FAL2 230.0 to   40247 COL FALL 115.0   circuit 1

Outage case 1750              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40249 COL FALL 230.0 to   40247 COL FALL 115.0   circuit 1

Outage case 1751              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40261 COLUMBIA 230.0 to   40259 COLUMBIA 115.0   circuit 1

Outage case 1752              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40261 COLUMBIA 230.0 to   40259 COLUMBIA 115.0   circuit 2

Outage case 1753              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40285 COULEE   300.0 to   41357 COULEES2 230.0   circuit 1

Outage case 1754              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40287 COULEE   500.0 to   41357 COULEES2 230.0   circuit 1

Outage case 1755              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41356 COULEES1 230.0 to   40281 COULEE   115.0   circuit 1

Outage case 1756              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47031 DOUGLAS  230.0 to   47029 DOUGLAS  115.0   circuit 1

Outage case 1757              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40369 DWORSHAK 500.0 to   41201 DWOR     100.0   circuit 1

Outage case 1758              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40373 E OMAK   230.0 to   40371 E OMAK   115.0   circuit 1

Outage case 1759              Y, WAPA UGP, JUNE 2002
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    switched OUT TRANSFORMER 40459 GARRISON 500.0 to   40457 GARRISON 230.0   circuit 1
Outage case 1760              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40521 HATWAI   500.0 to   40519 HATWAI   230.0   circuit 1
Outage case 1761              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40553 HOT SPR  500.0 to   40551 HOT SPR  230.0   circuit 1
Outage case 1762              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40657 LIBBY    230.0 to   40655 LIBBY    115.0   circuit 1
Outage case 1763              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48306 OTIS     230.0 to   48311 OTIS     115.0   circuit 1
Outage case 1764              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48317 PINE CRK 230.0 to   48315 PINE CRK 115.0   circuit 1
Outage case 1765              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48323 PLUMMER  115.0 to   48327 PLUMMWEA  13.8   circuit 1
Outage case 1766              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40851 POTHOLES 230.0 to   40849 POTHOLES 115.0   circuit 1
Outage case 1767              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48357 RATHDRUM 230.0 to   48356 RATHDRME 115.0   circuit 1
Outage case 1768              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48357 RATHDRUM 230.0 to   48355 RATHDRUM 115.0   circuit 1
Outage case 1769              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 46821 ROCKY RH 115.0 to   46831 ROCKYRH1 230.0   circuit 1
Outage case 1770              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 46821 ROCKY RH 115.0 to   46831 ROCKYRH1 230.0   circuit 2
Outage case 1771              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40891 ROCKY RH 345.0 to   46832 ROCKYRH2 230.0   circuit 1
Outage case 1772              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40909 SACHEEN  230.0 to   40907 SACHEEN  115.0   circuit 1
Outage case 1773              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 40973 SICKLER  500.0 to   47031 DOUGLAS  230.0   circuit 1
Outage case 1774              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47091 USK      230.0 to   47254 USK      115.0   circuit 1
Outage case 1775              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41113 VANTAGE  500.0 to   41111 VANTAGE  230.0   circuit 1
Outage case 1776              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 41113 VANTAGE  500.0 to   41111 VANTAGE  230.0   circuit 2
Outage case 1777              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 47101 WELLS    230.0 to   47099 WELLS    115.0   circuit 1
Outage case 1778              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48463 WEST     230.0 to   48461 WEST     115.0   circuit 1
Outage case 1779              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 48463 WEST     230.0 to   48461 WEST     115.0   circuit 2
Outage case 1780              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65075 ANTLOPE  230.0 to   65080 ANTLOPE  161.0   circuit 1
Outage case 1781              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65080 ANTLOPE  161.0 to   65065 ANTLOP 1 138.0   circuit 1
Outage case 1782              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65080 ANTLOPE  161.0 to   65070 ANTLOP 2 138.0   circuit 1
Outage case 1783              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65140 BENLOMND 230.0   circuit 1
Outage case 1784              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65145 BENLOMND 138.0   circuit 1
Outage case 1785              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65135 BENLOMND 345.0 to   65190 BNLMD MP 100.0   circuit 2
Outage case 1786              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65145 BENLOMND 138.0   circuit 1
Outage case 1787              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65145 BENLOMND 138.0   circuit 2
Outage case 1788              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65140 BENLOMND 230.0 to   65190 BNLMD MP 100.0   circuit 2
Outage case 1789              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65193 BONANZA  345.0 to   65192 BONANZA  138.0   circuit 1
Outage case 1790              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65260 CAMP WIL 345.0 to   65261 CAMP WIL 138.0   circuit 1
Outage case 1791              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65300 CASPERPP 230.0 to   65305 CASPERPP 115.0   circuit 1
Outage case 1792              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65395 CUTLER   138.0 to   65385 CTLR MP  100.0   circuit 1
Outage case 1793              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65420 DAVEJOHN 230.0 to   65425 DAVEJOHN 115.0   circuit 1
Outage case 1794              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65510 EMERY    345.0 to   65515 EMERY    138.0   circuit 1
Outage case 1795              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65510 EMERY    345.0 to   65515 EMERY    138.0   circuit 2
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Outage case 1796              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65665 GOSHEN   345.0 to   65670 GOSHEN   161.0   circuit 1

Outage case 1797              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65665 GOSHEN   345.0 to   65685 GOSHN MP 100.0   circuit 2

Outage case 1798              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65675 GOSHEN   115.0   circuit 1

Outage case 1799              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65675 GOSHEN   115.0   circuit 2

Outage case 1800              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65670 GOSHEN   161.0 to   65685 GOSHN MP 100.0   circuit 2

Outage case 1801              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65690 GRACE    161.0 to   65695 GRACE    138.0   circuit 1

Outage case 1802              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65805 HUNTNGTN 345.0 to   65810 HUNTNGTN 138.0   circuit 1

Outage case 1803              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65805 HUNTNGTN 345.0 to   65810 HUNTNGTN 138.0   circuit 2

Outage case 1804              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65860 JFRSNPHA 161.0 to   65850 JEFFERSN 161.0   circuit 1

Outage case 1805              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65945 MIDVALLY 345.0 to   66550 THIRTY S 138.0   circuit 1

Outage case 1806              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65945 MIDVALLY 345.0 to   66550 THIRTY S 138.0   circuit 2

Outage case 1807              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66020 MUSTANG  230.0 to   66025 MUSTANG  115.0   circuit 1

Outage case 1808              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66050 NAUGHTON 230.0 to   66040 NAUGHTN1 138.0   circuit 1

Outage case 1809              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66050 NAUGHTON 230.0 to   66045 NAUGHTN2 138.0   circuit 1

Outage case 1810              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 1

Outage case 1811              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 2

Outage case 1812              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 3

Outage case 1813              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66080 NINETY S 345.0 to   66085 NINETY S 138.0   circuit 4

Outage case 1814              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66134 OQUIRRH  345.0 to   66135 OQUIRRH  138.0   circuit 1

Outage case 1815              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66226 PINT MP2 100.0   circuit 2

Outage case 1816              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66227 PINT MP3 100.0   circuit 3

Outage case 1817              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66230 PINTO    138.0   circuit 1

Outage case 1818              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66230 PINTO    138.0   circuit 2

Outage case 1819              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66225 PINTO    345.0 to   66235 PINTO PS 345.0   circuit 1

Outage case 1820              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66240 PLATTE   230.0 to   66245 PLATTE   115.0   circuit 1

Outage case 1821              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66270 RAILROAD 230.0 to   66275 RAILROAD 138.0   circuit 1

Outage case 1822              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66270 RAILROAD 230.0 to   66275 RAILROAD 138.0   circuit 2

Outage case 1823              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66465 SWAN VAL 161.0 to   66470 SWAN VAL 115.0   circuit 1

Outage case 1824              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66510 TERMINAL 345.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 1825              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66510 TERMINAL 345.0 to   66520 TERMINAL 138.0   circuit 2

Outage case 1826              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66515 TERMINAL 230.0 to   66520 TERMINAL 138.0   circuit 1

Outage case 1827              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66515 TERMINAL 230.0 to   66520 TERMINAL 138.0   circuit 2

Outage case 1828              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66540 THERPACE 115.0 to   66535 THERMOPL 230.0   circuit 1

Outage case 1829              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66565 TREASTON 230.0 to   66570 TREASTON 138.0   circuit 1

Outage case 1830              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66565 TREASTON 230.0 to   66580 TRSTN MP 100.0   circuit 2

Outage case 1831              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66570 TREASTON 138.0 to   66580 TRSTN MP 100.0   circuit 2

Outage case 1832              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66578 TRI CITY 345.0 to   66577 TRI CITY 138.0   circuit 1
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Outage case 1833              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 66750 YELOWTLP 230.0 to   66755 YELOWTLP 161.0   circuit 1

Outage case 1834              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62071 GT FALLS 230.0 to   90400 MTSGFALL 500.0   circuit 1

Outage case 1835              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62084 DILLON S 161.0 to   90600 MTSDILL  500.0   circuit 1

Outage case 1836              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65420 DAVEJOHN 230.0 to   90200 MTSDAVEJ 500.0   circuit 1

Outage case 1837              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70139 DANIELPK 230.0 to   90300 MTSDAN   500.0   circuit 1

Outage case 1838              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70037 ARAPAHOB 115.0 to   70038 ARAPAHOE 230.0   circuit 1

Outage case 1839              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70071 CABINCRK 115.0 to   70072 CABINCRK 230.0   circuit 1

Outage case 1840              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70071 CABINCRK 115.0 to   70072 CABINCRK 230.0   circuit 2

Outage case 1841              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70109 CHEROKES 115.0 to   70107 CHEROKEE 230.0   circuit 1

Outage case 1842              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70109 CHEROKES 115.0 to   70107 CHEROKEE 230.0   circuit 2

Outage case 1843              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70138 DANIELPK 115.0 to   70139 DANIELPK 230.0   circuit 1

Outage case 1844              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70148 DENVTM   115.0 to   70149 DENVTM   230.0   circuit 1

Outage case 1845              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70191 FTLUPTON 115.0 to   70192 FTLUPTON 230.0   circuit 1

Outage case 1846              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70259 LEETSDAL 115.0 to   70260 LEETSDAL 230.0   circuit 1

Outage case 1847              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70265 LOOKOUT  115.0 to   70266 LOOKOUT  230.0   circuit 1

Outage case 1848              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70265 LOOKOUT  115.0 to   70266 LOOKOUT  230.0   circuit 2

Outage case 1849              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70354 RIDGE    115.0 to   70355 RIDGE    230.0   circuit 1

Outage case 1850              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70354 RIDGE    115.0 to   70355 RIDGE    230.0   circuit 2

Outage case 1851              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70395 SMOKYHIL 115.0 to   70396 SMOKYHIL 230.0   circuit 1

Outage case 1852              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70395 SMOKYHIL 115.0 to   70396 SMOKYHIL 230.0   circuit 2

Outage case 1853              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70444 VALMONT  115.0 to   70447 VALMONT  230.0   circuit 1

Outage case 1854              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70463 WATERTON 115.0 to   70464 WATERTON 230.0   circuit 1

Outage case 1855              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70463 WATERTON 115.0 to   70464 WATERTON 230.0   circuit 2

Outage case 1856              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70470 WELD  PS 115.0 to   70471 WELD  PS 230.0   circuit 2

Outage case 1857              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73009 ARCHER   230.0 to   73008 ARCHER   115.0   circuit 1

Outage case 1858              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 1

Outage case 1859              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 2

Outage case 1860              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73011 AULT     230.0 to   73012 AULT     345.0   circuit 3

Outage case 1861              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73013 B.CK PS  115.0 to   73014 B.CK PS  230.0   circuit 1

Outage case 1862              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73015 B.CK TRI 115.0 to   73016 B.CK TRI 230.0   circuit 1

Outage case 1863              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73017 B.SANDY  115.0 to   73018 B.SANDY  230.0   circuit 1

Outage case 1864              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73027 BOYD     230.0 to   73026 BOYD     115.0   circuit 1

Outage case 1865              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73035 BURLNGTN 115.0 to   73036 BURLNGTN 230.0   circuit 1

Outage case 1866              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73035 BURLNGTN 115.0 to   73036 BURLNGTN 230.0   circuit 2

Outage case 1867              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73061 FRASER   138.0 to   73296 FRASER   115.0   circuit 1

Outage case 1868              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73106 LAPORTE  230.0 to   73105 LAPORTE  115.0   circuit 1

Outage case 1869              Y, WAPA UGP, JUNE 2002
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    switched OUT TRANSFORMER 73107 LAR.RIVR 230.0 to   73108 LAR.RIVR 345.0   circuit 1
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Outage case 1870              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73116 LONGPEAK 230.0 to   73115 LONGPEAK 115.0   circuit 1
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Outage case 1871              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73116 LONGPEAK 230.0 to   73115 LONGPEAK 115.0   circuit 2
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Outage case 1872              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73142 N.YUMA   115.0 to   73143 N.YUMA   230.0   circuit 1
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Outage case 1873              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73179 SIDNEY   115.0 to   73180 SIDNEY   230.0   circuit 1
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Outage case 1874              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73180 SIDNEY   230.0 to   73181 SIDNEYDC 230.0   circuit 1
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Outage case 1875              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73190 STEGALL  230.0 to   73189 STEGALL  115.0   circuit 1
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Outage case 1876              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73190 STEGALL  230.0 to   73189 STEGALL  115.0   circuit 2
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Outage case 1877              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73192 STORY    230.0 to   73193 STORY    345.0   circuit 1
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Outage case 1878              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73192 STORY    230.0 to   73193 STORY    345.0   circuit 2
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Outage case 1879              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73199 TIMBERLN 230.0 to   73198 TIMBERLN 115.0   circuit 1
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Outage case 1880              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73211 WELD  LM 115.0 to   73212 WELD  LM 230.0   circuit 1
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Outage case 1881              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73224 WRAY     230.0 to   73223 WRAY     115.0   circuit 1
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Outage case 1882              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73228 YELLOWBR 115.0 to   73229 YELLOWBR 230.0   circuit 1
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Outage case 1883              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73392 CTTNWD N 230.0 to   73391 CTTNWD N 115.0   circuit 1
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Outage case 1884              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73394 CTTNWD S 230.0 to   73393 CTTNWD S 115.0   circuit 1
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Outage case 1885              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73407 KELKER   230.0 to   73409 KELKER W 115.0   circuit 1
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Outage case 1886              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73413 MIDWAYBR 230.0 to   73412 MIDWAYBR 115.0   circuit 1
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Outage case 1887              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73419 RD NIXON 230.0 to   73417 RD NIXON 115.0   circuit 1
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Outage case 1888              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73477 FULLER   230.0 to   73481 FULLER   115.0   circuit 1
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Outage case 1889              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79014 CRAIG    345.0 to   79013 CRAIG    230.0   circuit 1
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Outage case 1890              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79014 CRAIG    345.0 to   79013 CRAIG    230.0   circuit 2
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Outage case 1891              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79021 CURECANT 230.0 to   79020 CURECANT 115.0   circuit 1
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Outage case 1892              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79039 HAYDEN   230.0 to   79038 HAYDEN   138.0   circuit 1
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Outage case 1893              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79039 HAYDEN   230.0 to   79038 HAYDEN   138.0   circuit 2
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Outage case 1894              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79045 LOSTCANY 230.0 to   79044 LOSTCANY 115.0   circuit 1
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Outage case 1895              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79049 MONTROSE 345.0 to   79048 MONTROSE 115.0   circuit 1
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Outage case 1896              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79070 NORTHFRK 230.0 to   79050 NORTHFRK 115.0   circuit 1
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Outage case 1897              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79070 NORTHFRK 230.0 to   79050 NORTHFRK 115.0   circuit 2
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Outage case 1898              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79072 HESPERUS 345.0 to   79071 HESPERUS 115.0   circuit 1
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Outage case 1899              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 63002 CRSOVRUM 230.0 to   63001 CROS PHA 230.0   circuit 1
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Outage case 1900              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 63008 HAVRE    161.0 to   63007 HAVRE    115.0   circuit 1
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Outage case 1901              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 60192 LADD     230.0 to   40621 LAGRANDE 230.0   circuit 1
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Outage case 1902              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 62009 RATTLE S 161.0 to   40867 RATTLE S 230.0   circuit 1
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Outage case 1903              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65565 FLAMGORG 230.0 to   79026 FLAMGORG 138.0   circuit 1
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Outage case 1904              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65565 FLAMGORG 230.0 to   79026 FLAMGORG 138.0   circuit 2
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Outage case 1905              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73170 RIVERTON 115.0 to   66305 RIVERTON 230.0   circuit 1
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Outage case 1906              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73197 THERMOPL 115.0 to   66535 THERMOPL 230.0   circuit 1
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Outage case 1907              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79033 GOREPASS 230.0 to   73072 GOREPASS 138.0   circuit 1
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Outage case 1908              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79060 SANJN PS 345.0 to   10292 SAN_JUAN 345.0   circuit 1
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Outage case 1909              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 1
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Outage case 1910              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 2
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Outage case 1911              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 65220 BRIDGER  230.0 to   60085 BRIDGER  345.0   circuit 3
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Outage case 1912              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 70205 GRANDJCT 230.0 to   79036 GRANDJCT 345.0   circuit 1
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Outage case 1913              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 79061 SHIP PS  230.0 to   79063 SHIPROCK 230.0   circuit 1
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Outage case 1914              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 73551 W CANON  230.0 to   70550 W CANON  115.0   circuit 1
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Outage case 1915              Y, WAPA UGP, JUNE 2002
    switched OUT TRANSFORMER 54159 N LETHB4 240.0 to   90500 MTSLETHB 500.0   circuit 1
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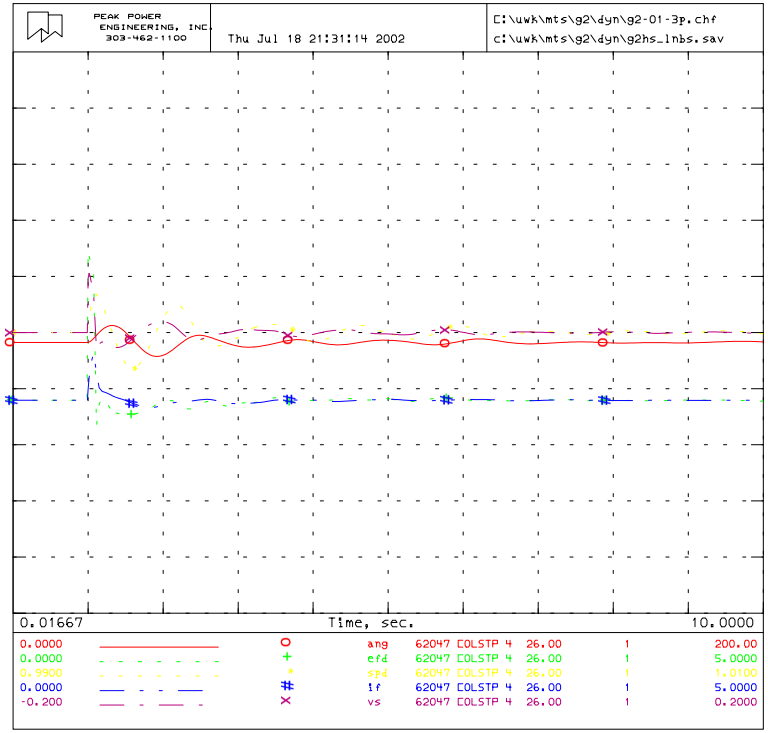
D. DYNAMIC STABILITY PLOTS

Pre-Project Cases:

Fault Location 1
Fault Location 2

Post-Project Cases:

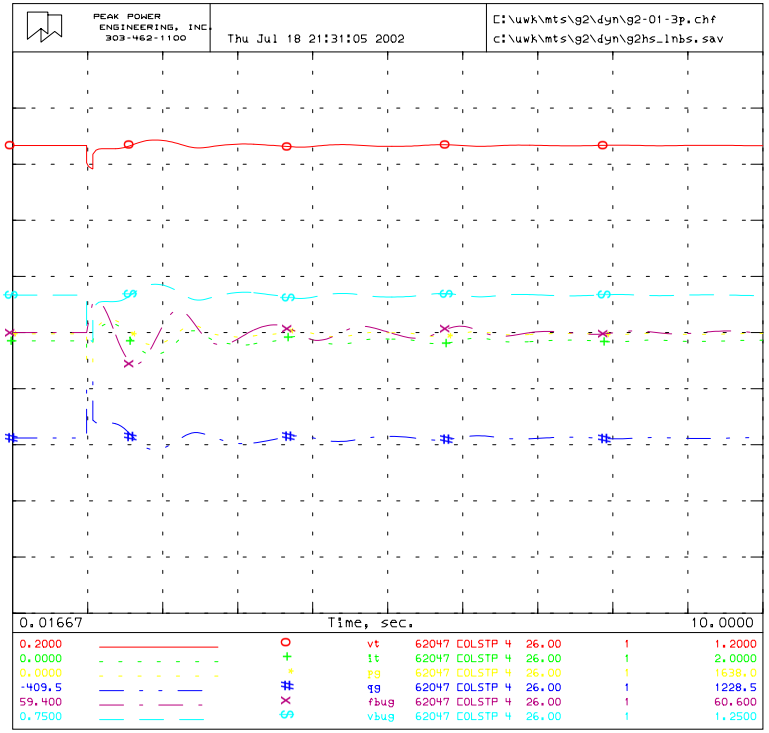
Fault Location 1
Fault Location 2
Fault Location 3
Fault Location 4
Fault Location 5
Fault Location 6
Fault Location 7



MONTANA TRANSMISSION STUDY
WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: 3Ph Flt @ "GT FALLS" 230 kV BUS
Clear Flt: 5 cyc, Trip Transformer "GT FALLS" 230 to "MTSGFALL" 500

STUDY BY PEAK POWER ENGINEERING, INC.

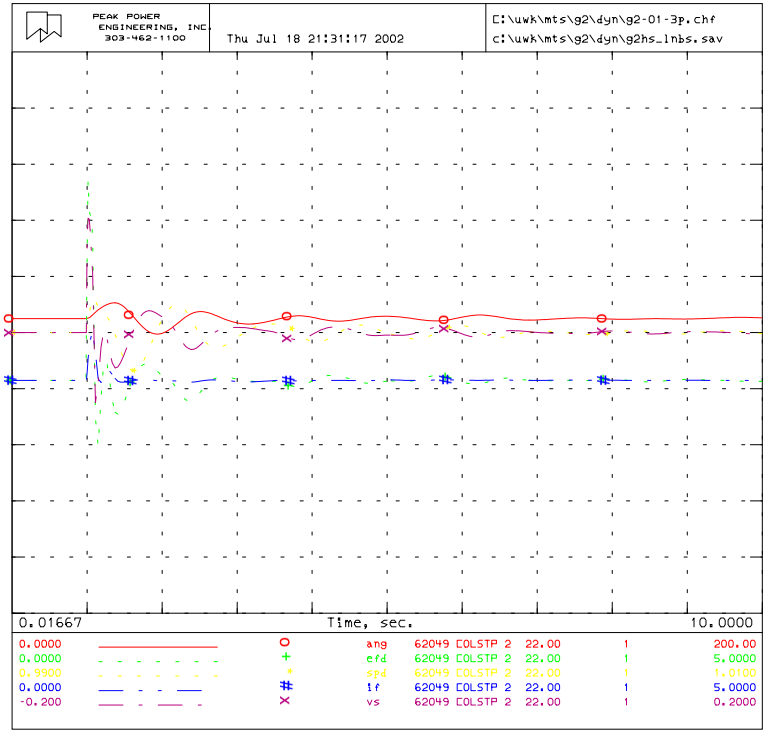
HISTORY FILE BASED ON WSCC 2002 HS3A APPROVED OPERATING CASE
OCTOBER 24, 2001



MONTANA TRANSMISSION STUDY
WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: 3Ph Flt @ "GT FALLS" 230 kV BUS
Clear Flt: 5 cyc, Trip Transformer "GT FALLS" 230 to "MTSGFALL" 500

STUDY BY PEAK POWER ENGINEERING, INC.

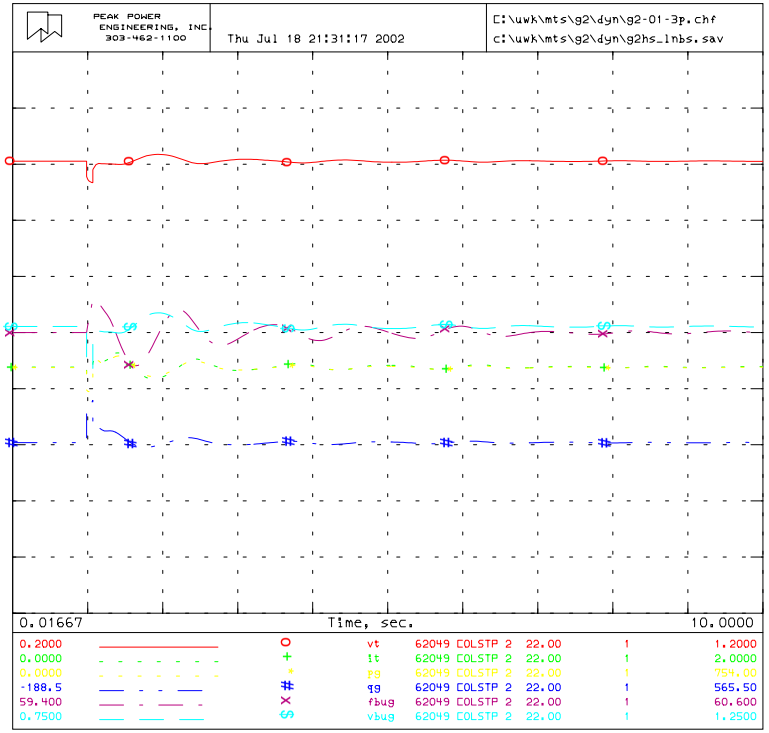
HISTORY FILE BASED ON WSCC 2002 HS3A APPROVED OPERATING CASE
OCTOBER 24, 2001



MONTANA TRANSMISSION STUDY
WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: 3Ph Flt @ "GT FALLS" 230 kV BUS
Clear Flt: 5 cyc, Trip Transformer "GT FALLS" 230 to "MTSGFALL" 500

STUDY BY PEAK POWER ENGINEERING, INC.

HISTORY FILE BASED ON WSCC 2002 HS3A APPROVED OPERATING CASE
OCTOBER 24, 2001



MONTANA TRANSMISSION STUDY
WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: 3Ph Flt @ "GT FALLS" 230 kV BUS
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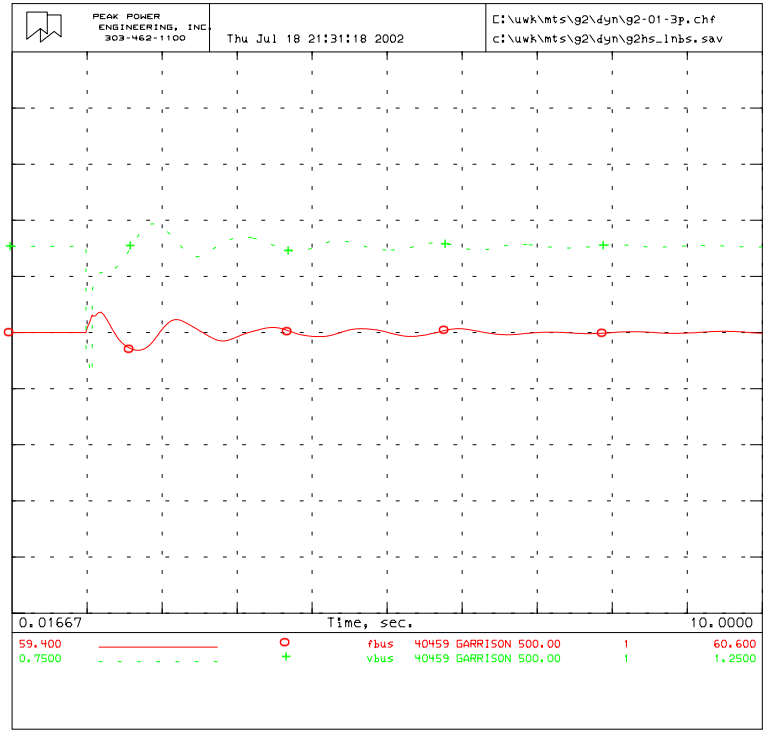

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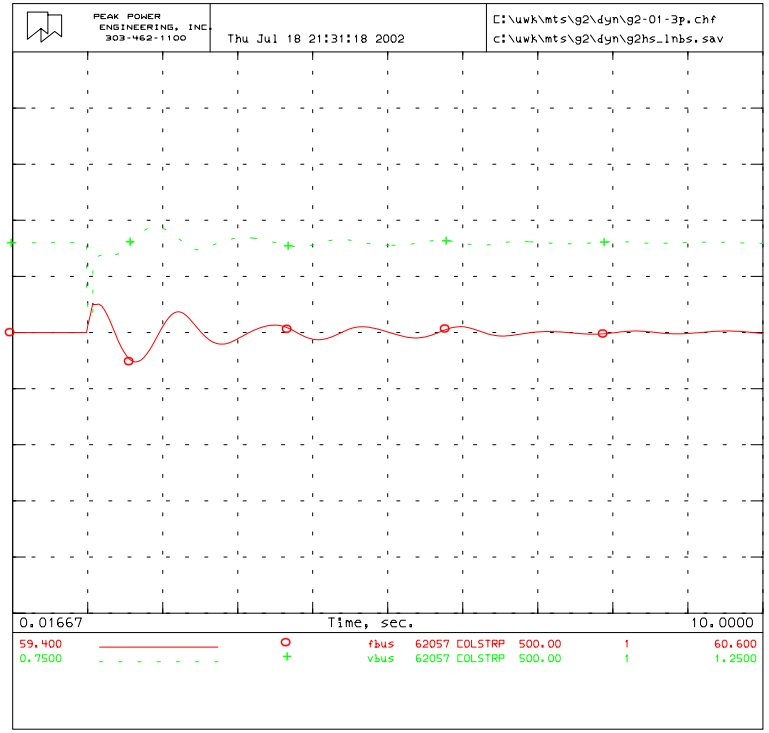

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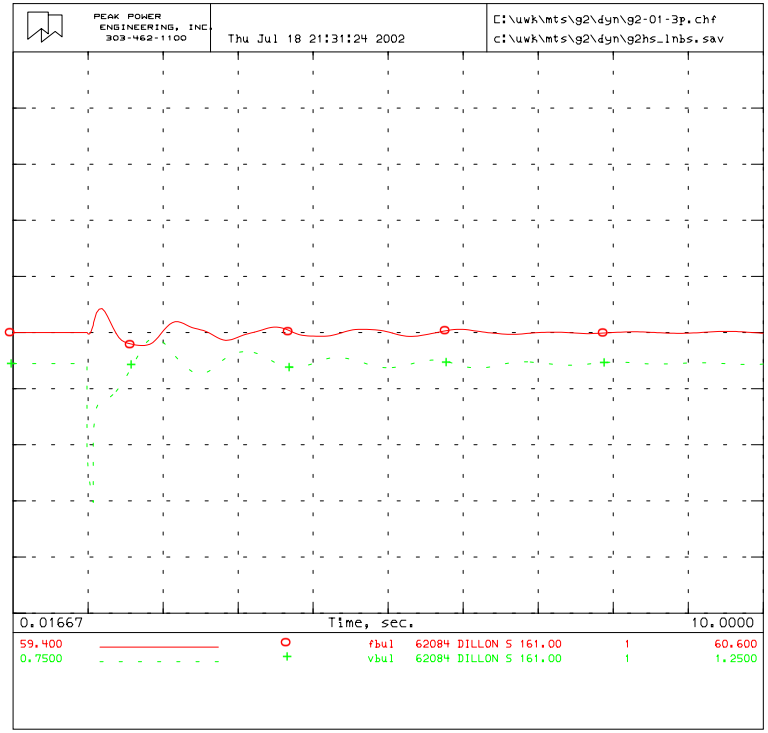

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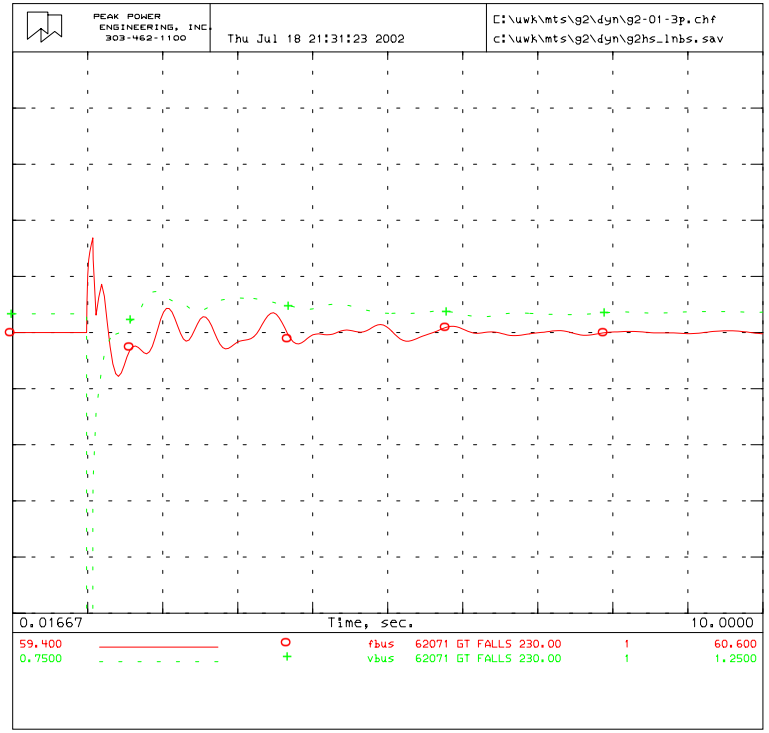

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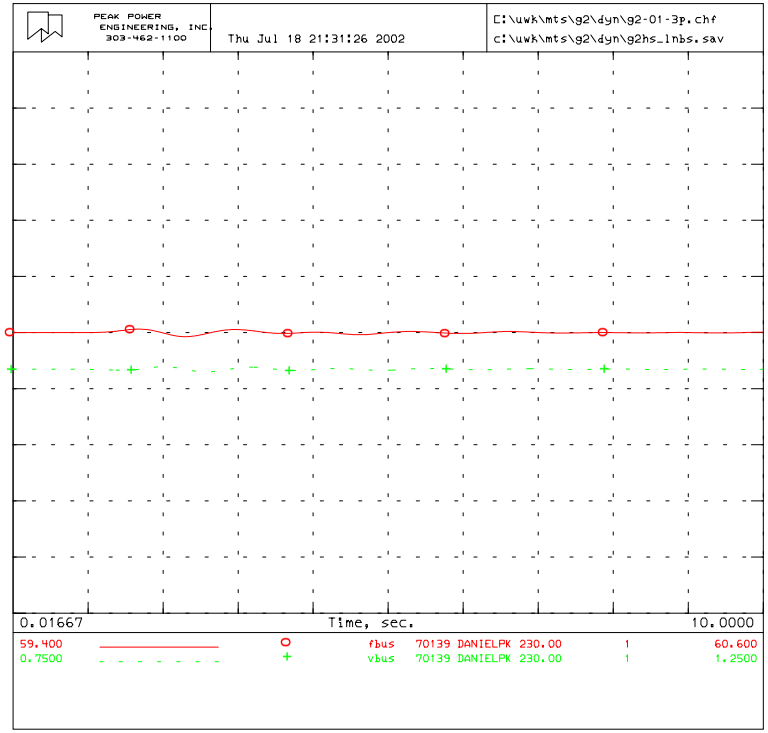

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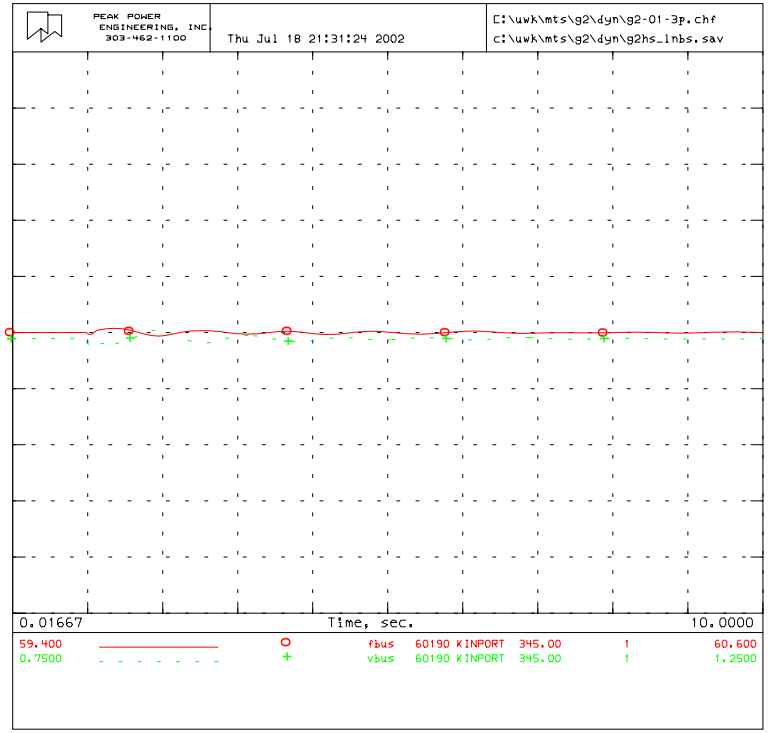

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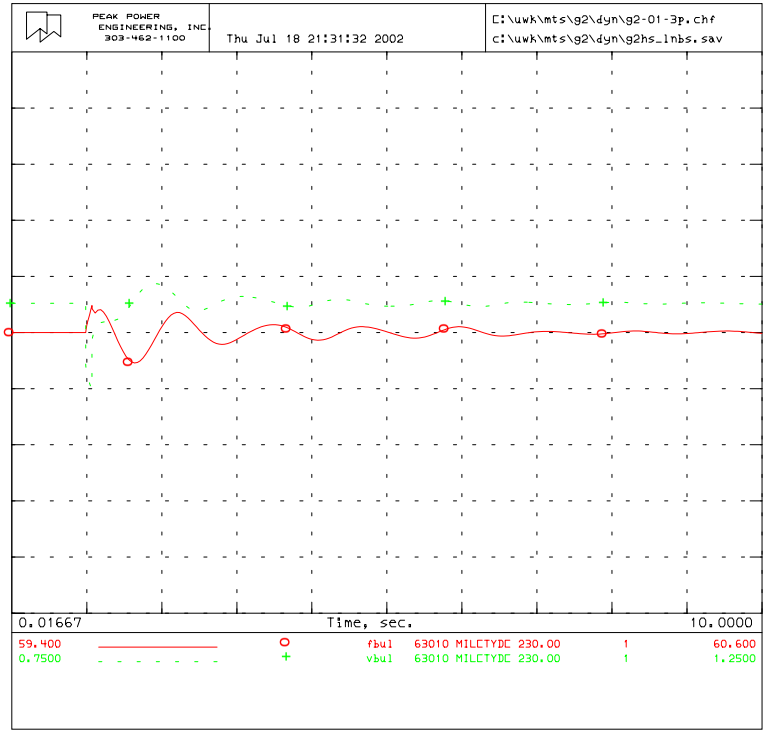

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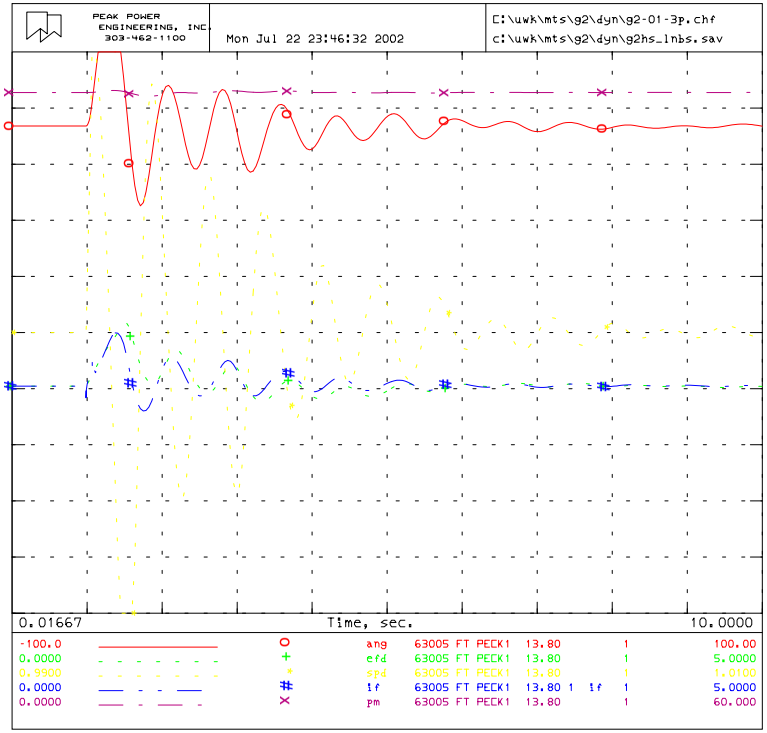

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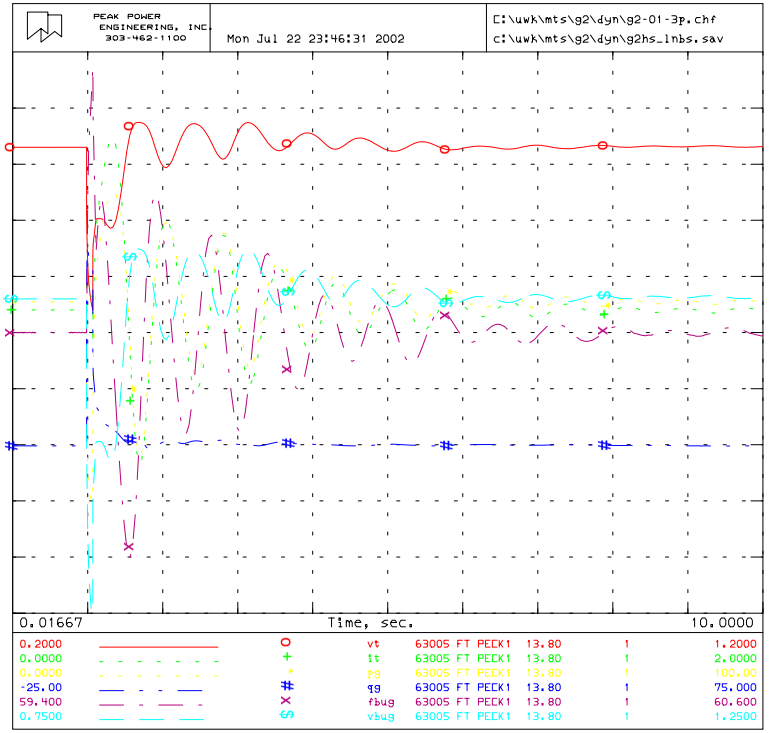

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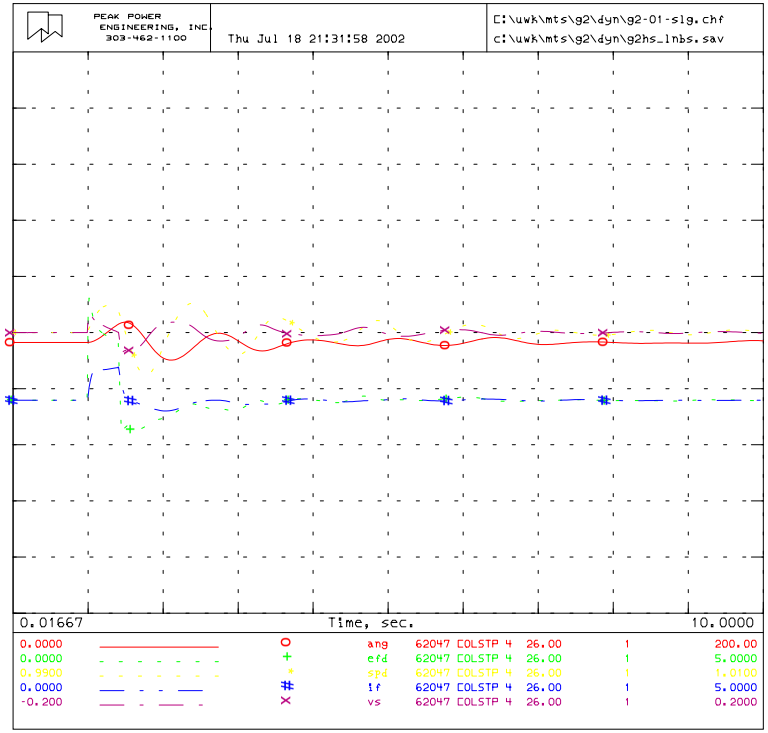

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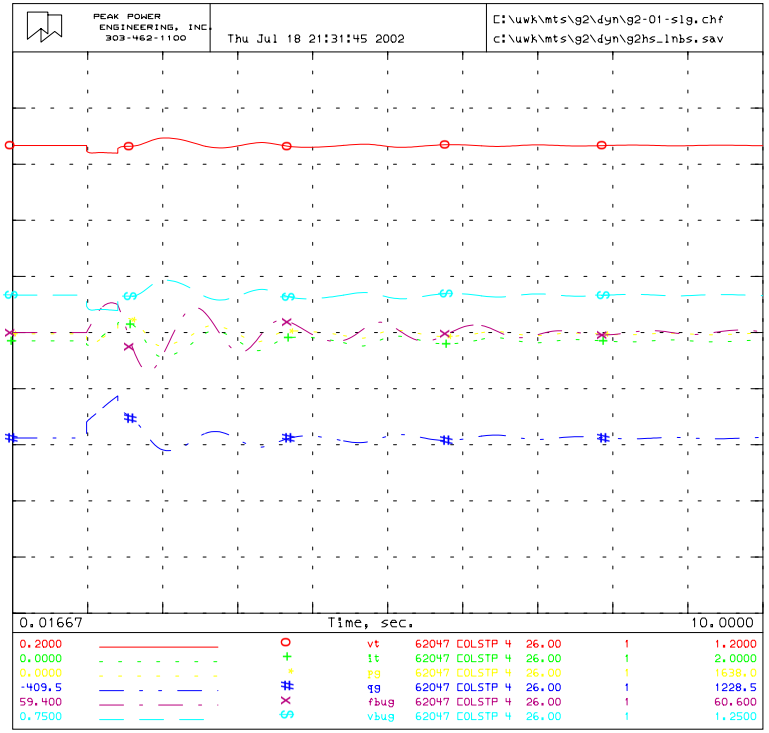

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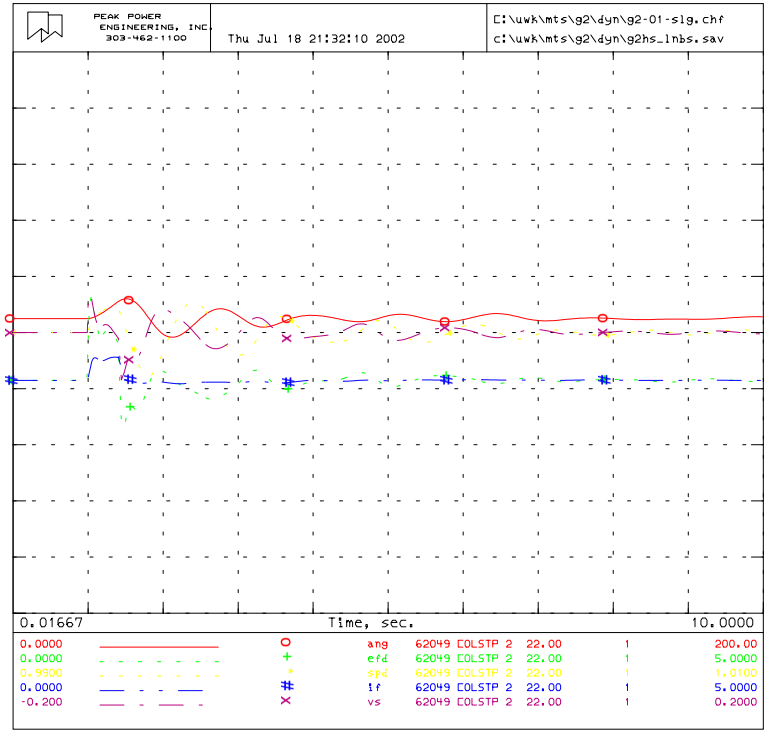

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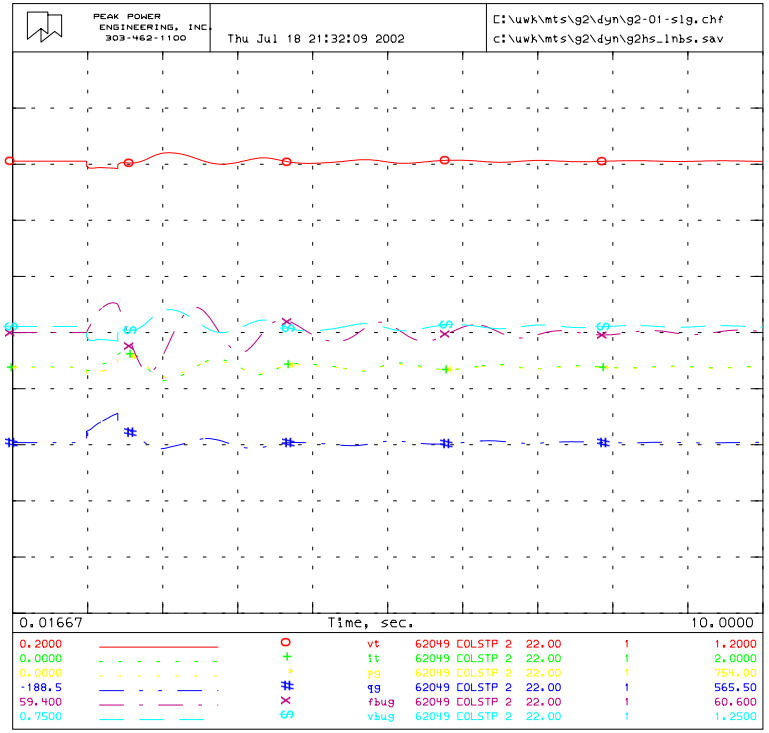

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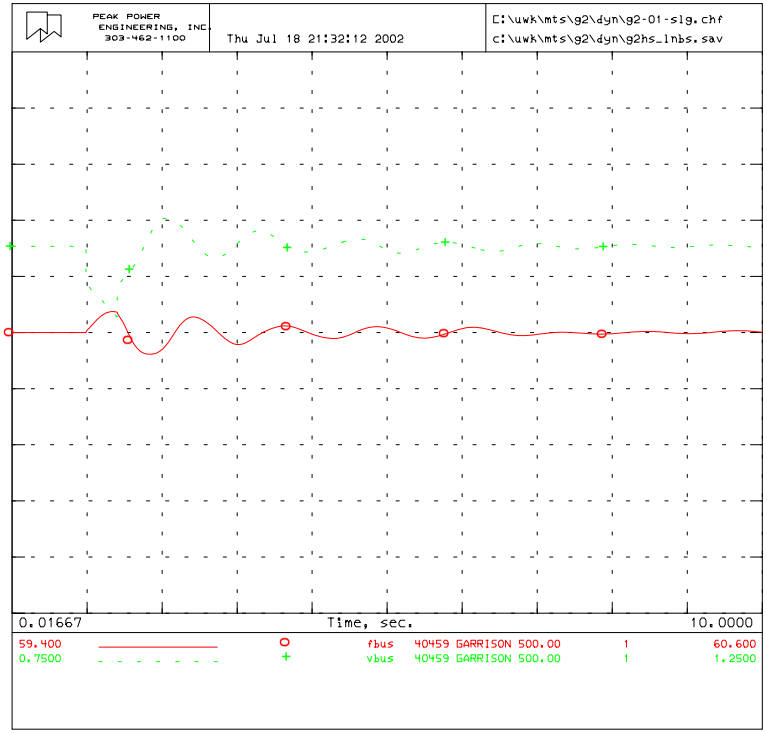

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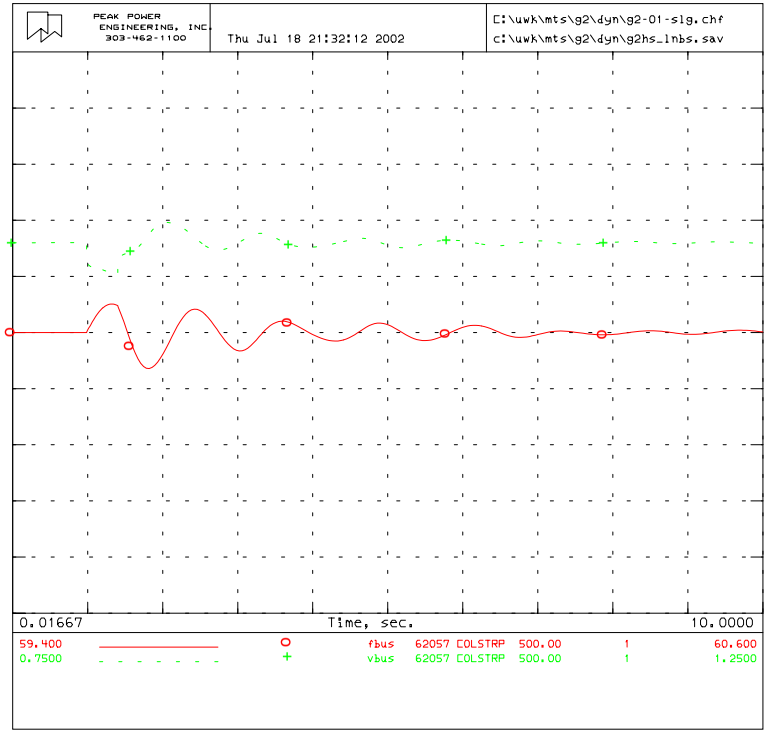

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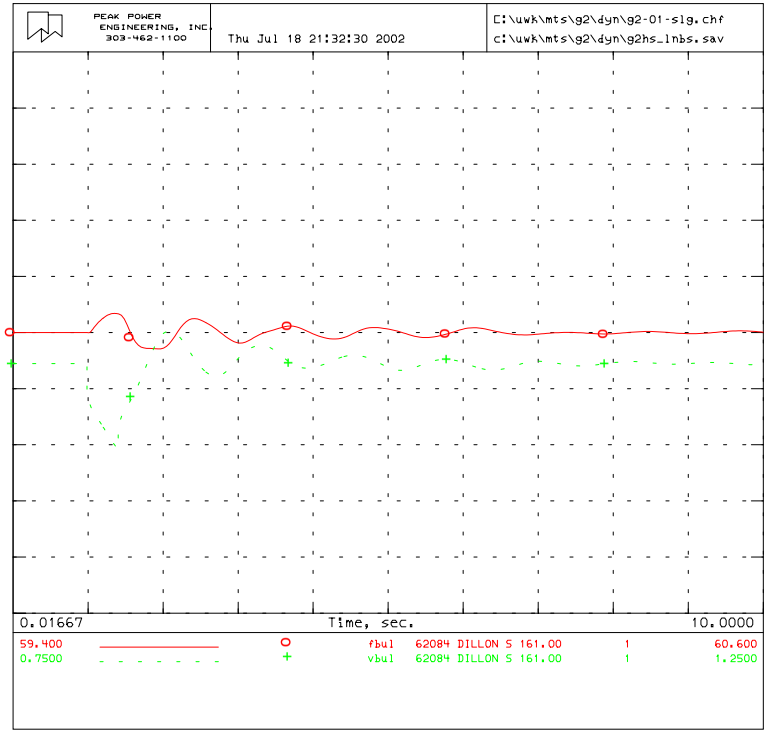

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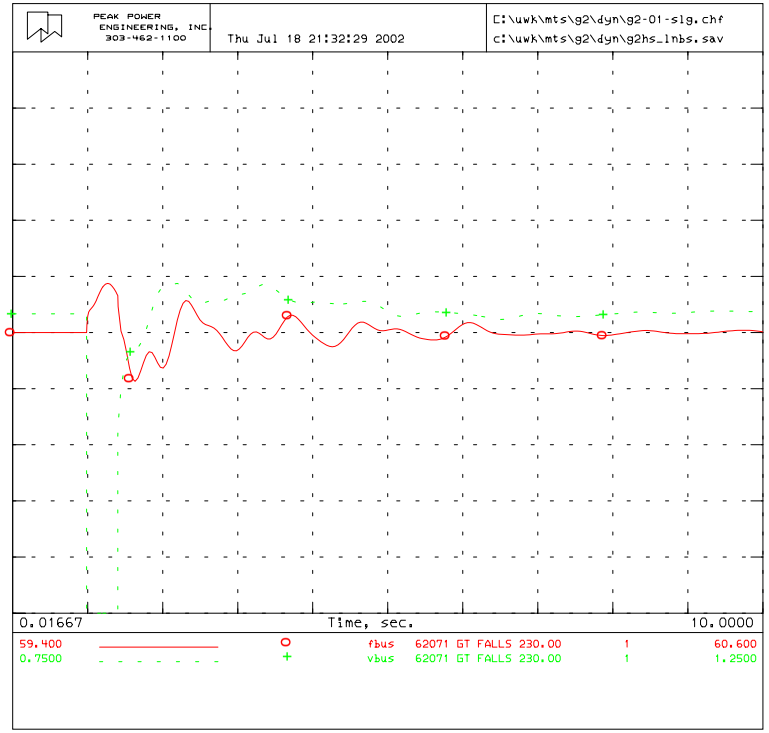

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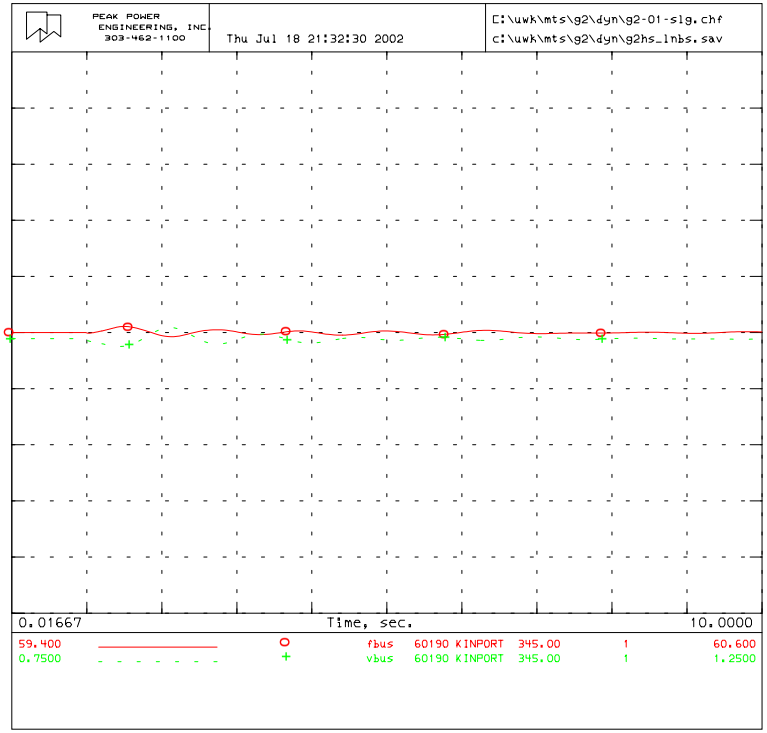

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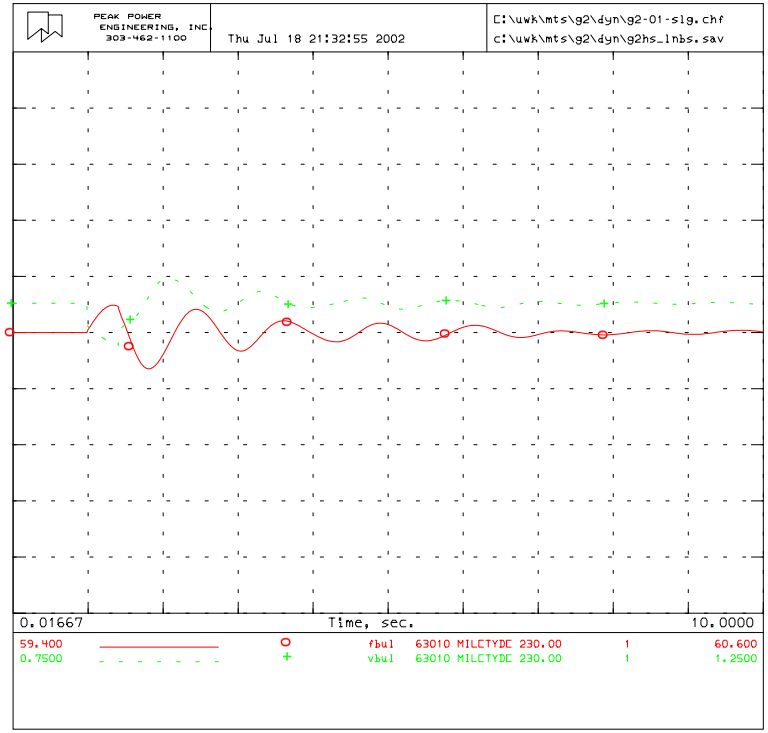

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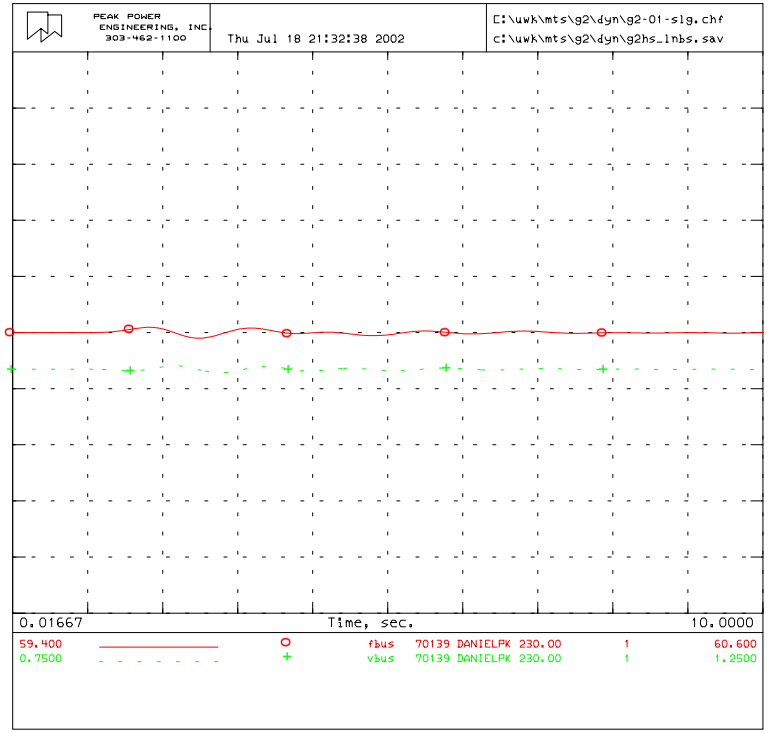

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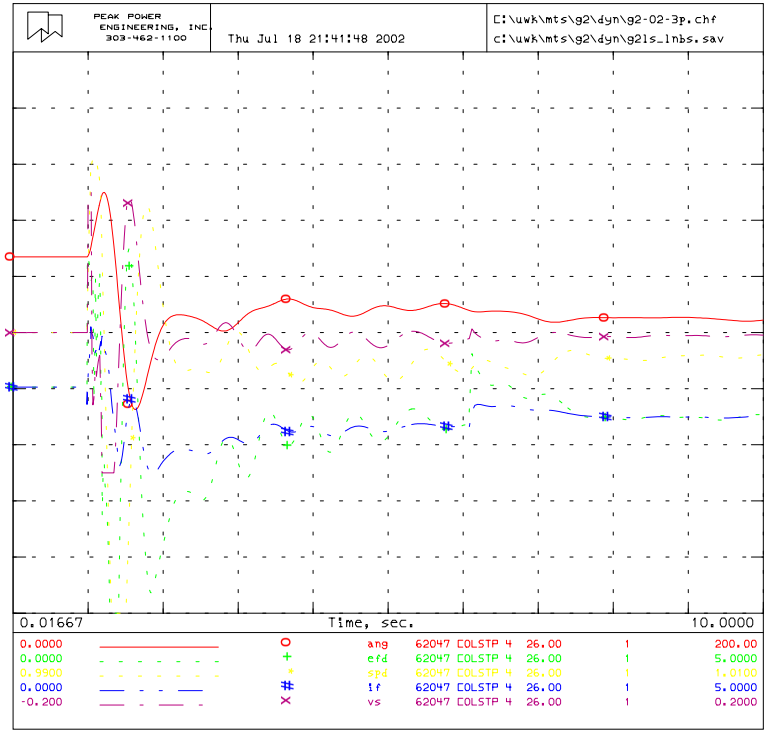

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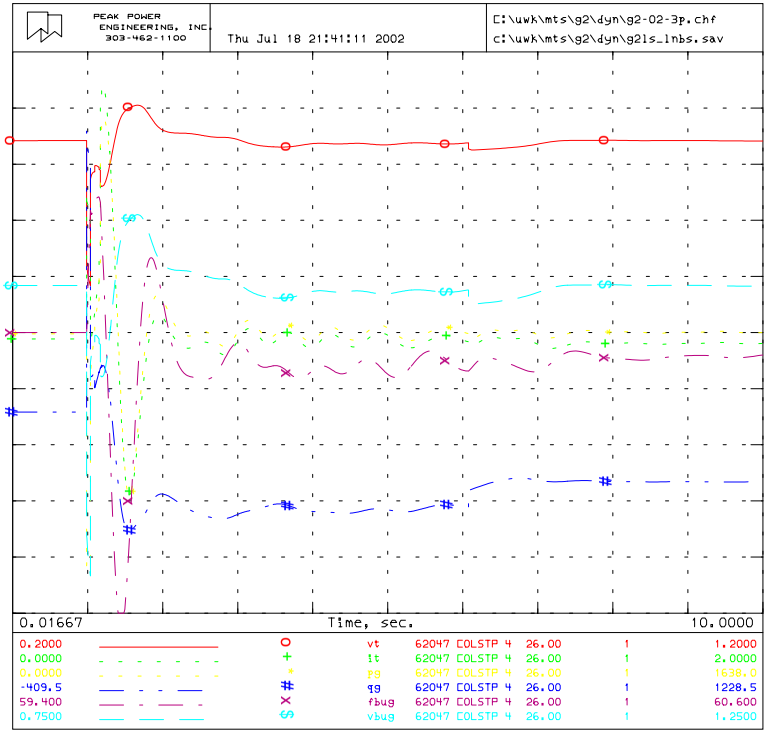

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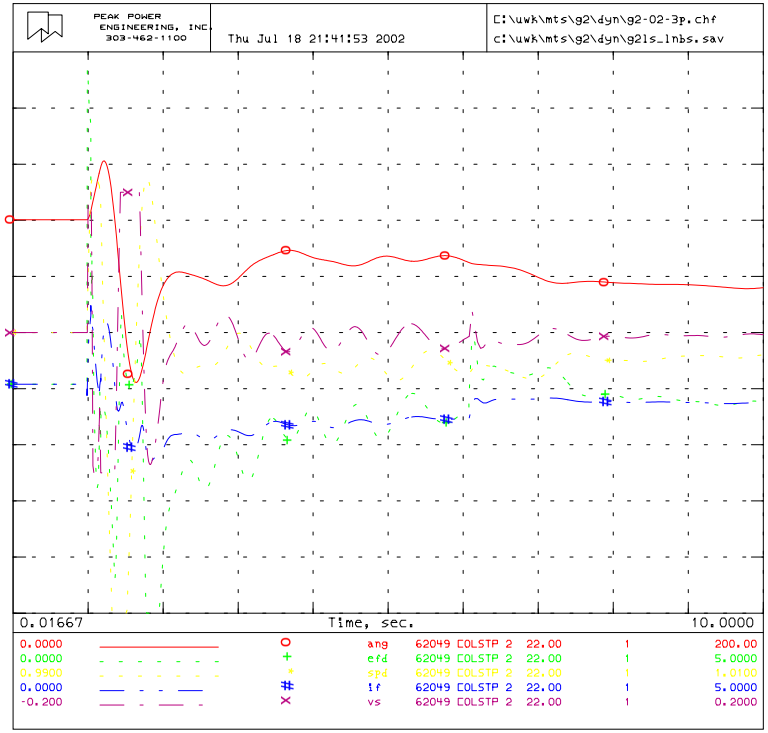

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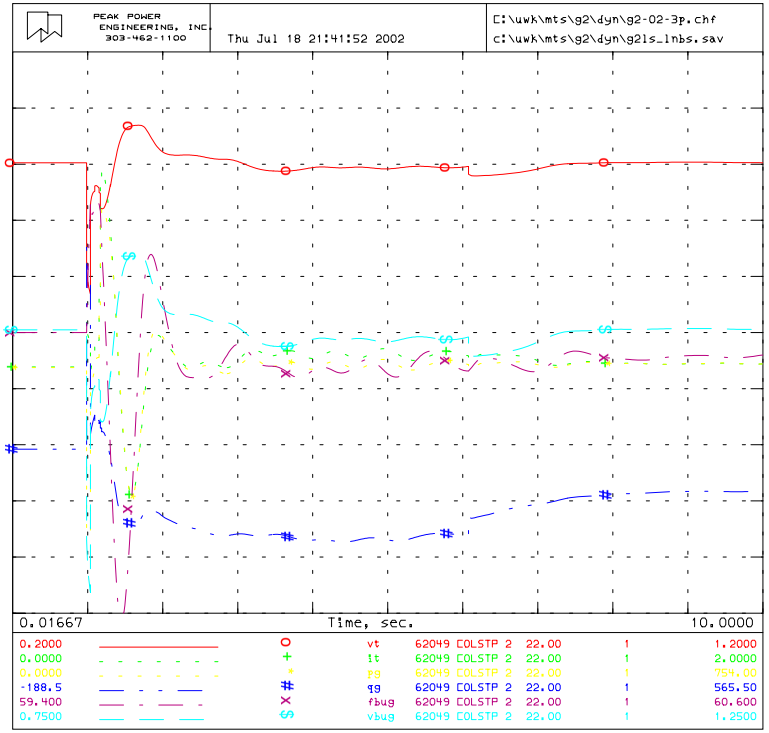

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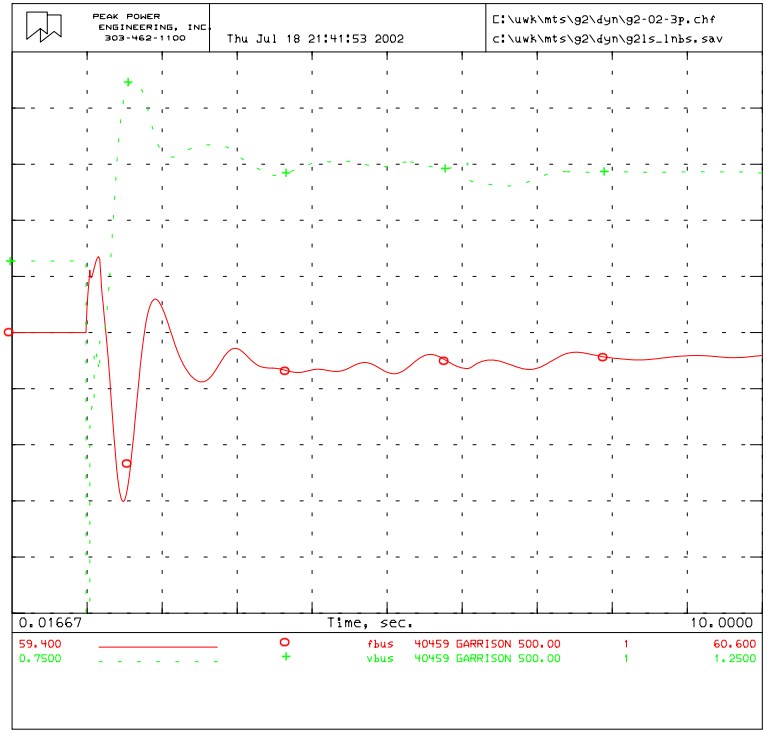

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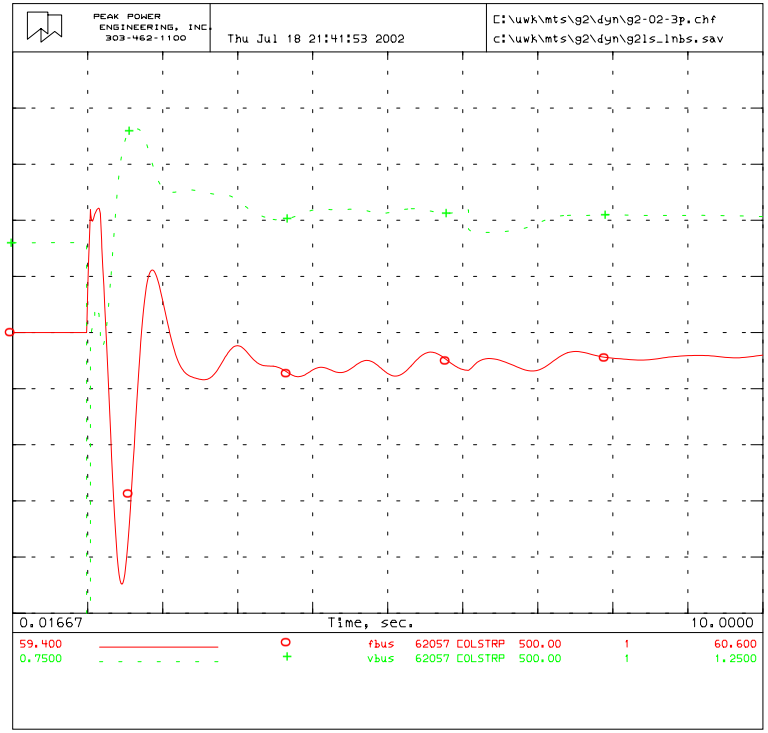

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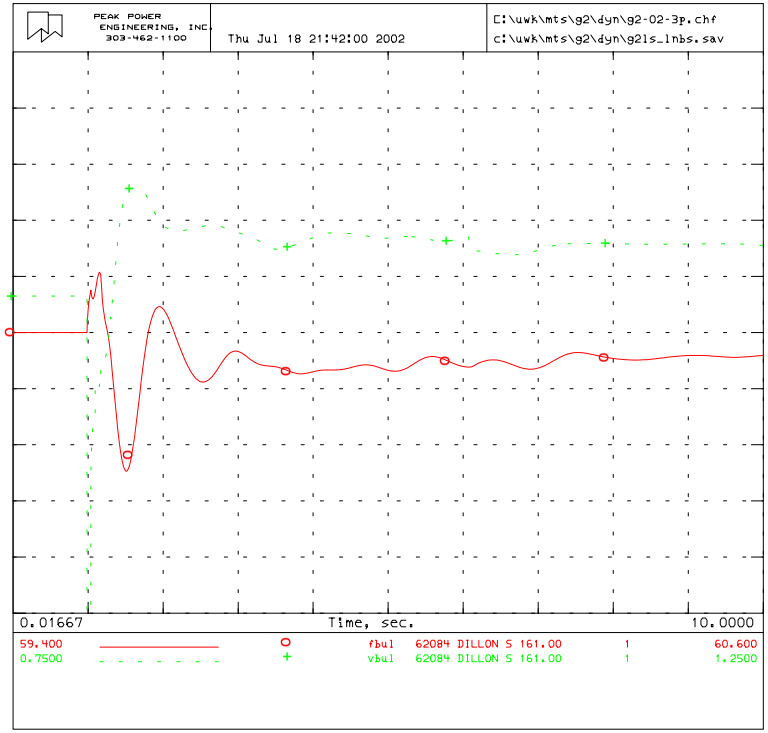

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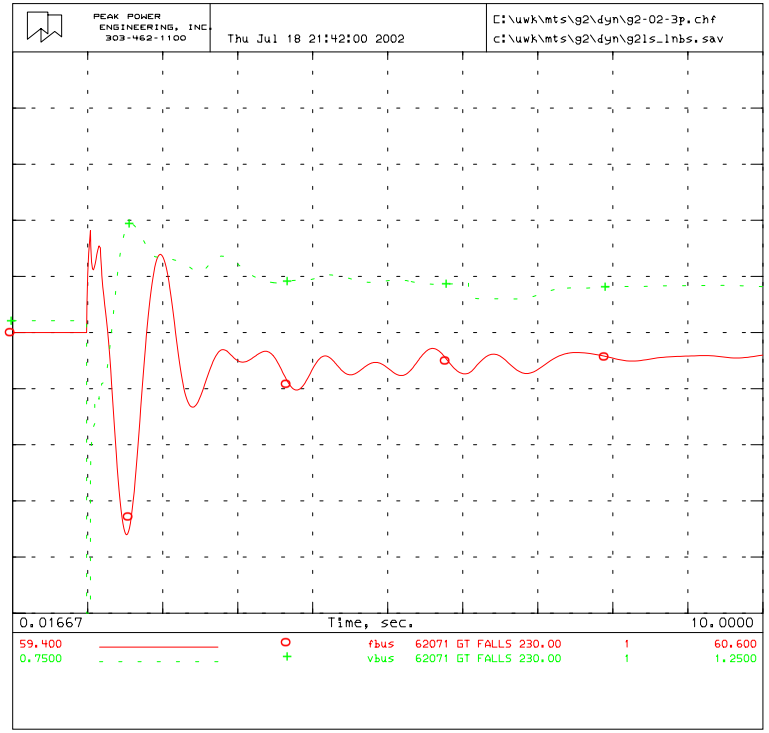

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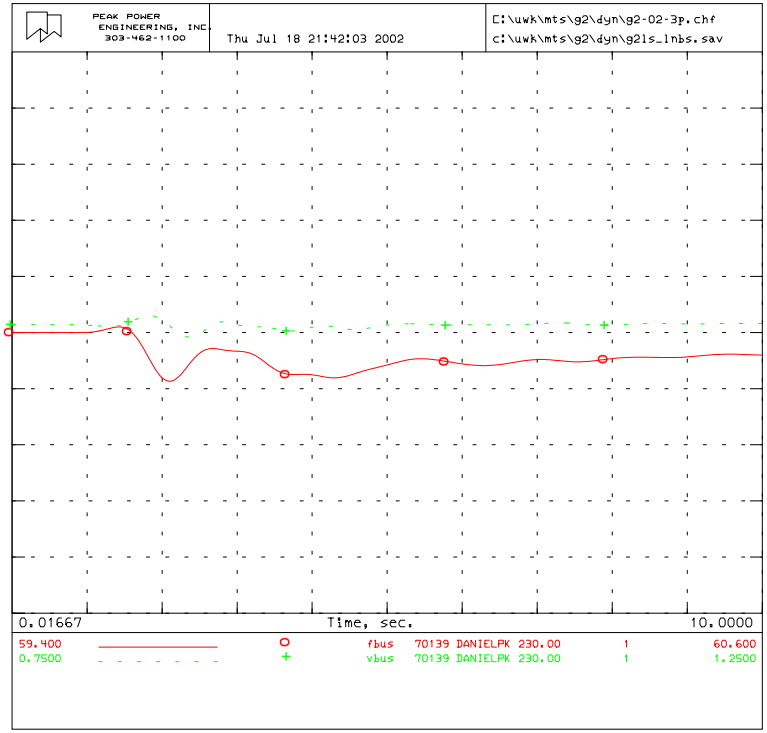

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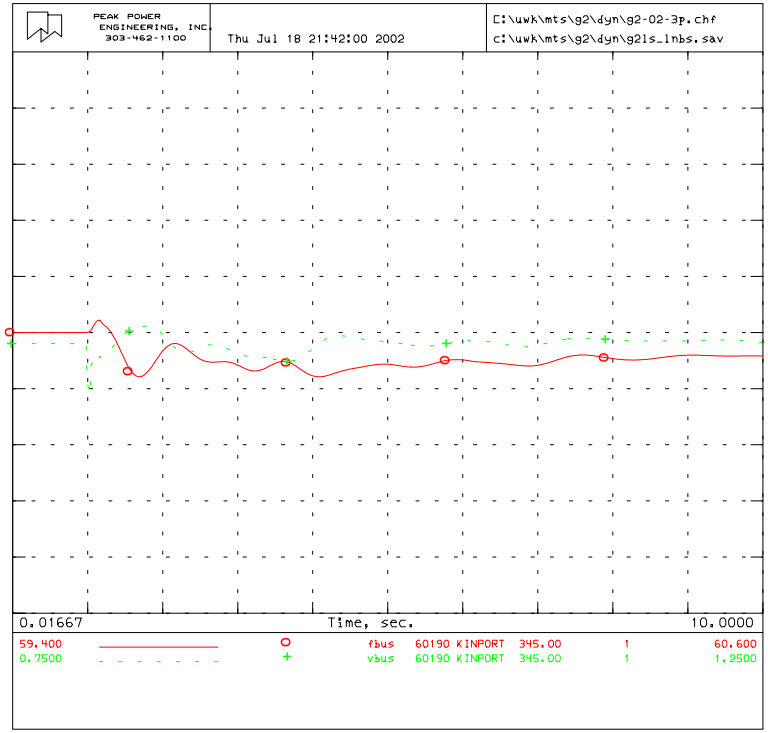

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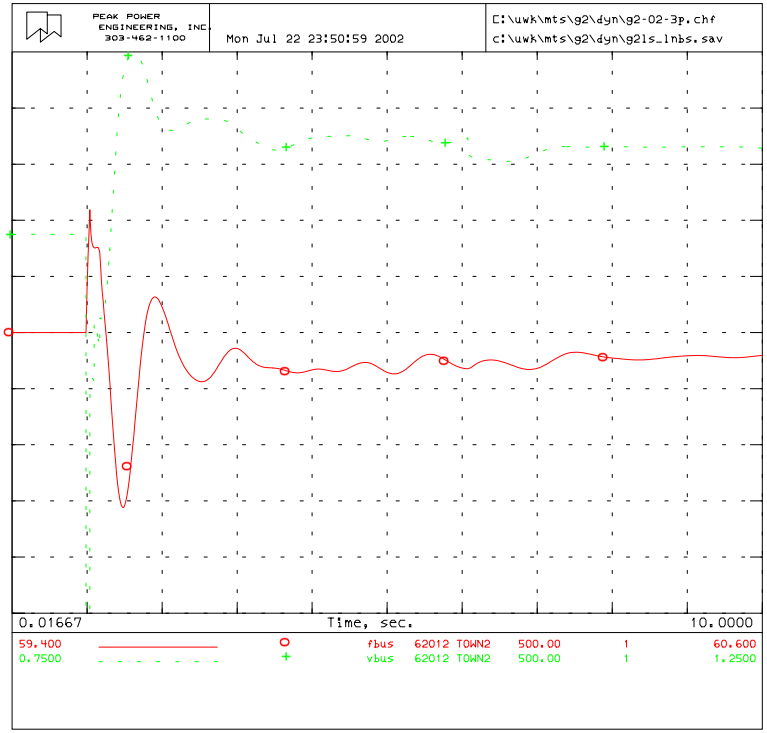

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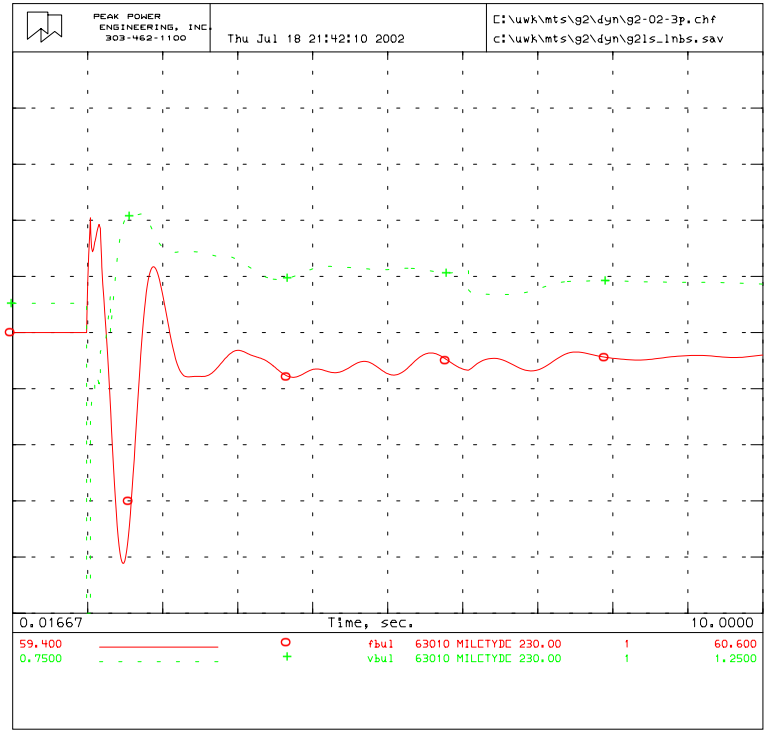

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WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: 3Ph Flt @ "GARRISON" 500 kV BUS
Clear Flt: 3 cyc, Trip Line "GARRISON" 500 to "TAFT" 500, CKT 1

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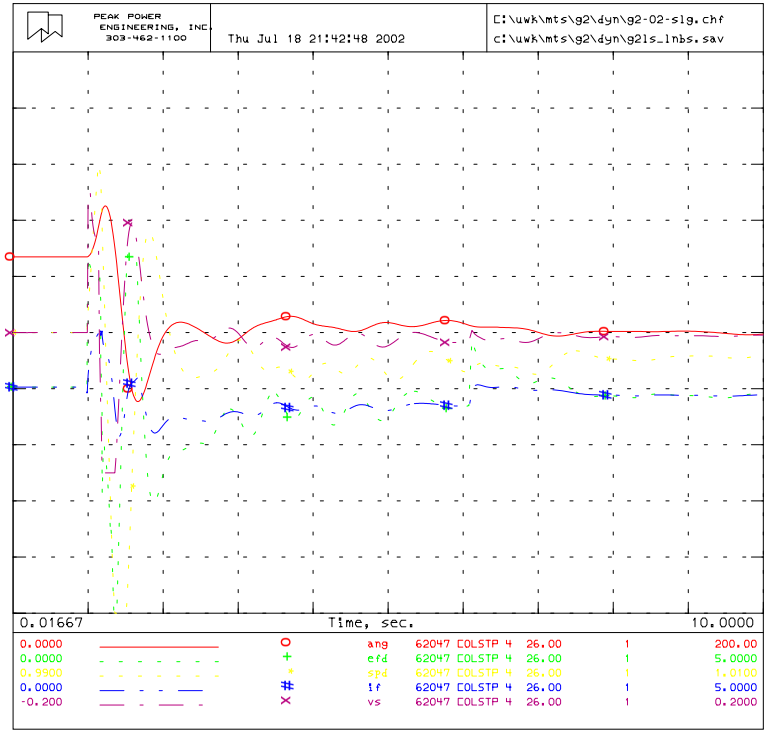

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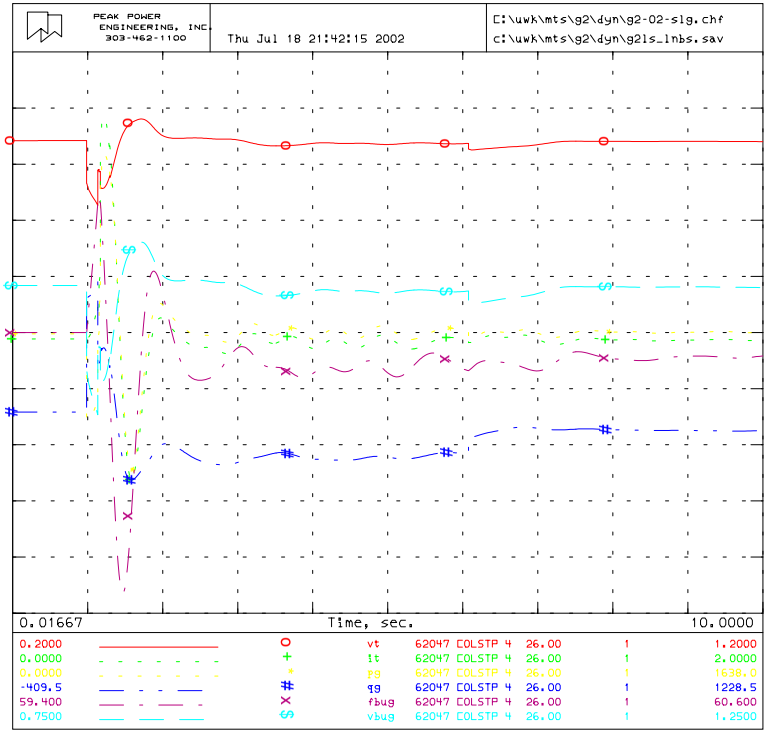

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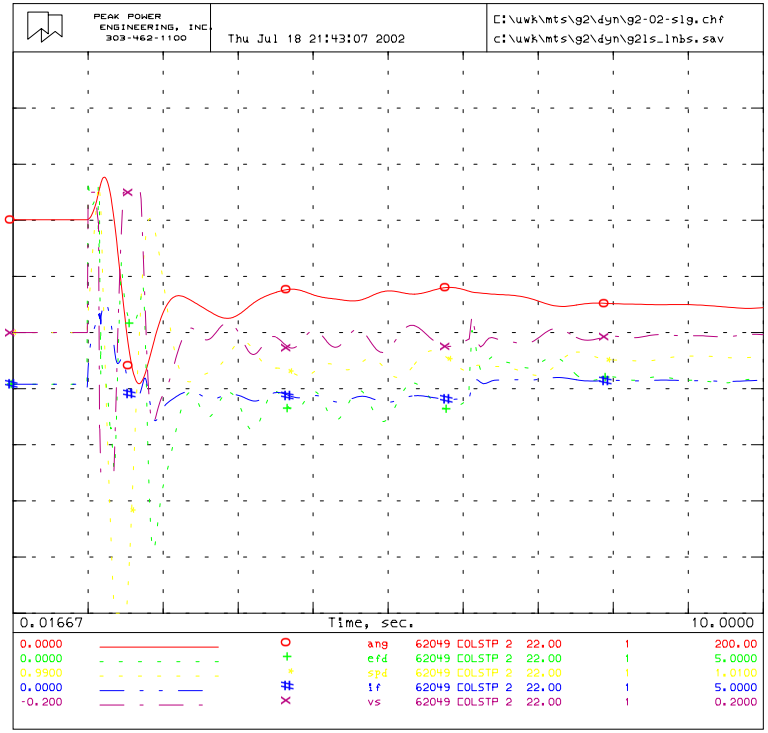

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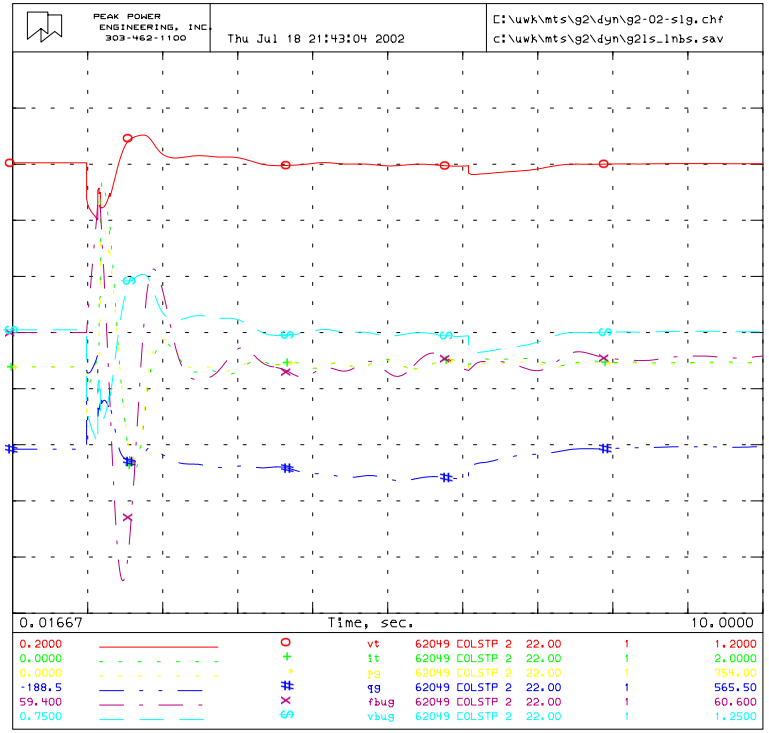

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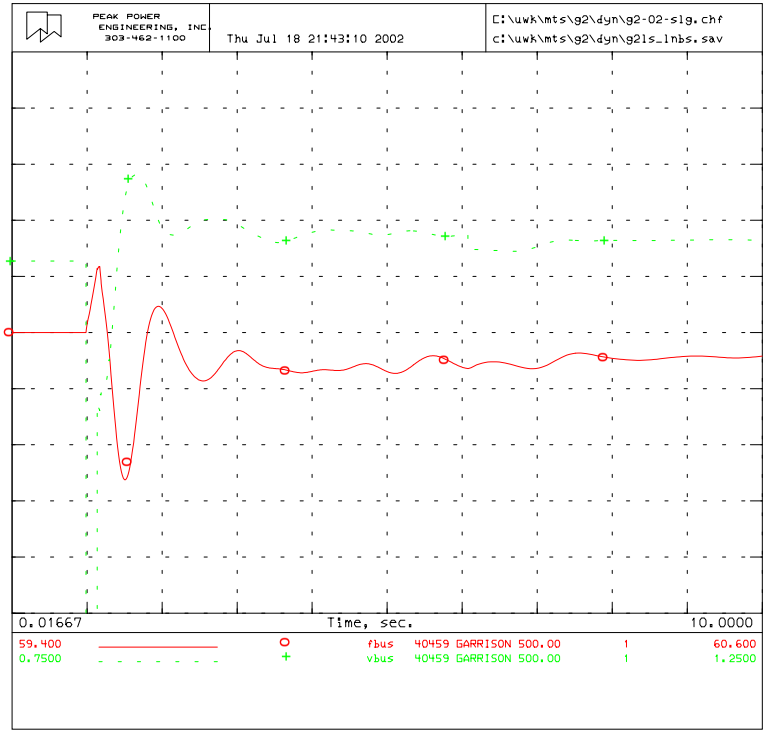

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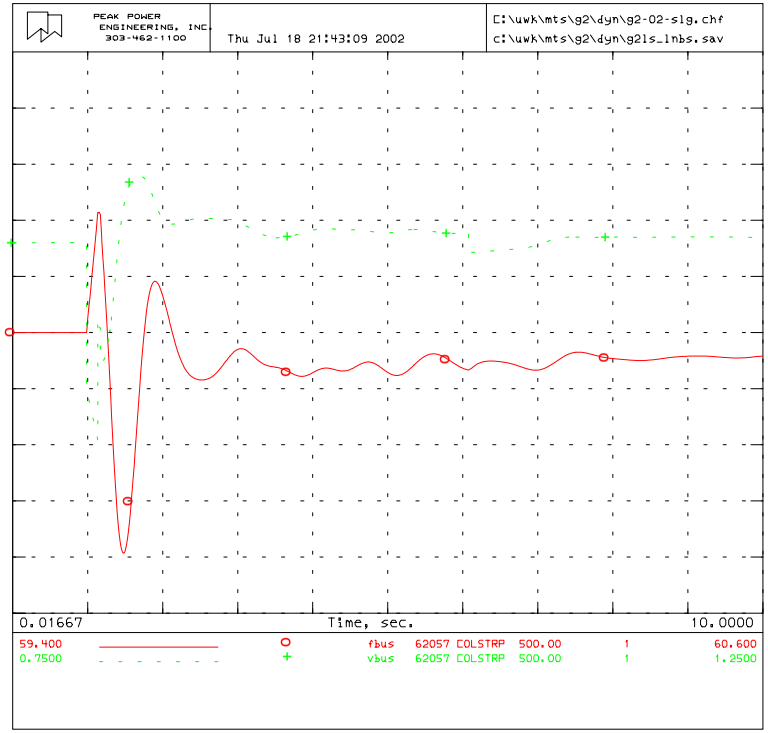

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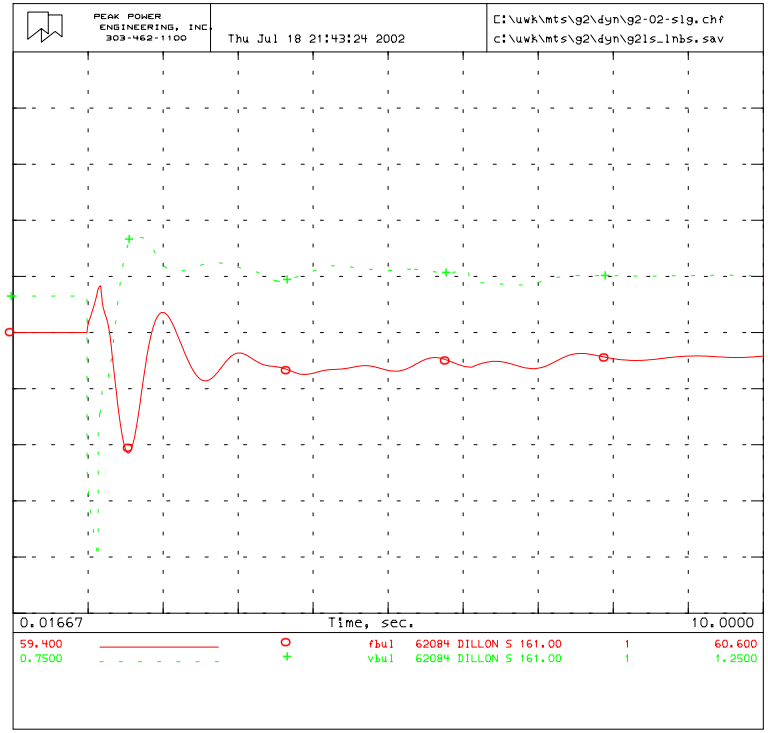

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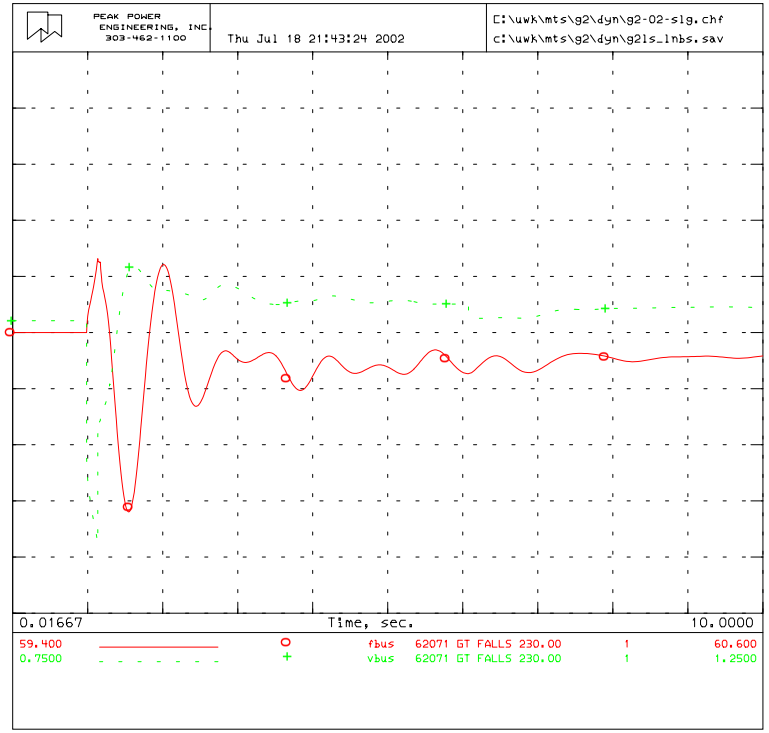

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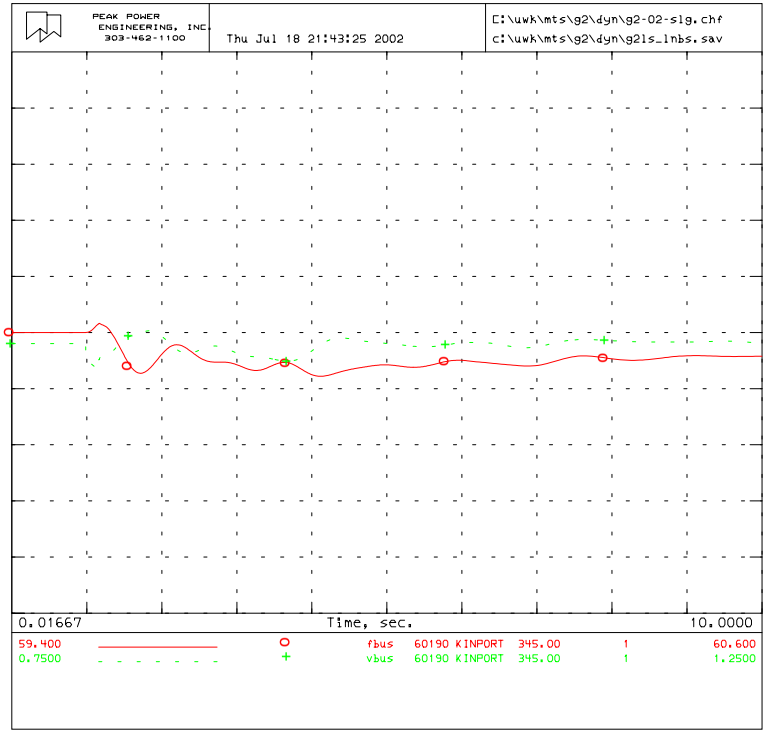

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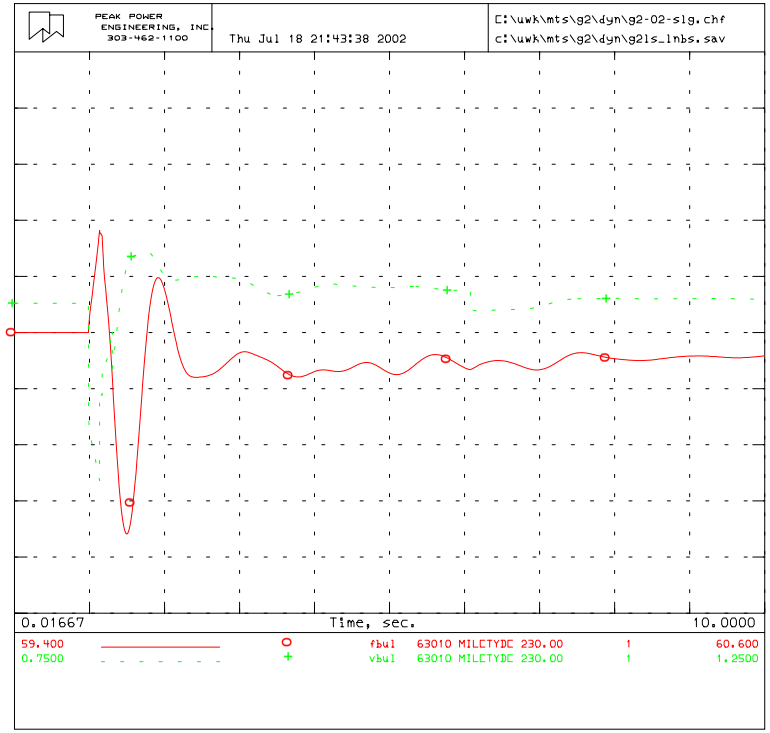

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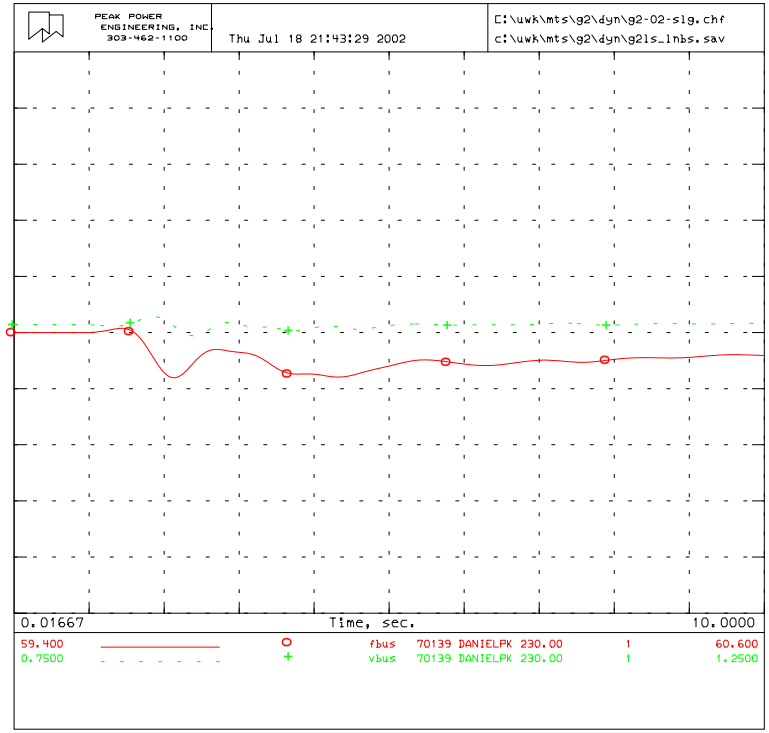

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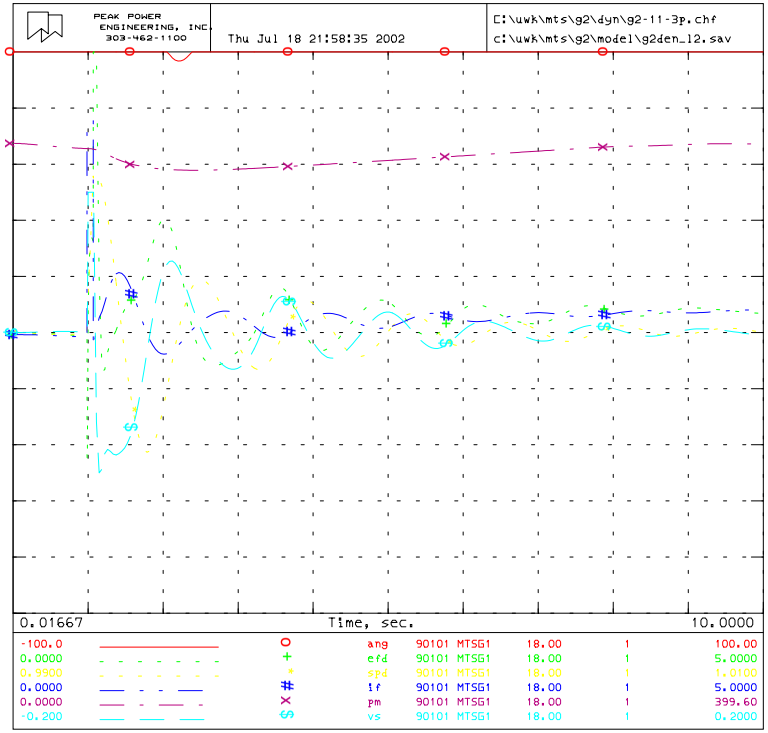

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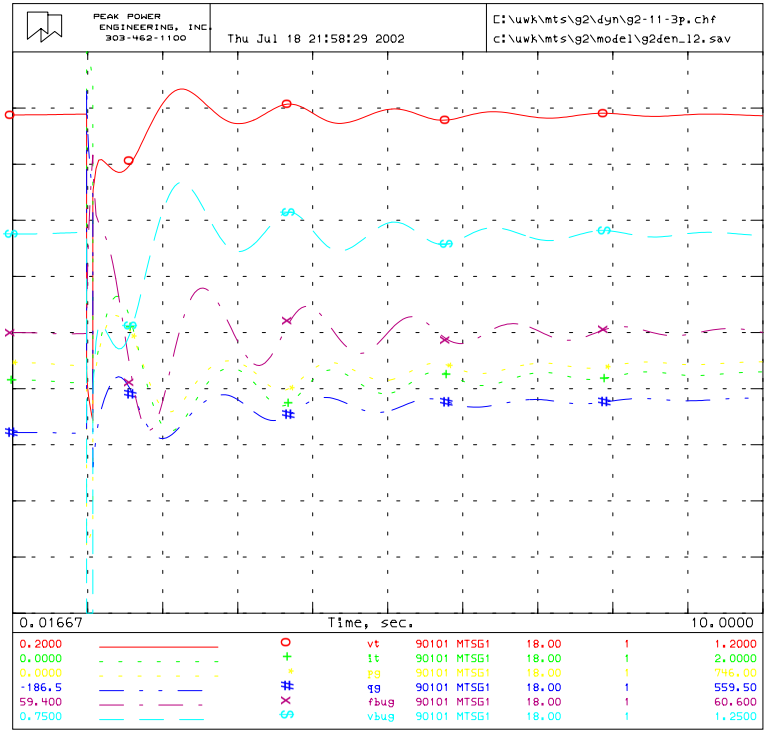

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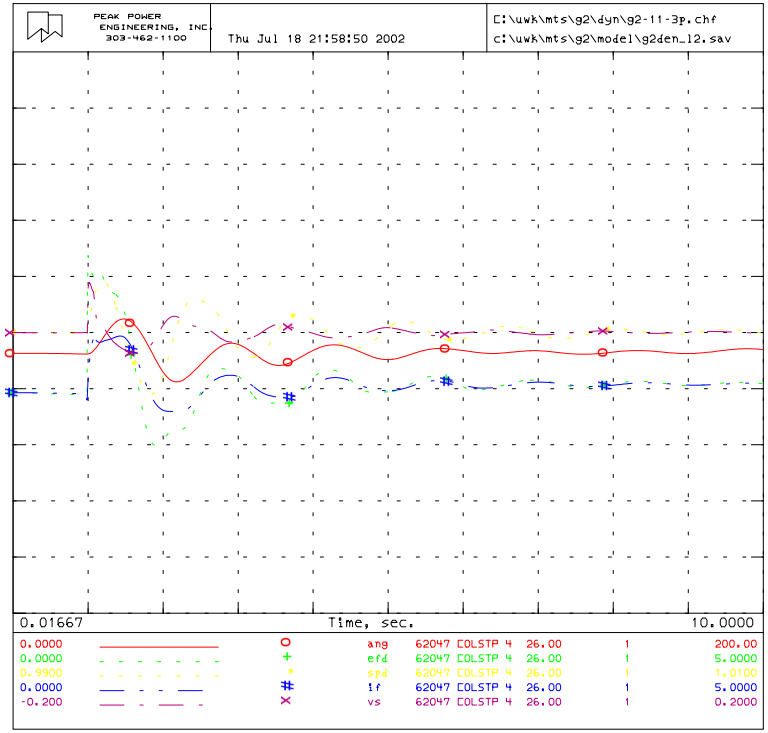

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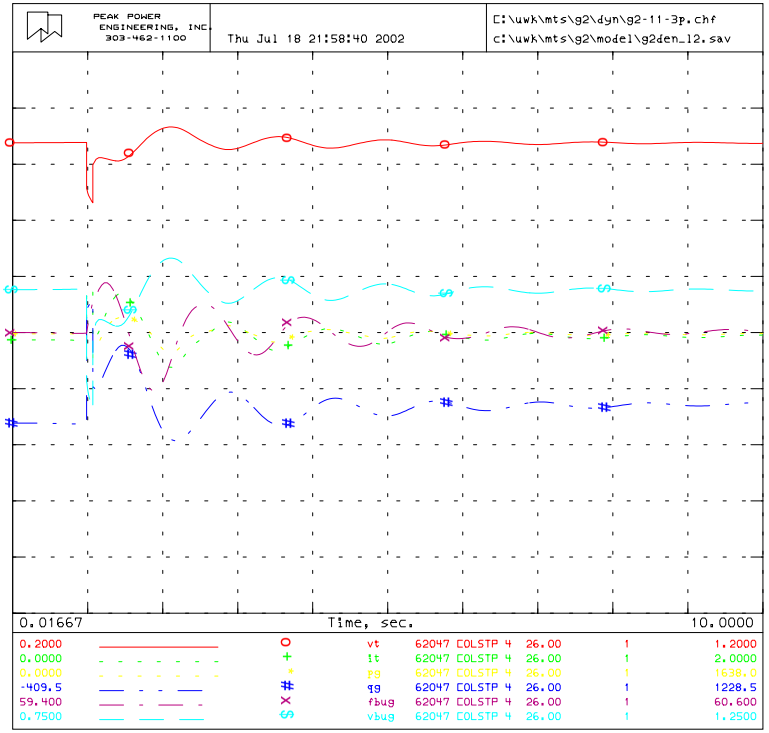

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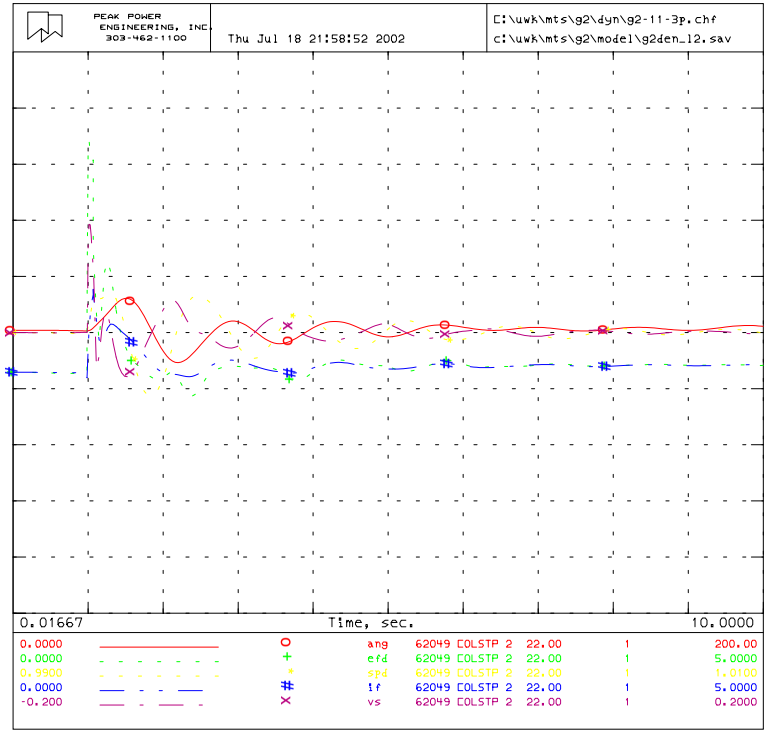

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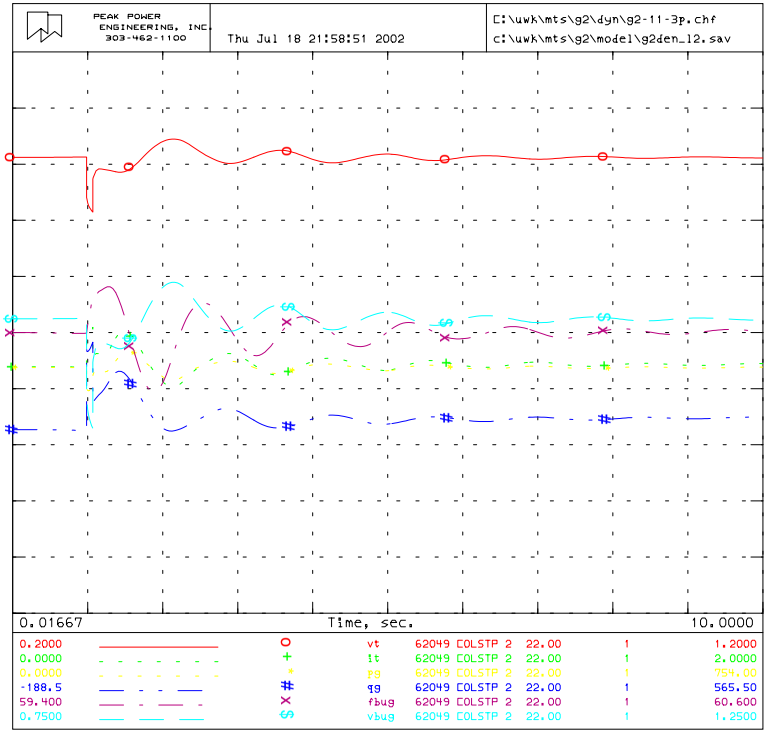

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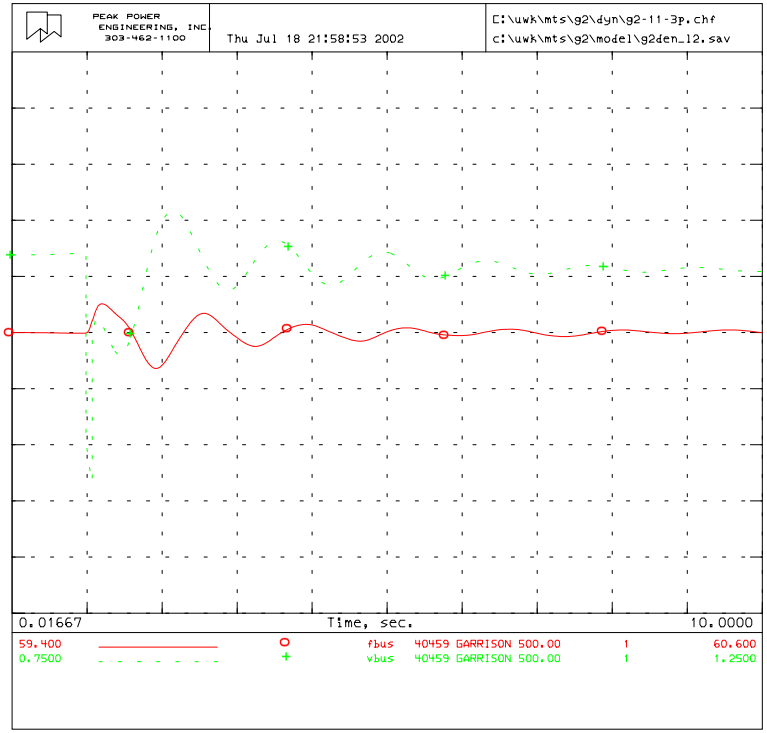

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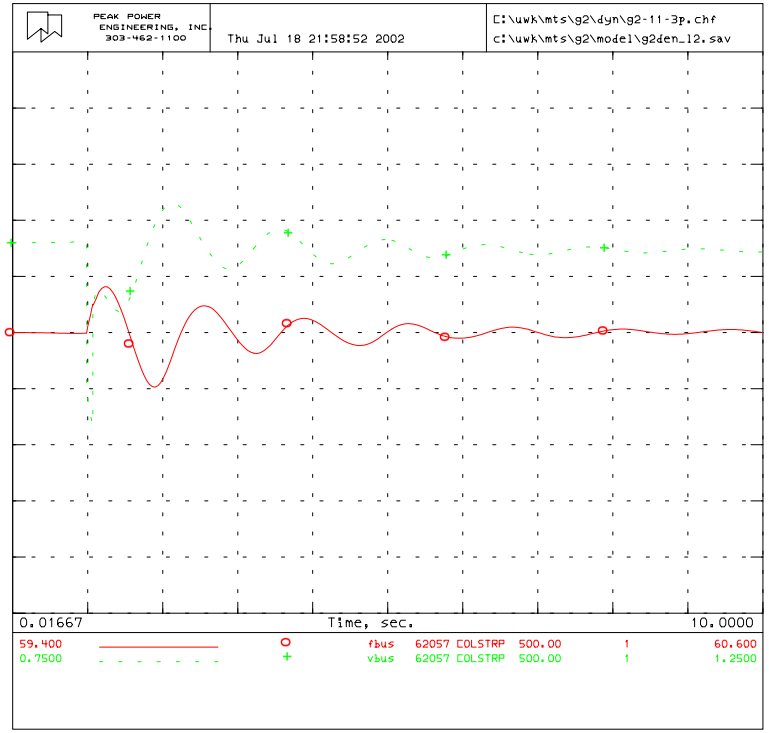

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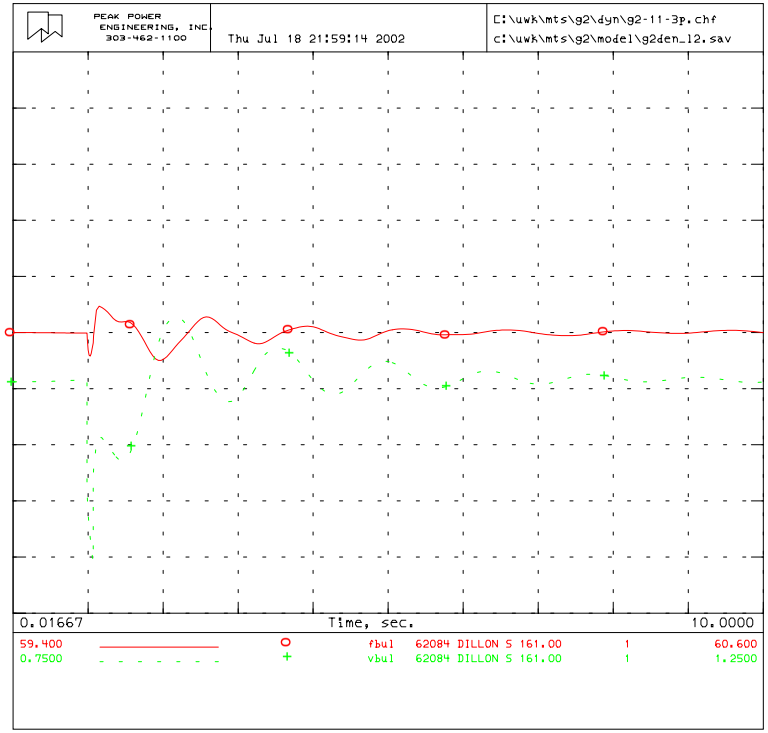

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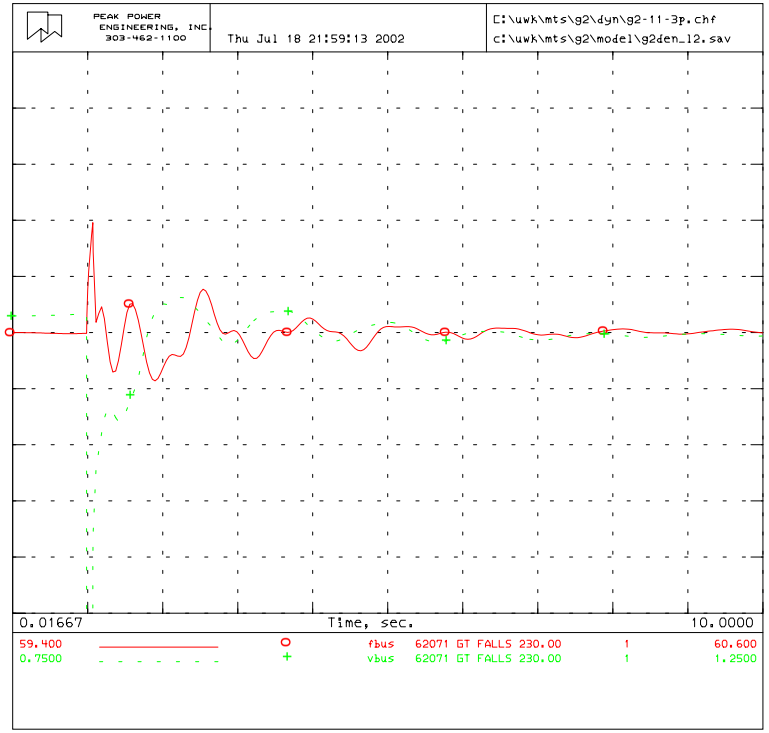

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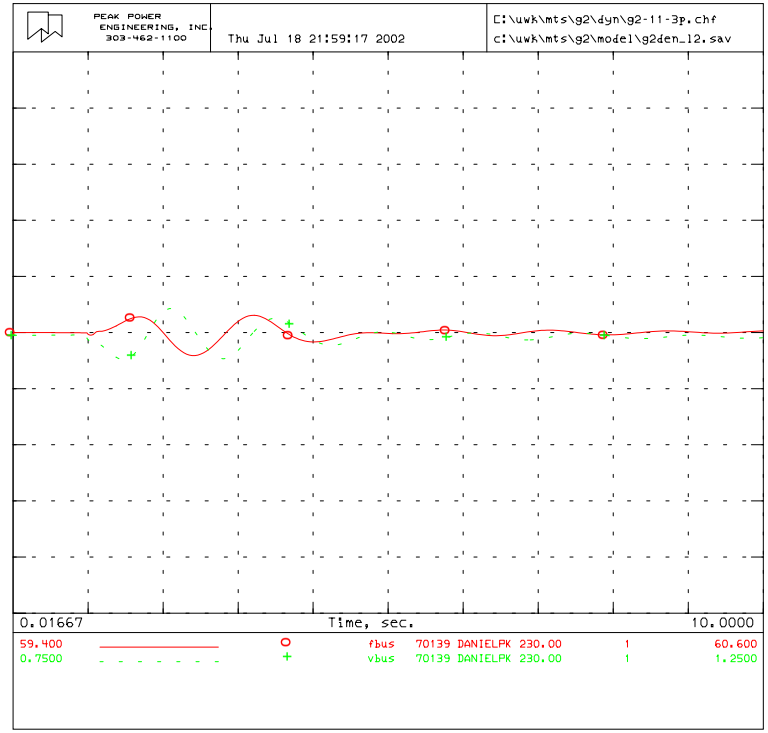

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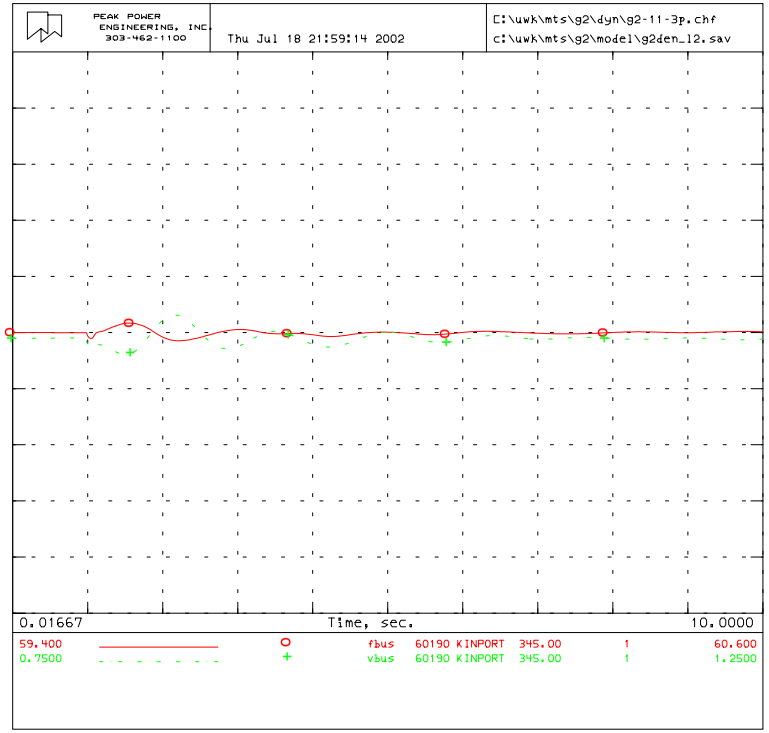

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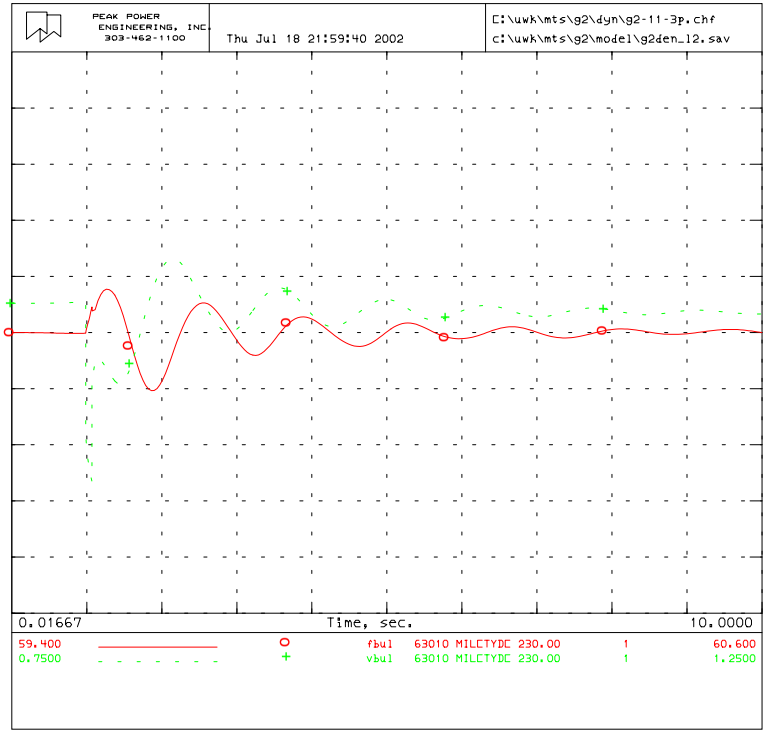

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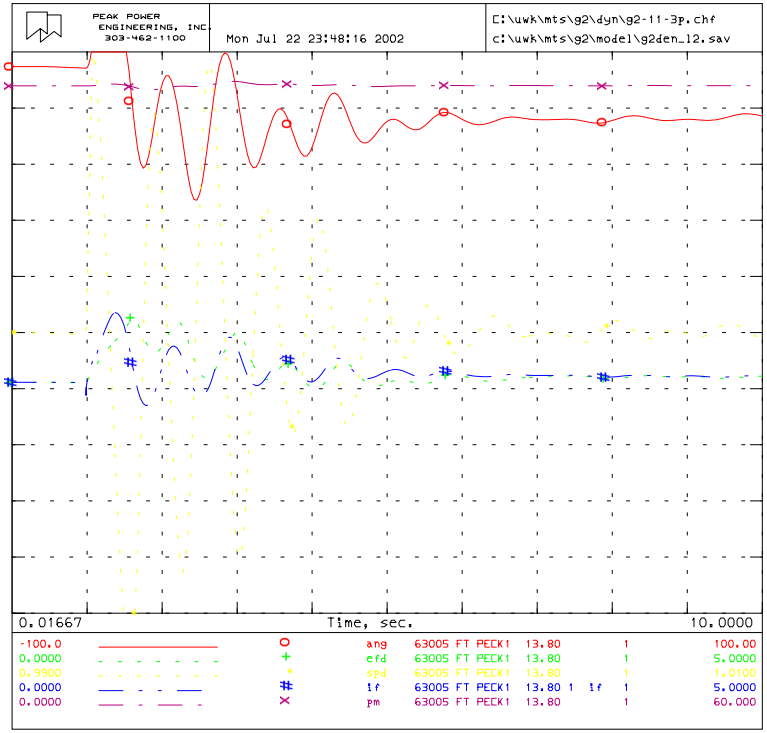

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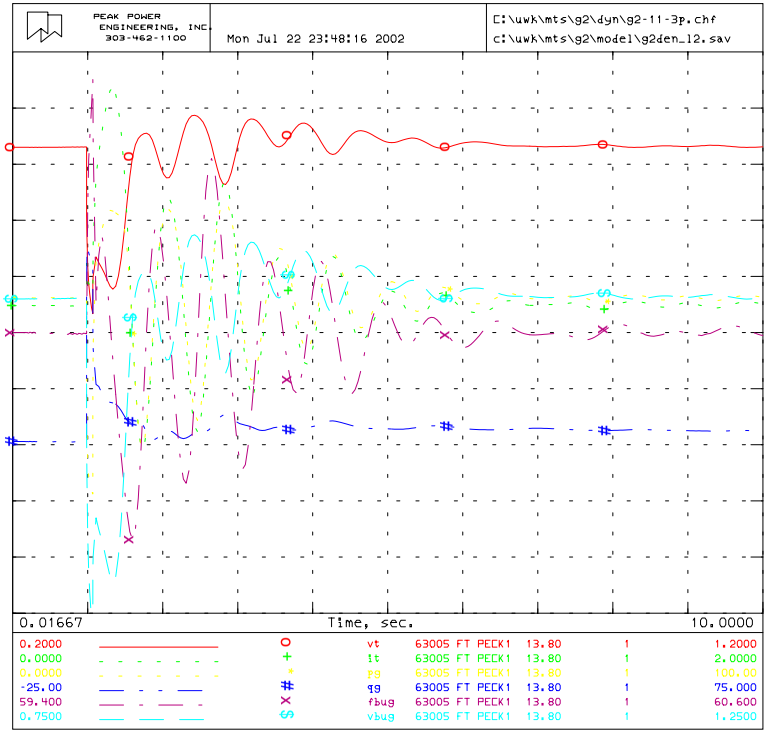

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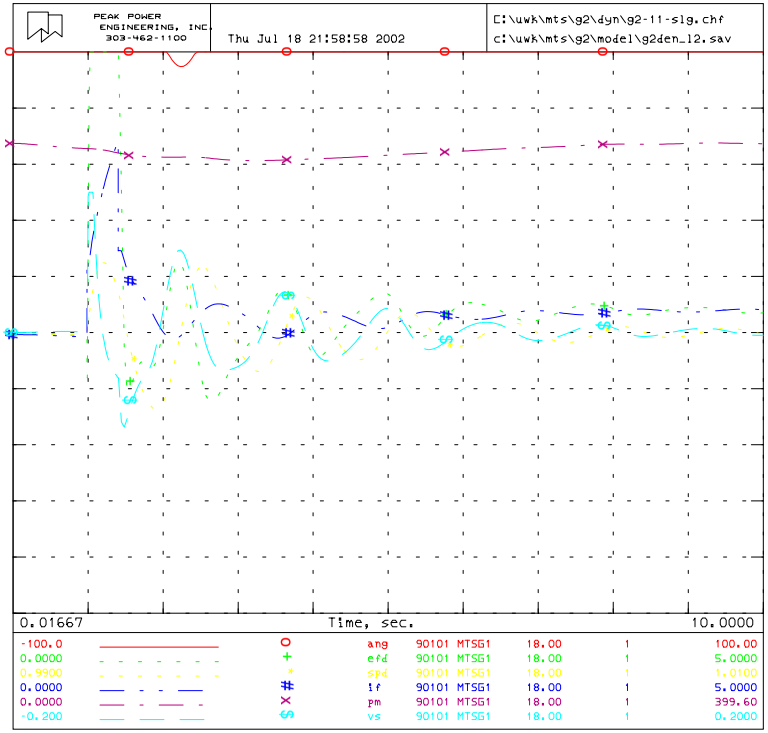

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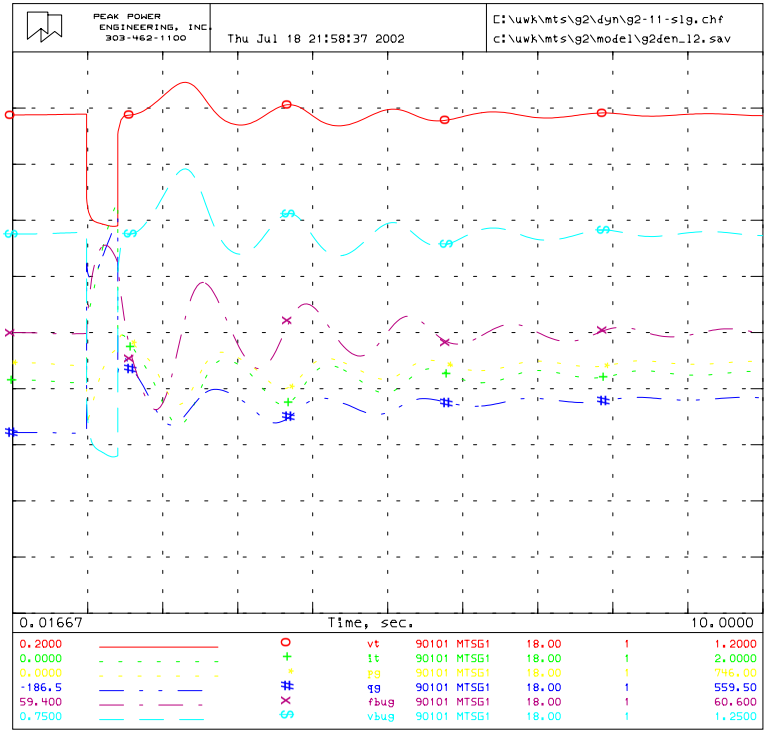

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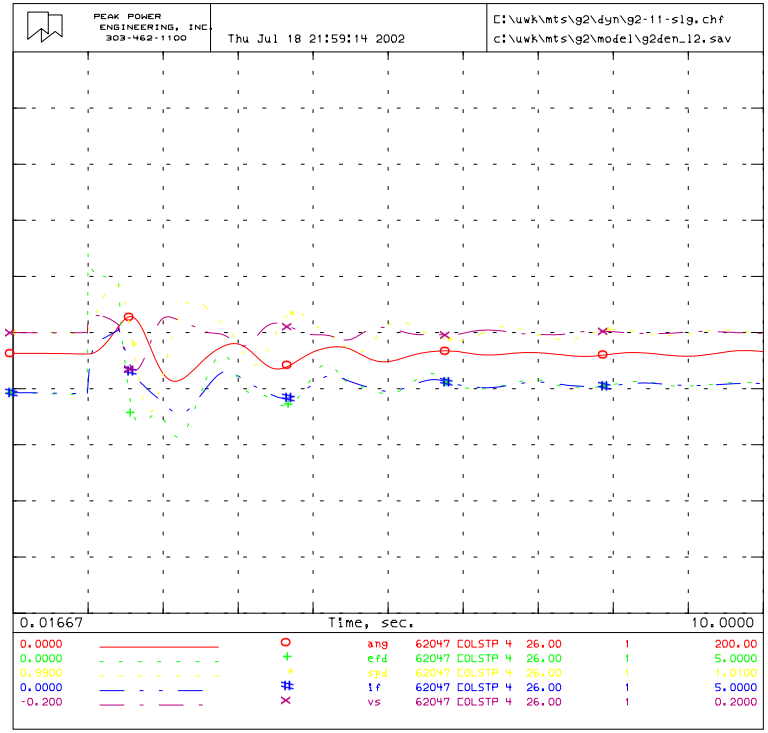

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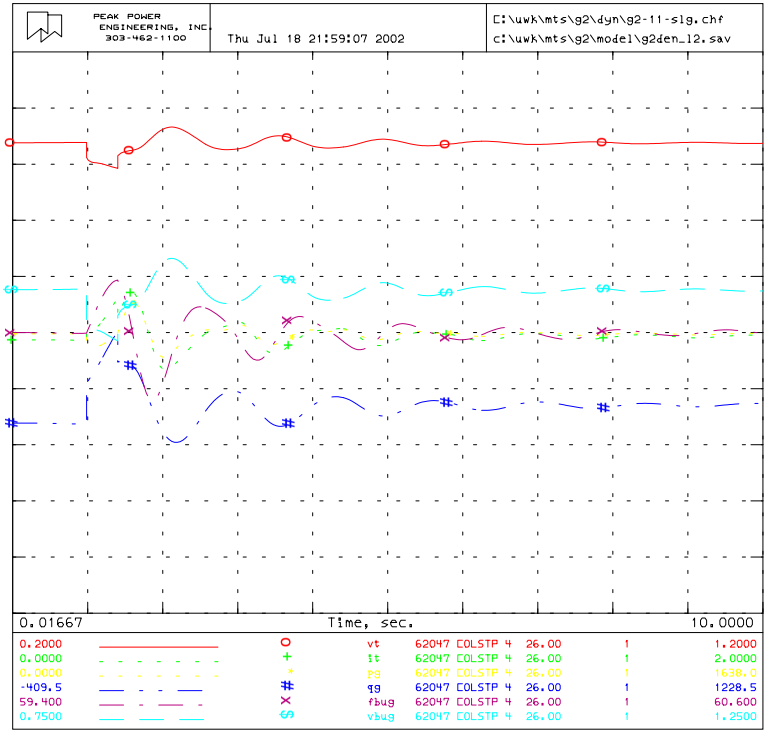

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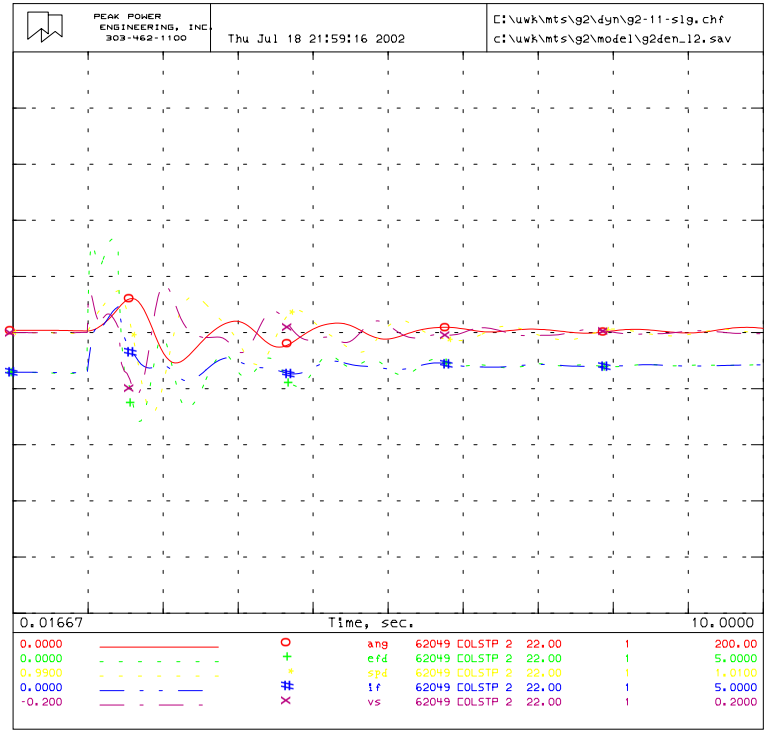

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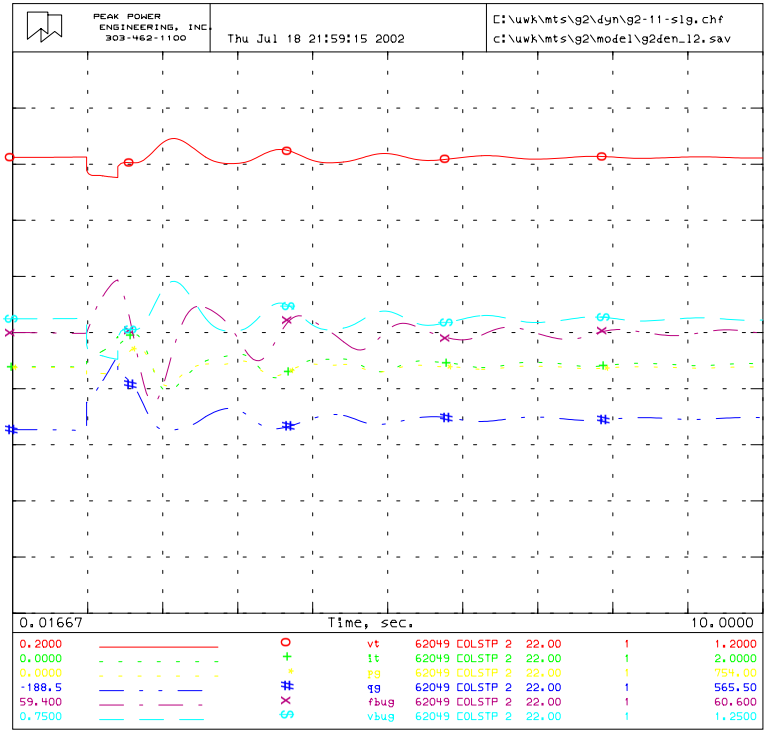

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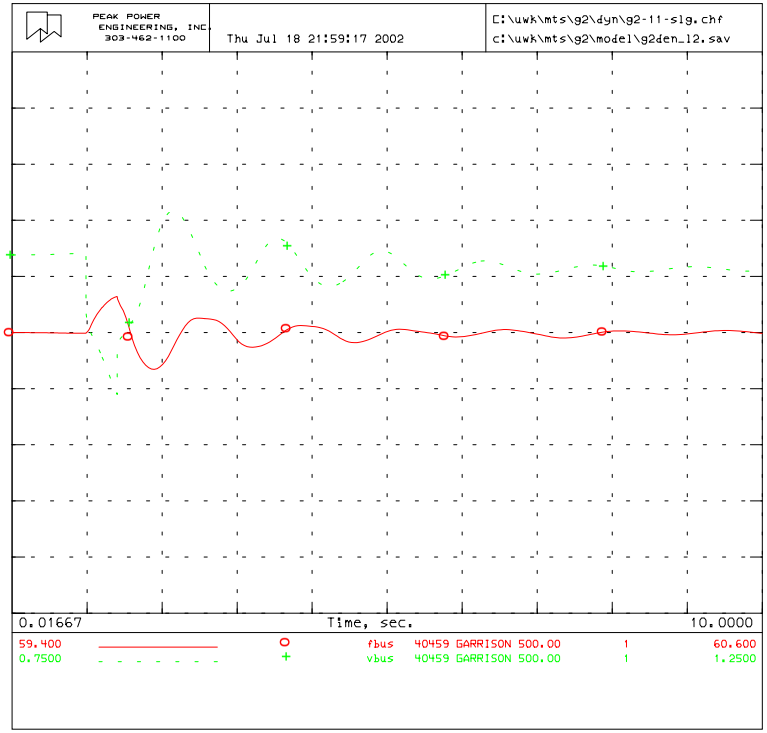

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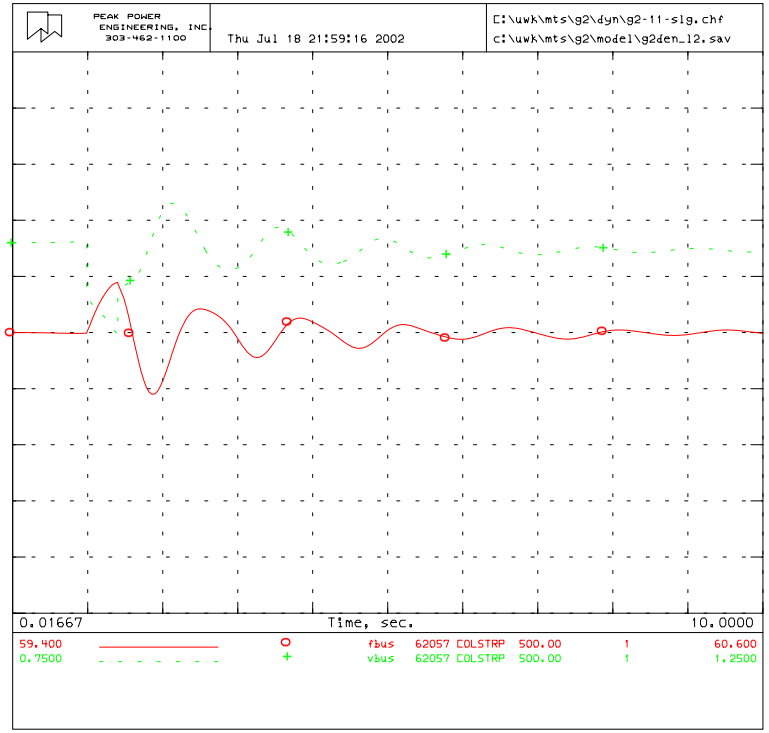

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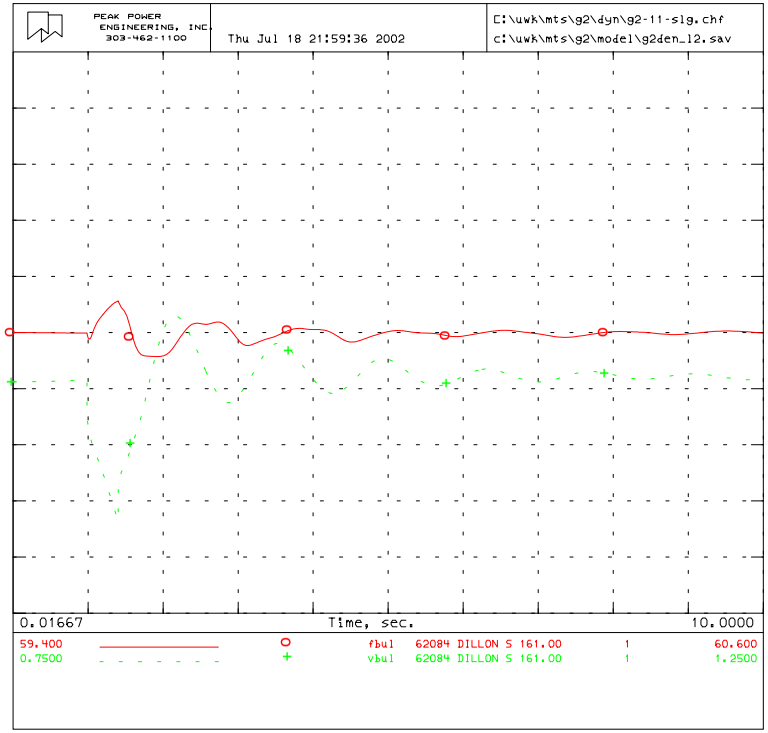

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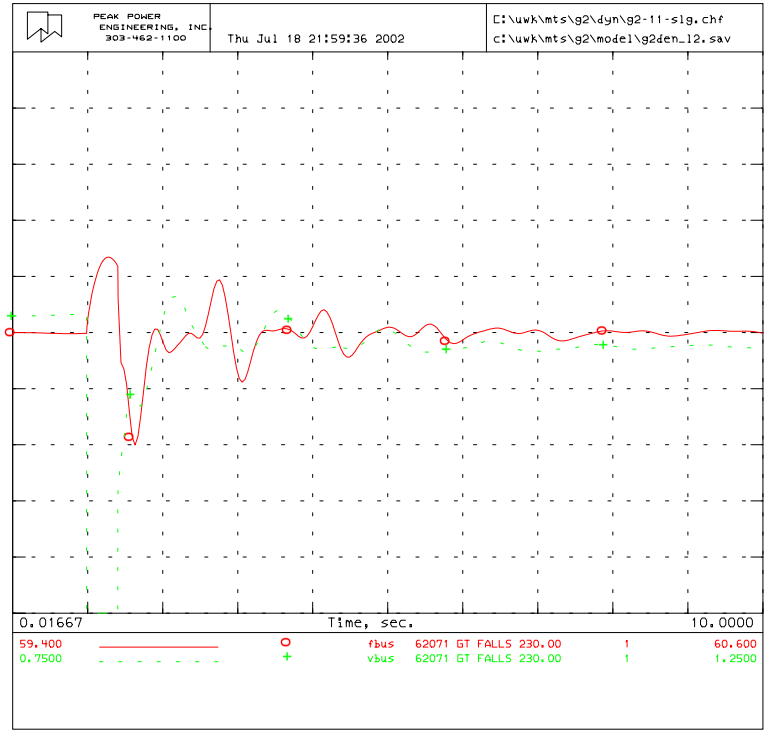

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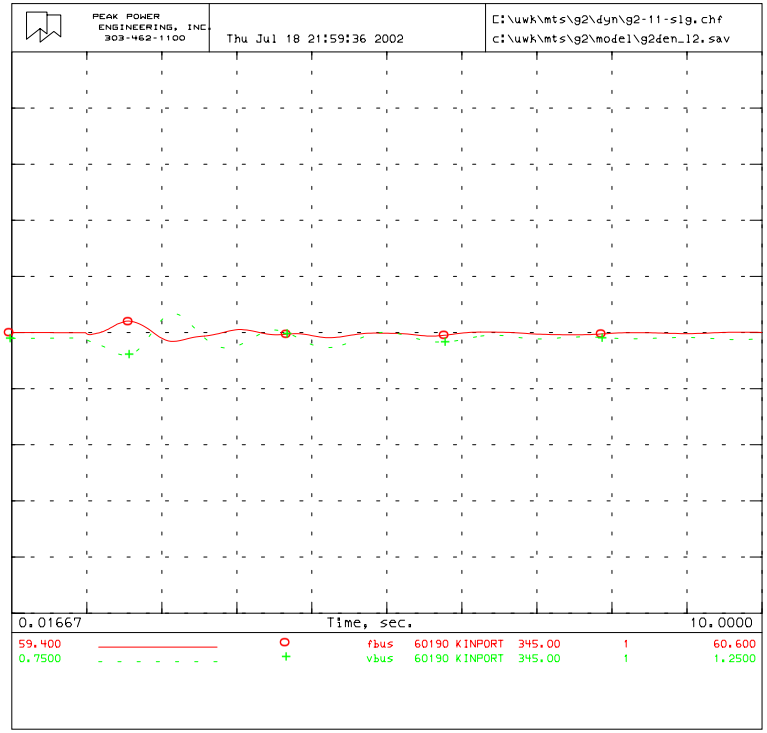

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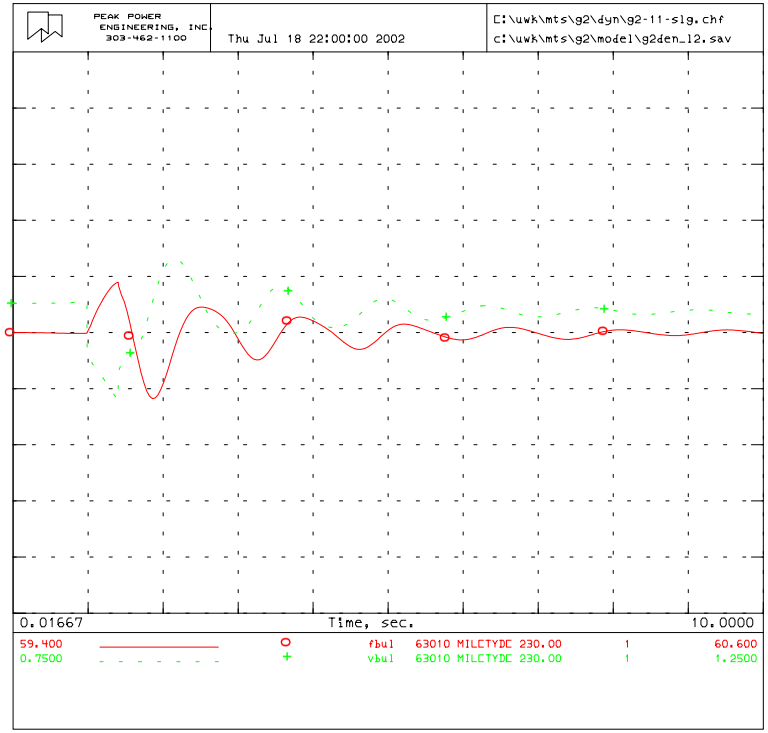

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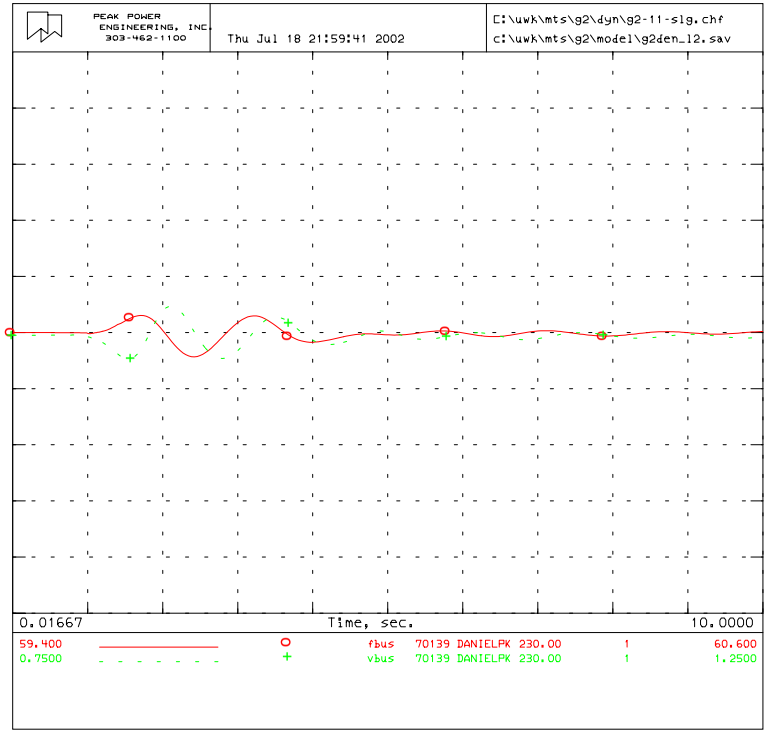

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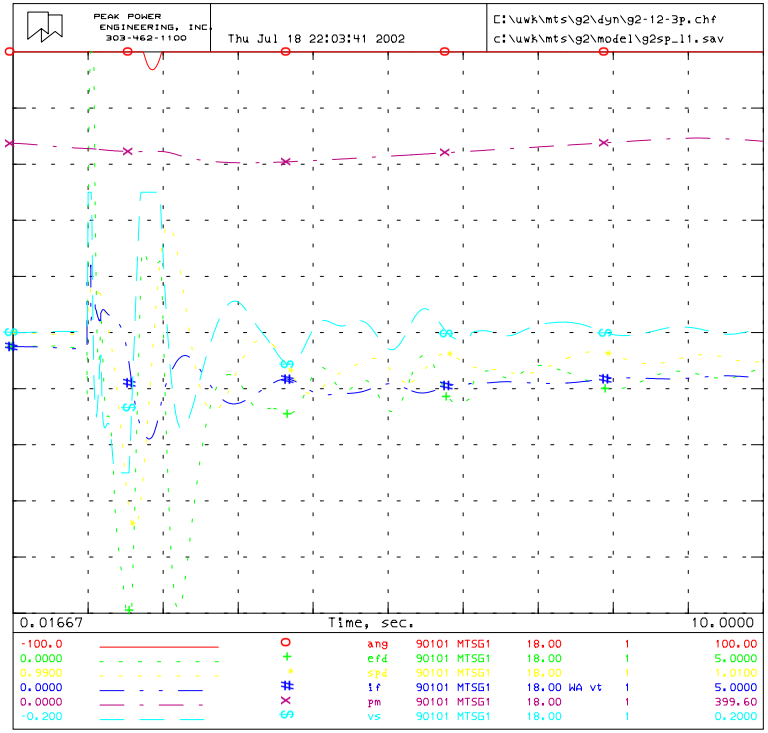

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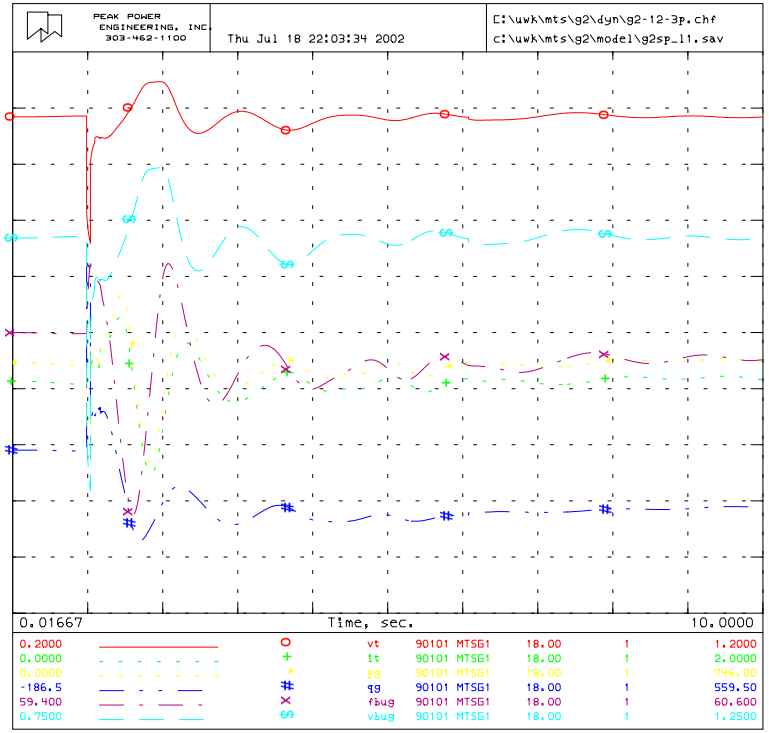

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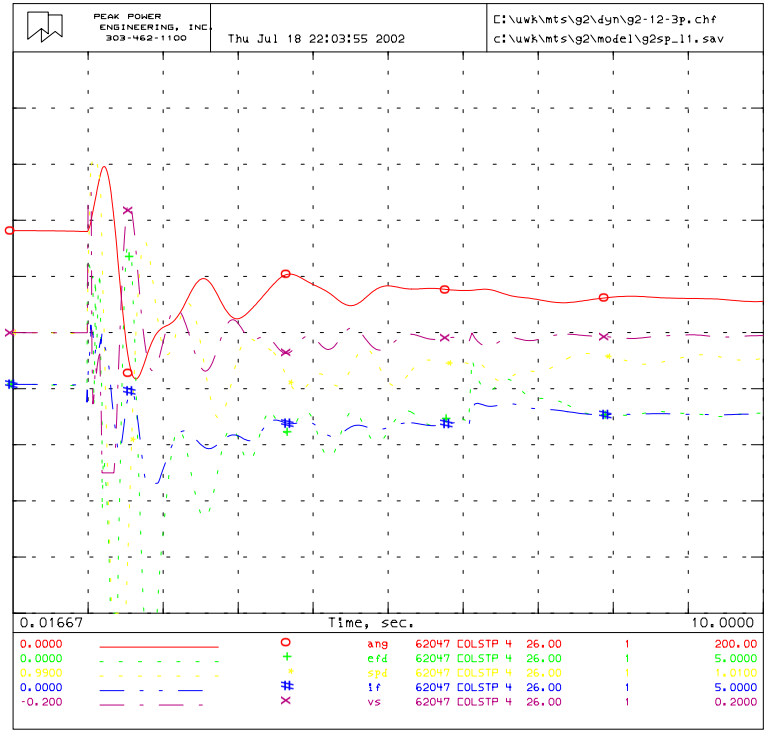

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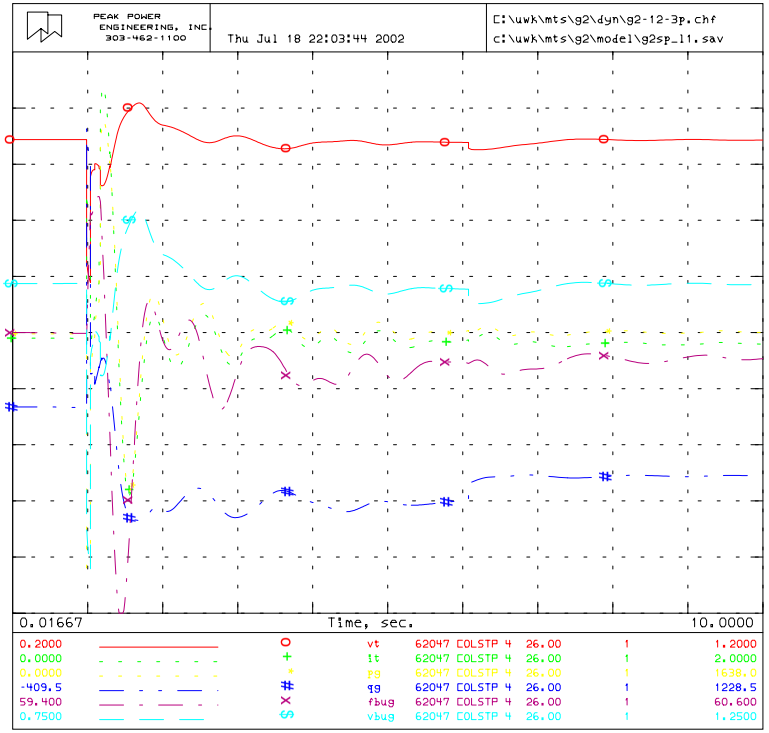

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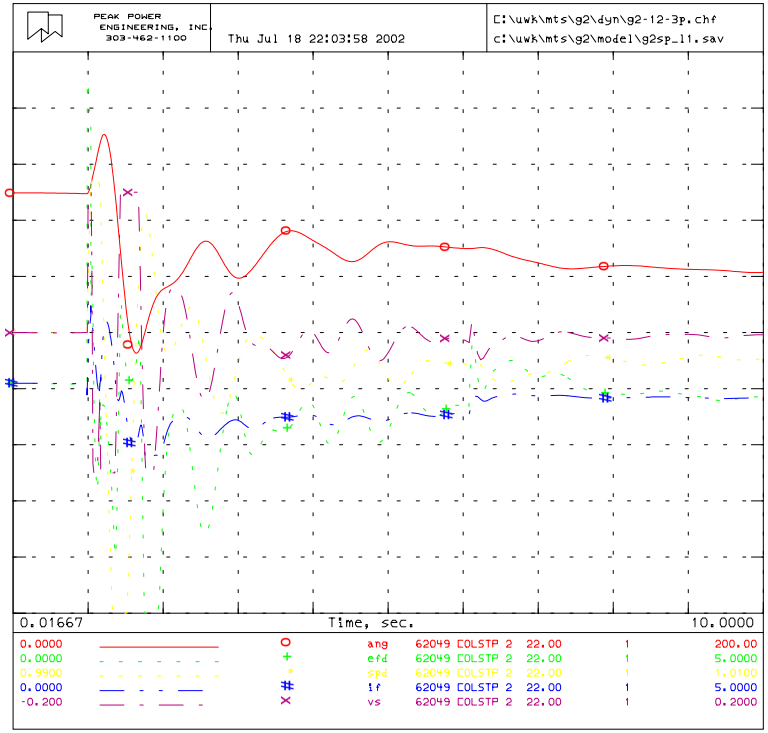

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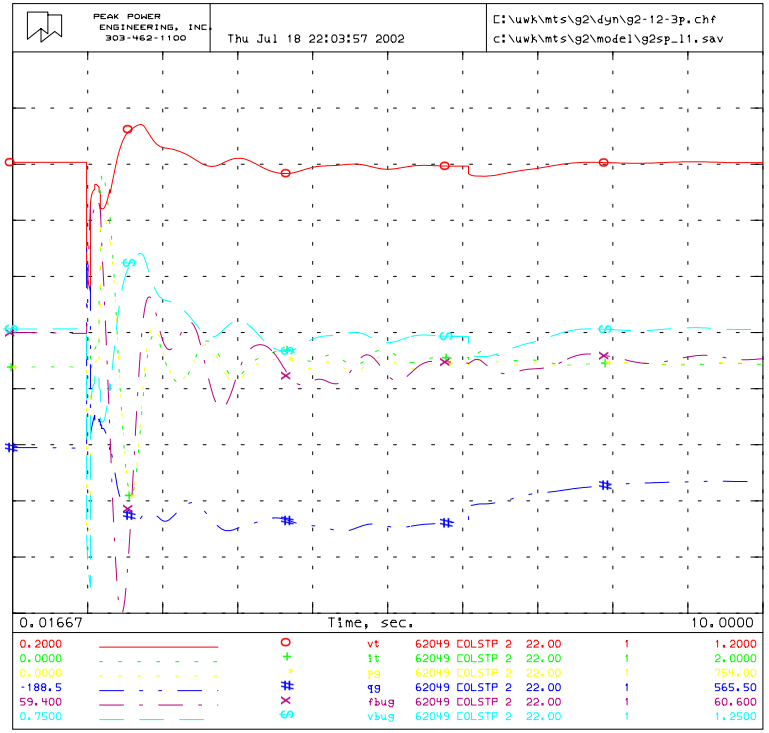

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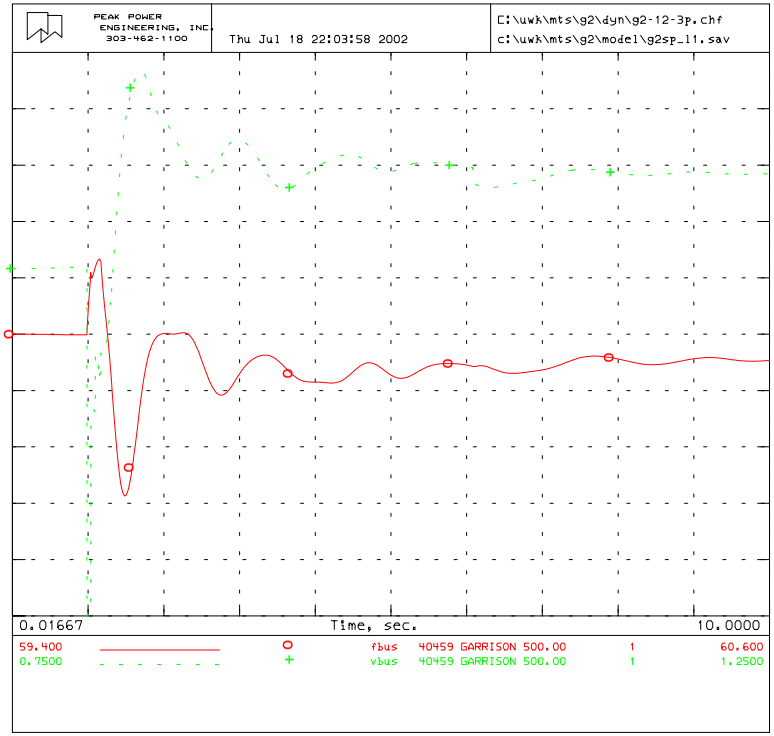

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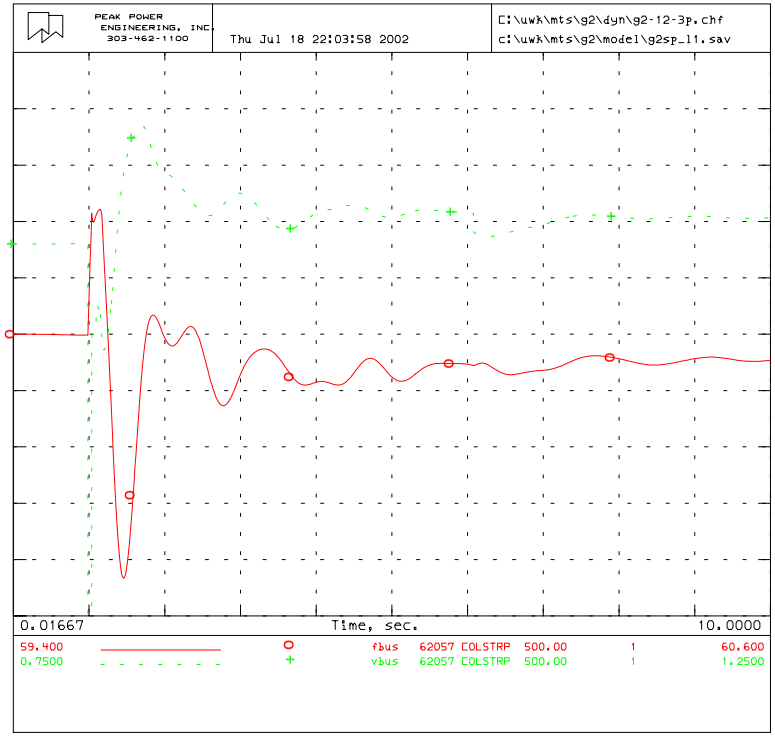

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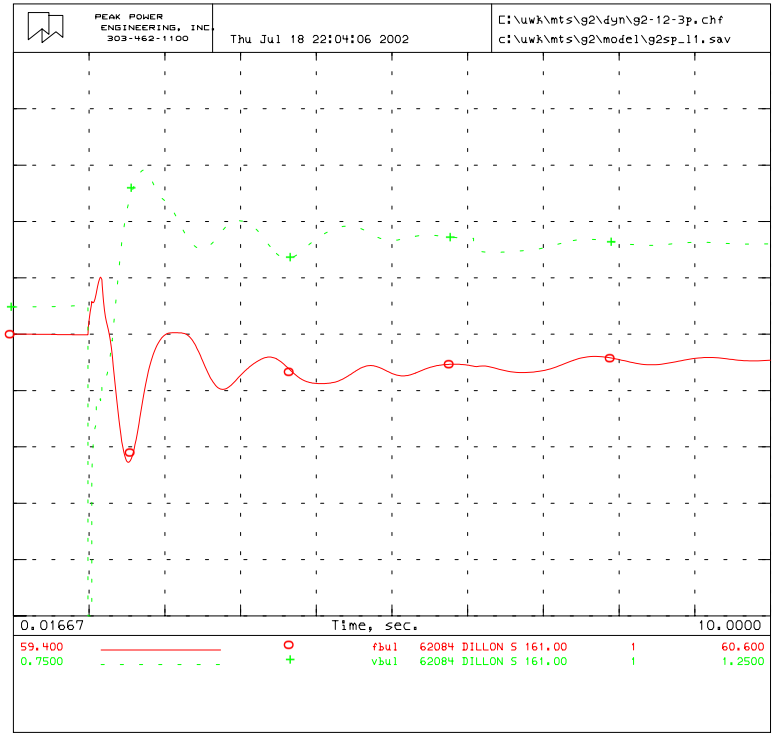

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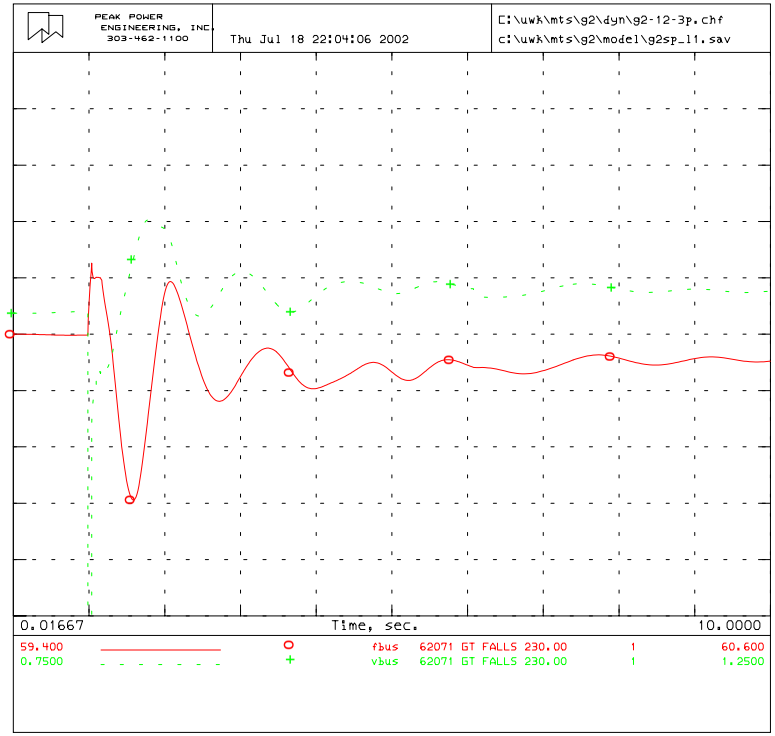

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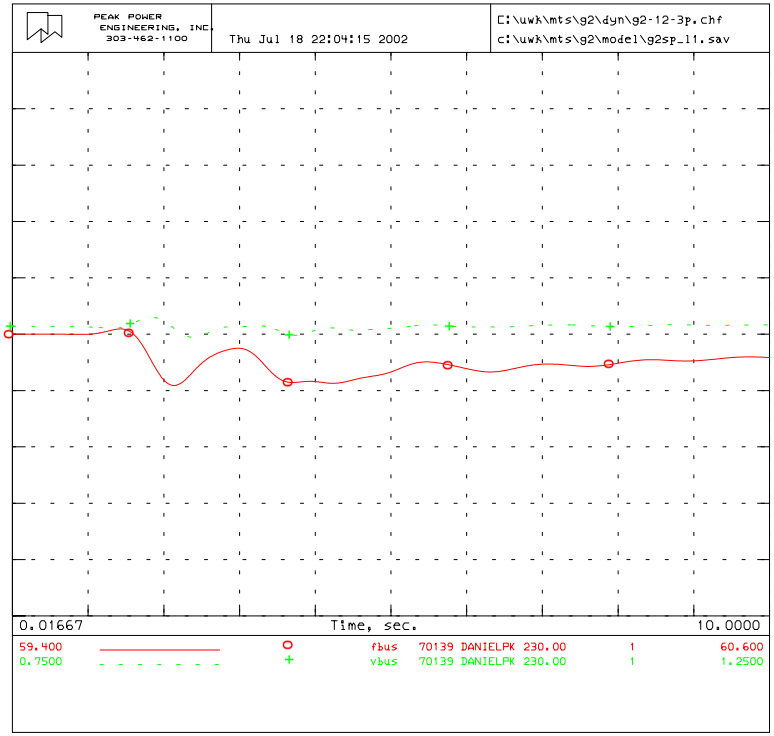

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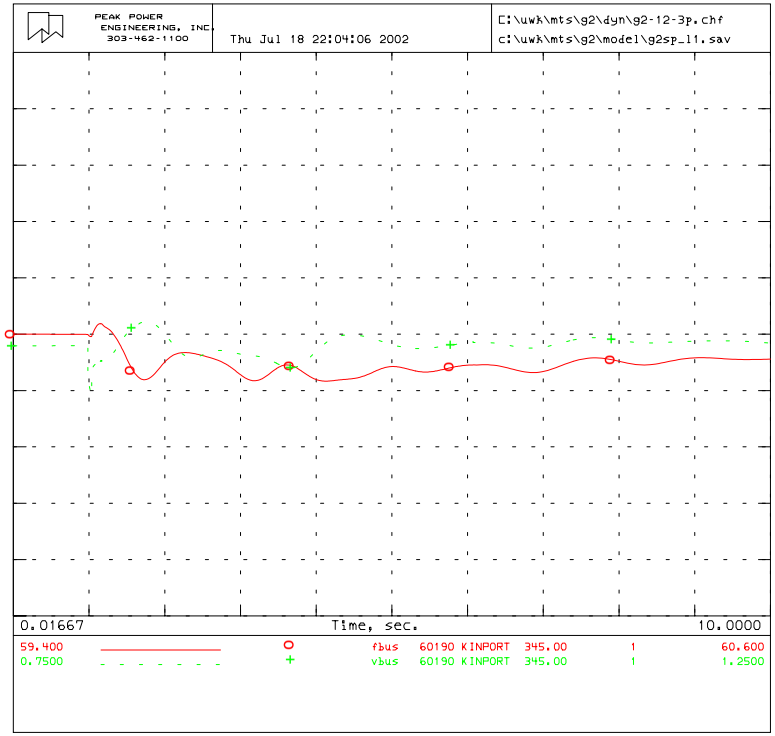

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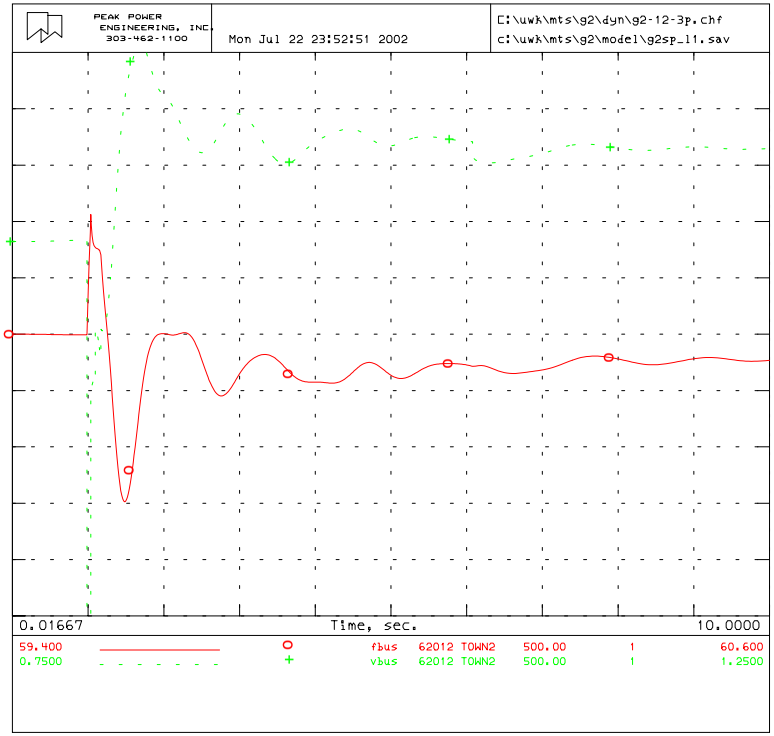

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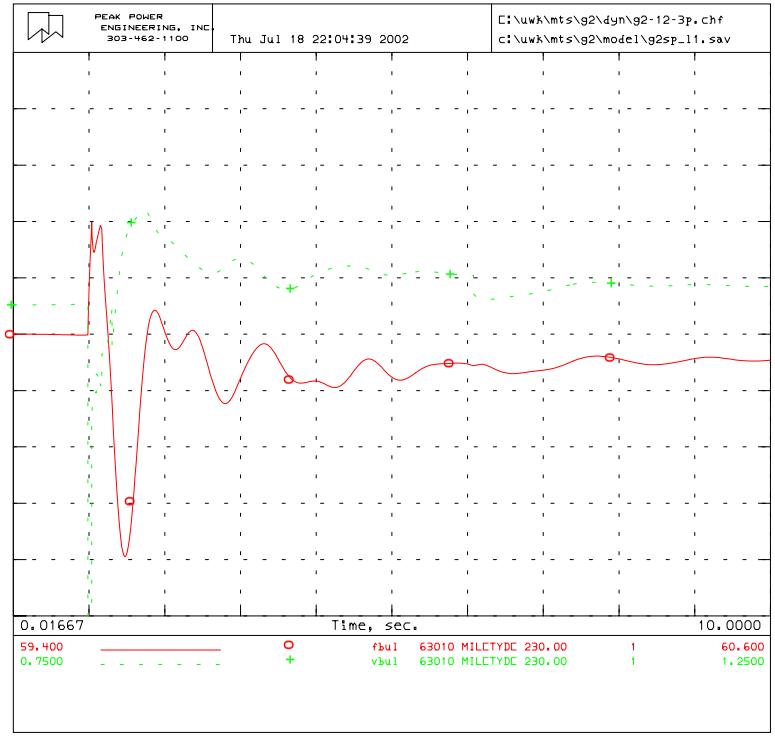

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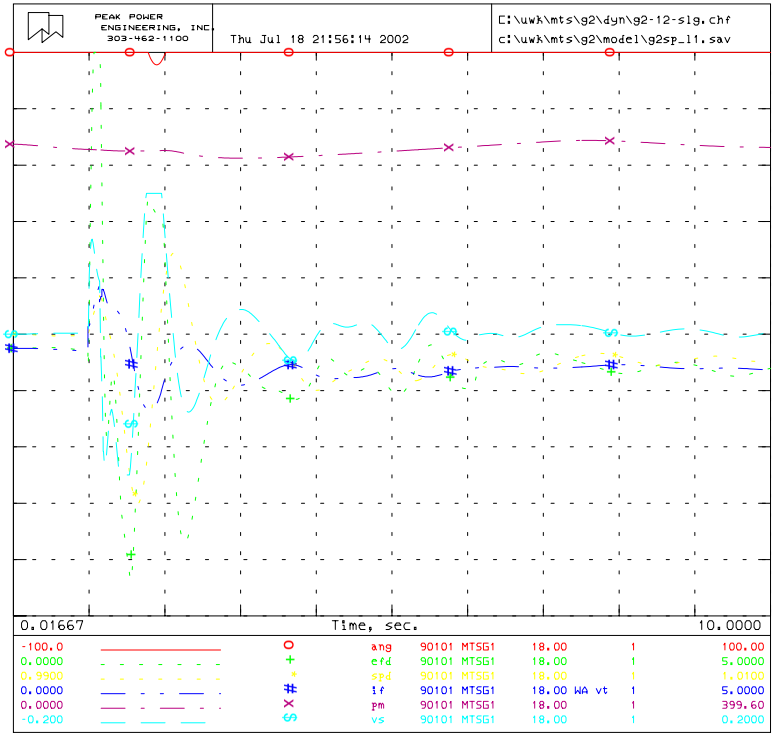

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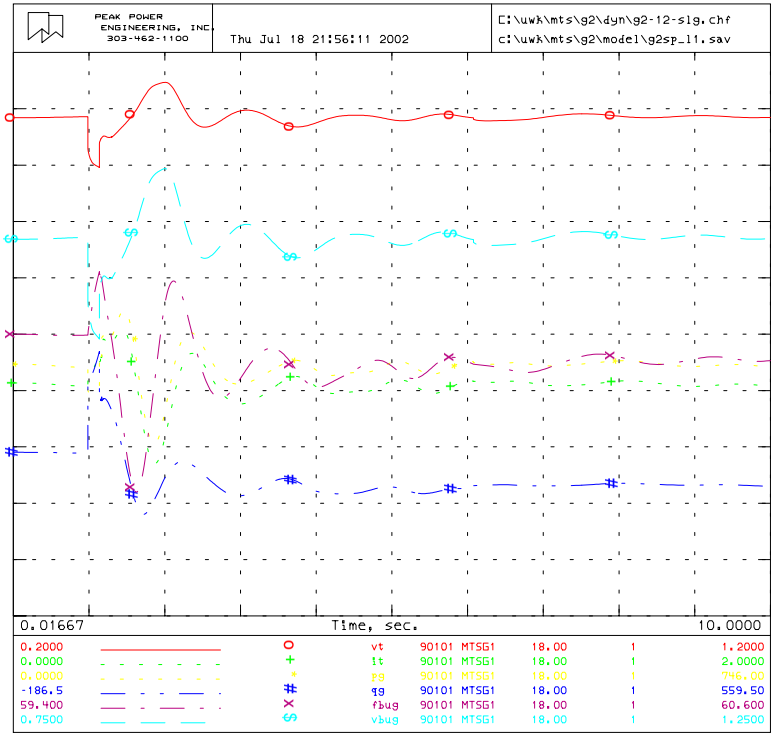

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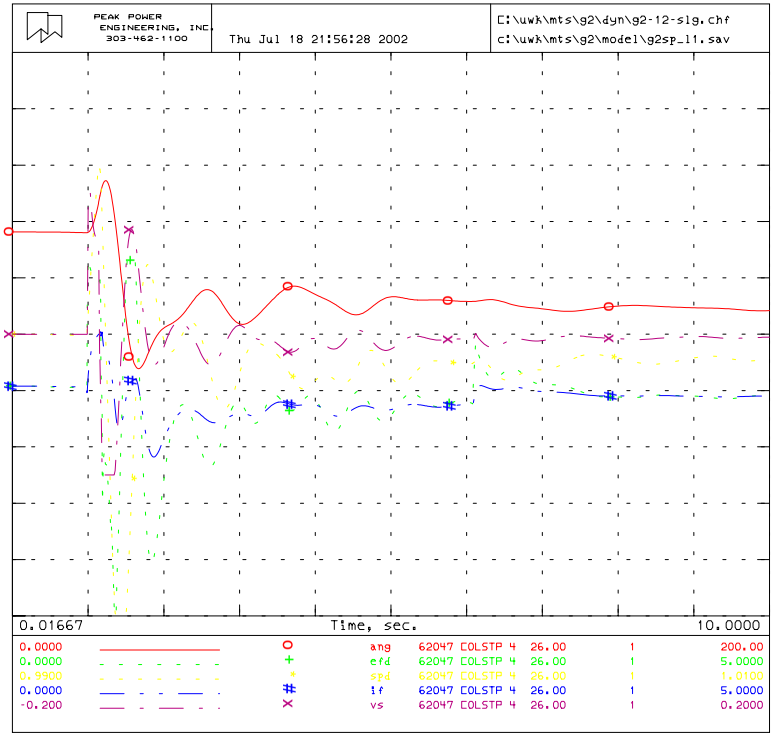

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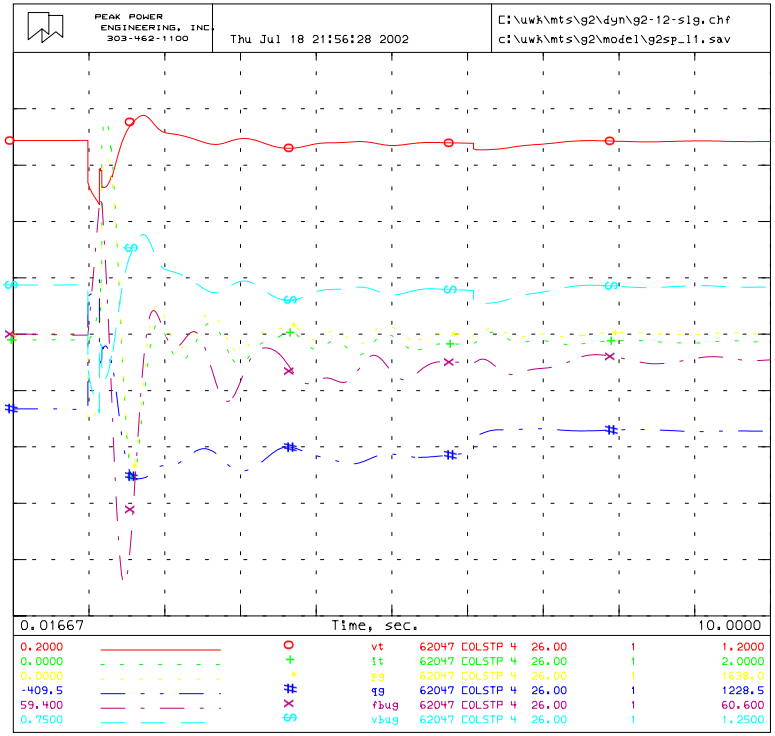

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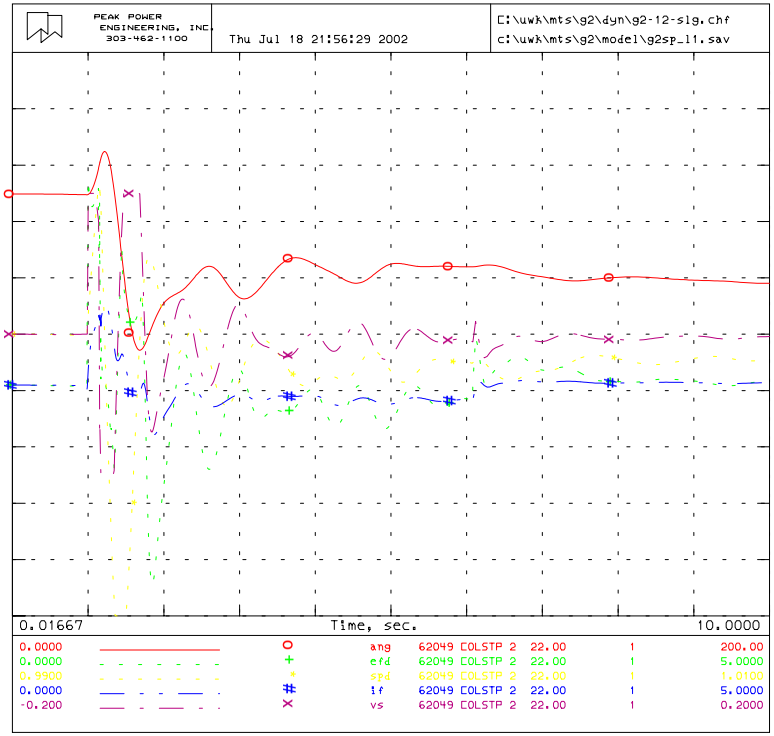

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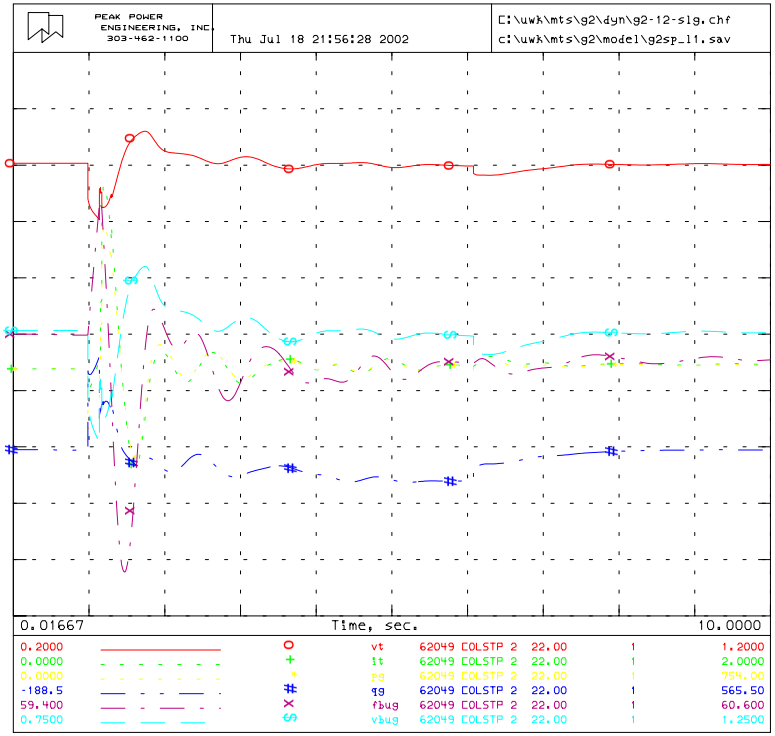

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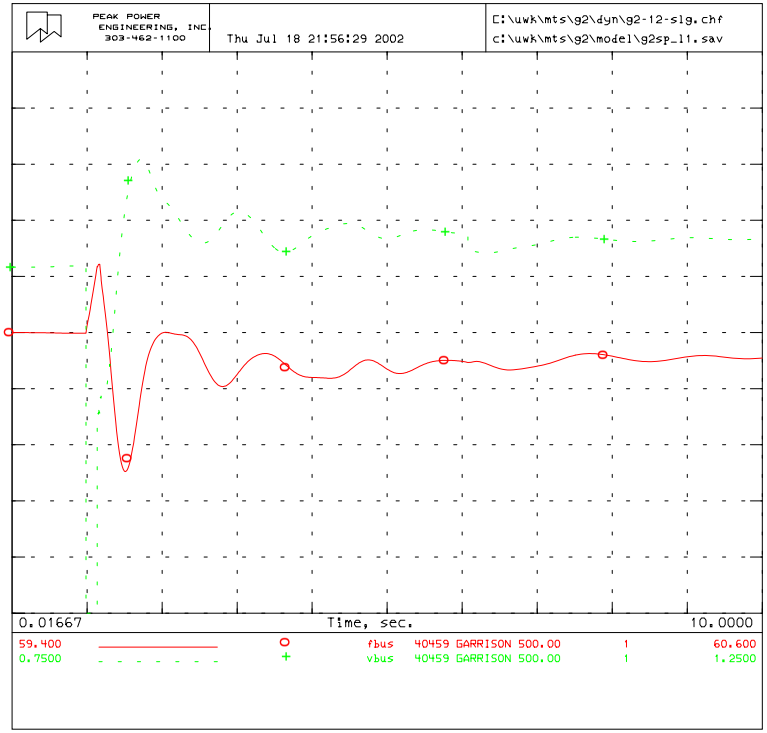

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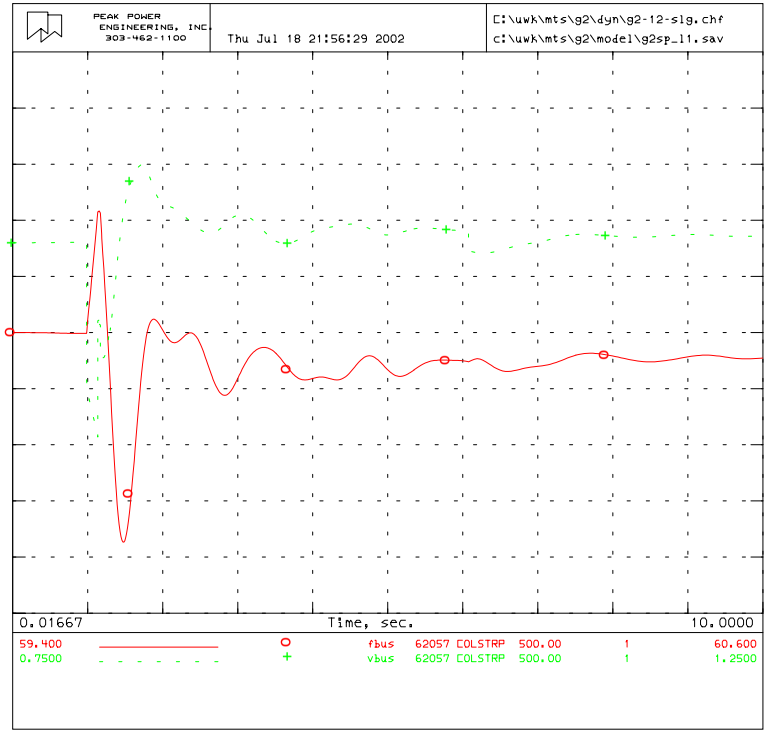

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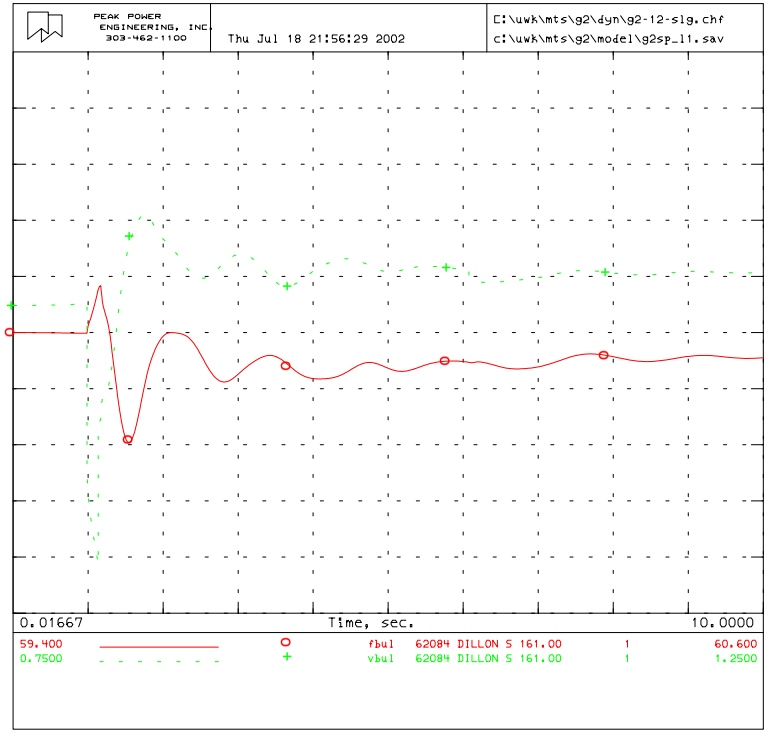

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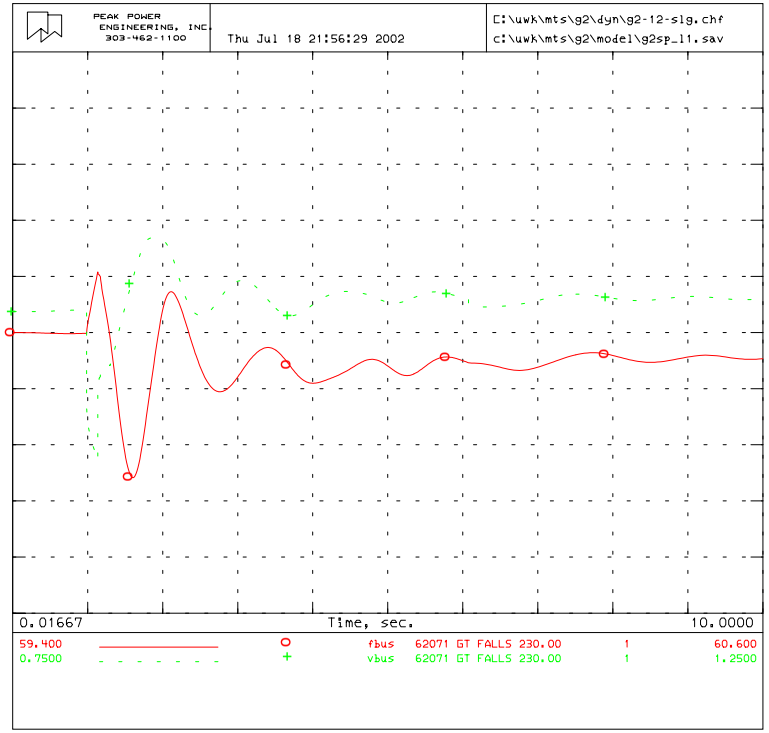

MONTANA TRANSMISSION STUDY
WAPA UGP, JUNE 2002
1000 MW GAS PLANT
Fault: SLG Flt @ "GARRISON" 500 kV BUS
Clear Flt: 9 cyc, Trip Line "GARRISON" 500 to "TAFT " 500, CKT 1

STUDY BY PEAK POWER ENGINEERING, INC.

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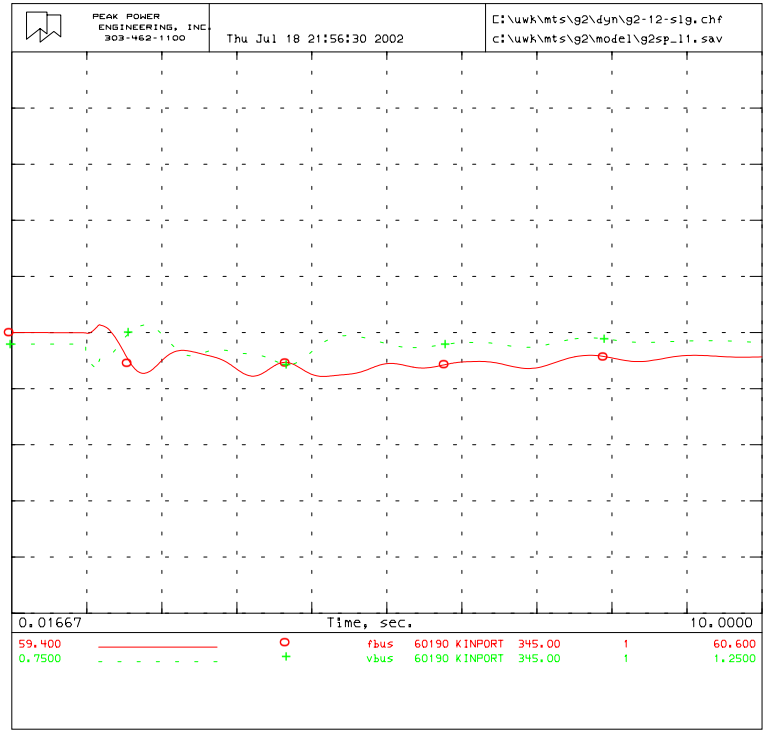

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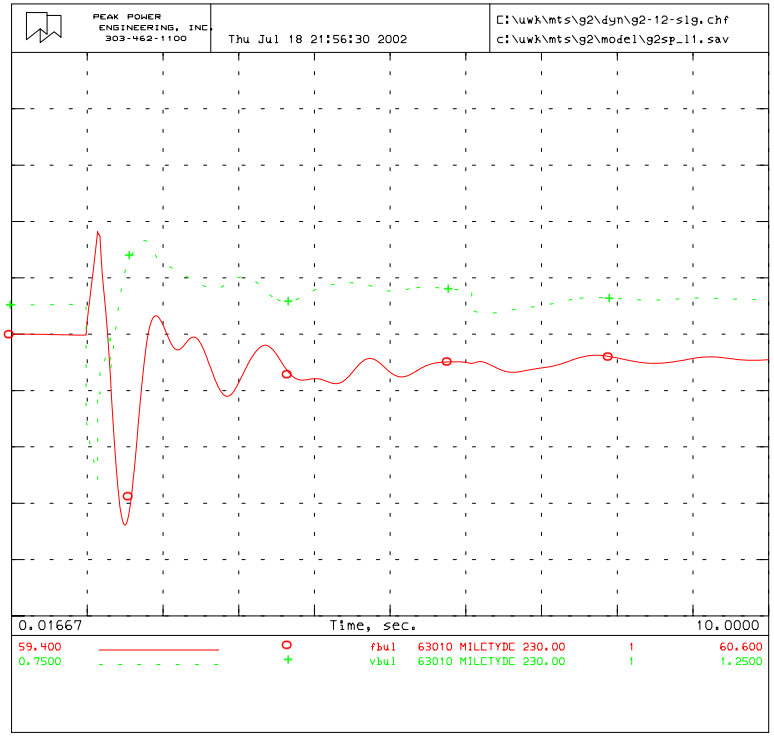

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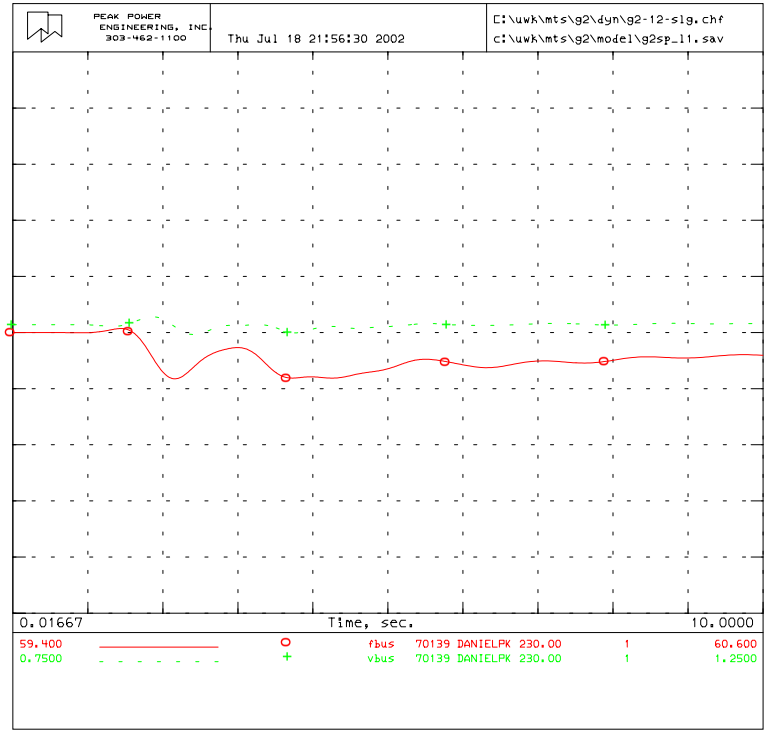

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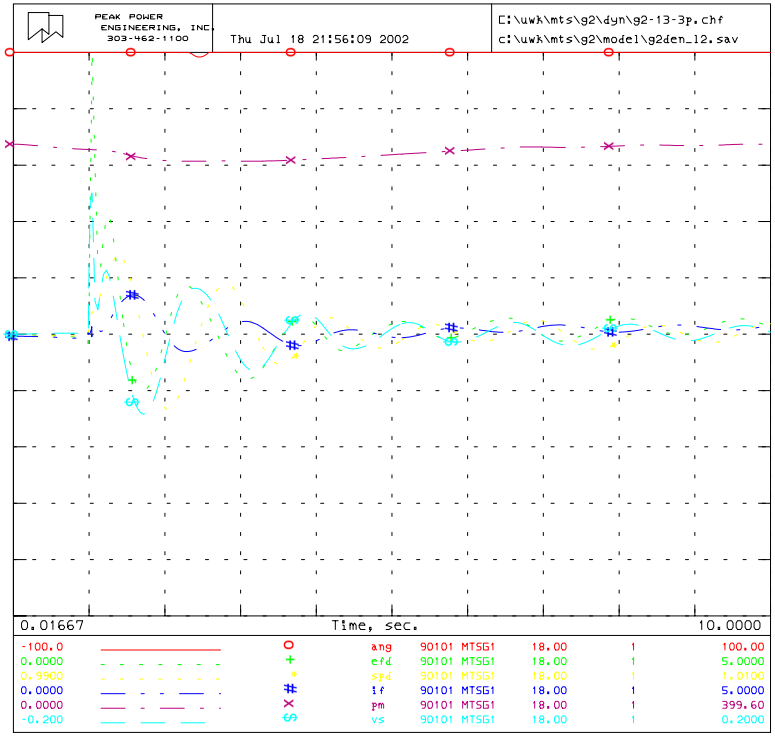

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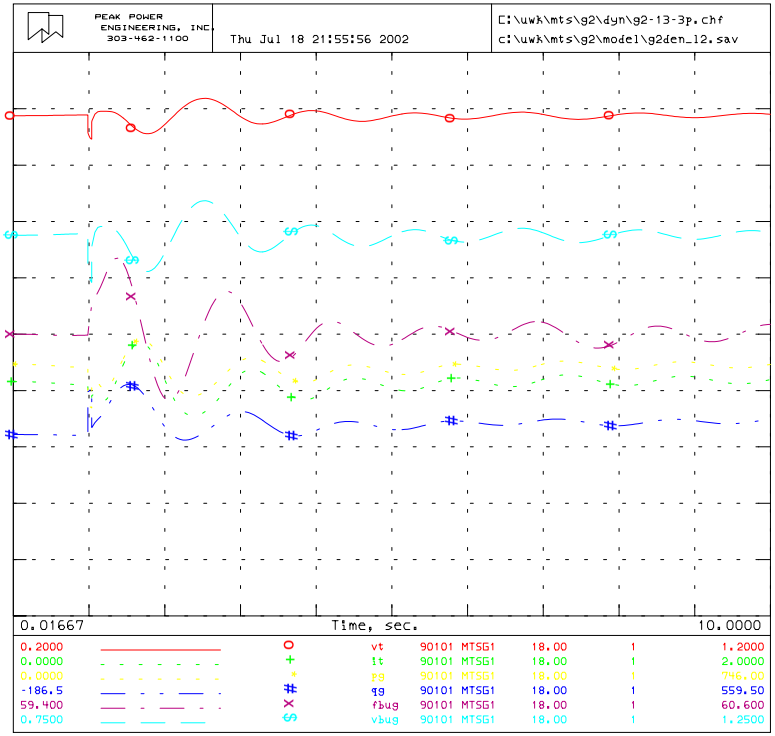

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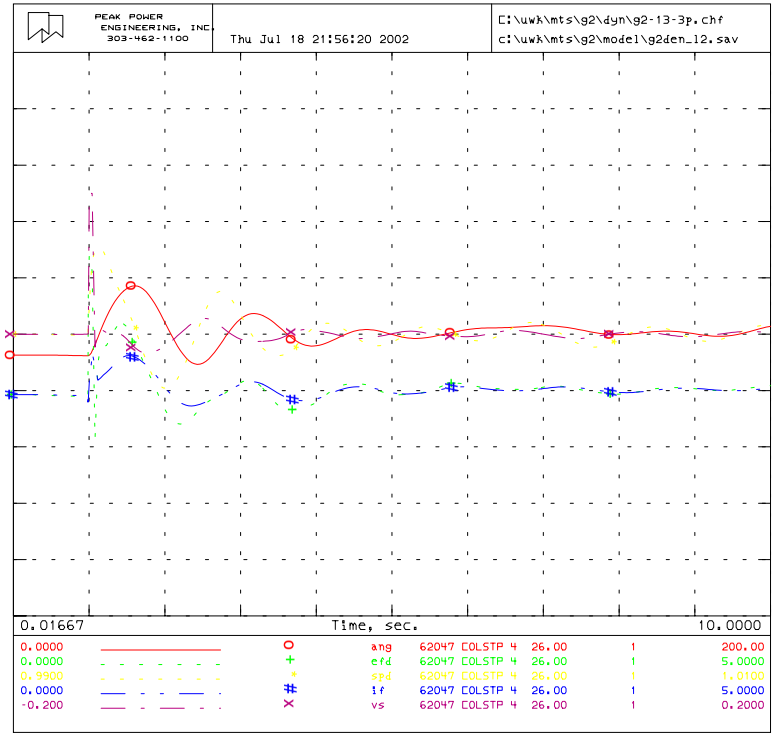

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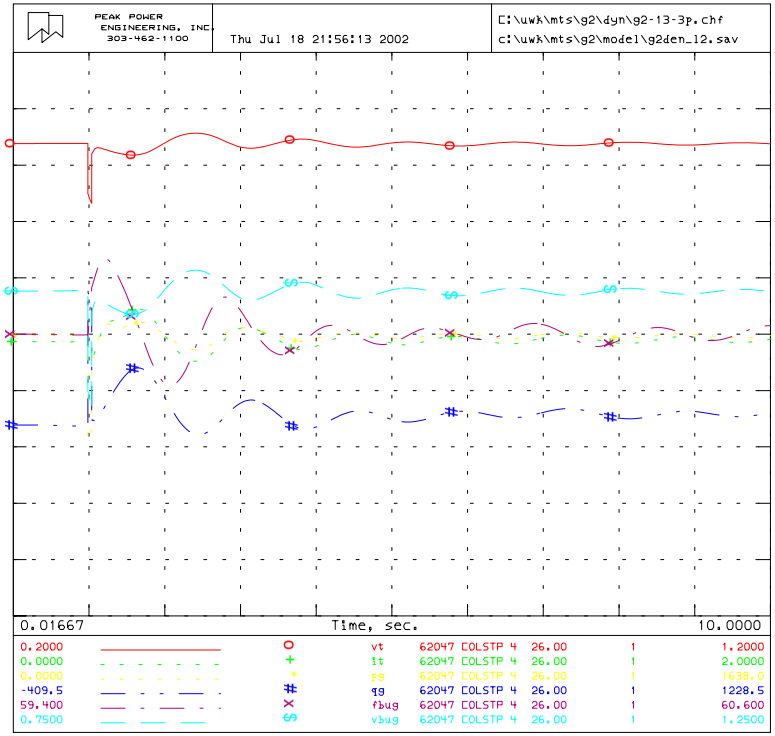

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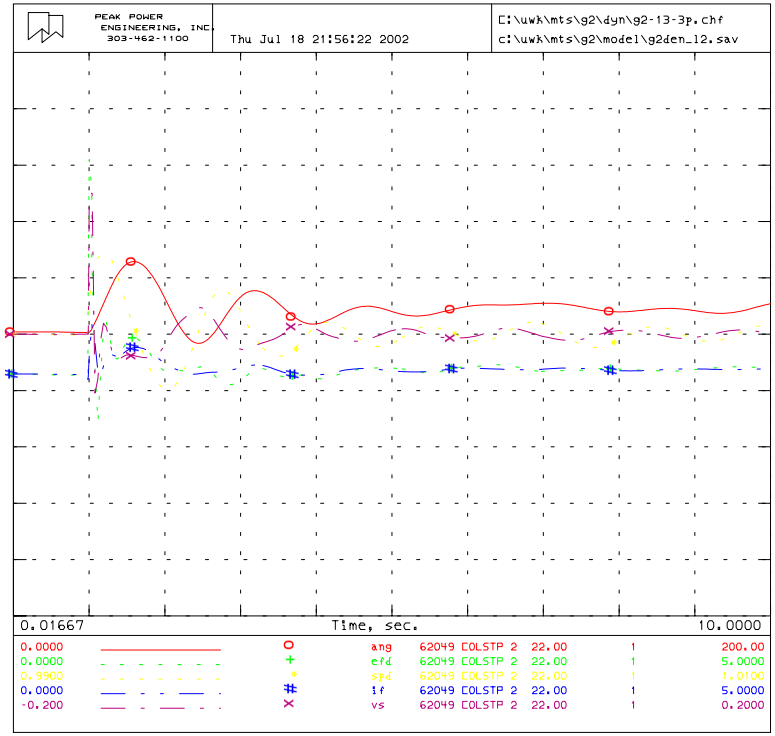

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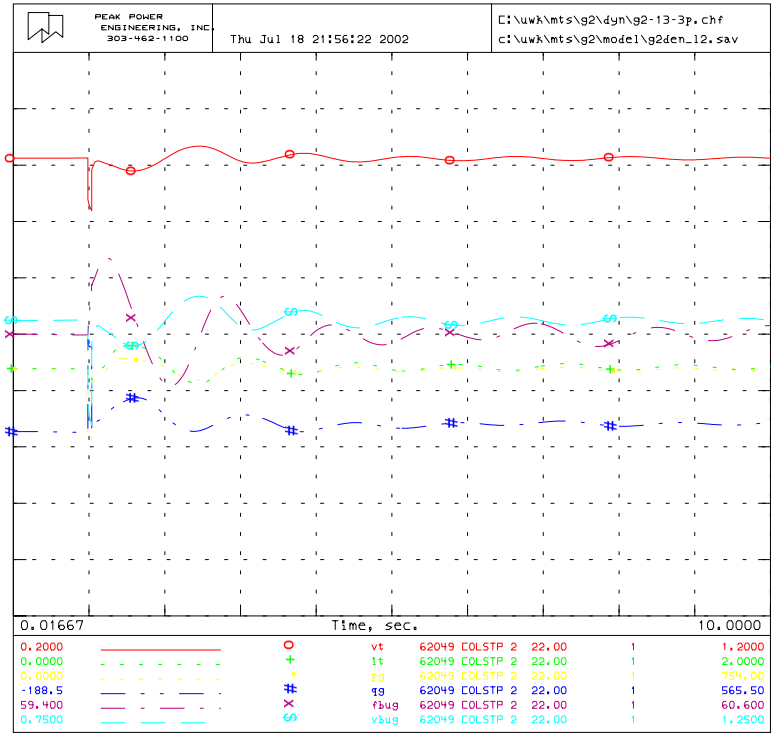

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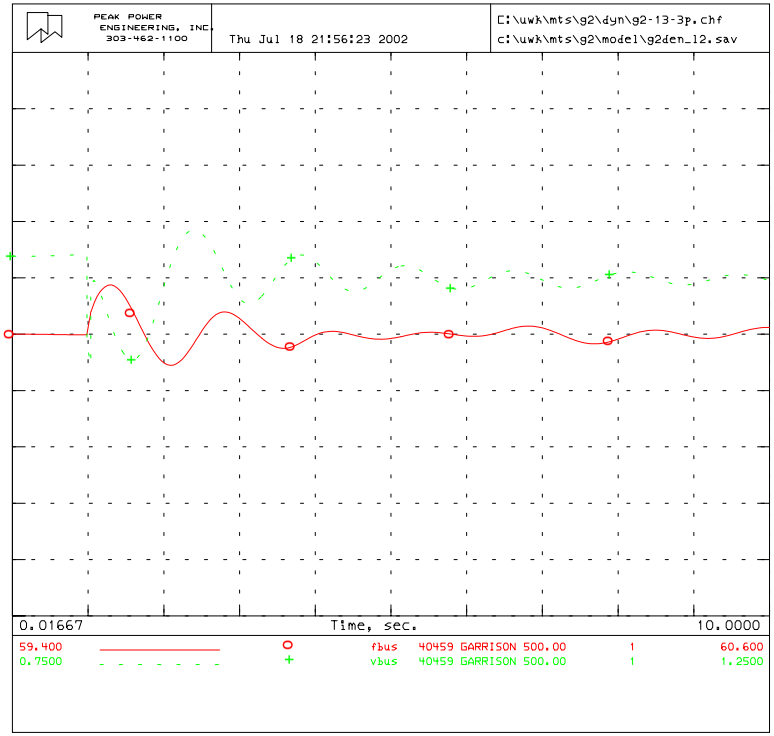

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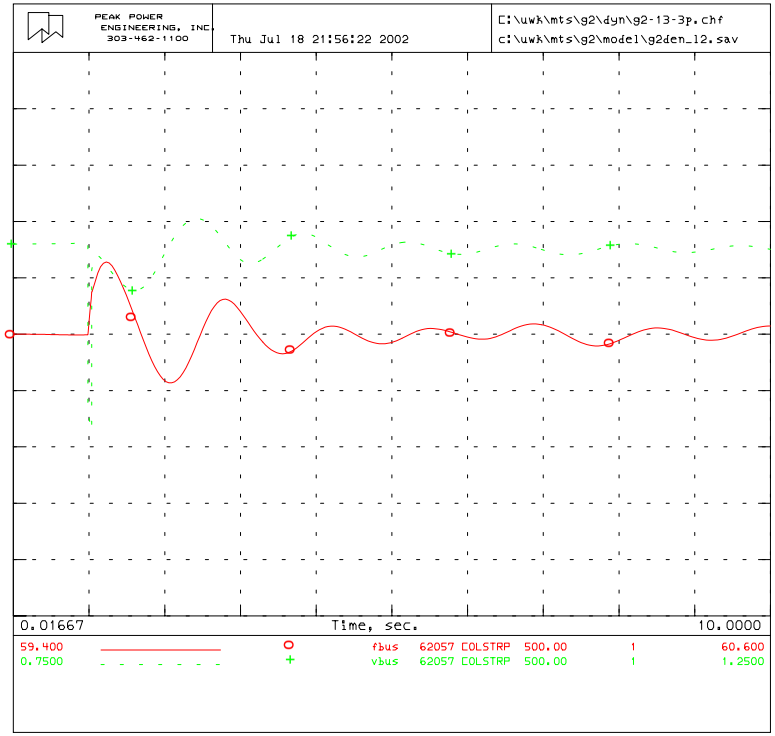

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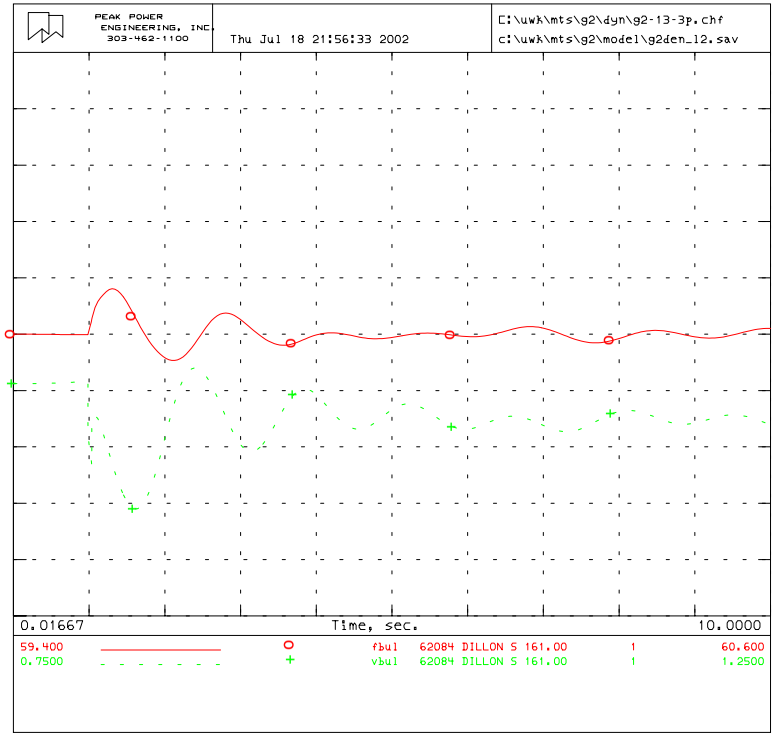

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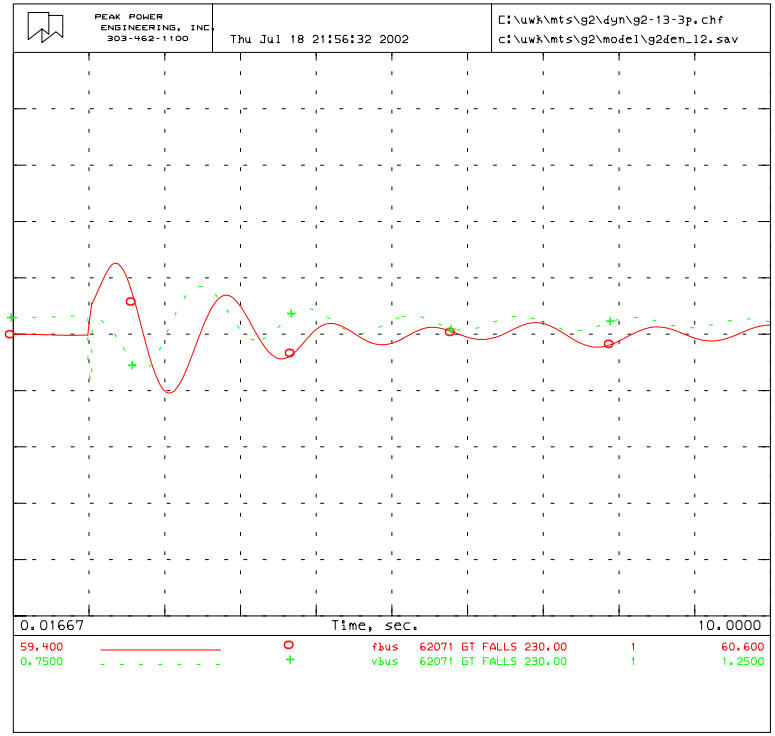

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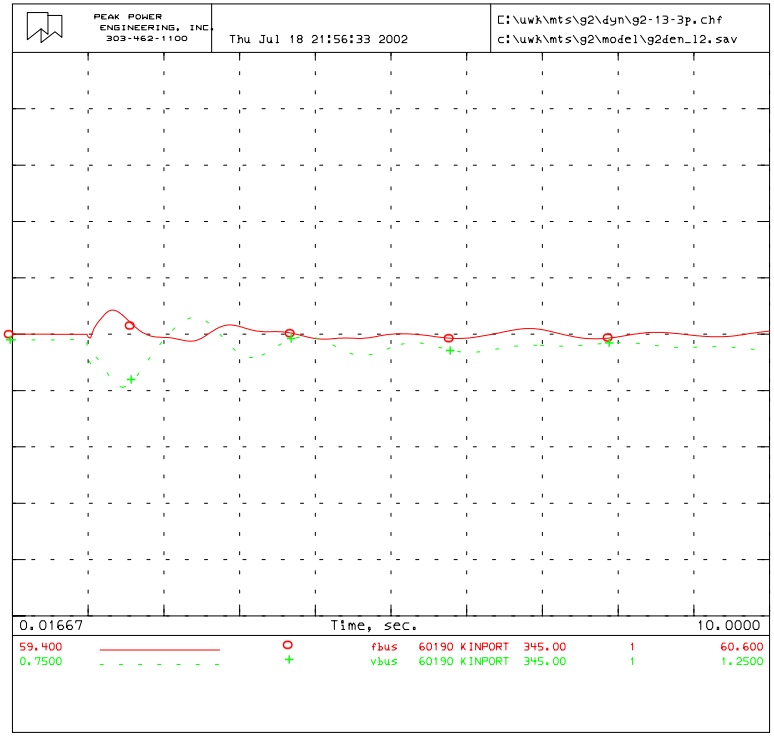

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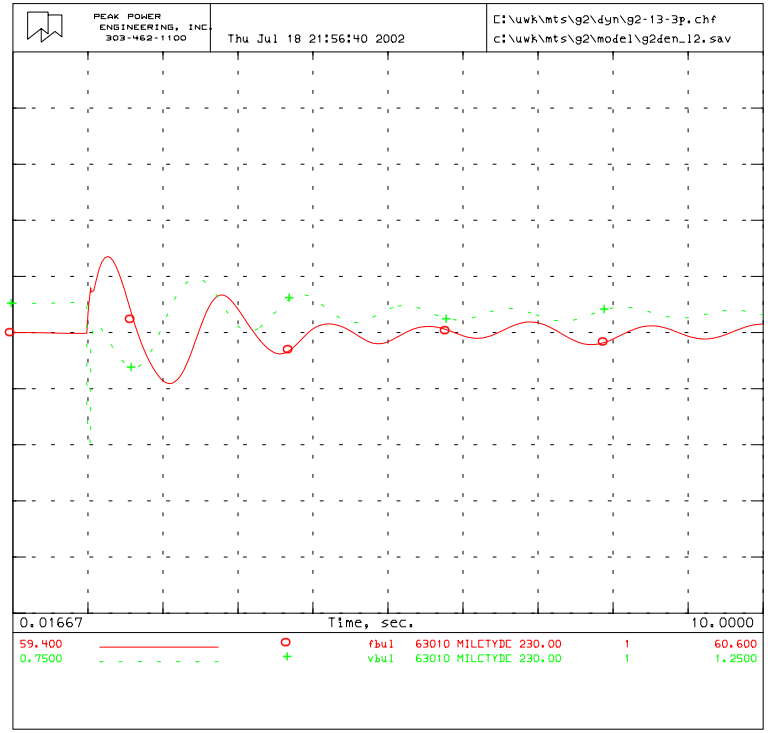

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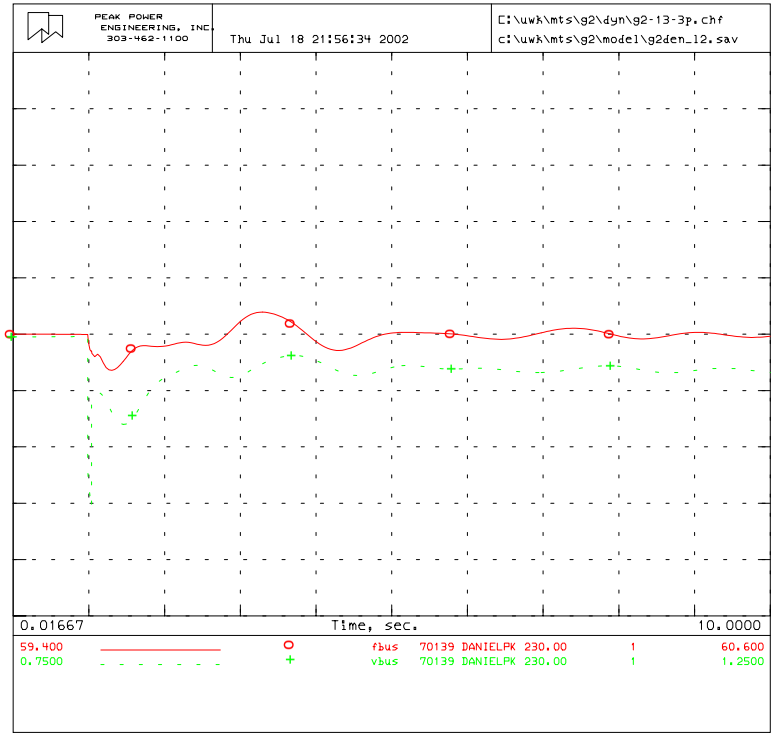

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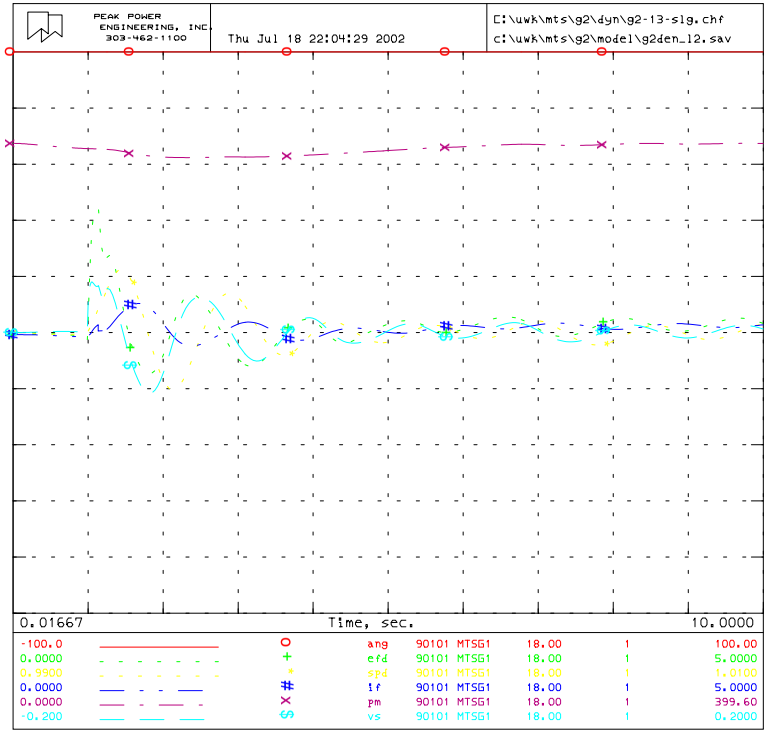

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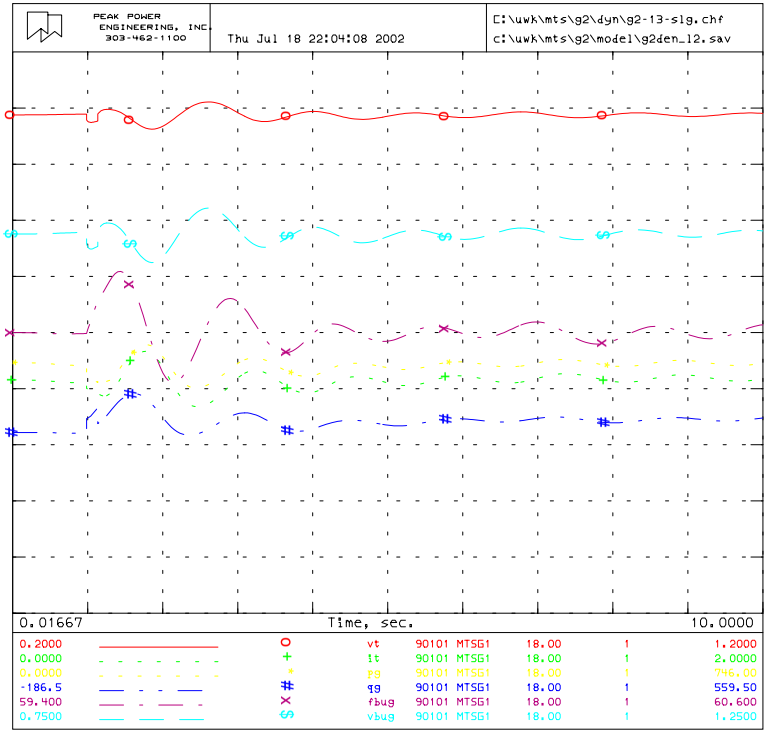

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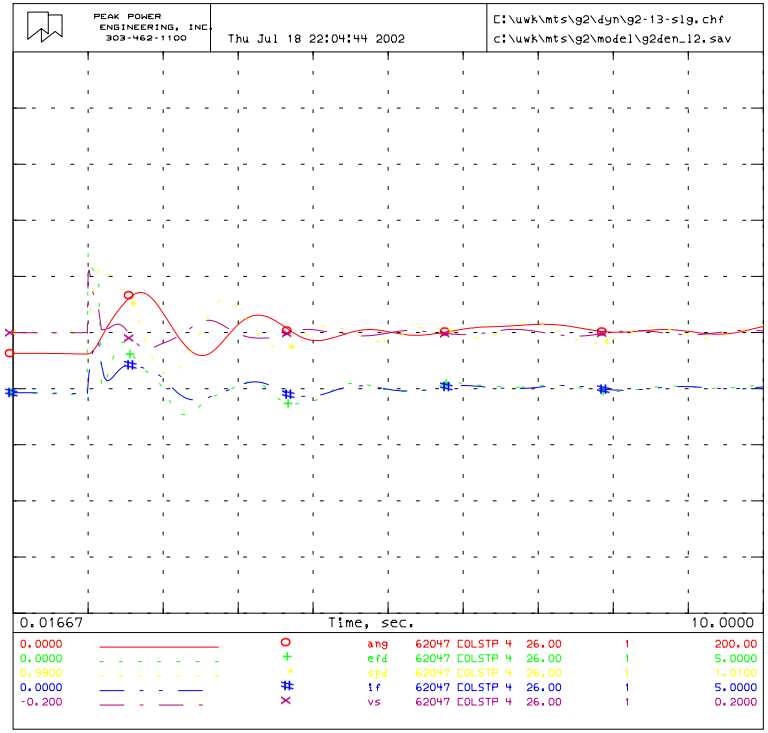

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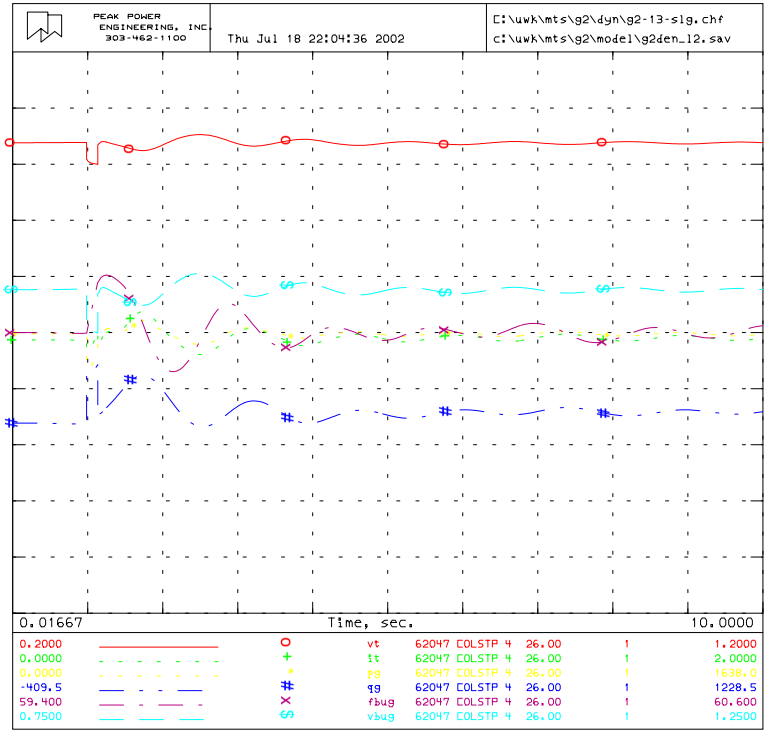

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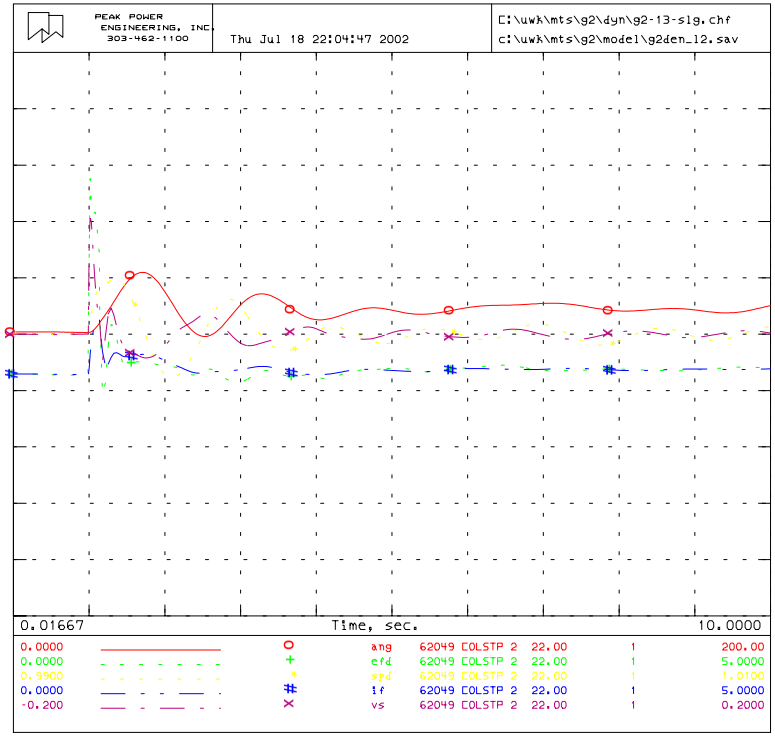

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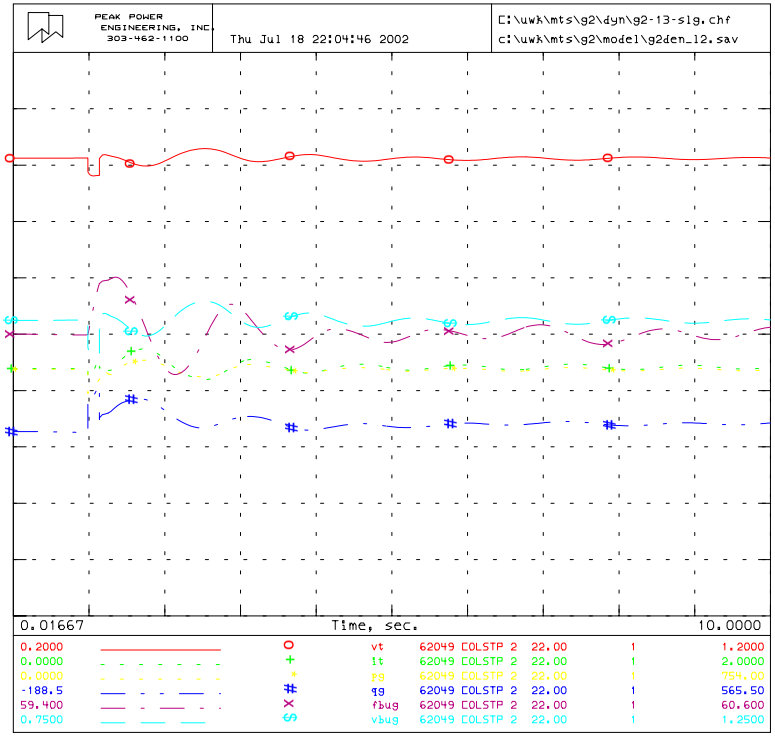

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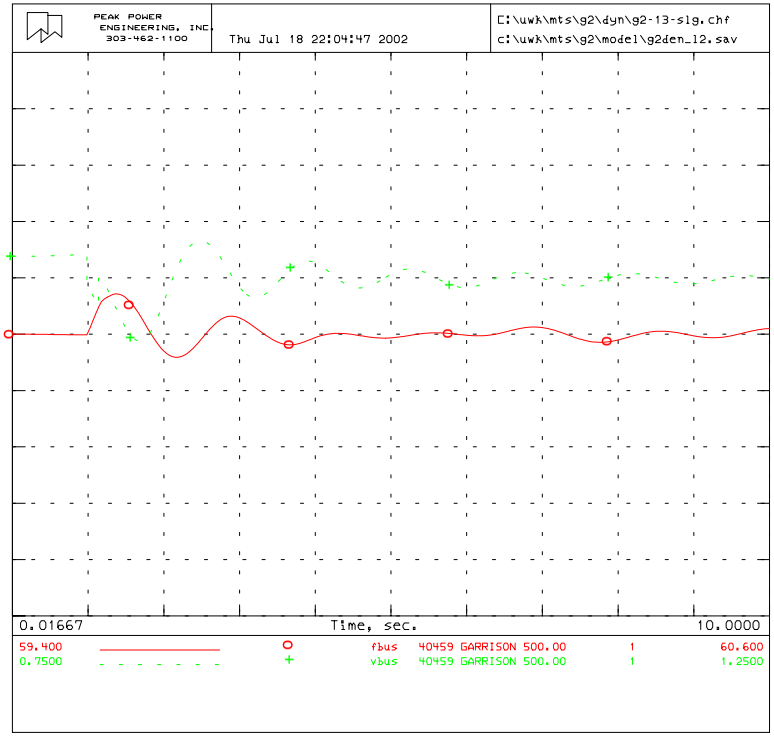

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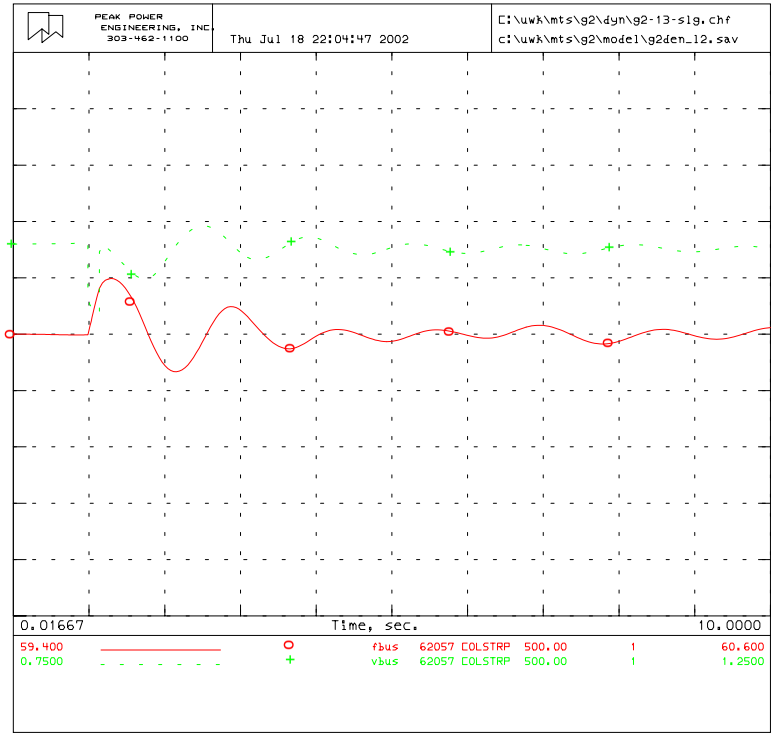

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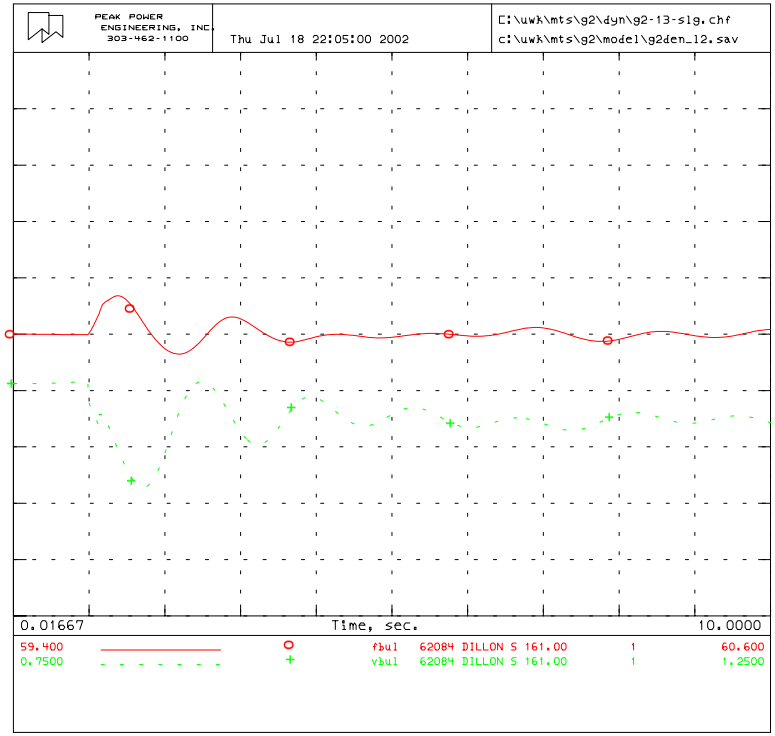

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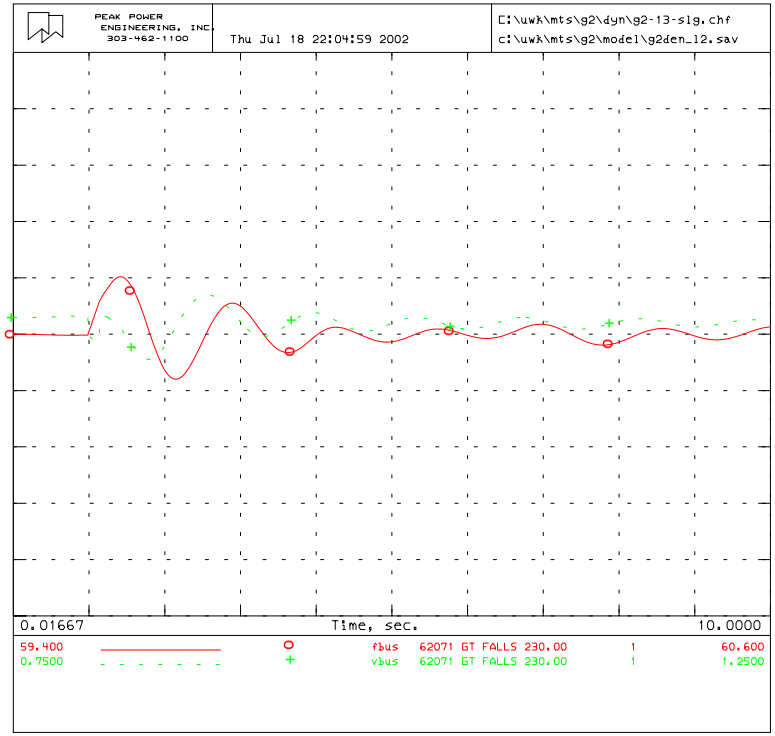

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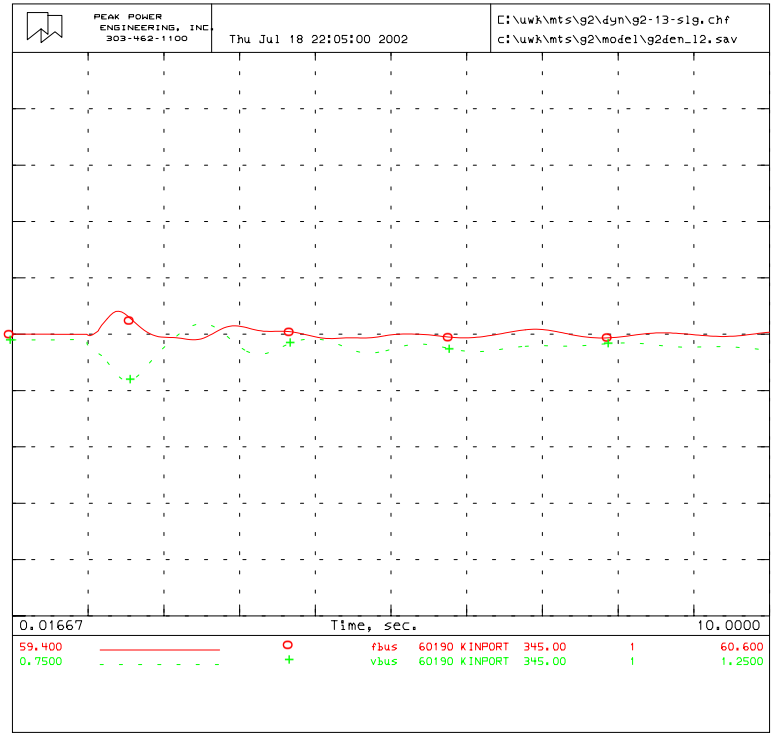

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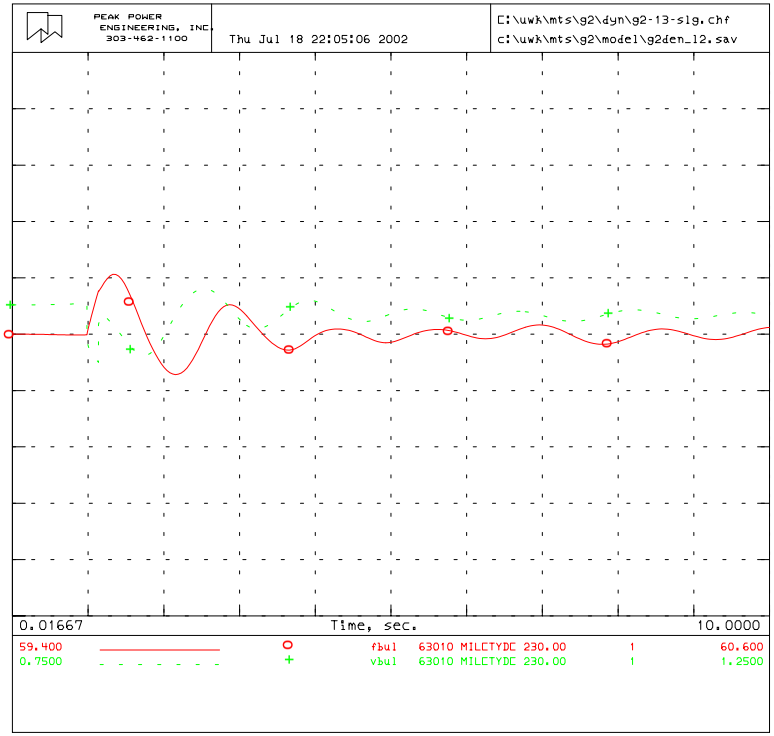

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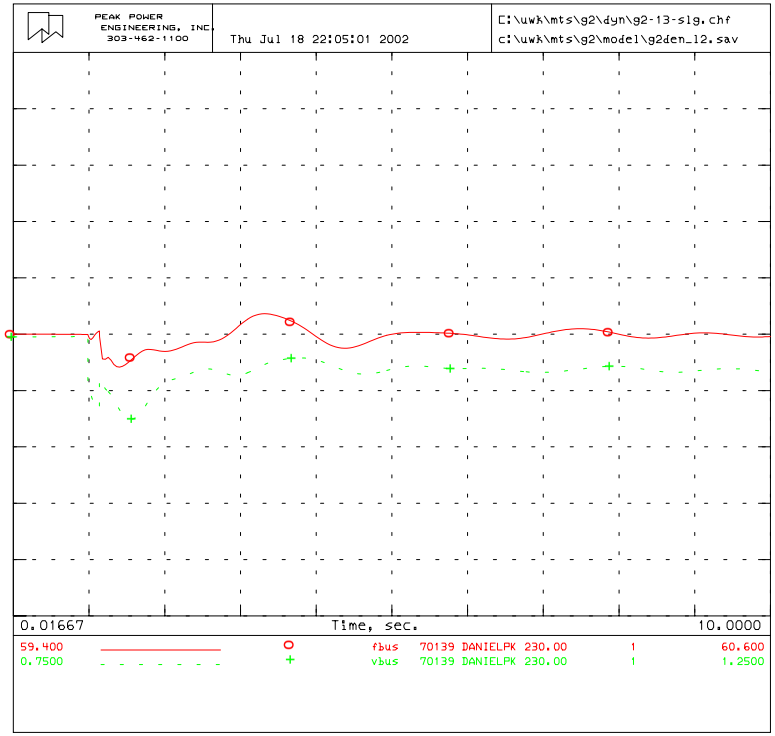

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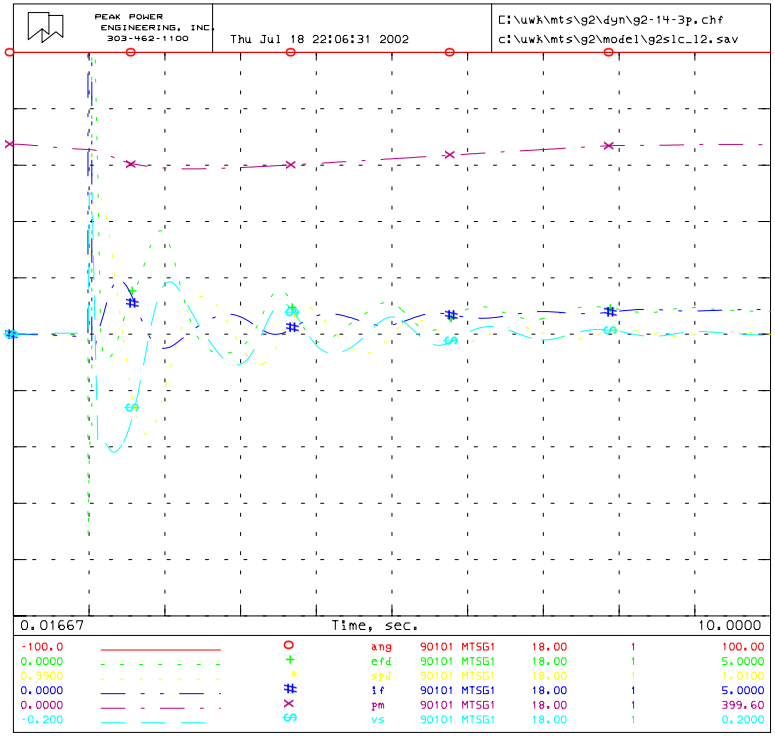

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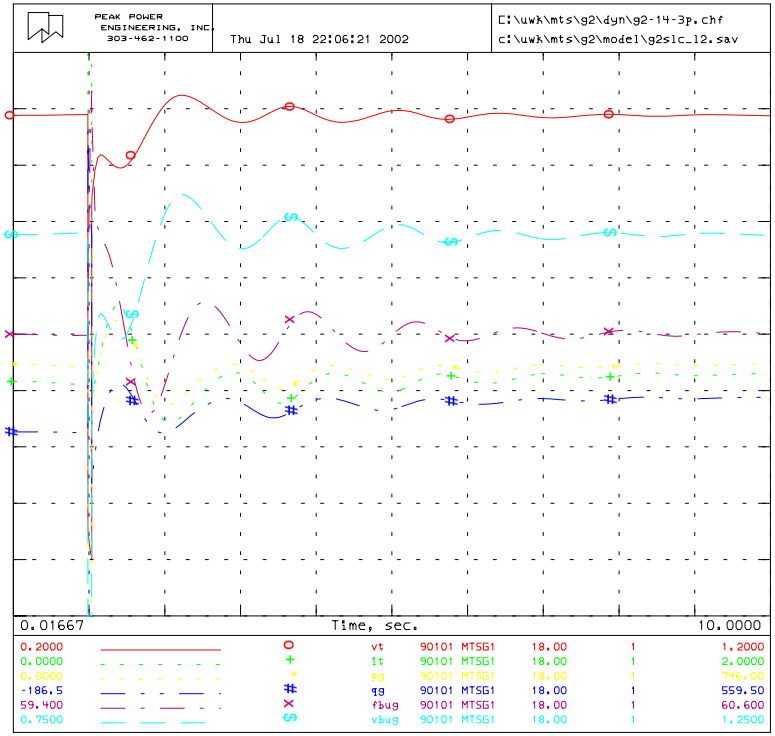

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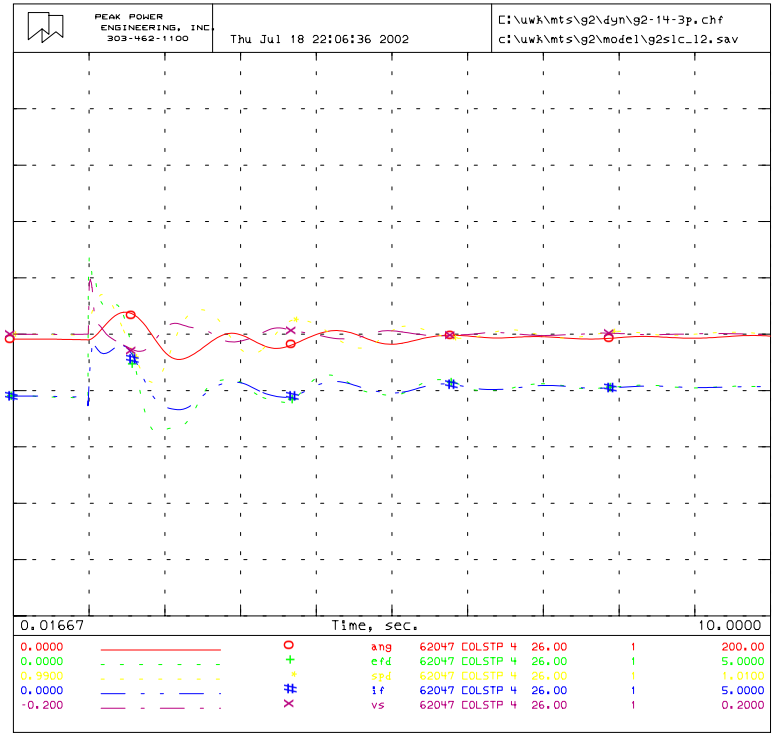

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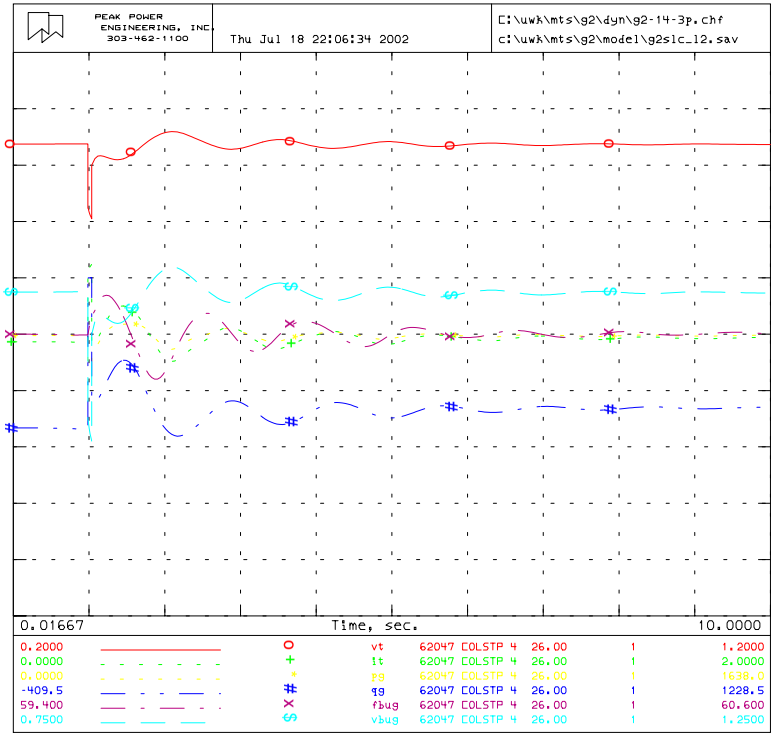

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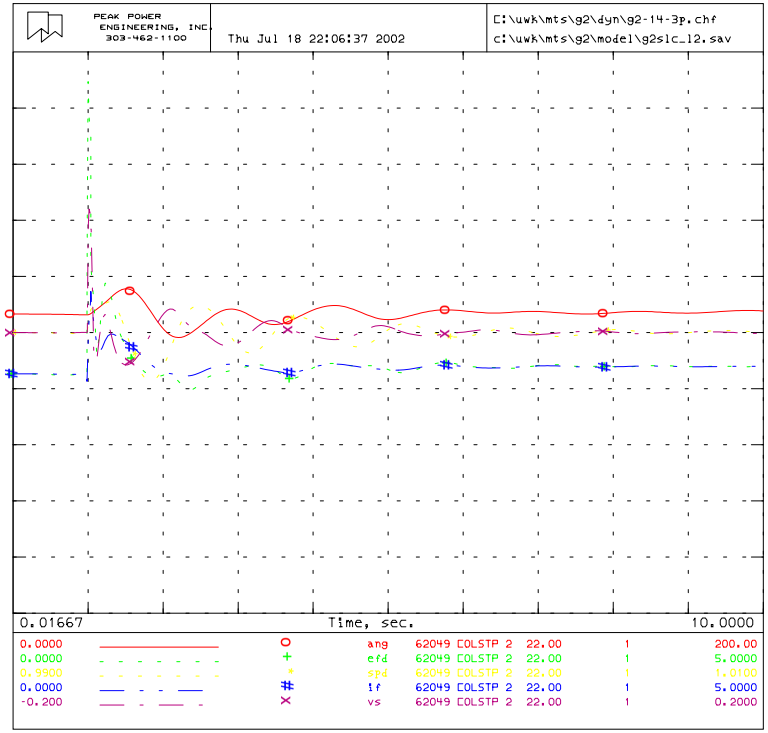

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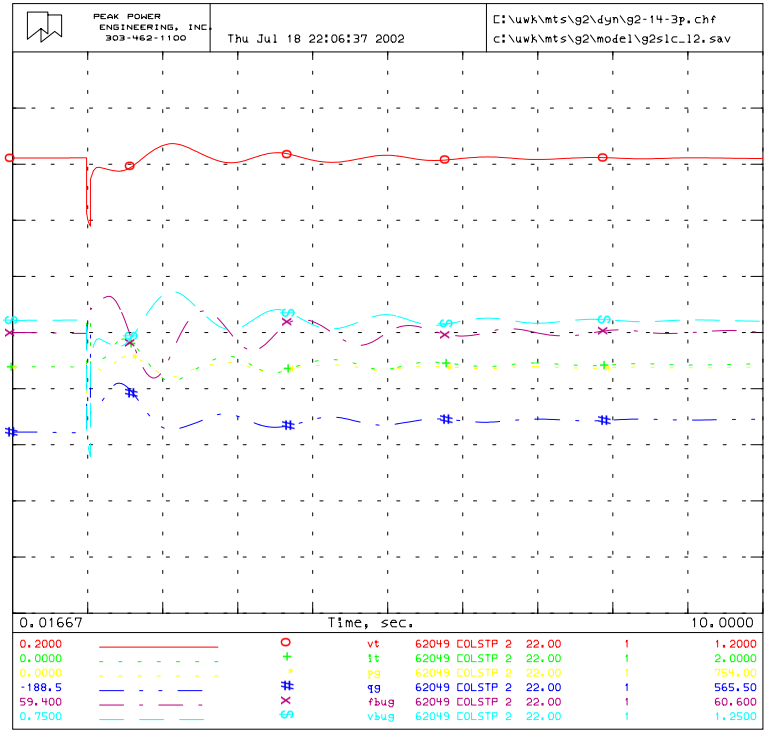

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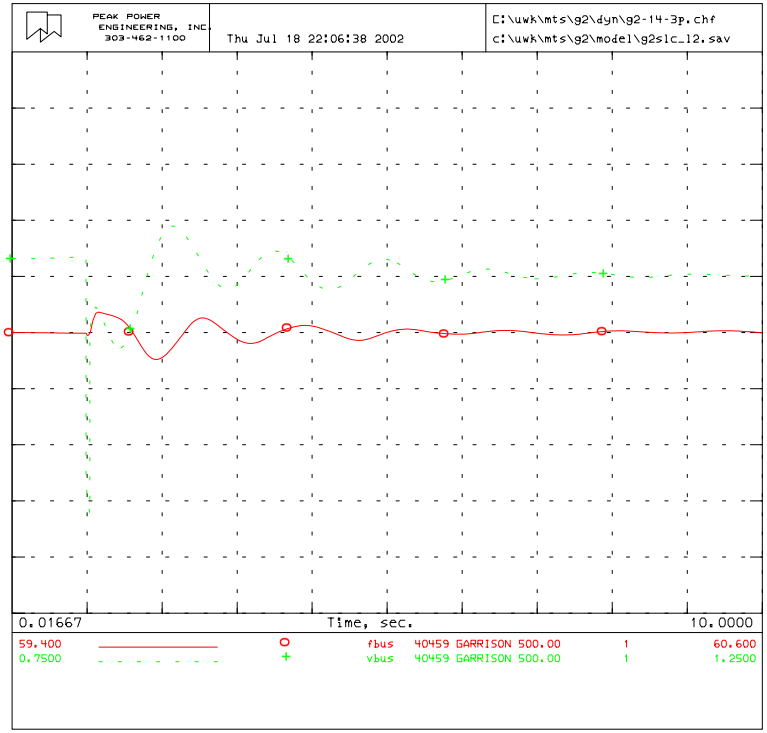

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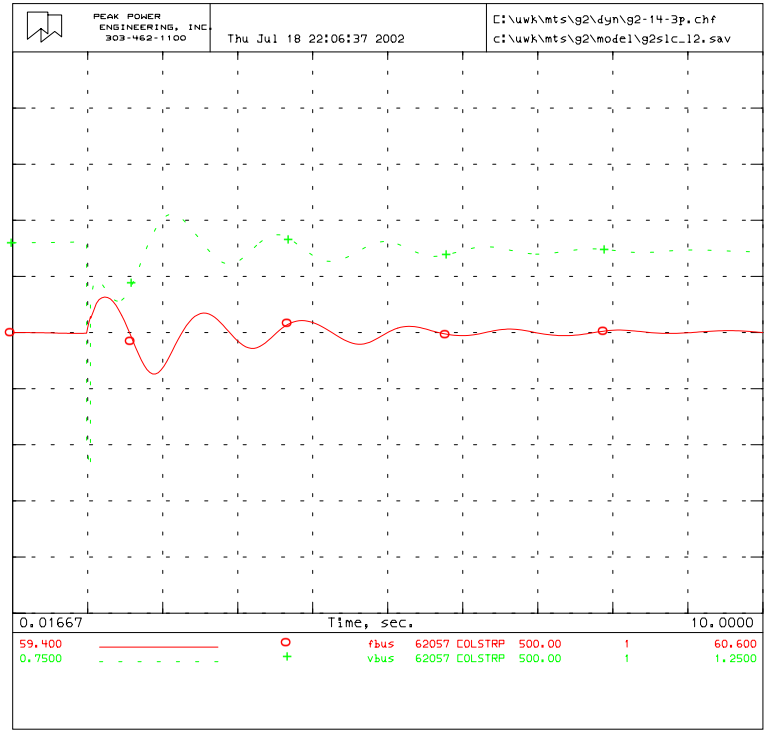

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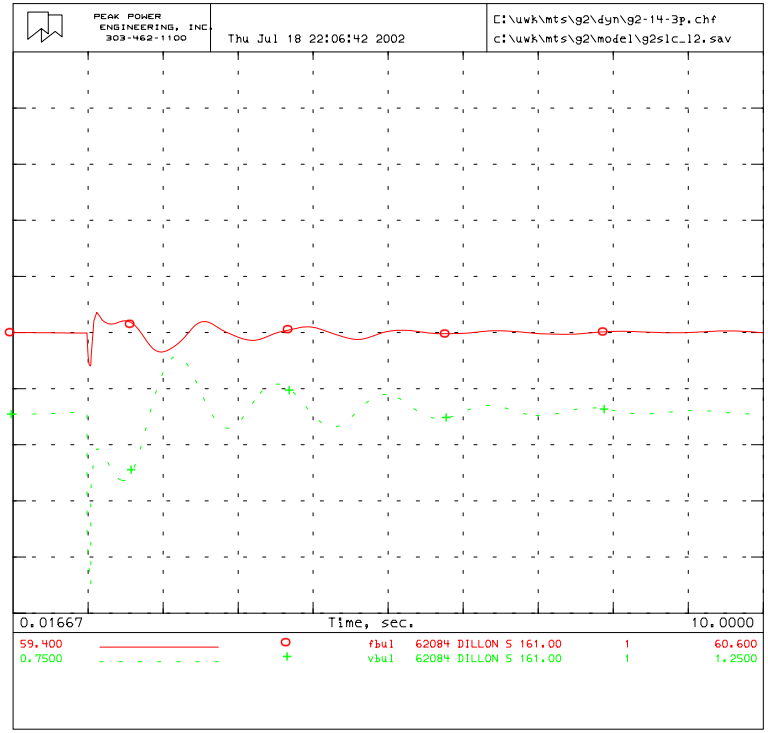

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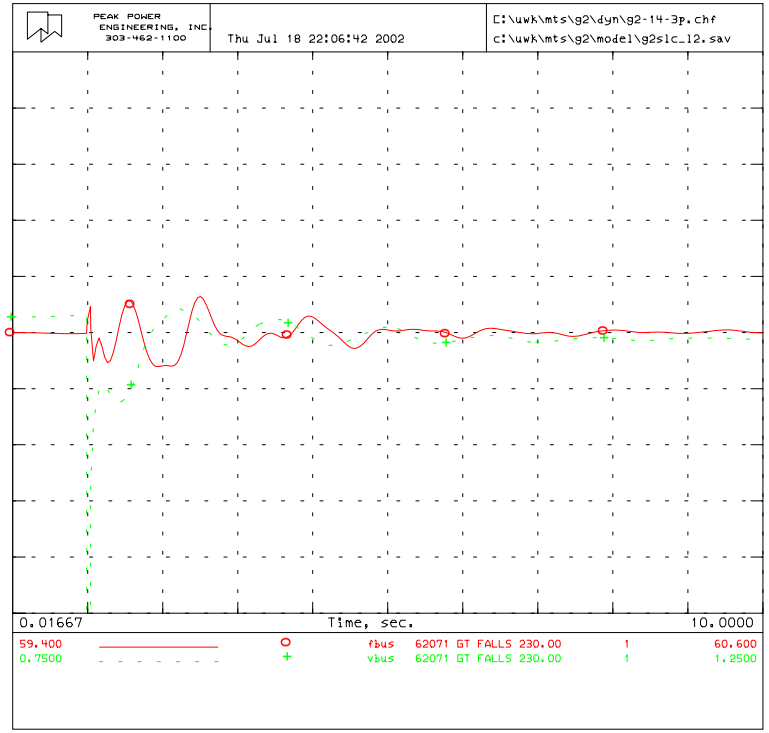

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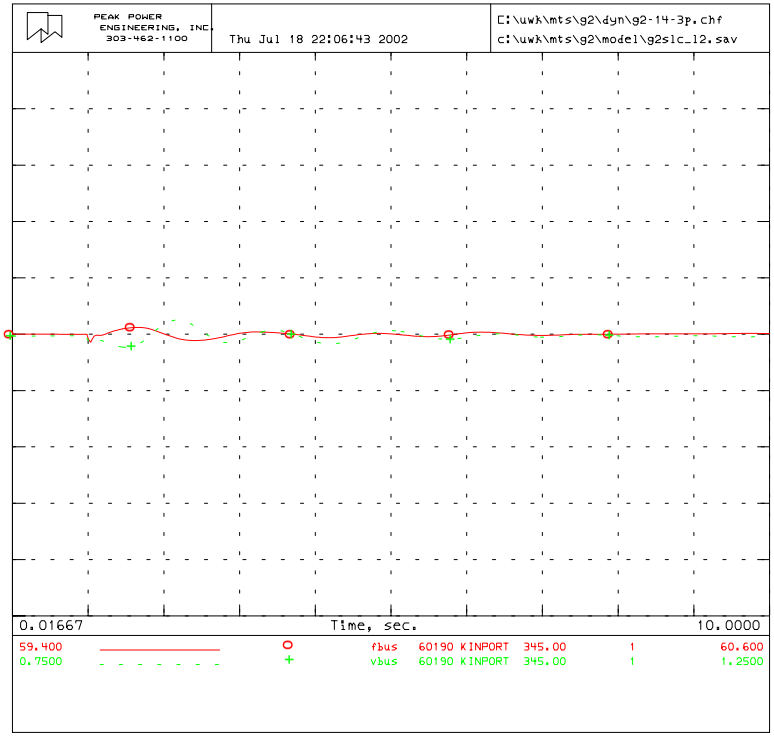

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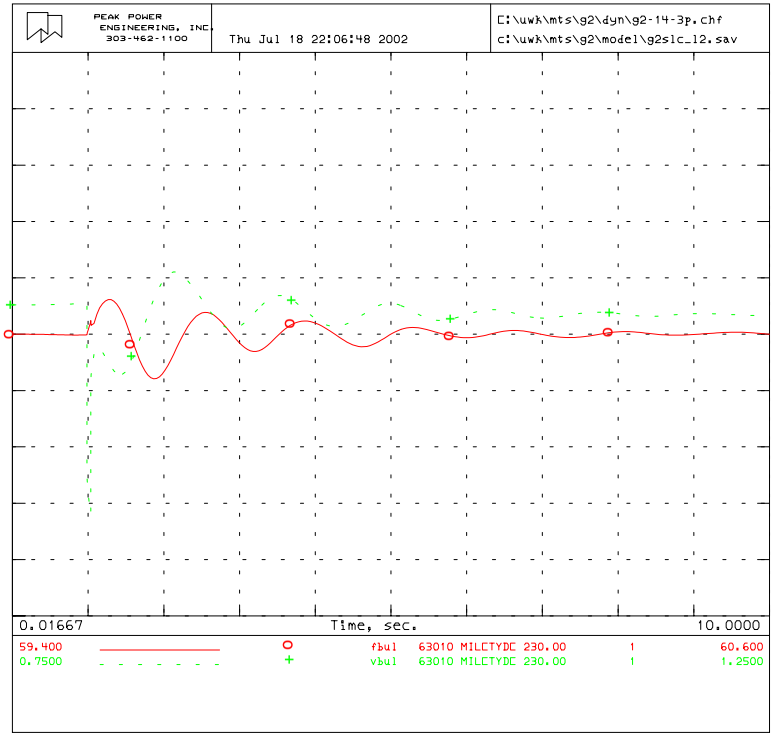

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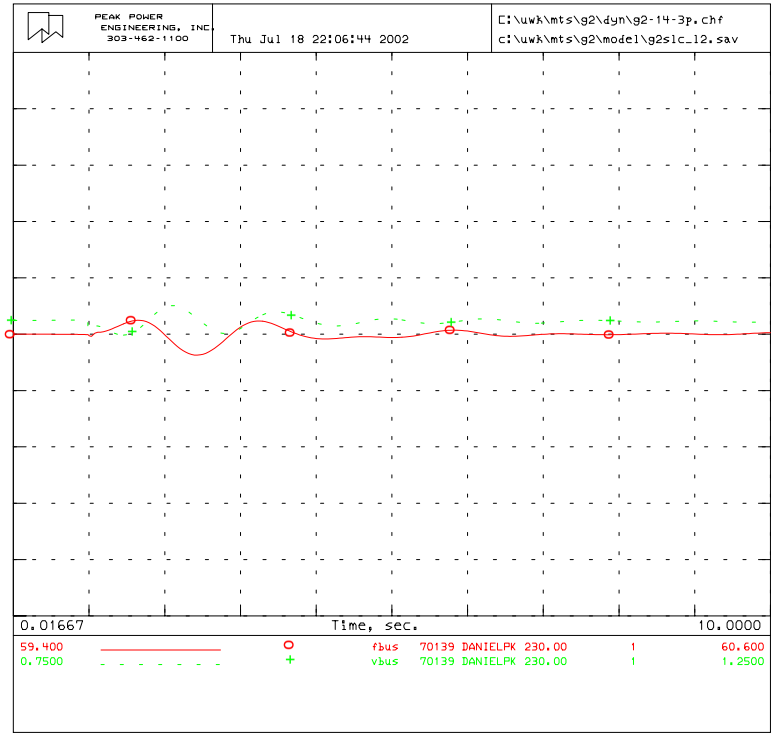

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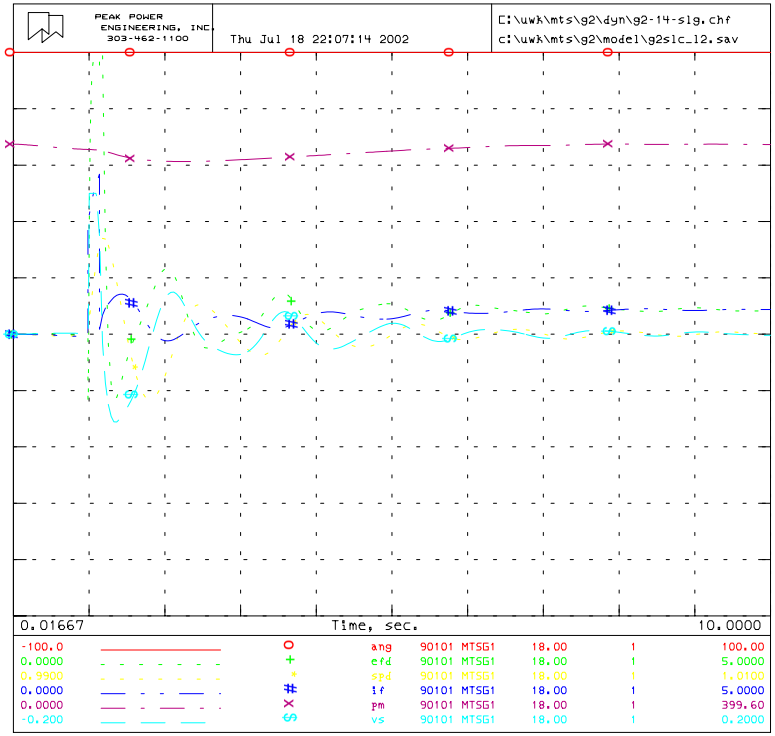

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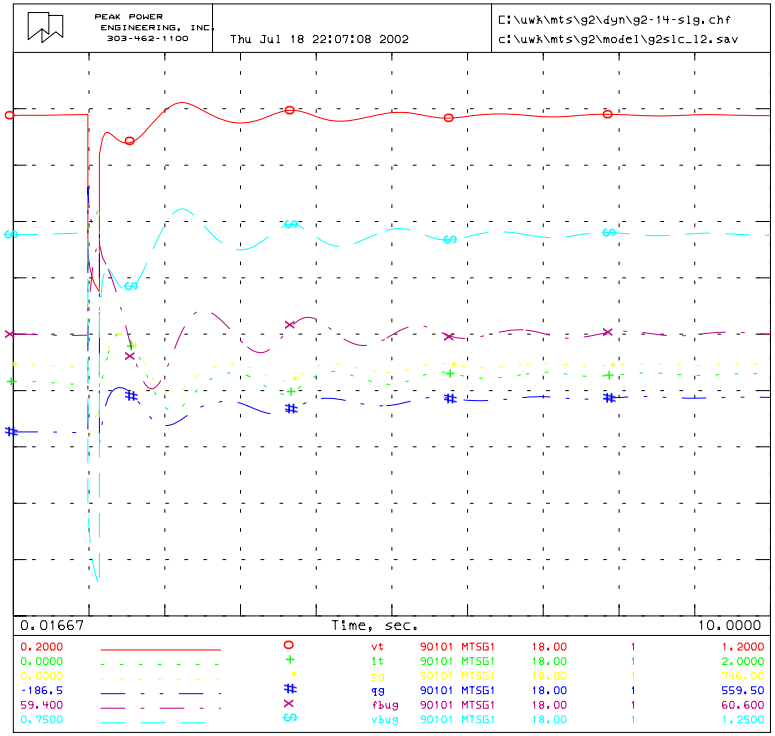

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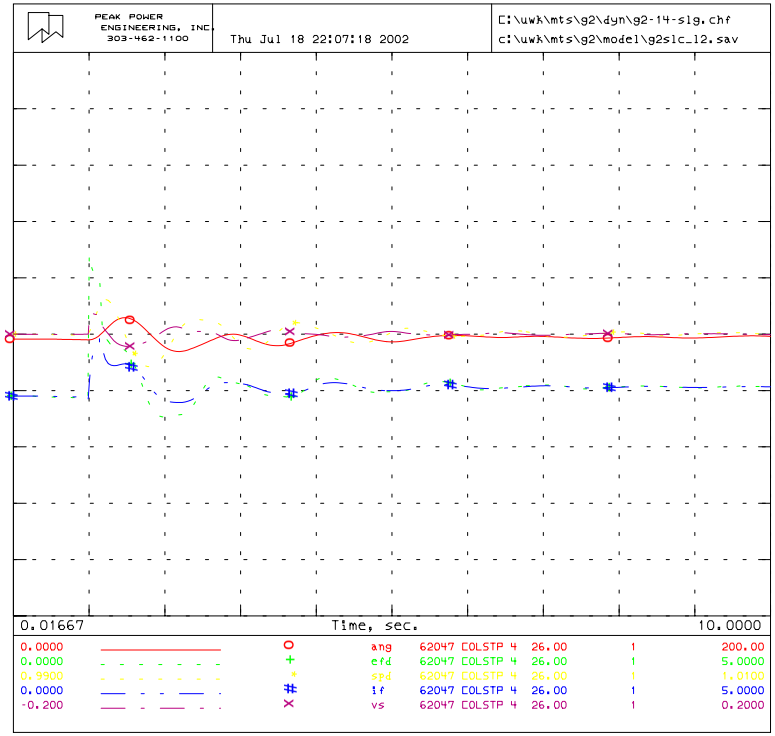

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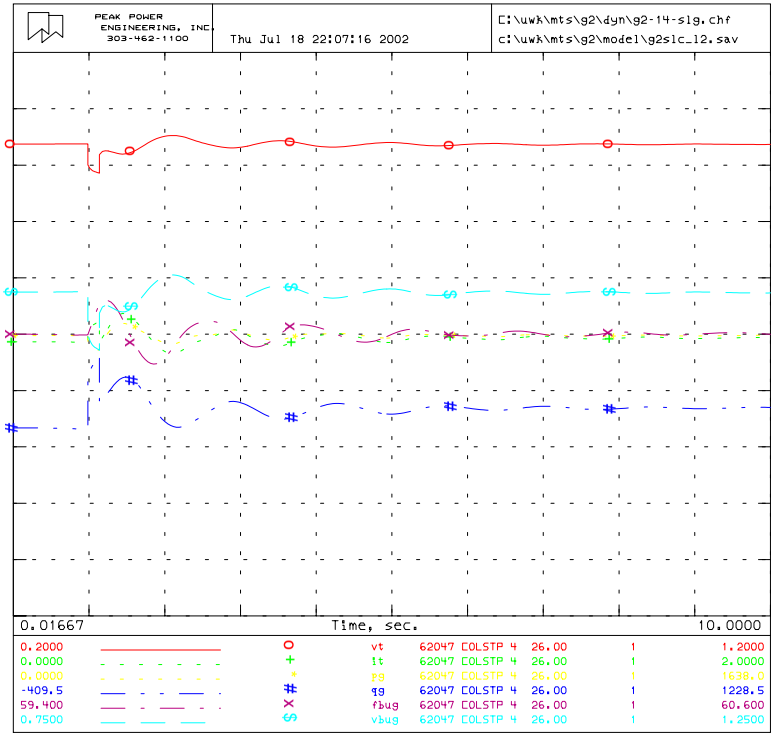

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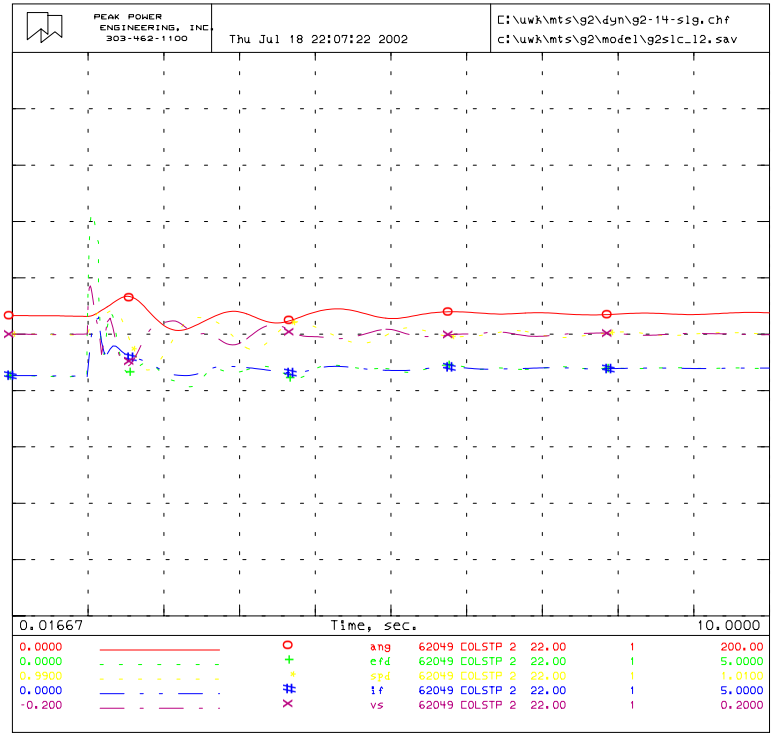

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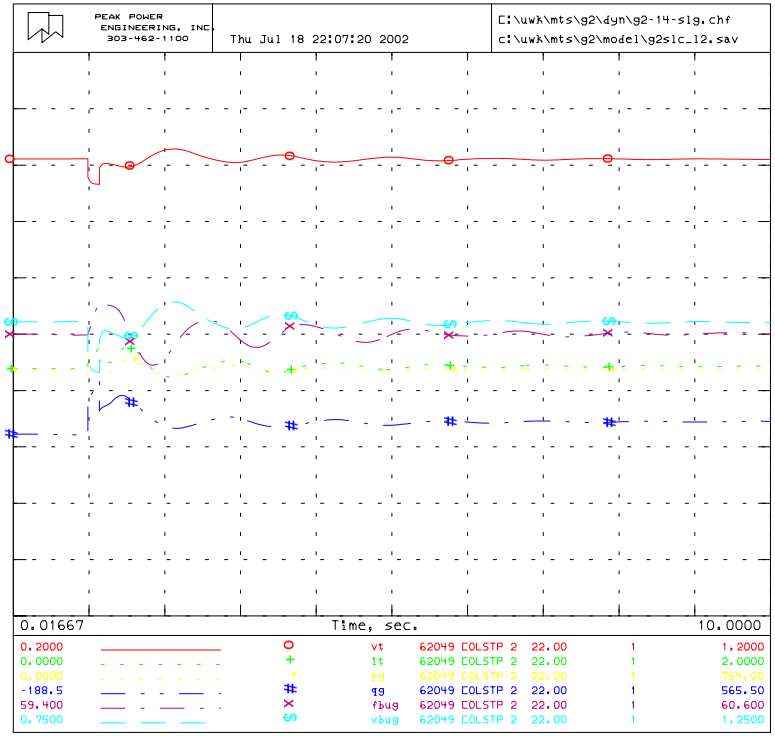

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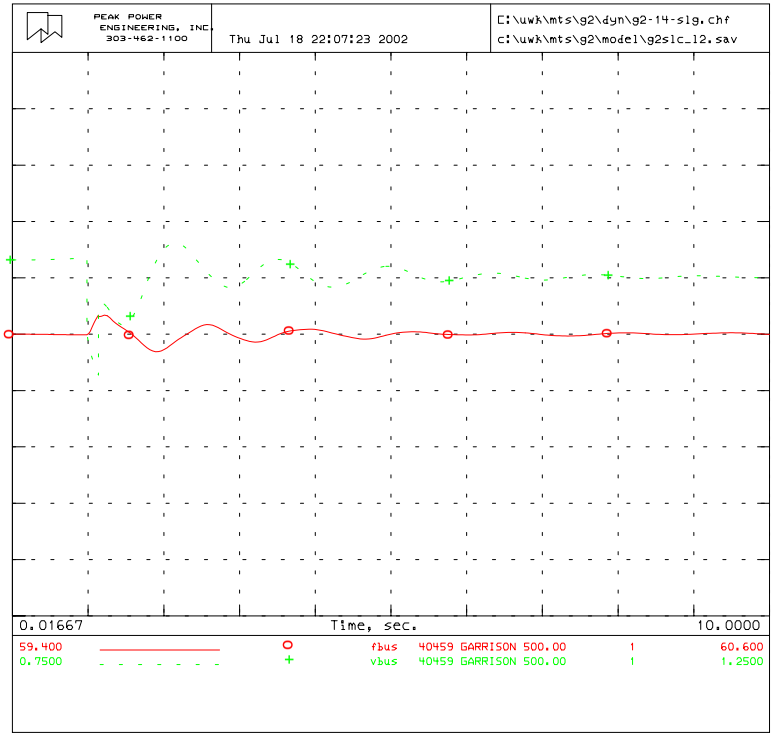

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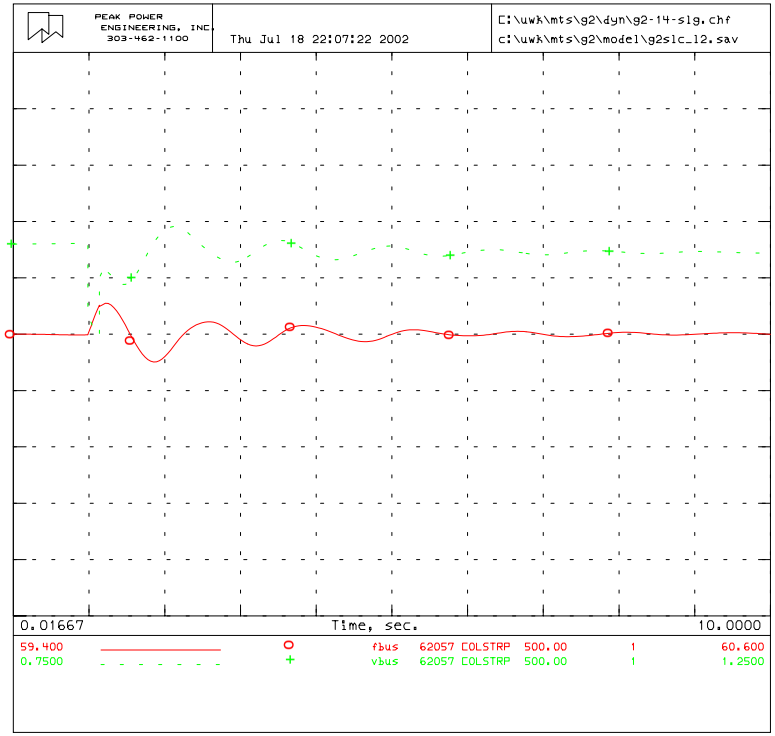

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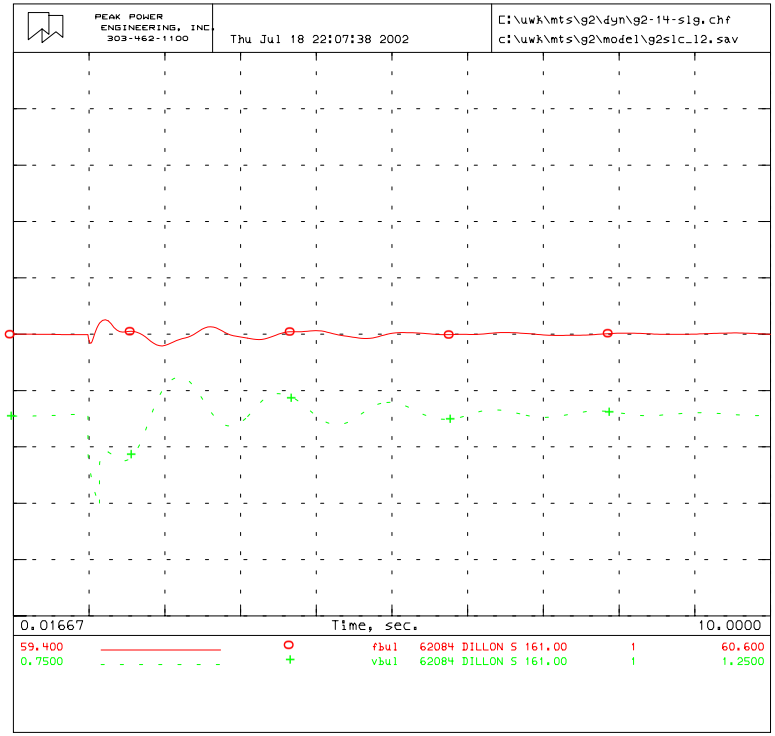

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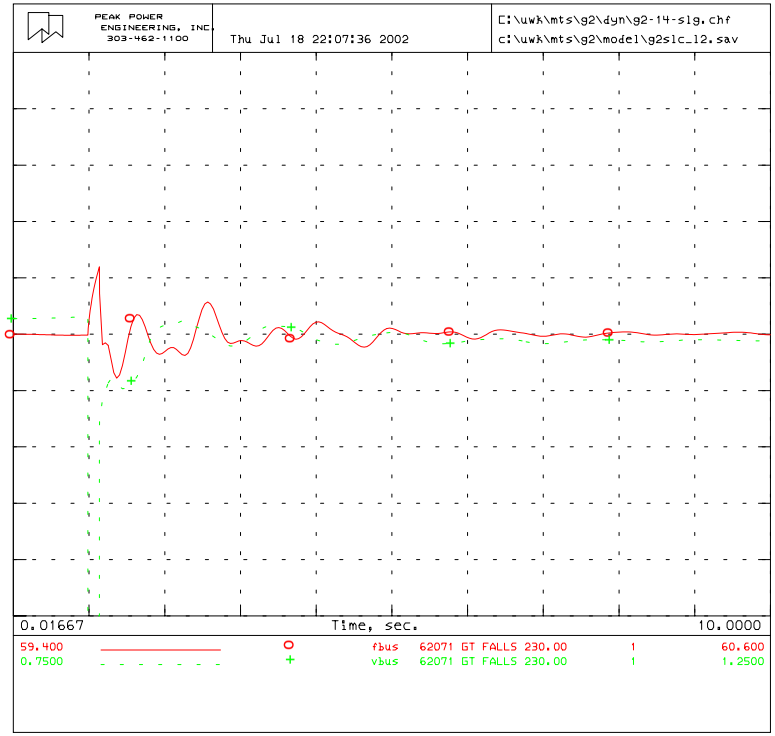

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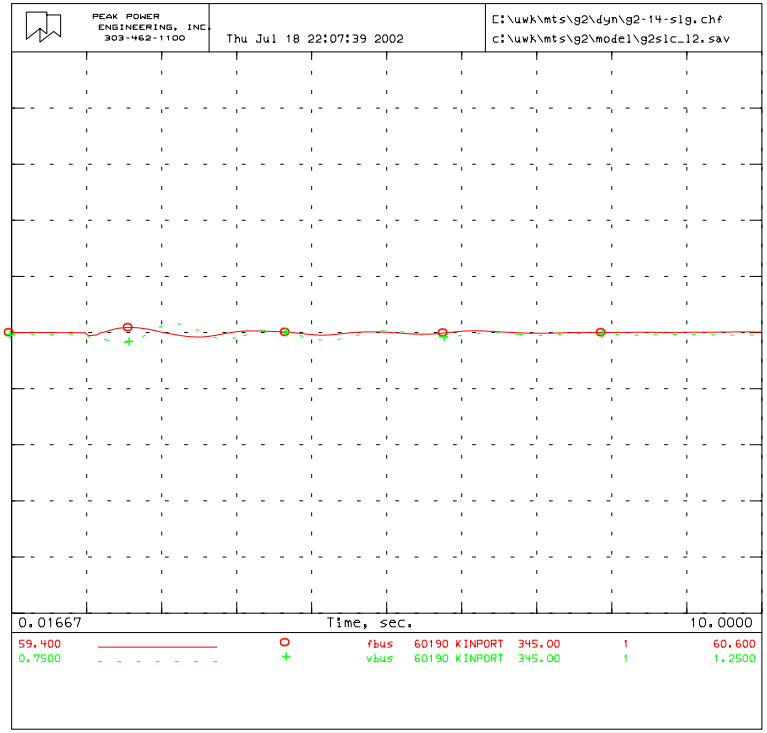

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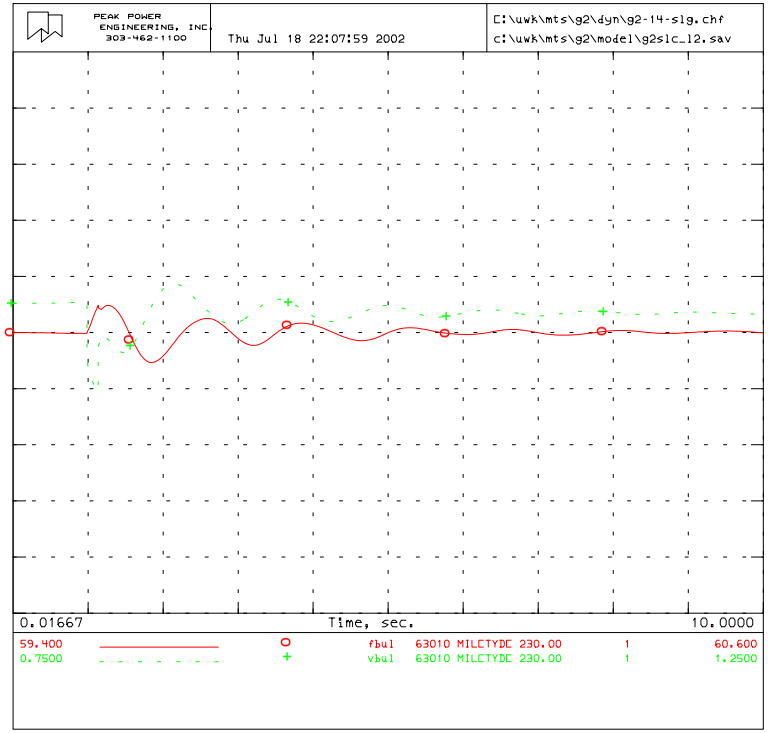

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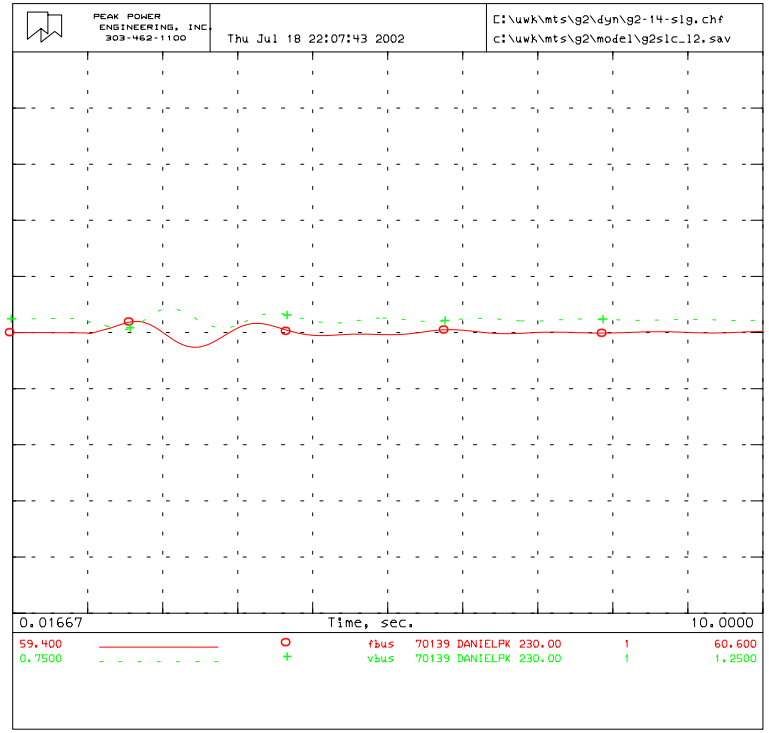

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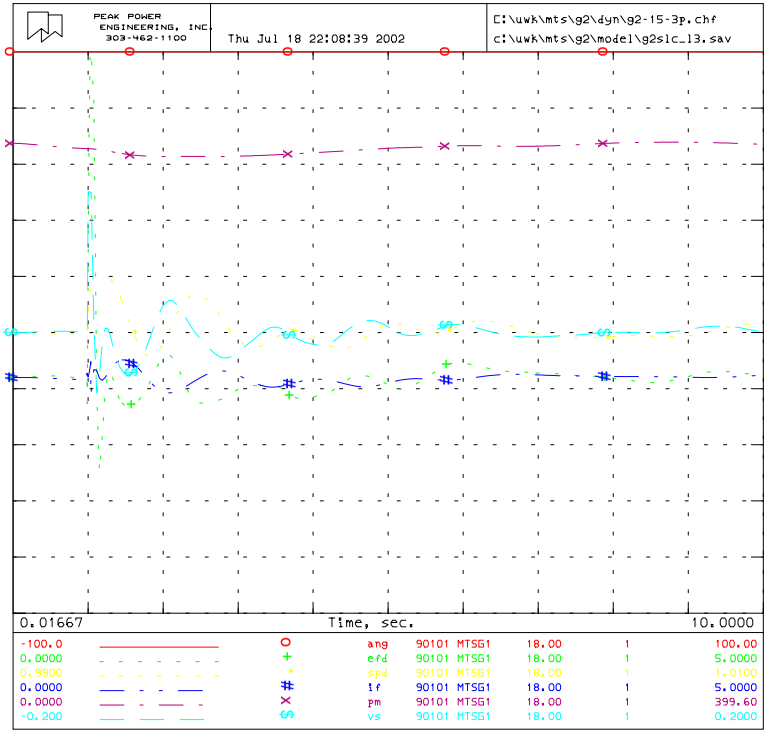

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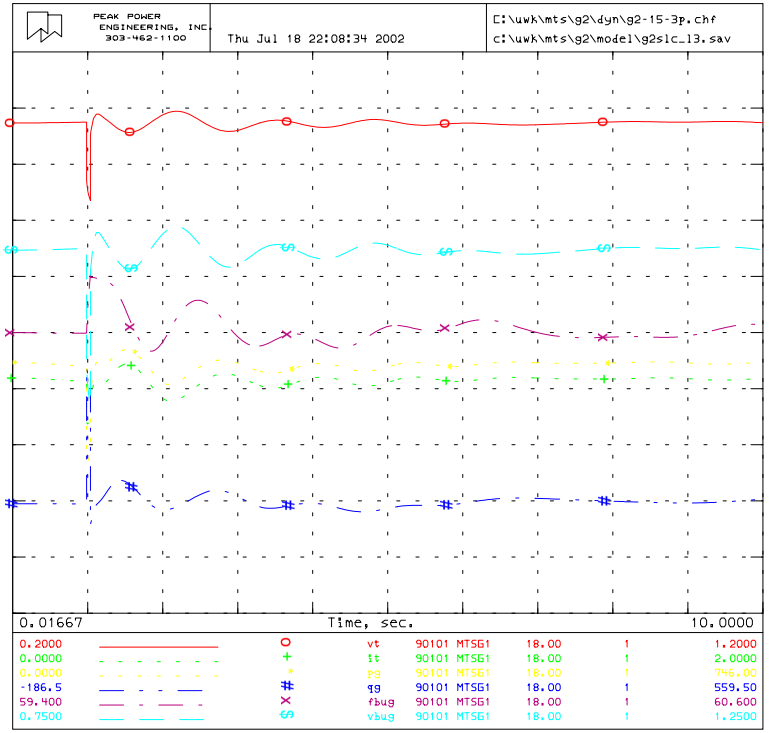

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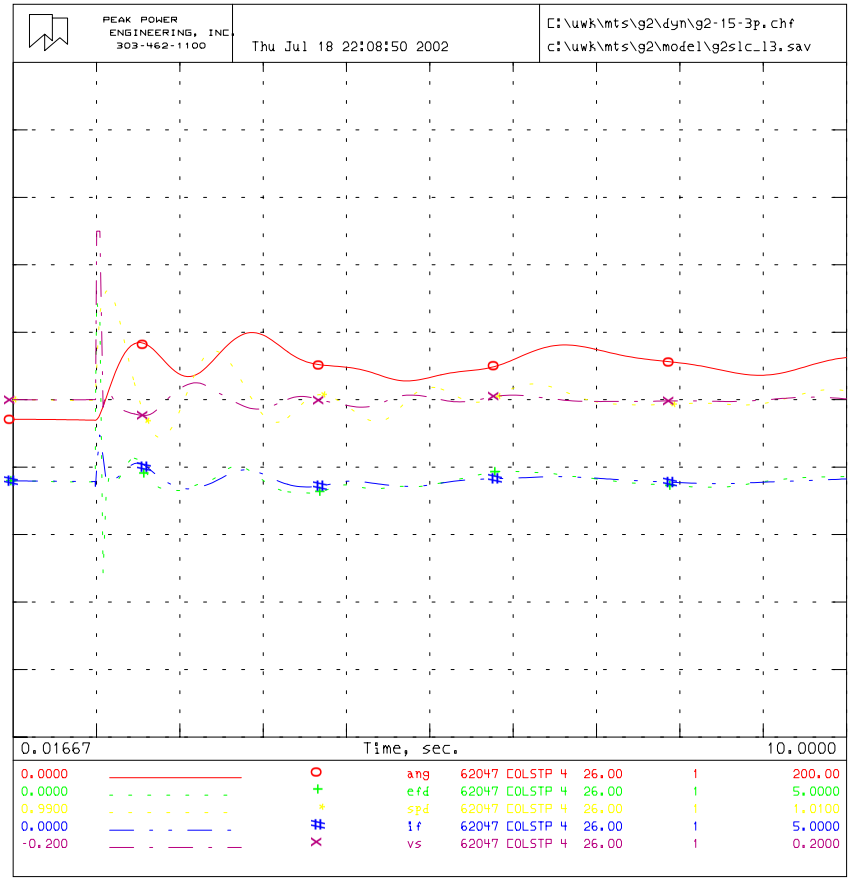

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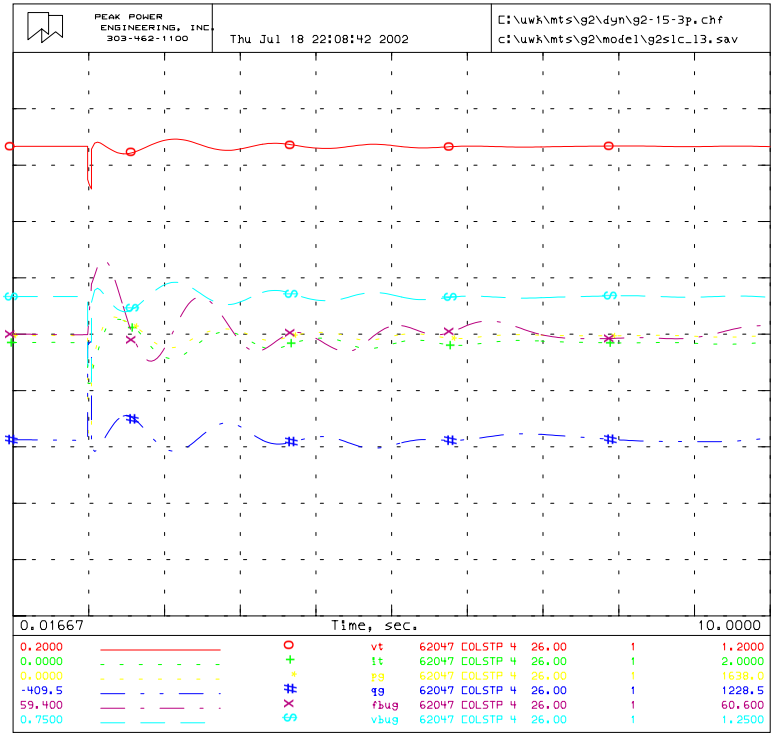

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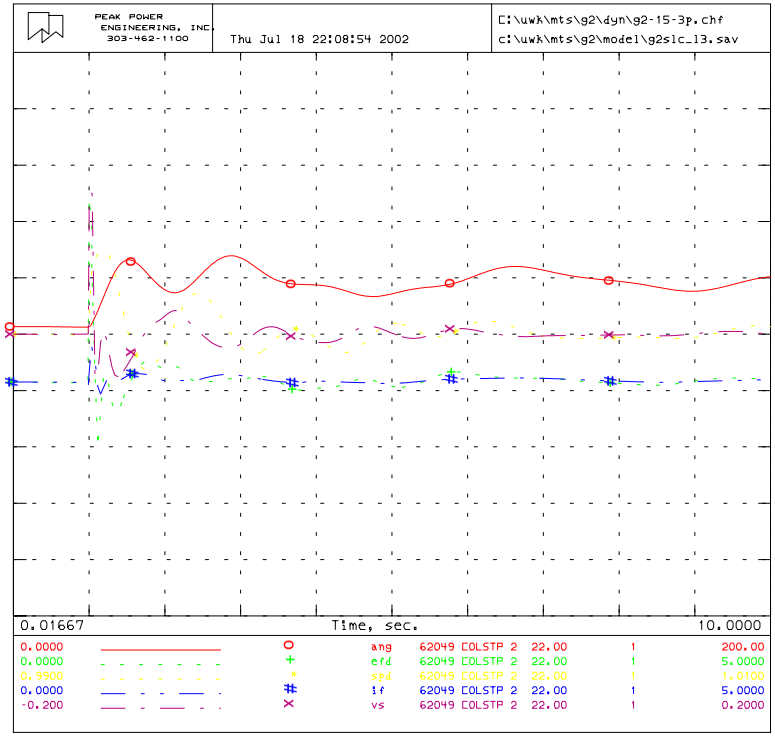

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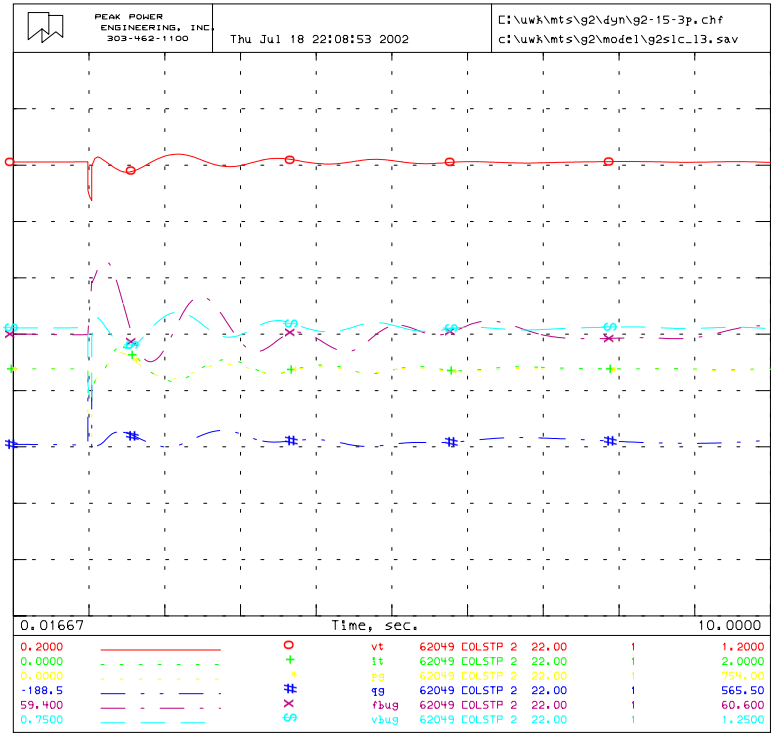

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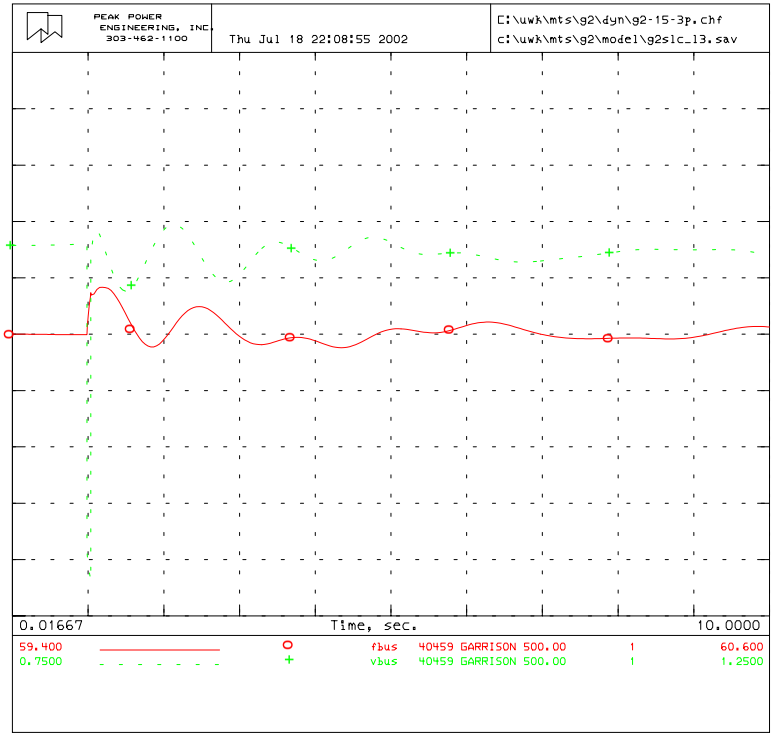

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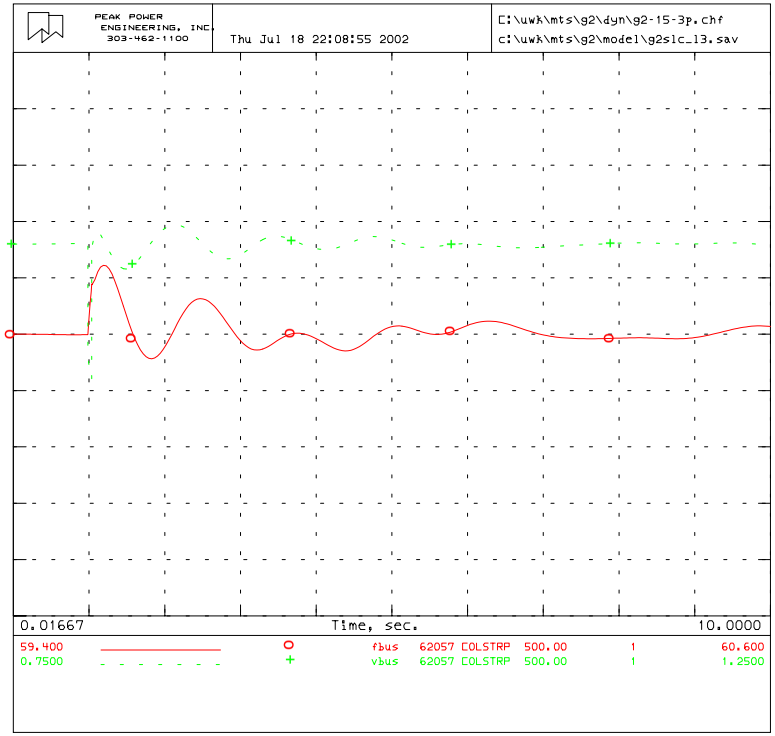

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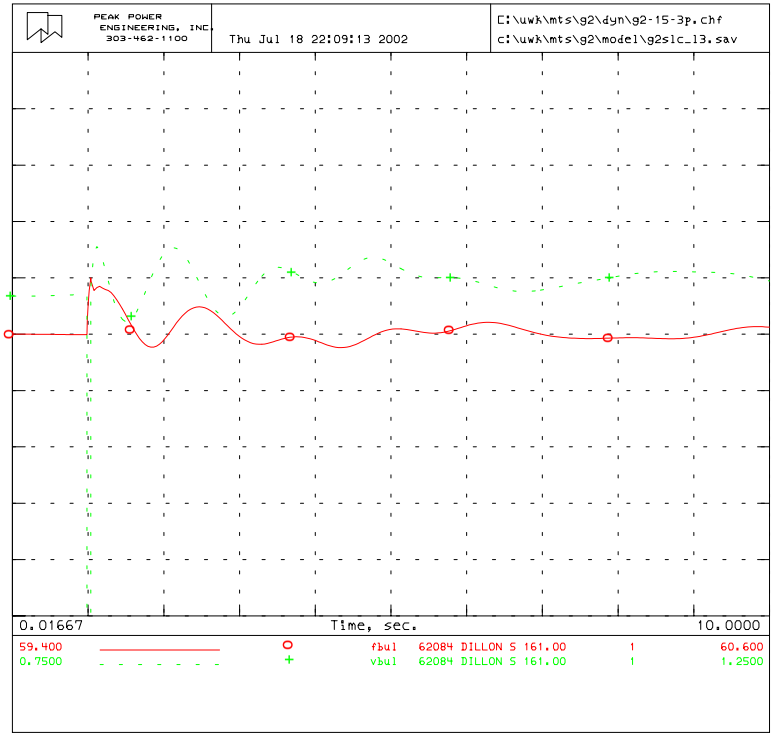

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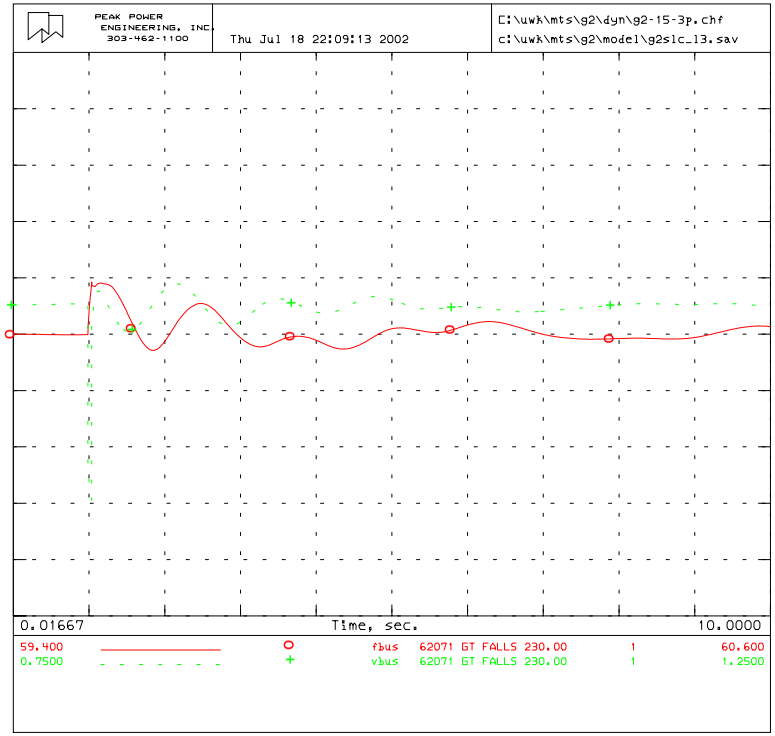

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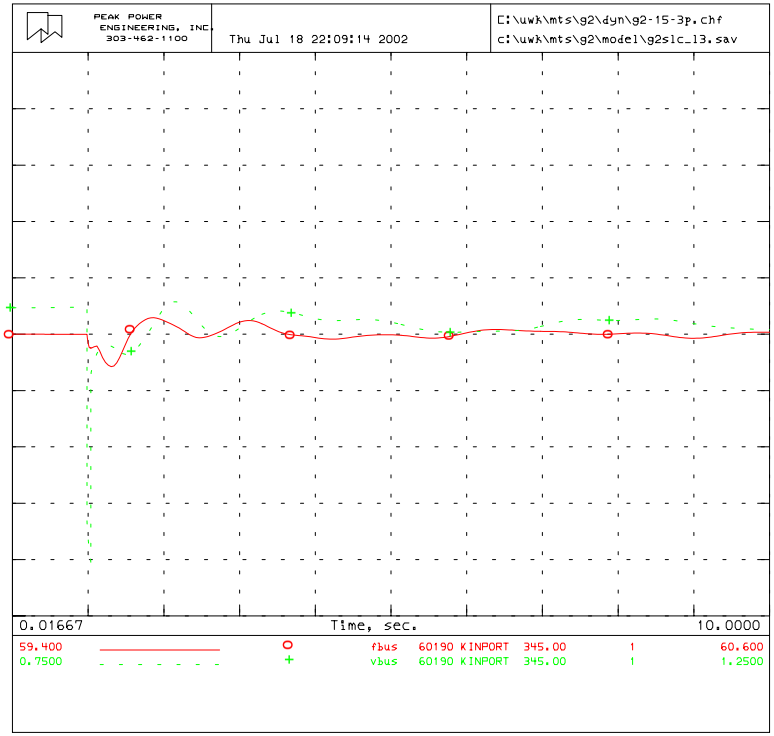

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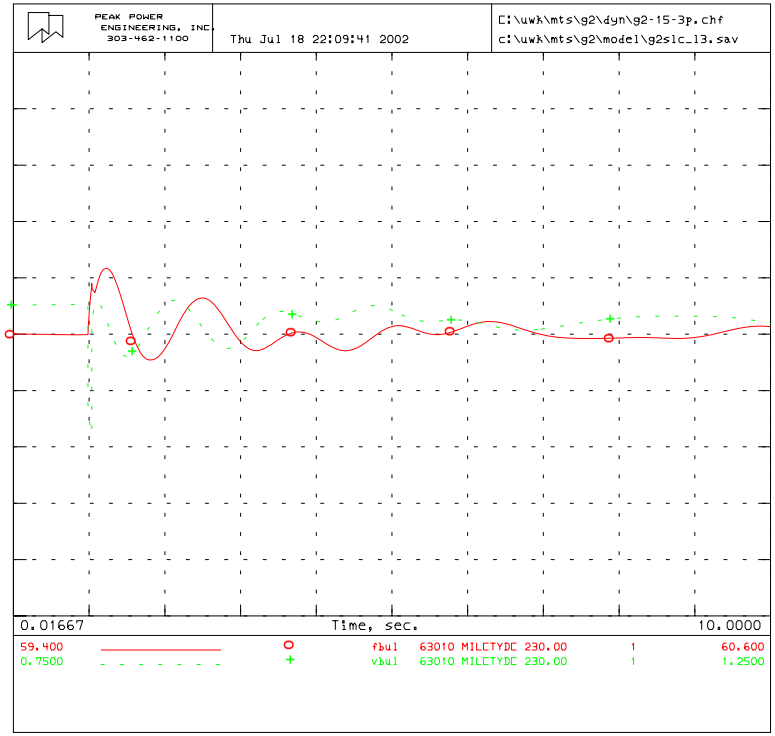

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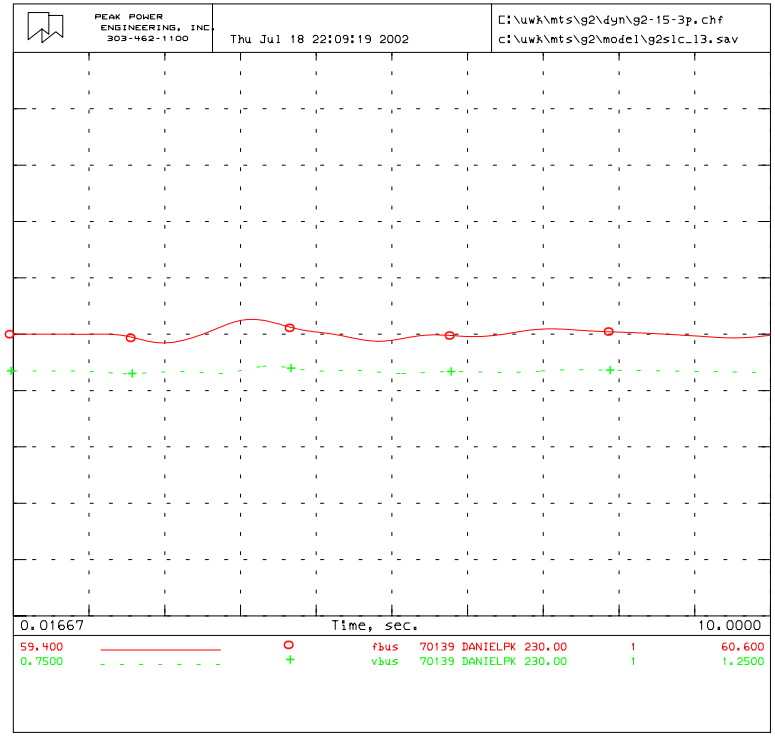

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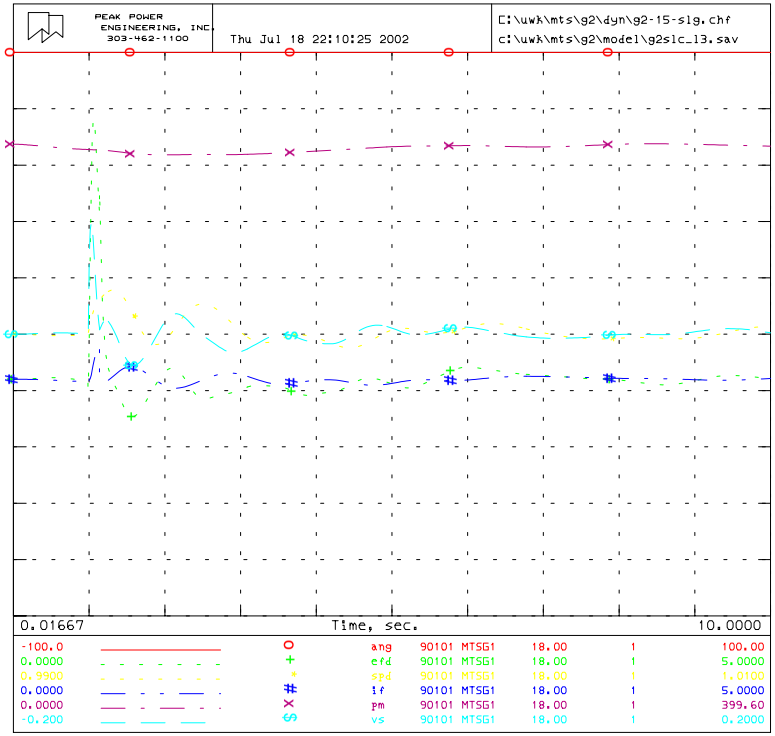

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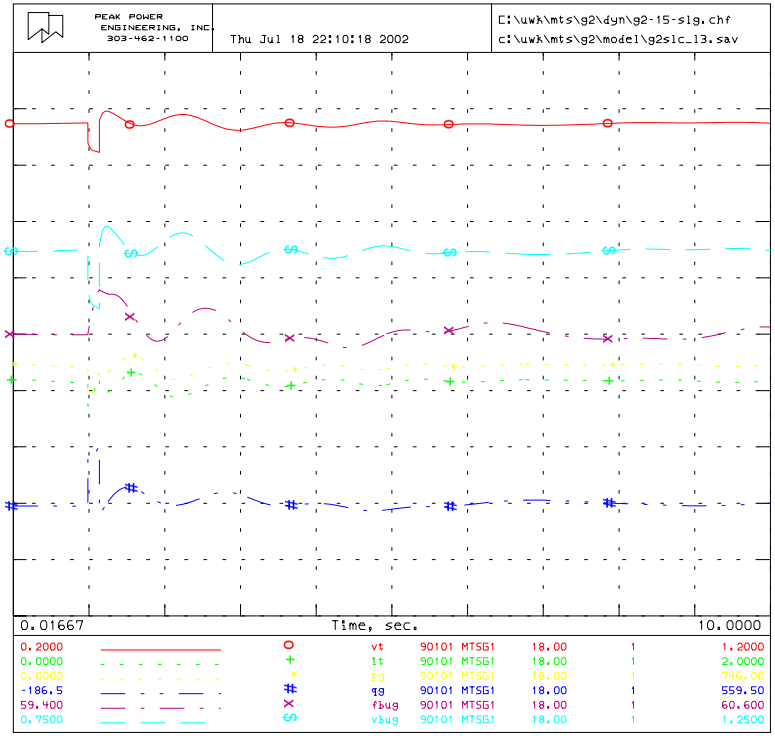

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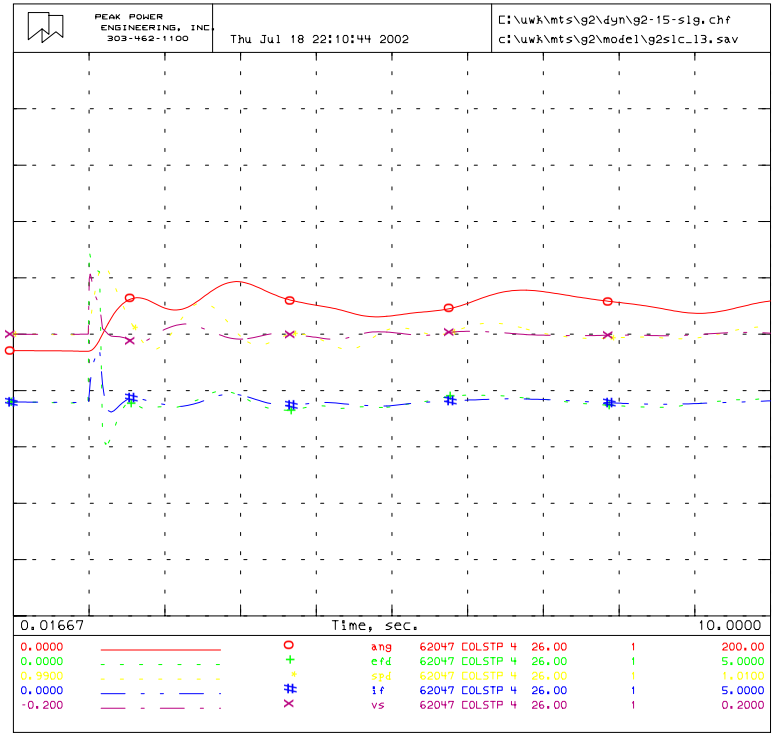

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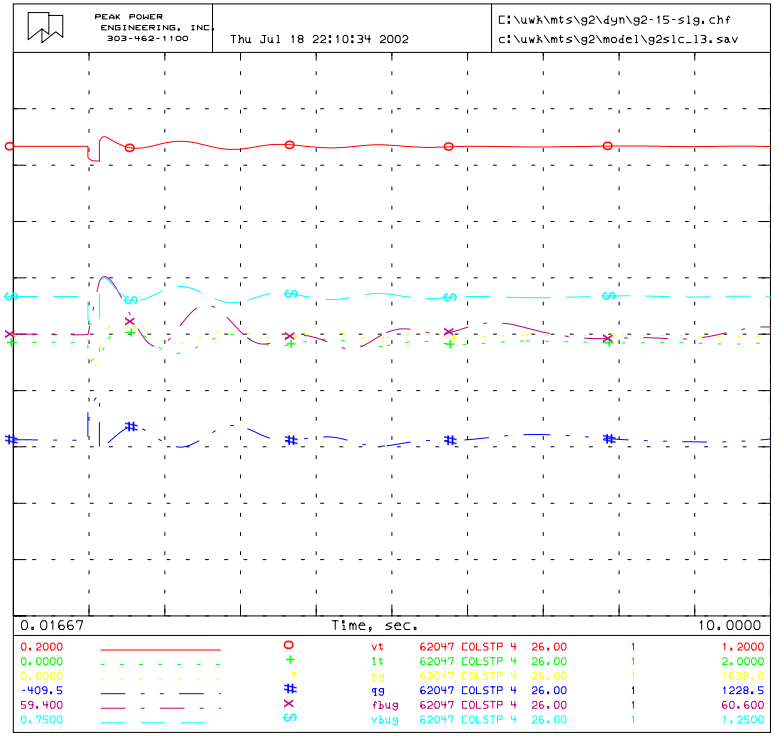

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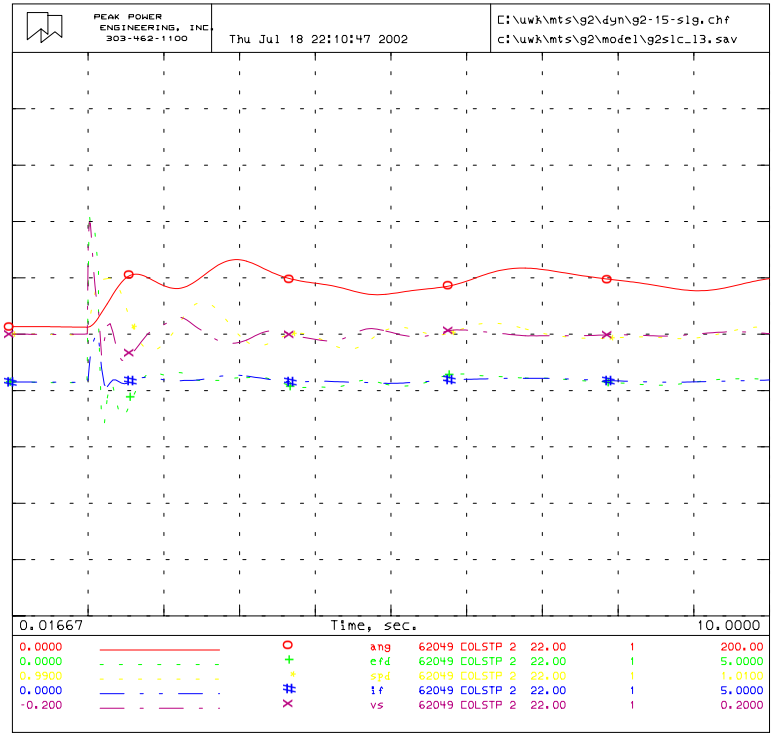

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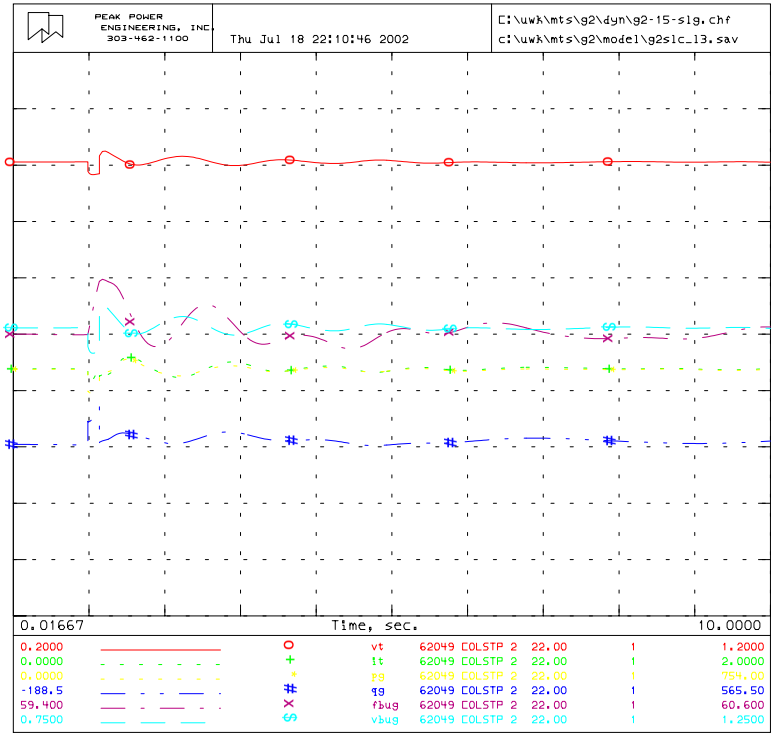

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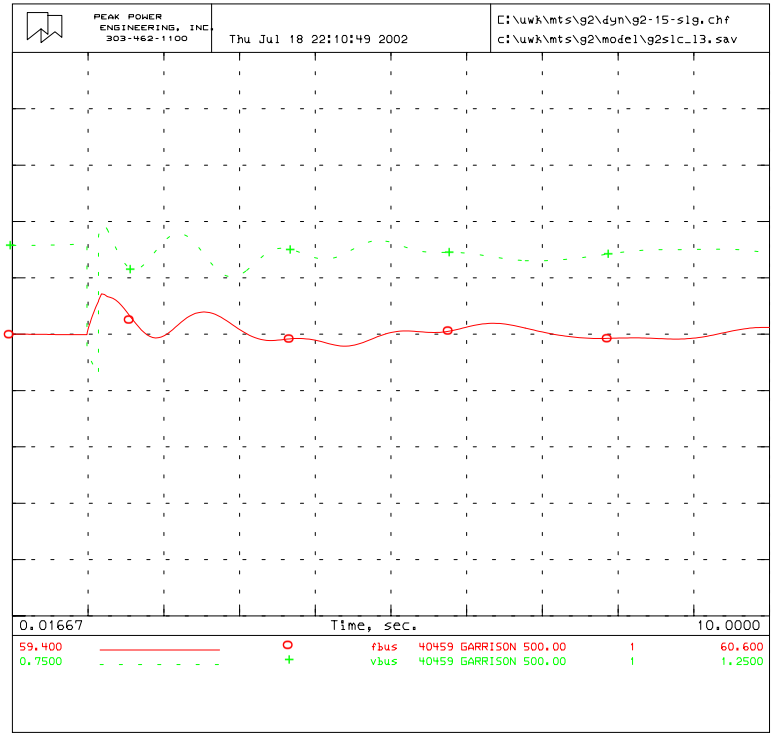

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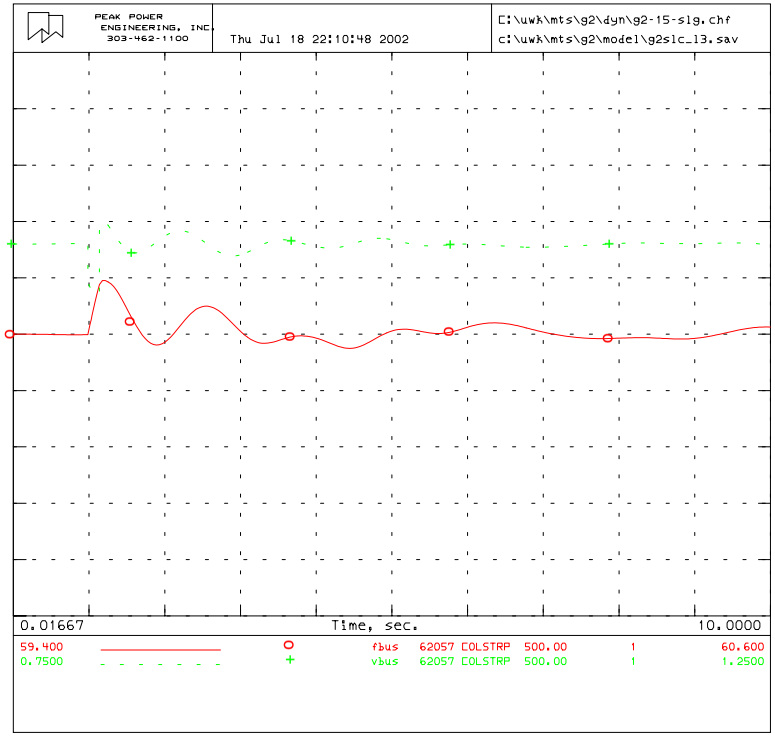

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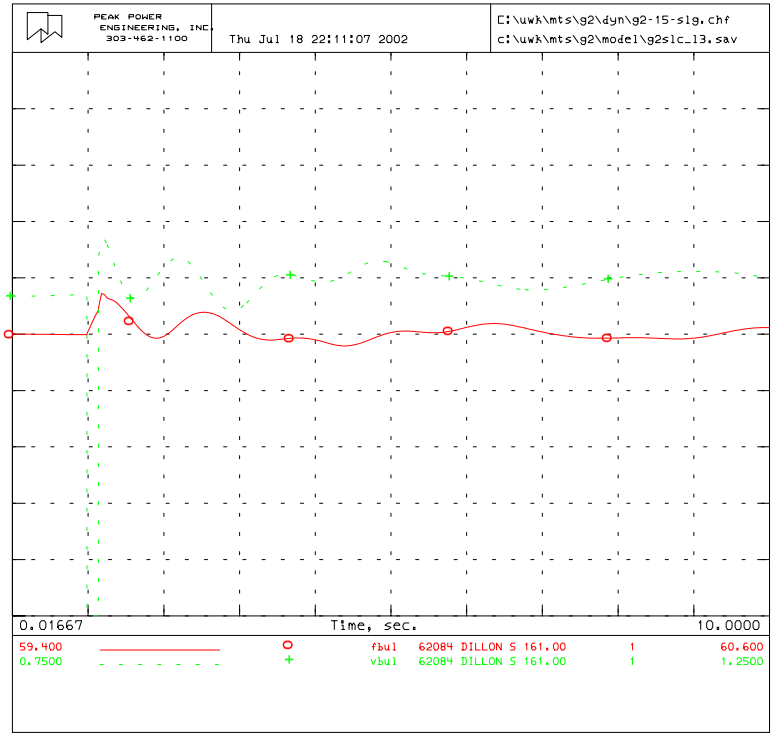

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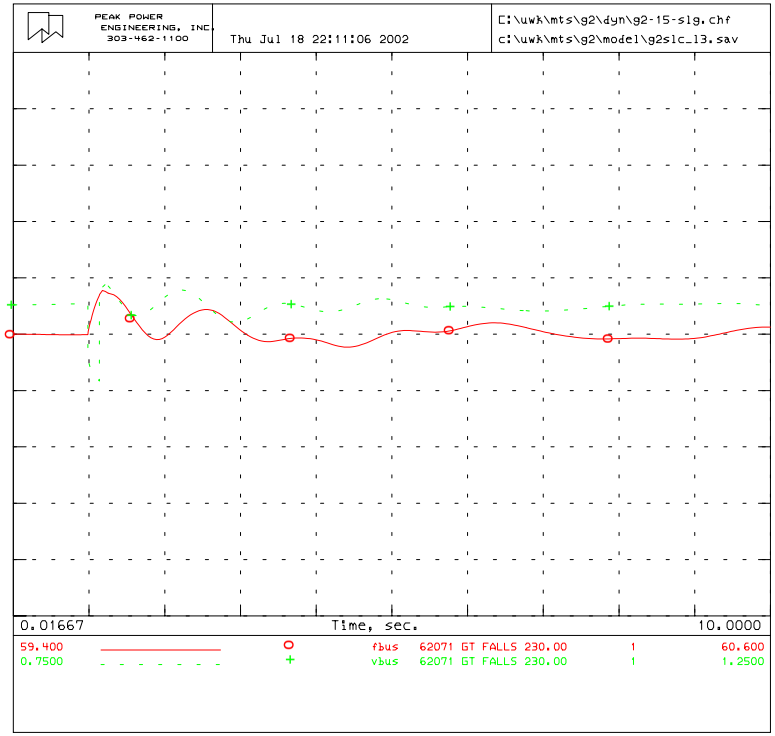

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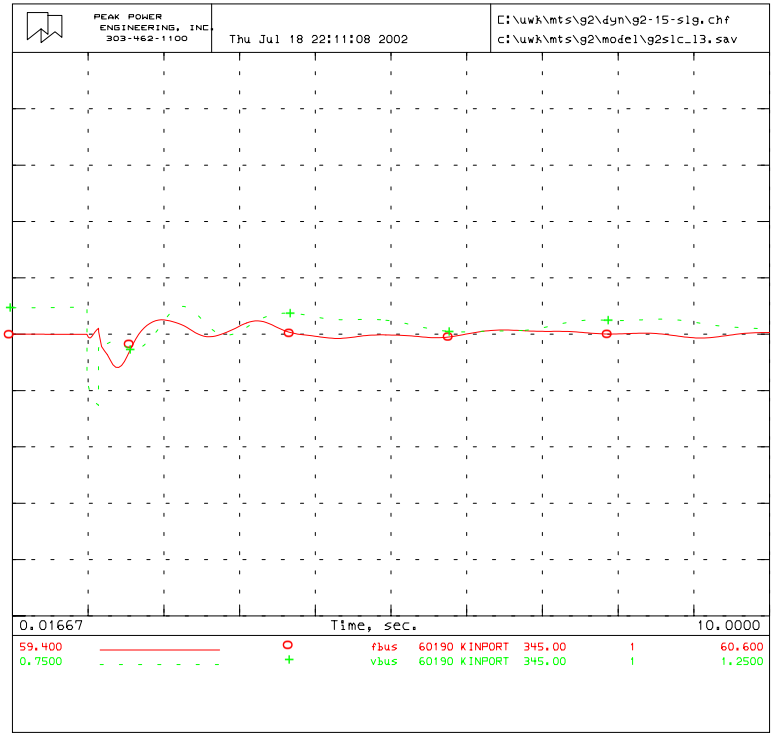

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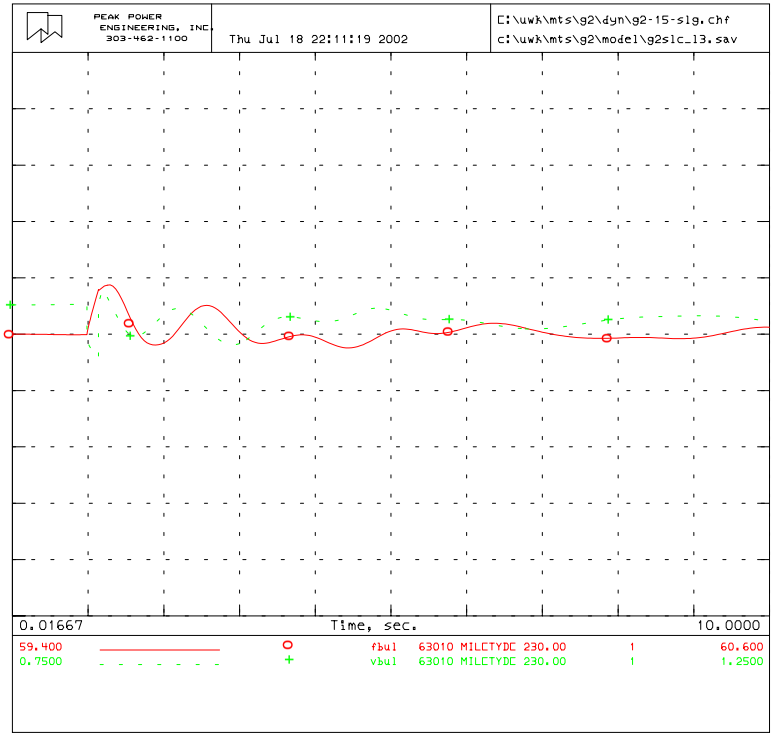

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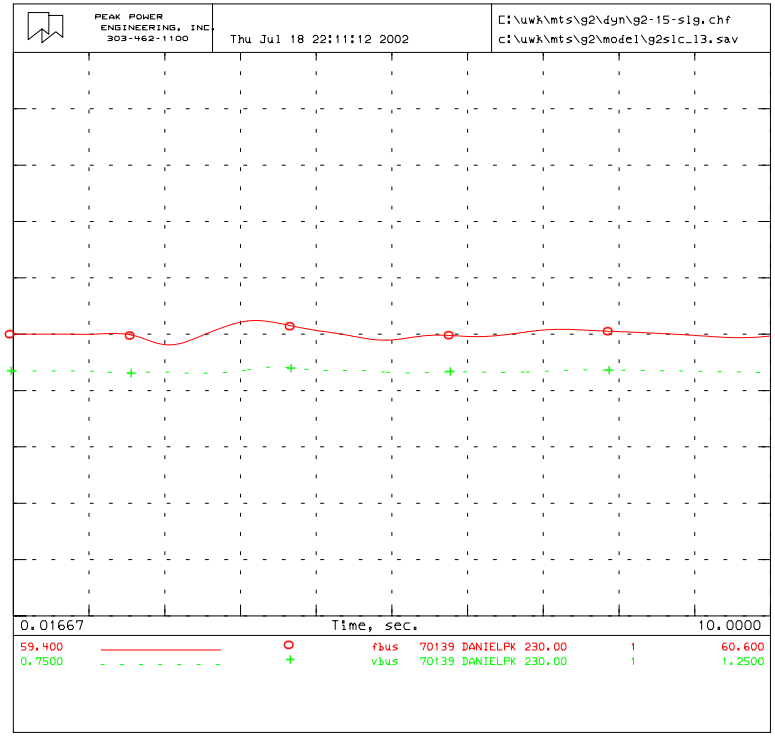

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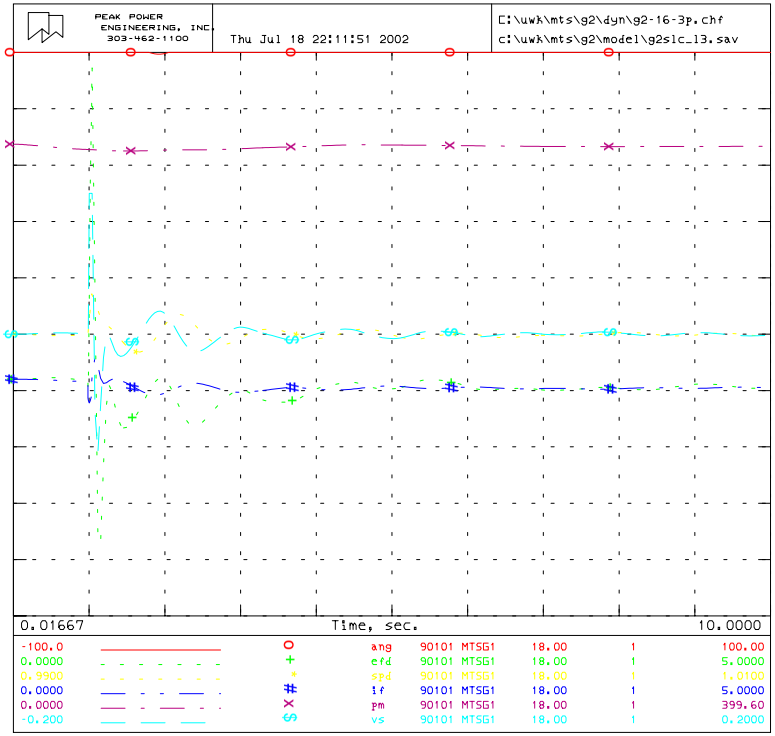

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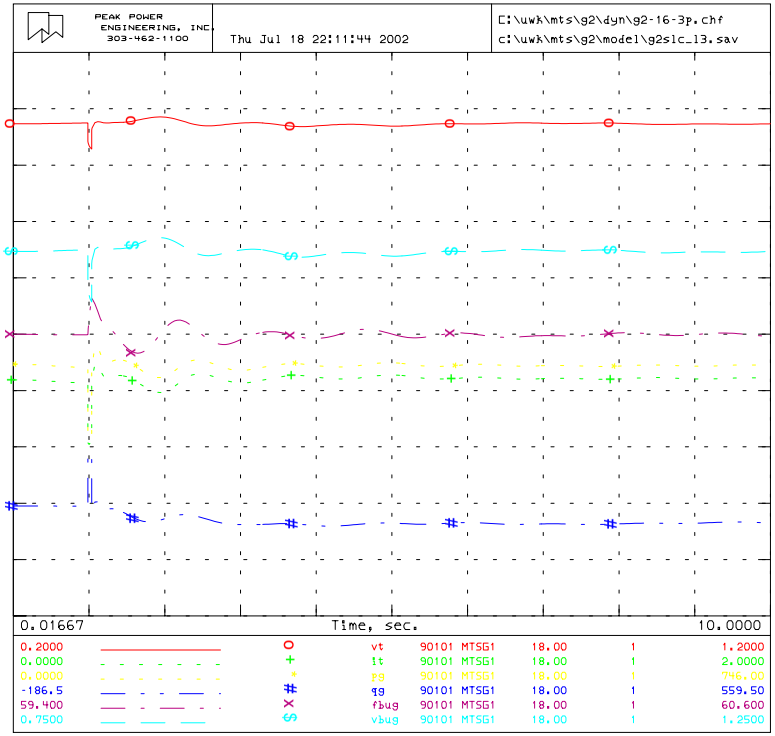

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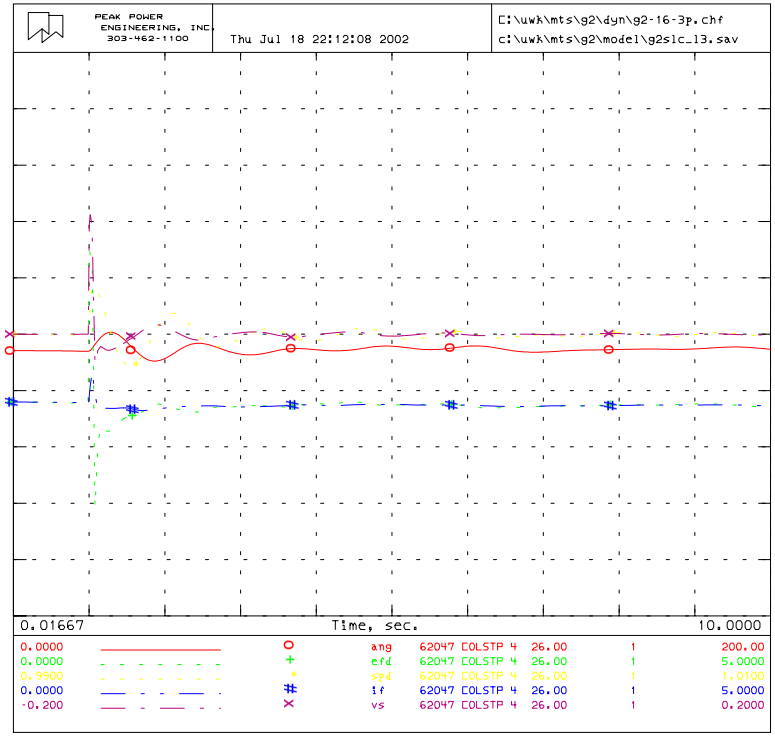

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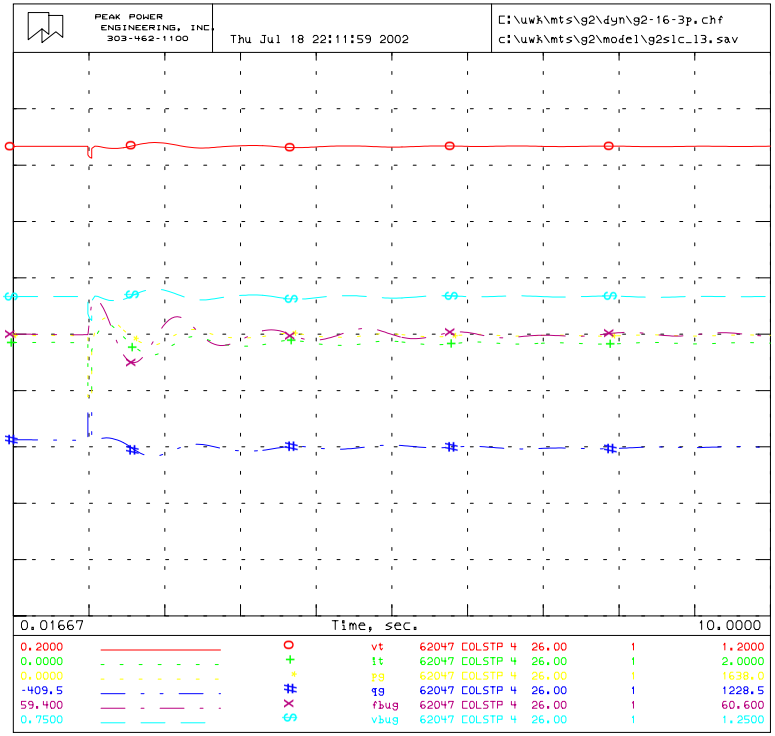

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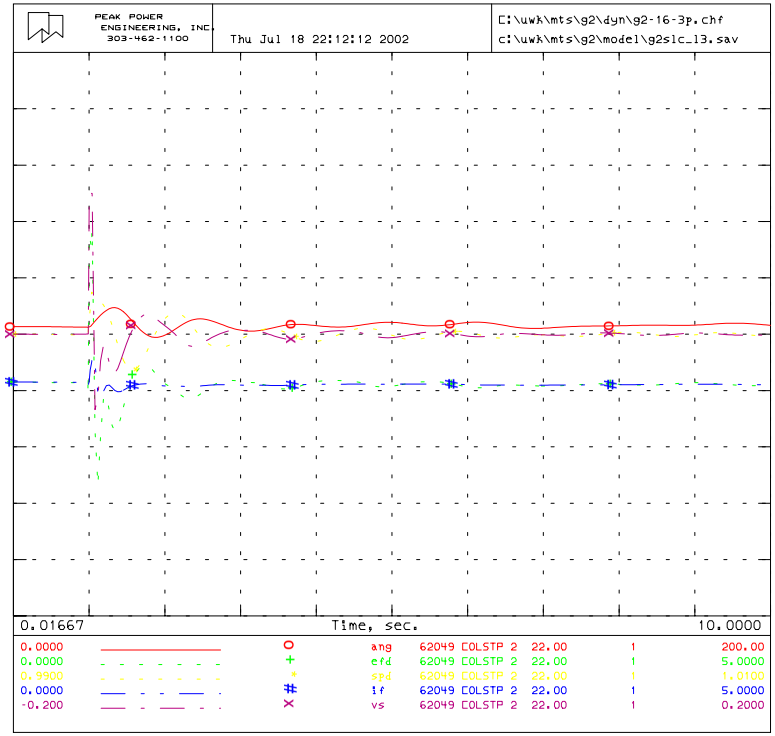

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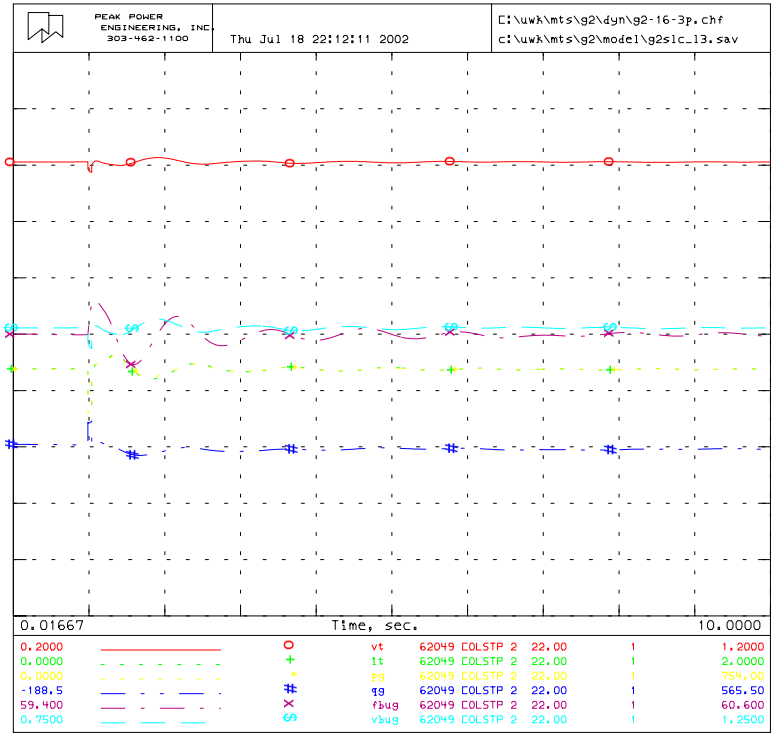

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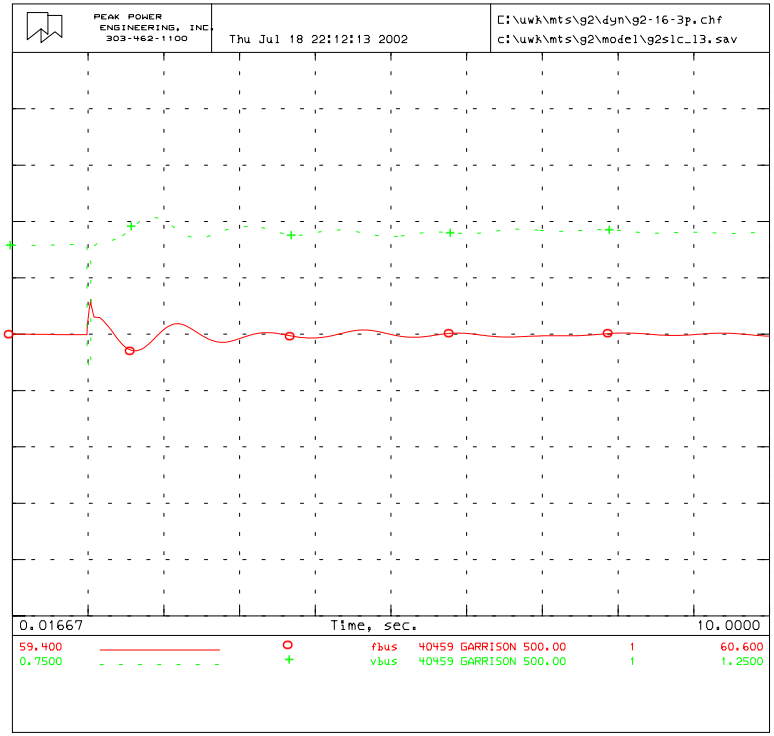

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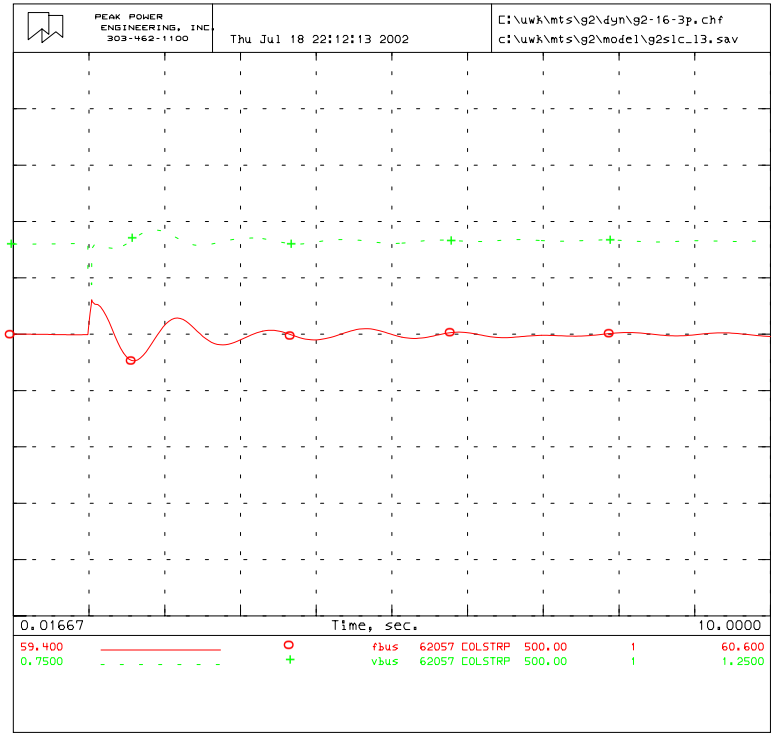

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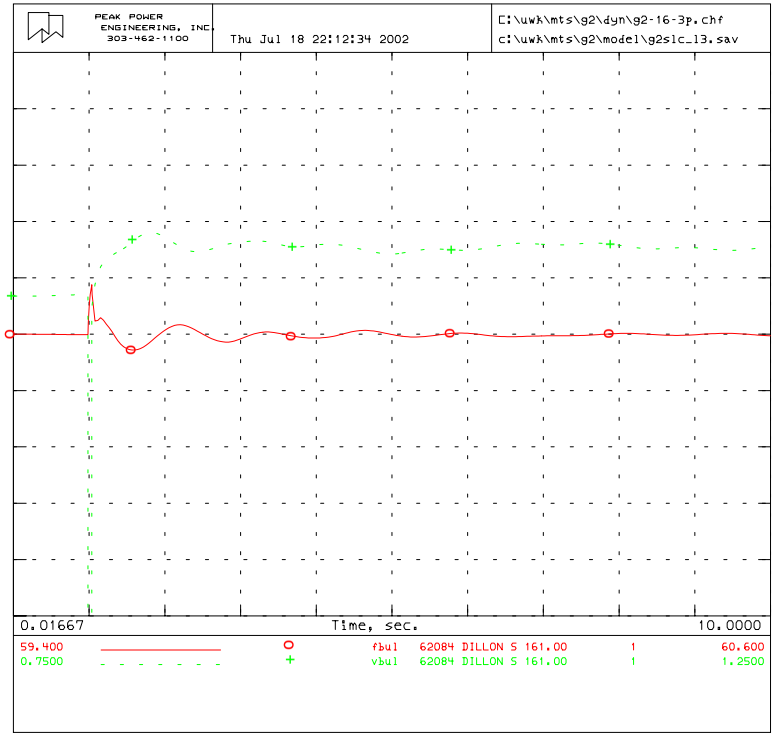

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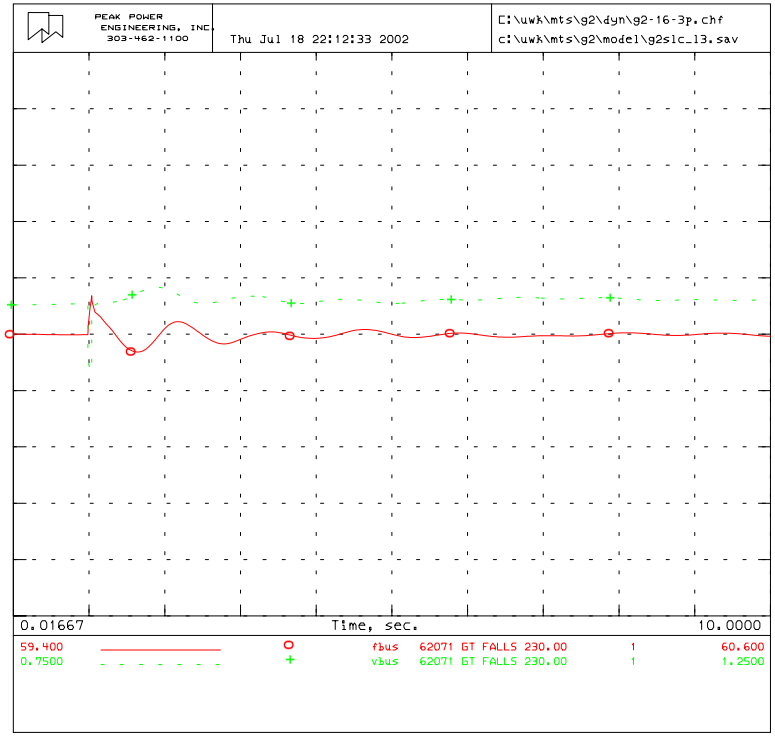

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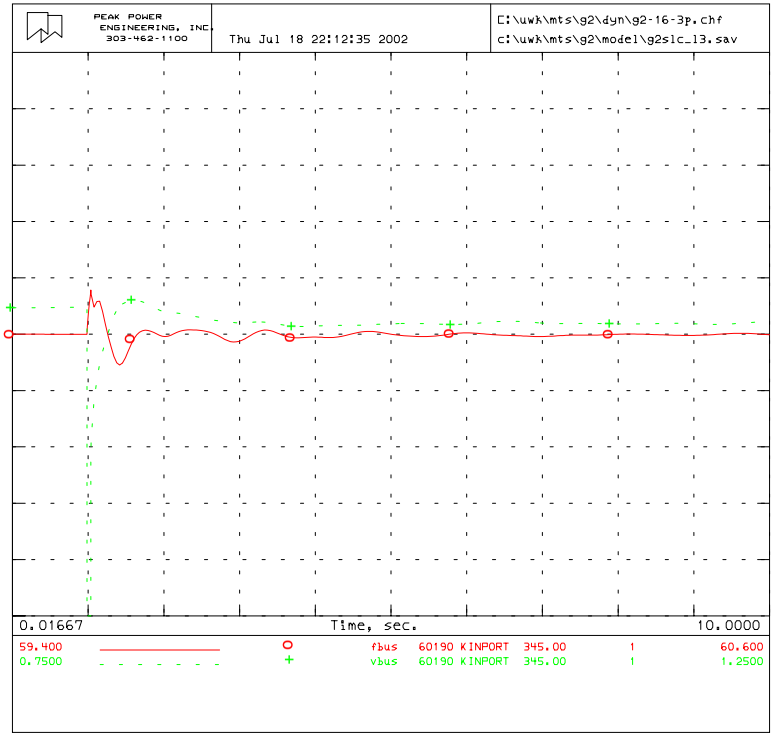

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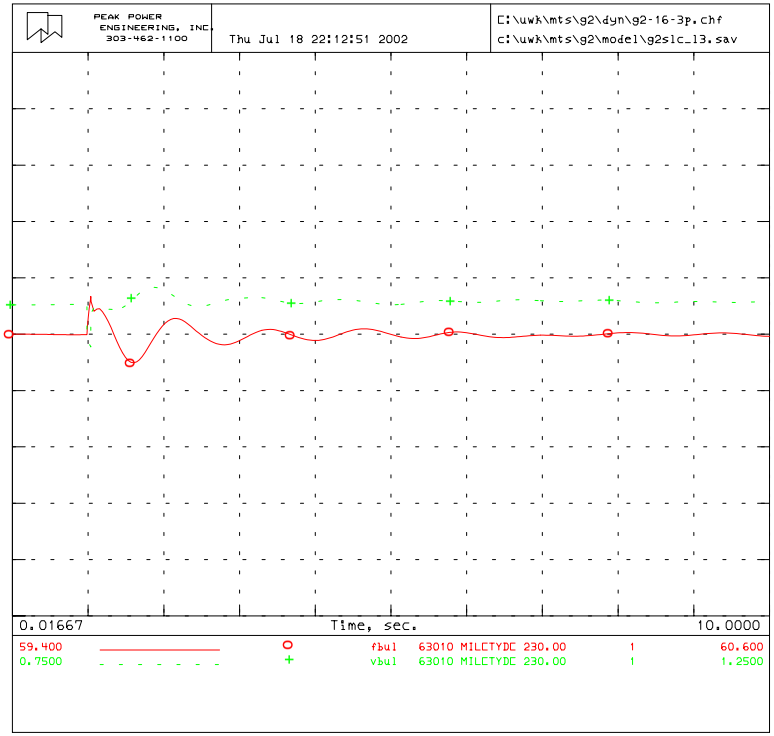

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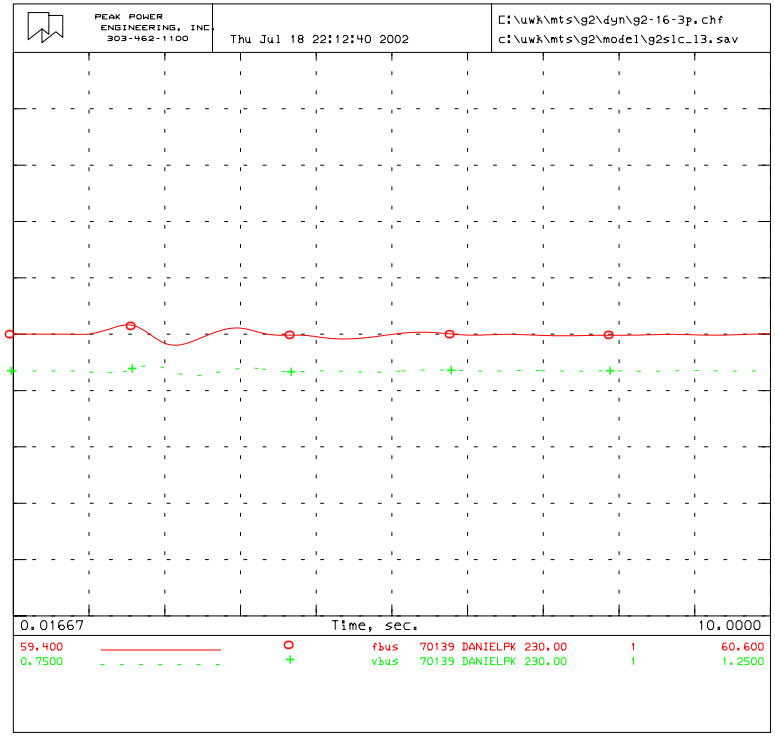

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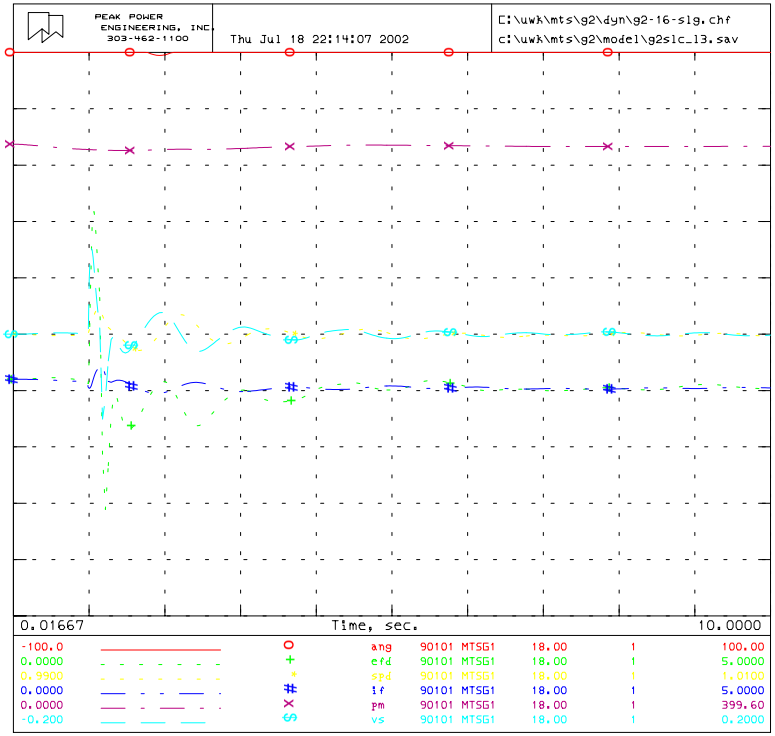

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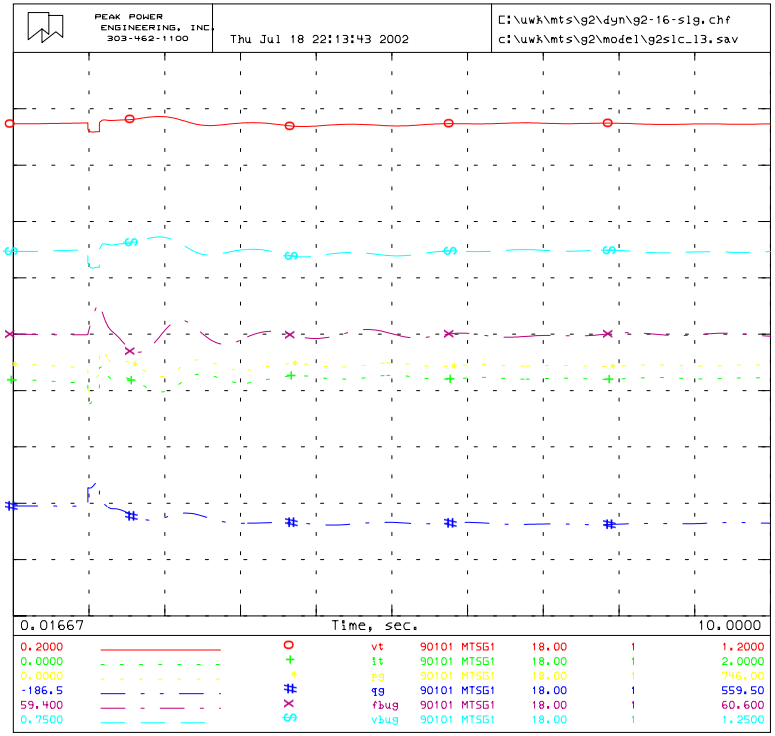

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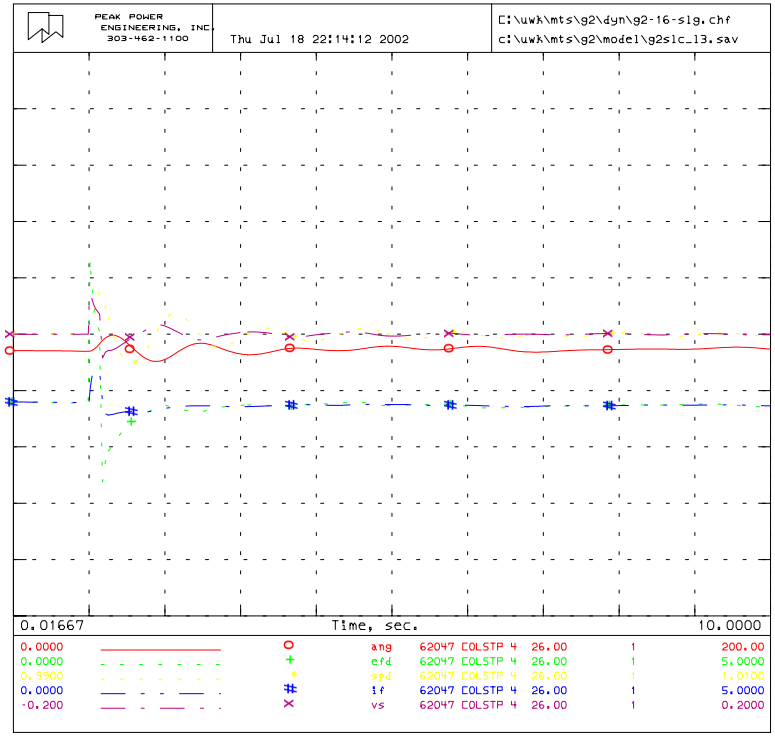

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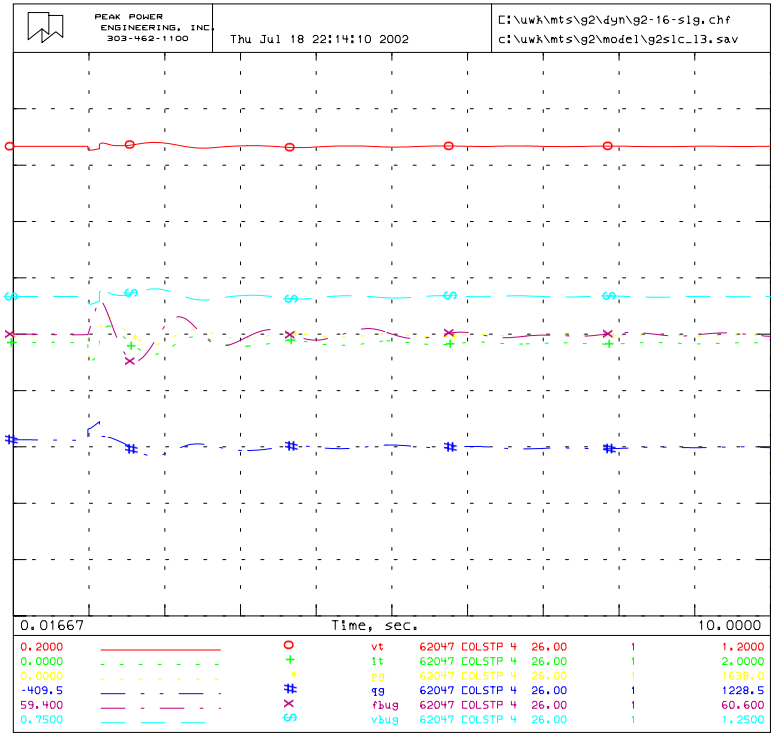

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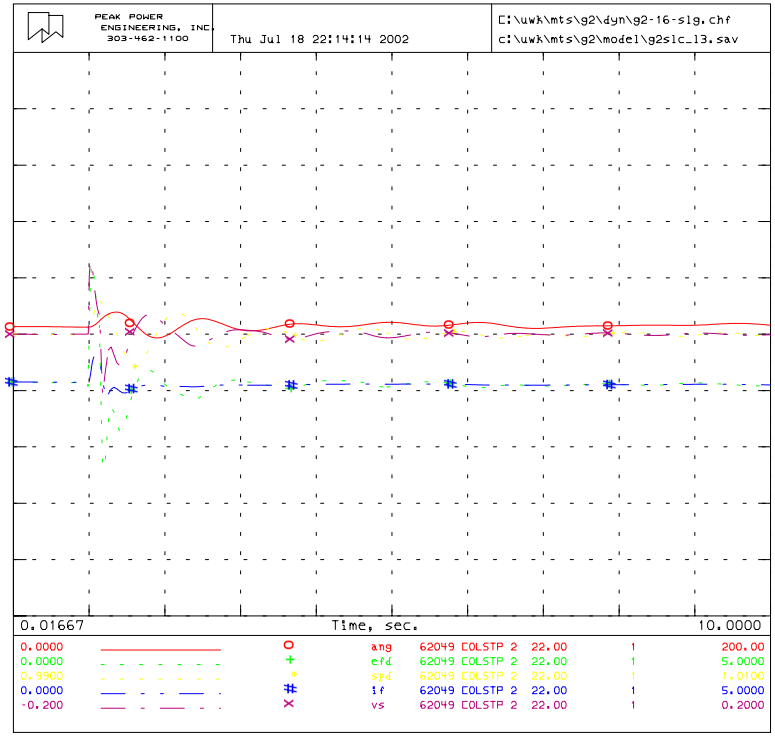

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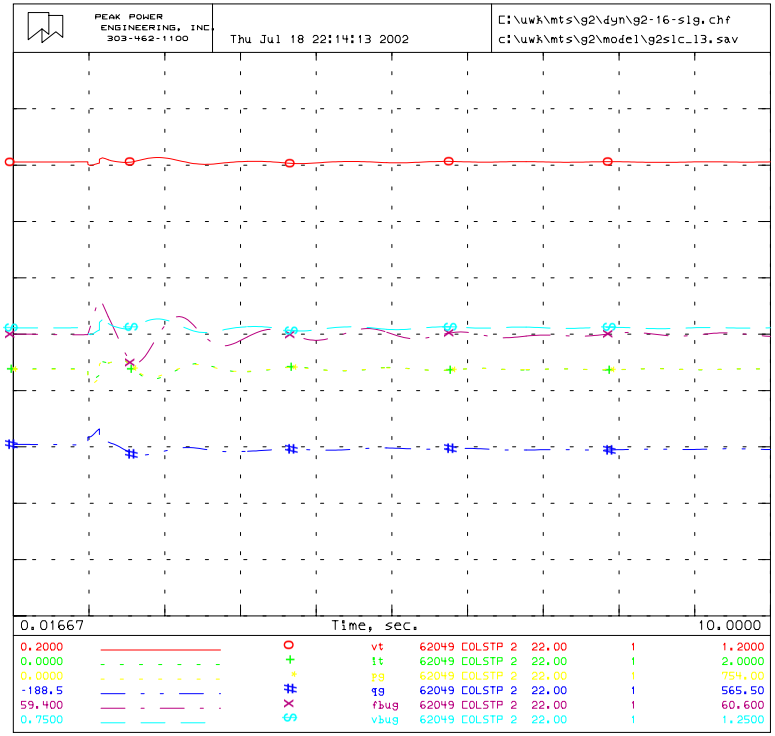

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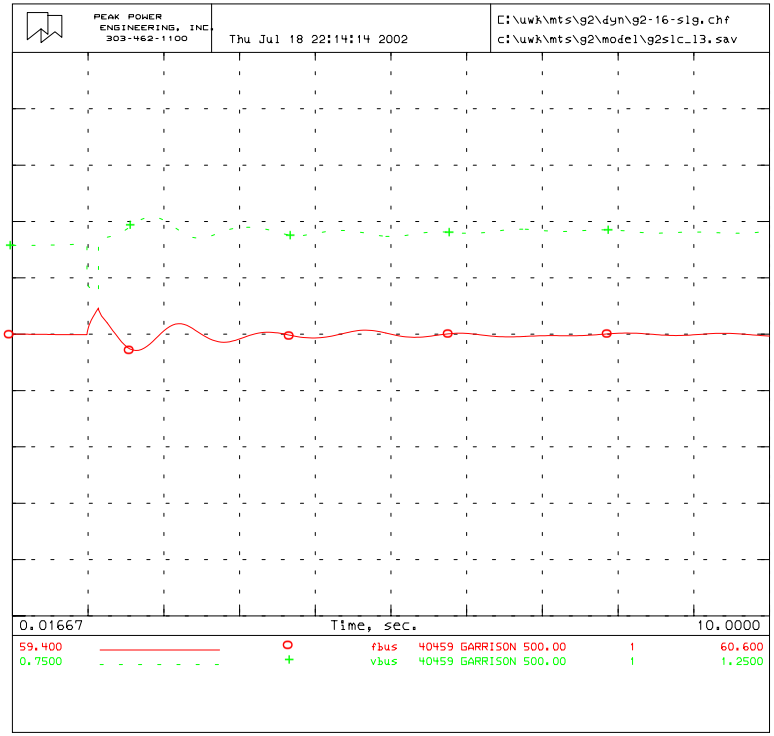

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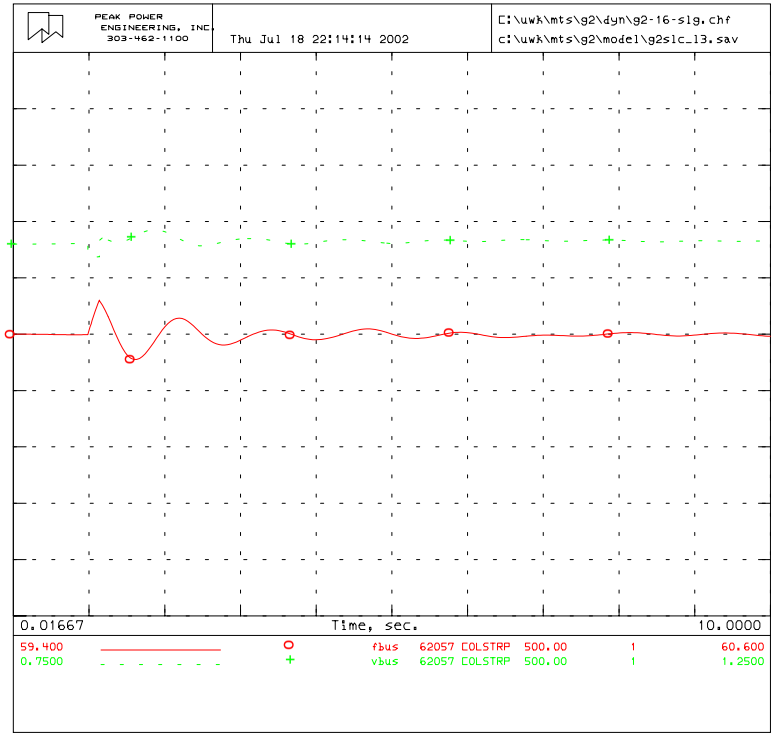

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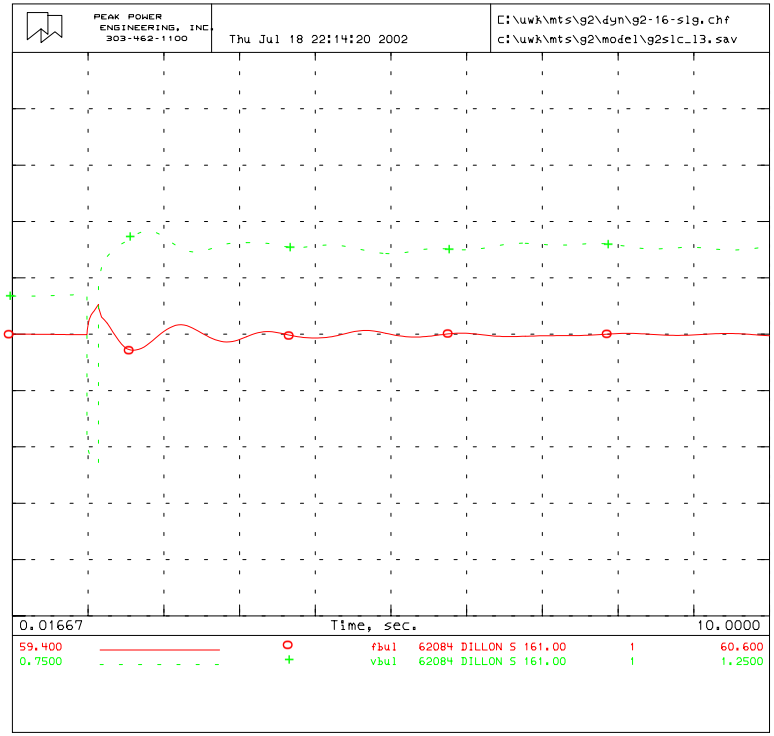

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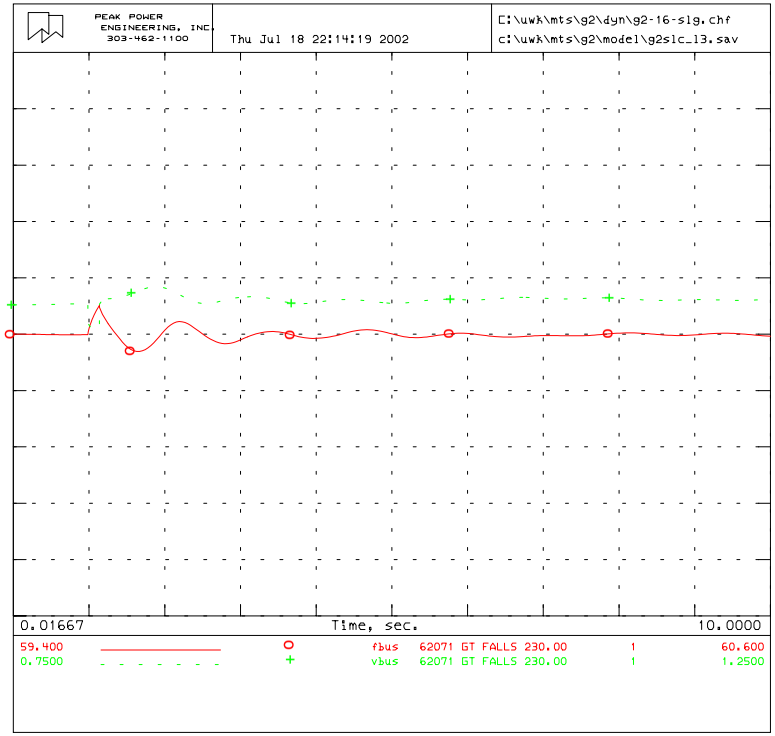

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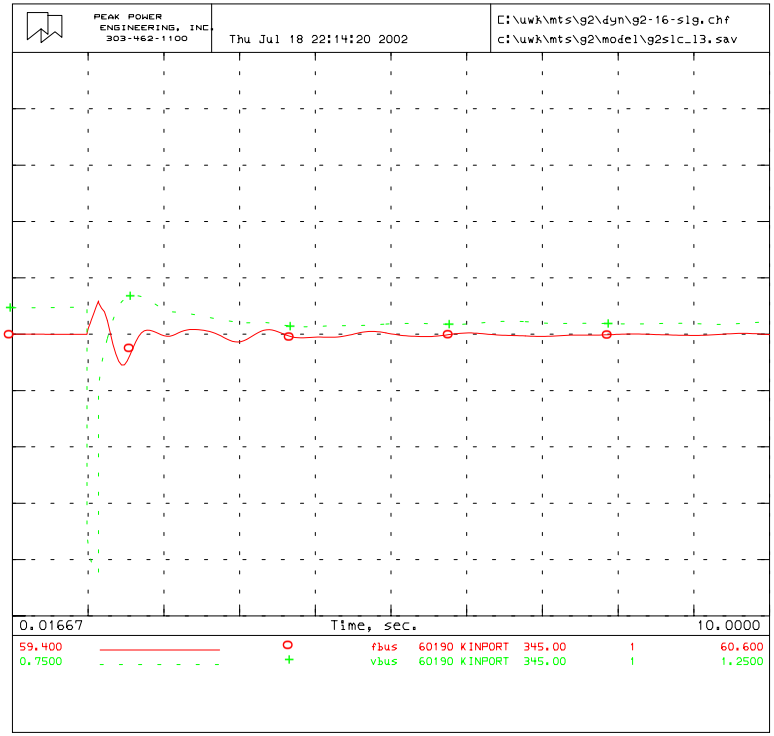

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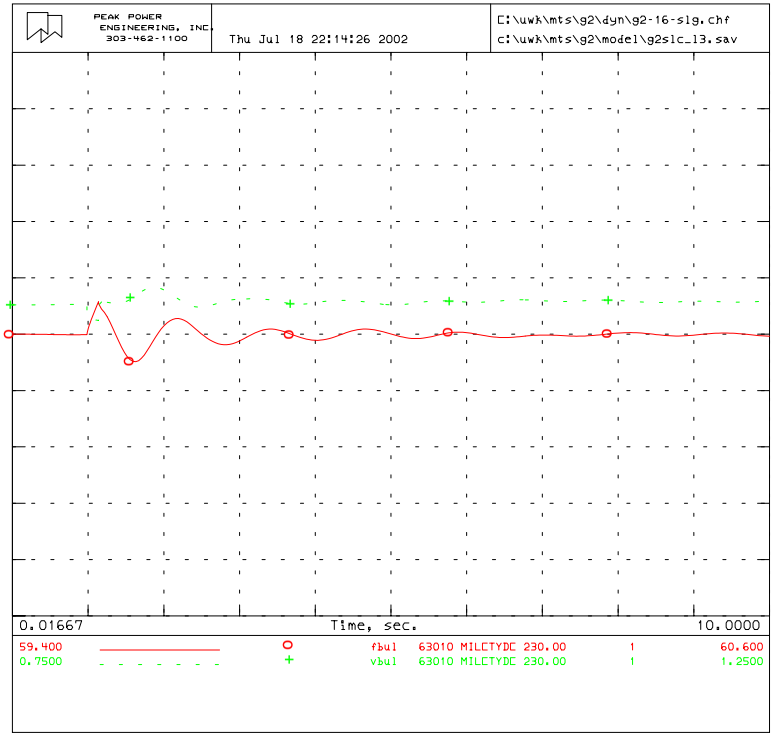

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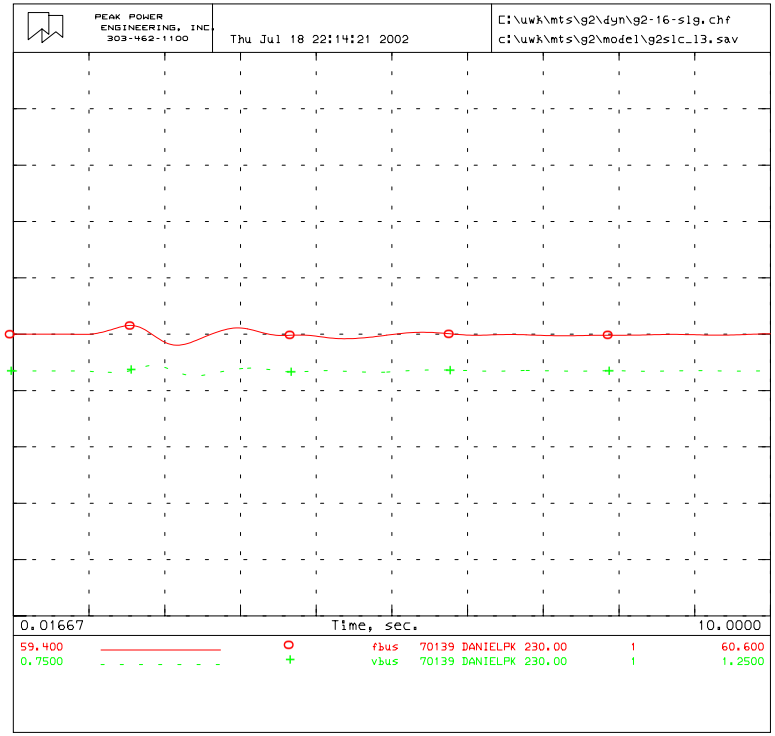

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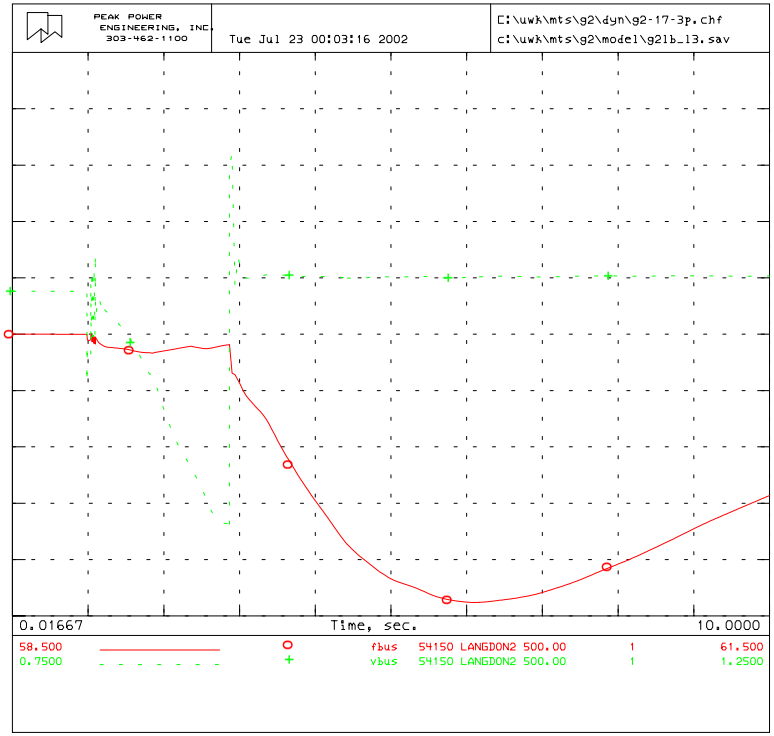

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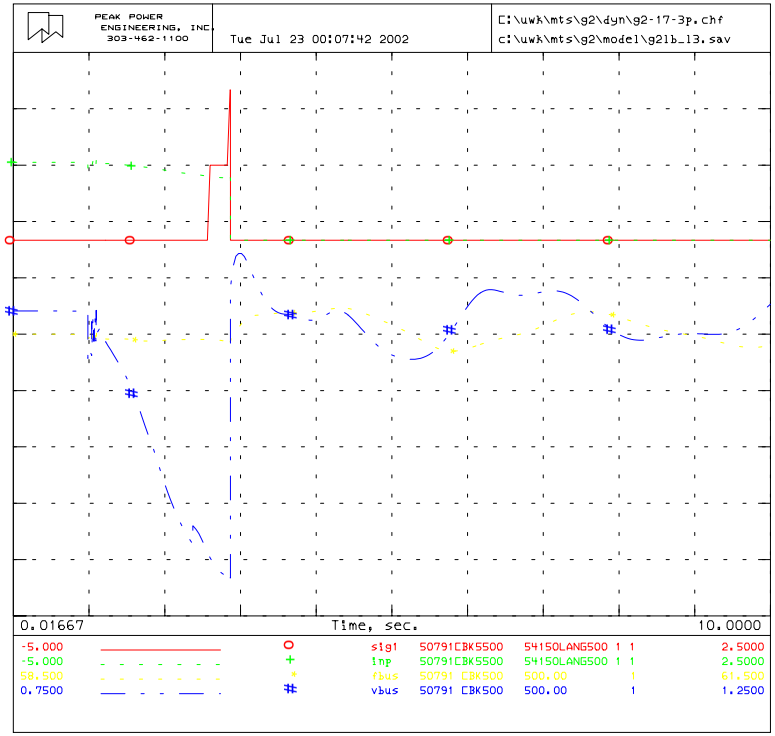

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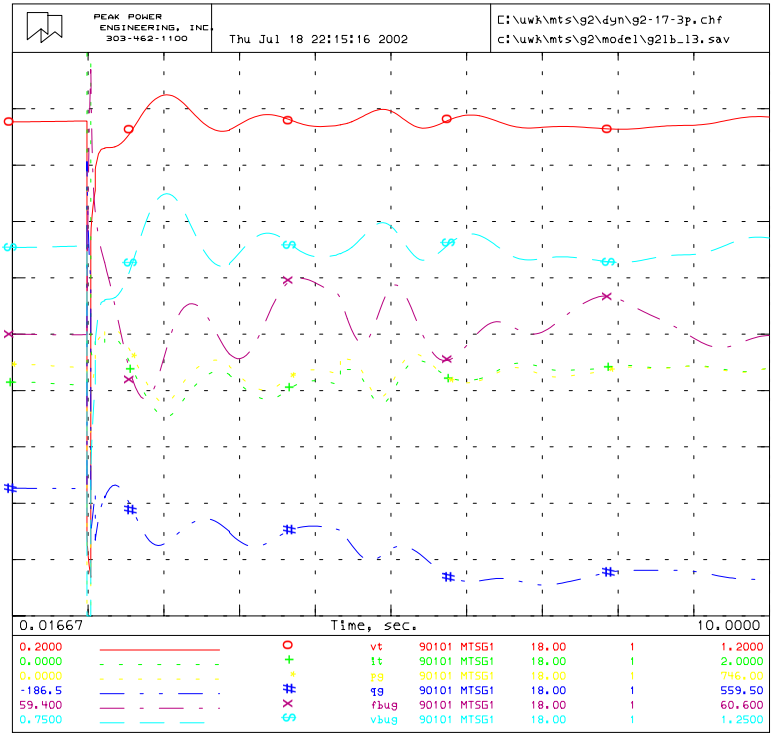

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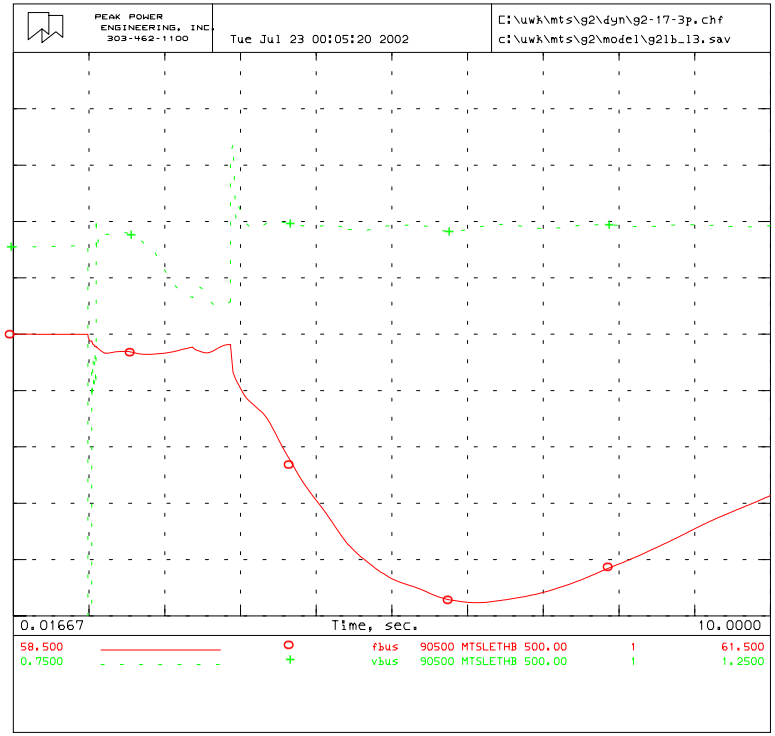

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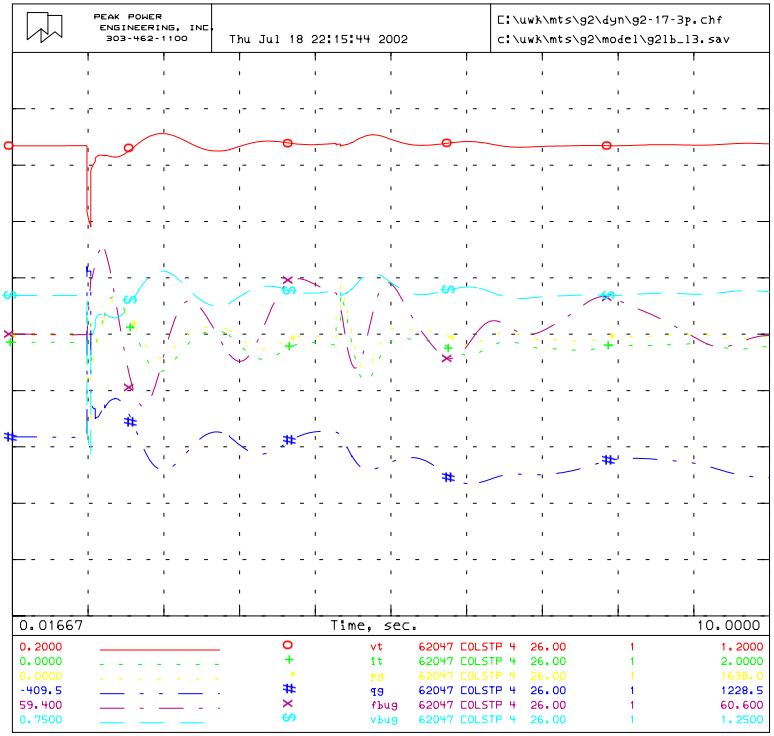

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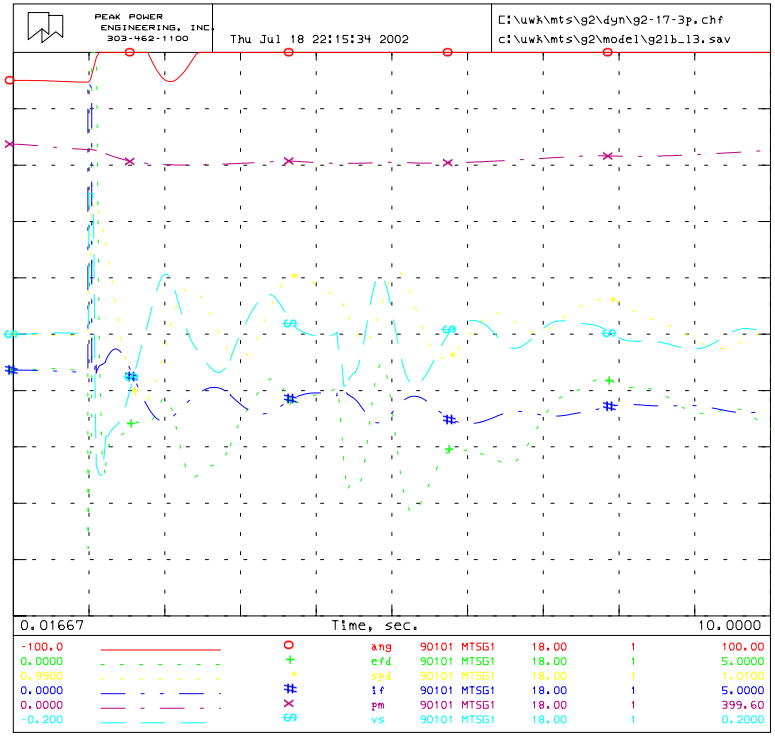

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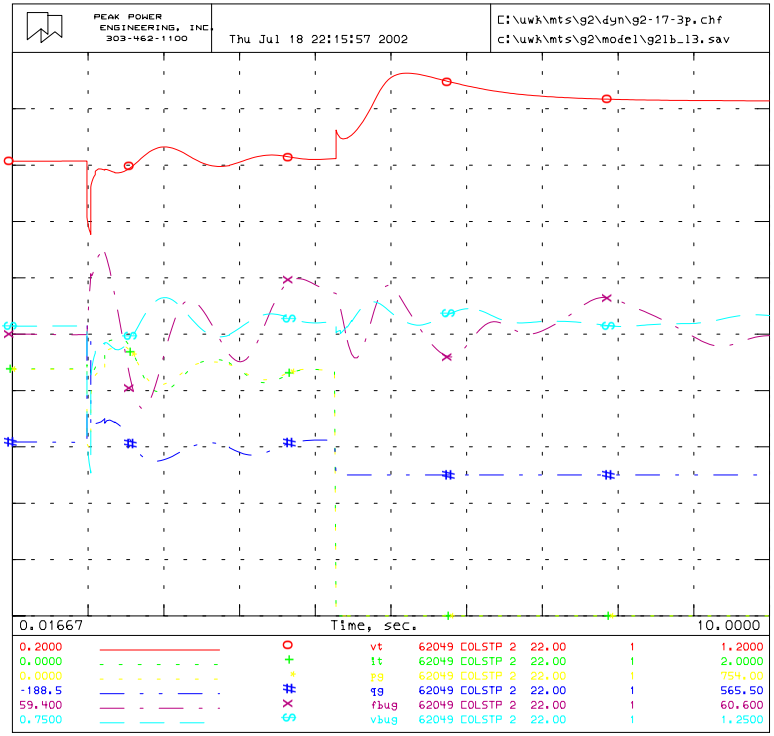

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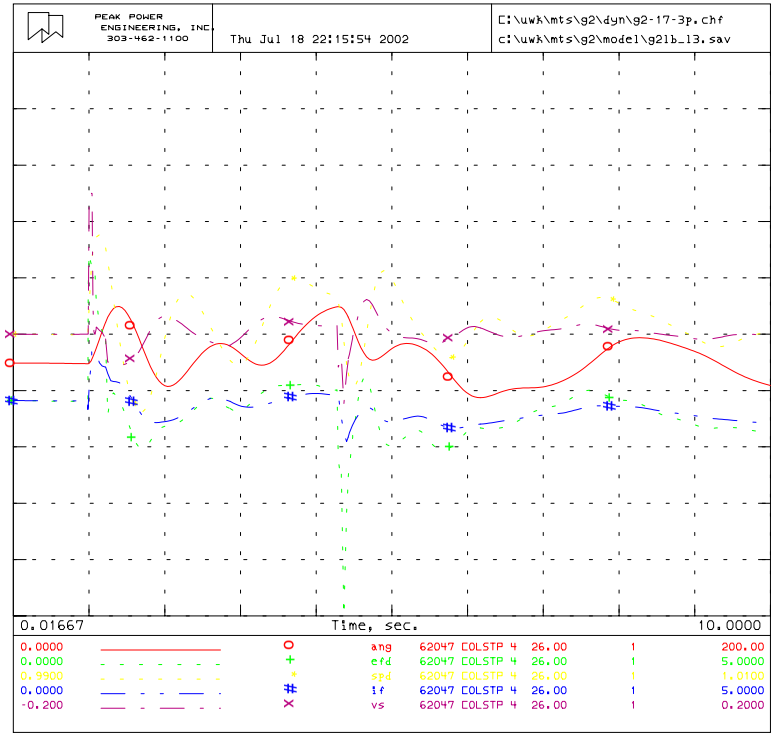

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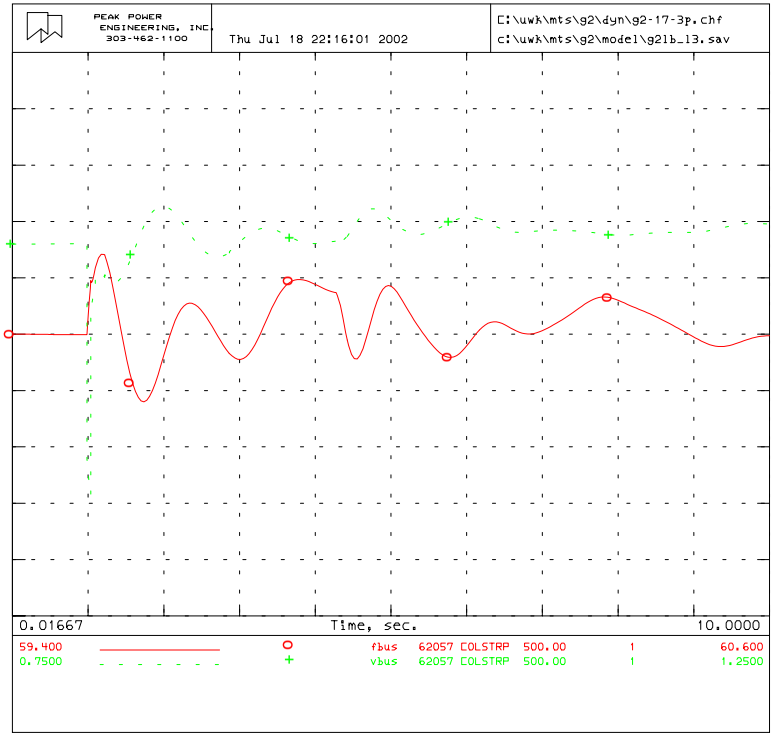

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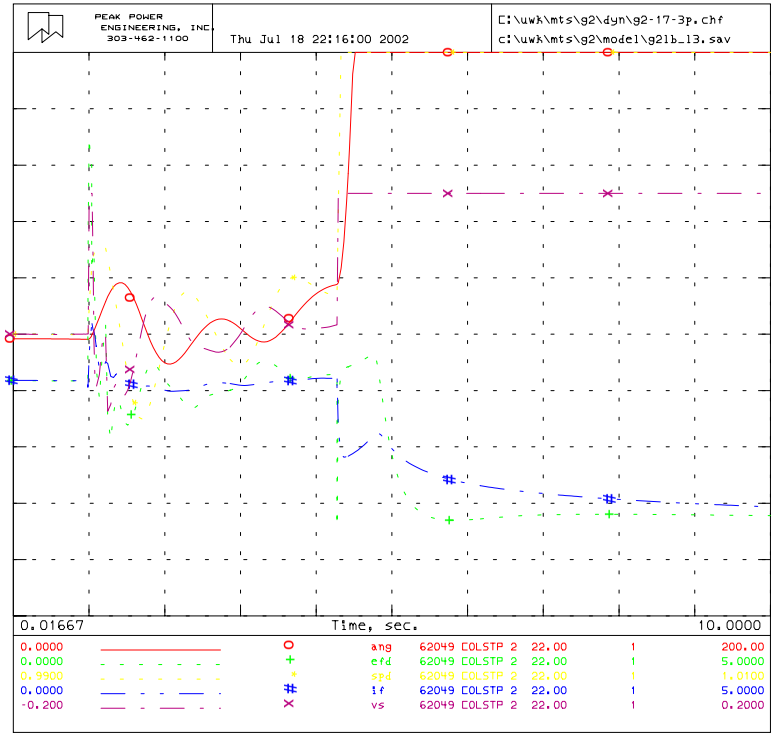

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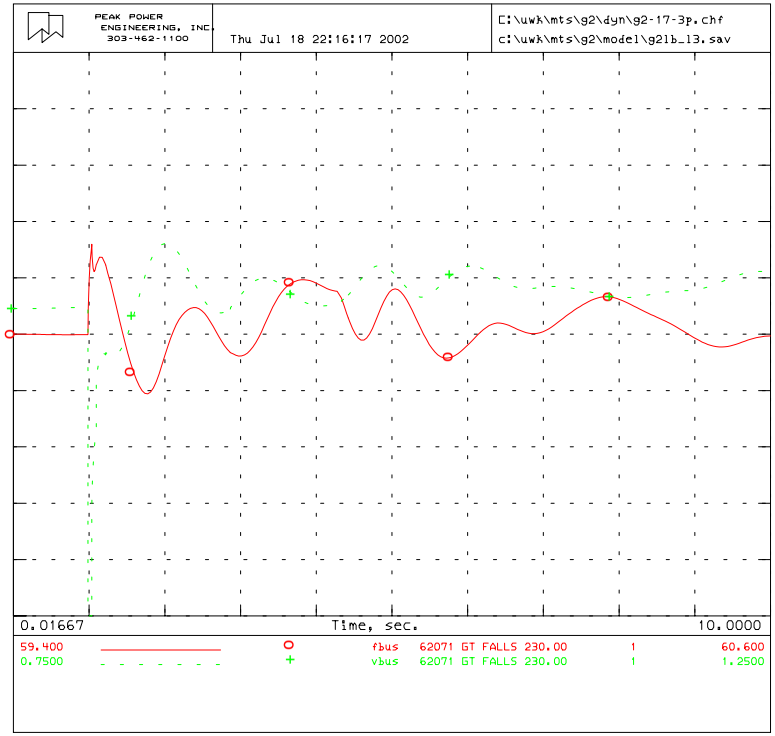

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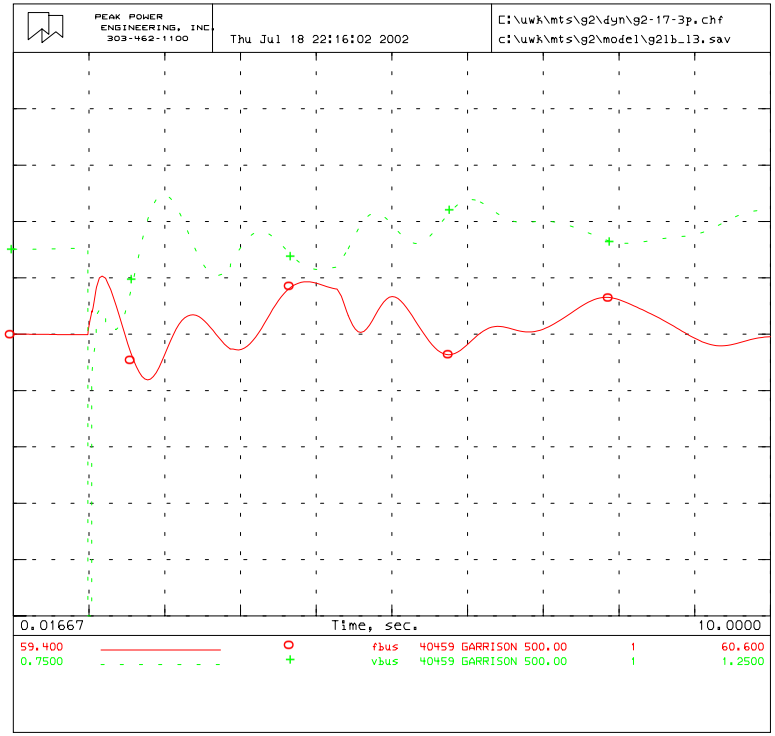

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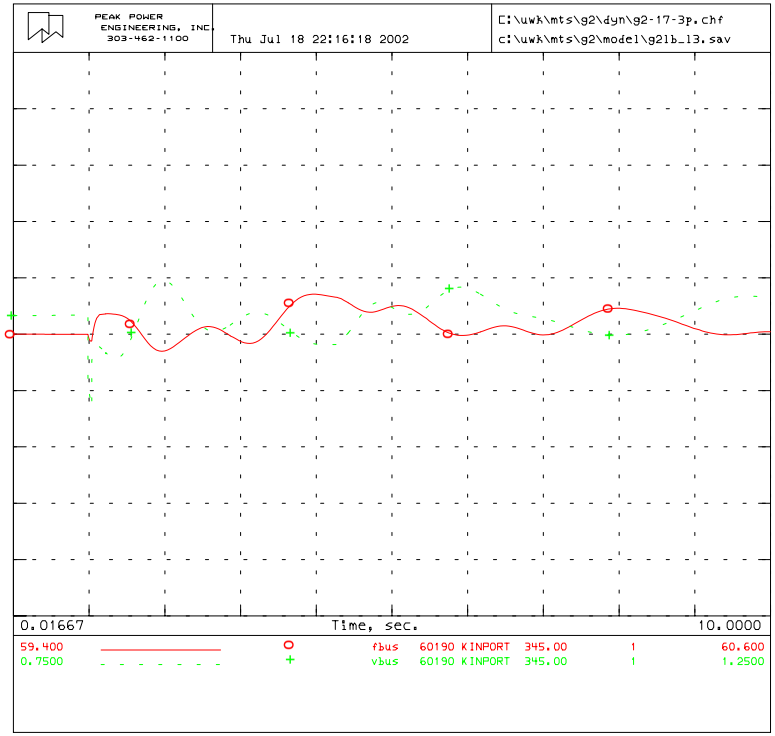

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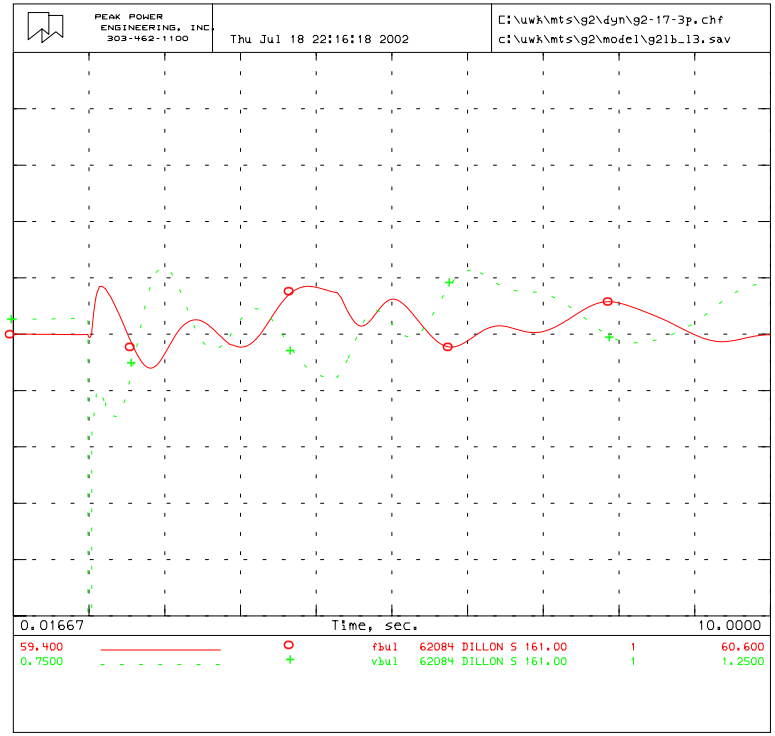

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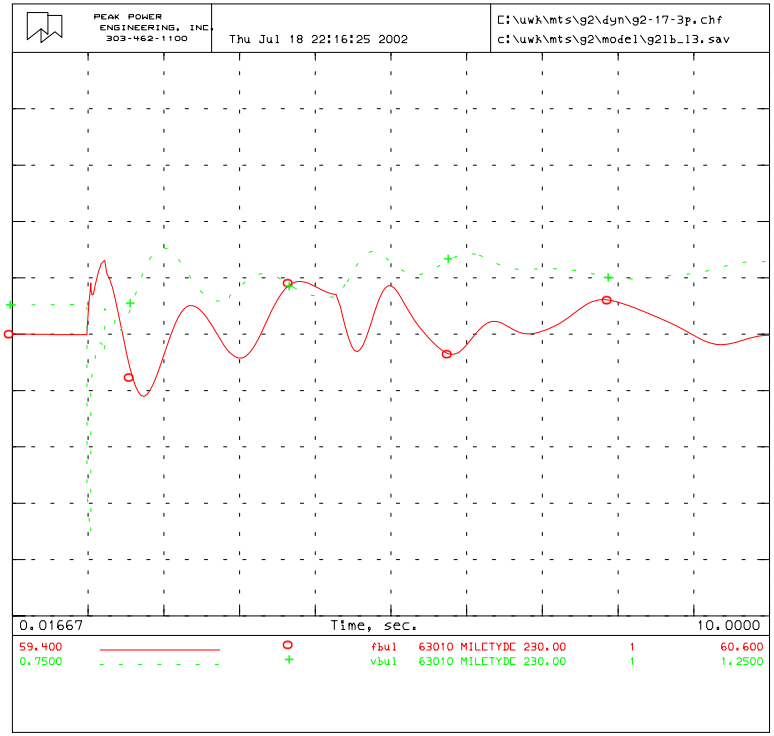

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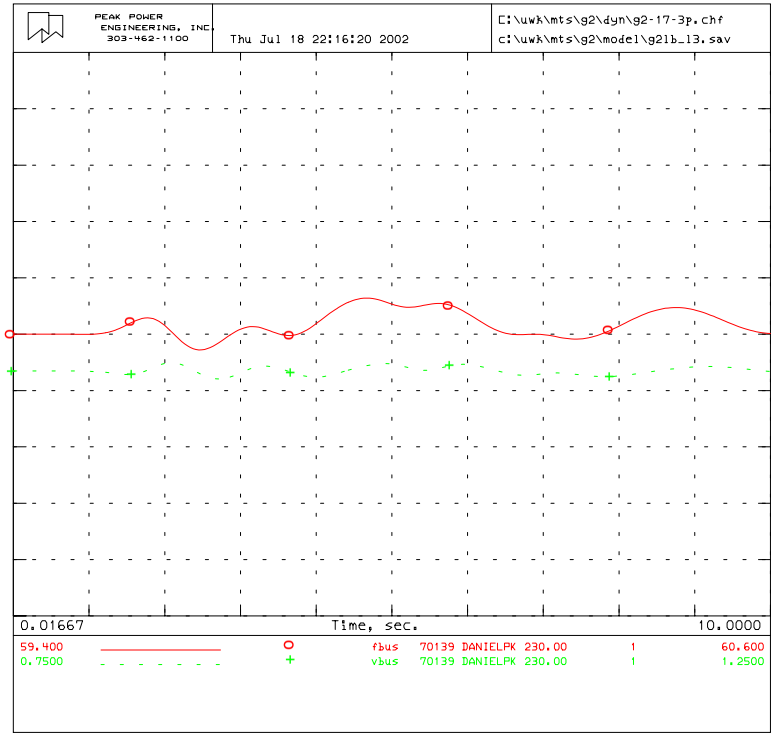

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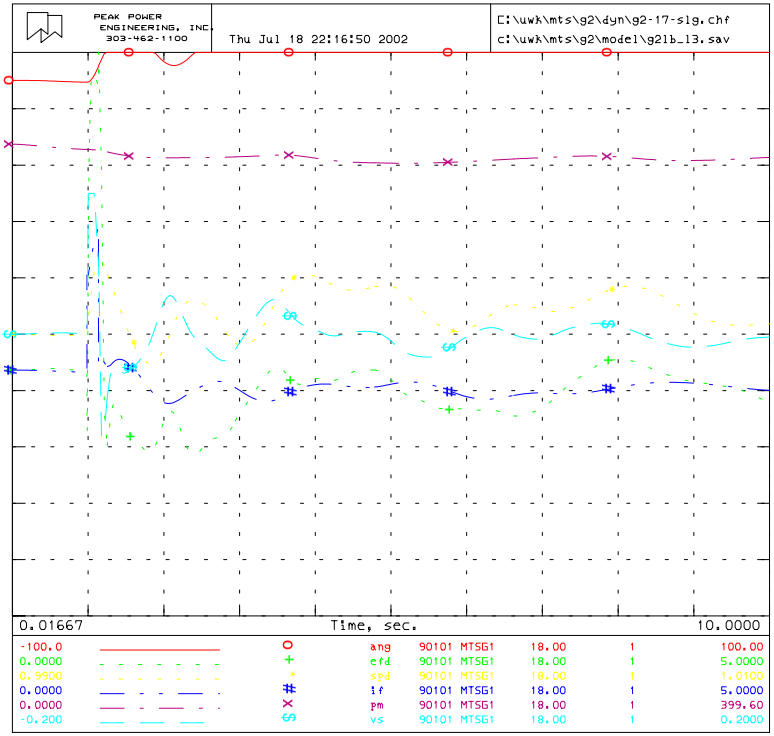

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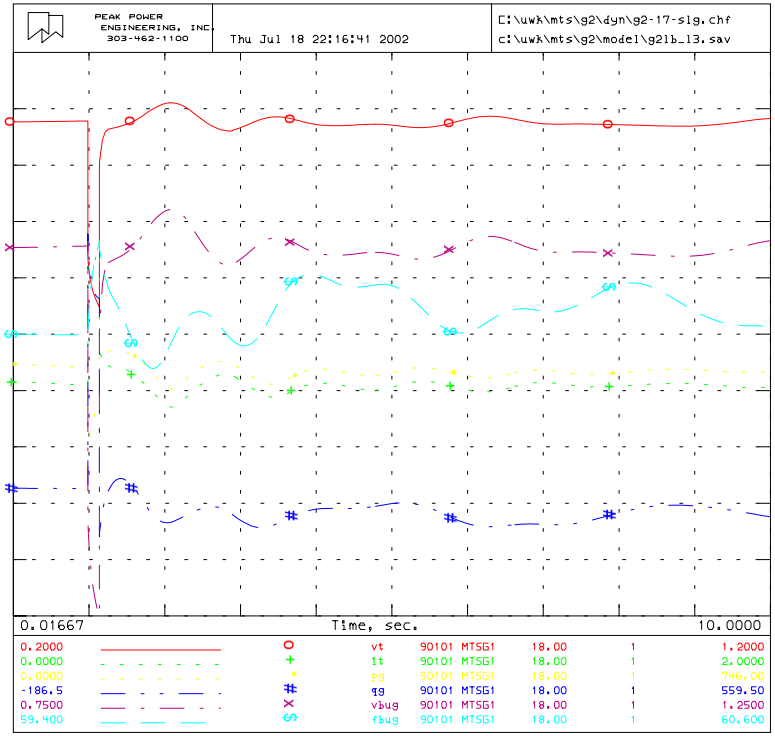

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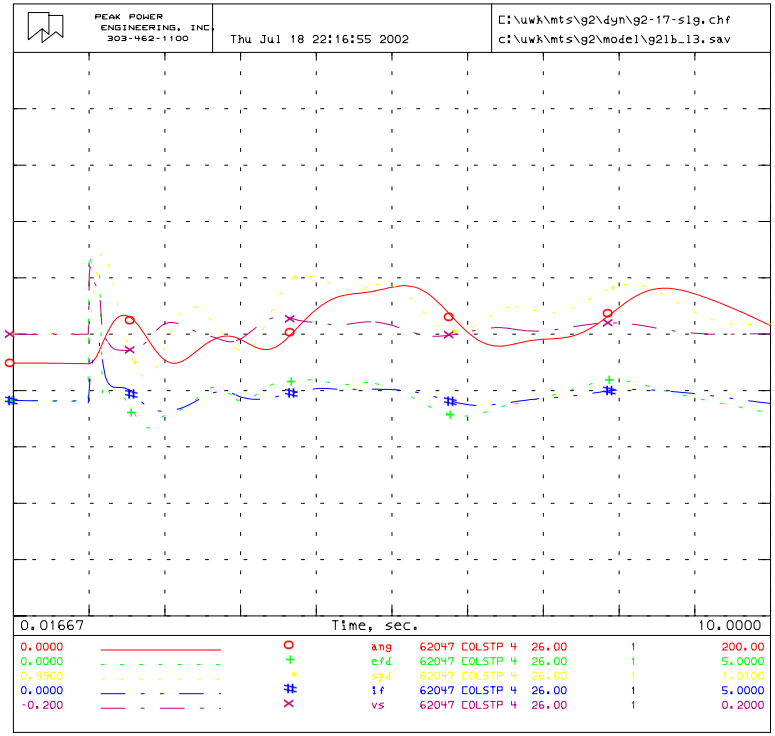

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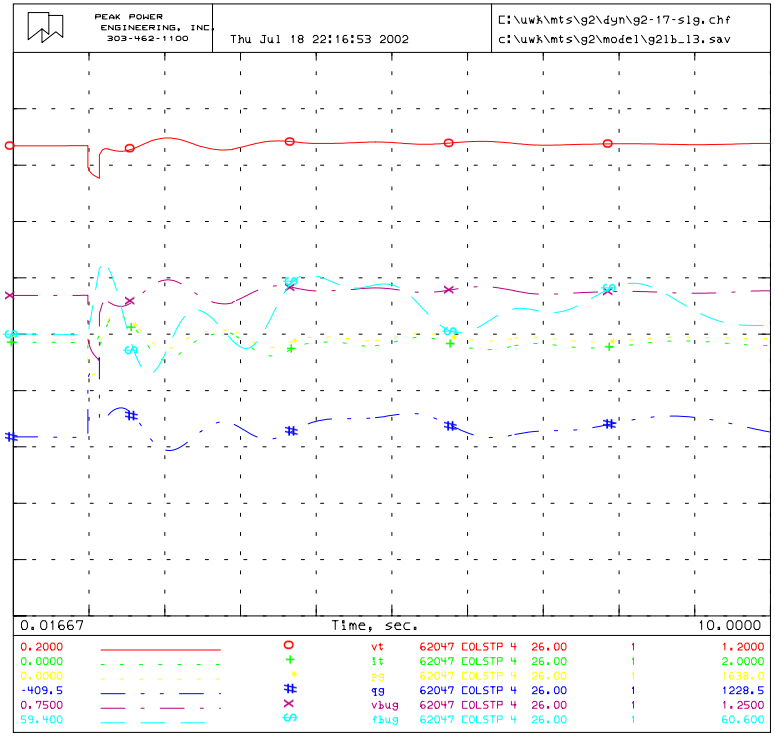

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1000 MW GAS PLANT
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Clear Flt: 9 cyc, Trip Line "MTSGFALL" 500 to "MTSLETHB" 500

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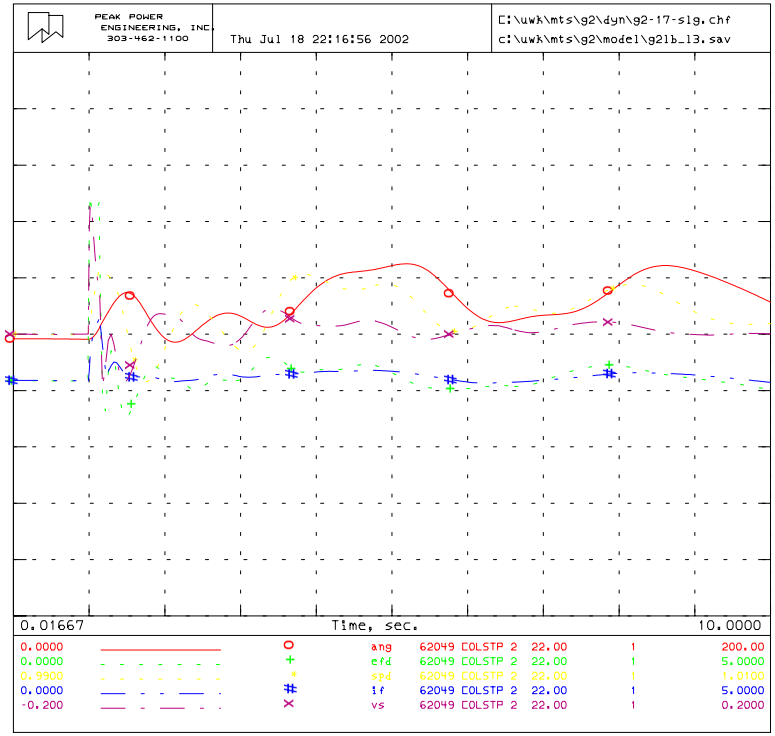

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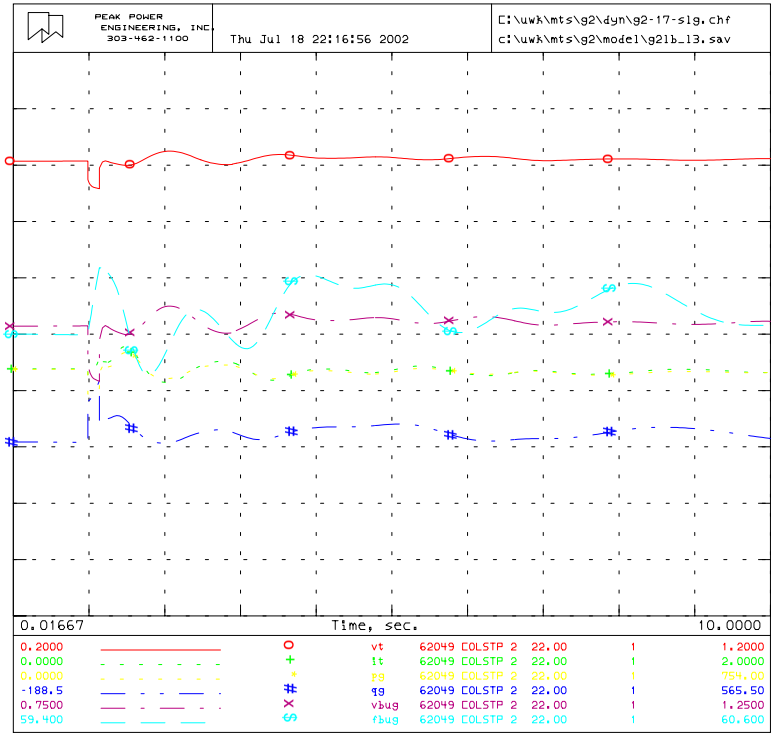

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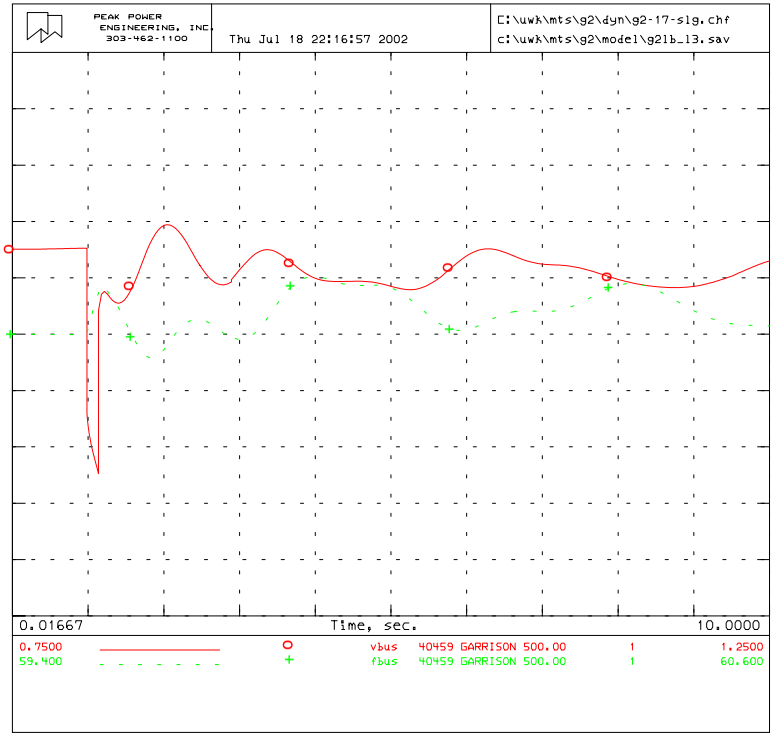

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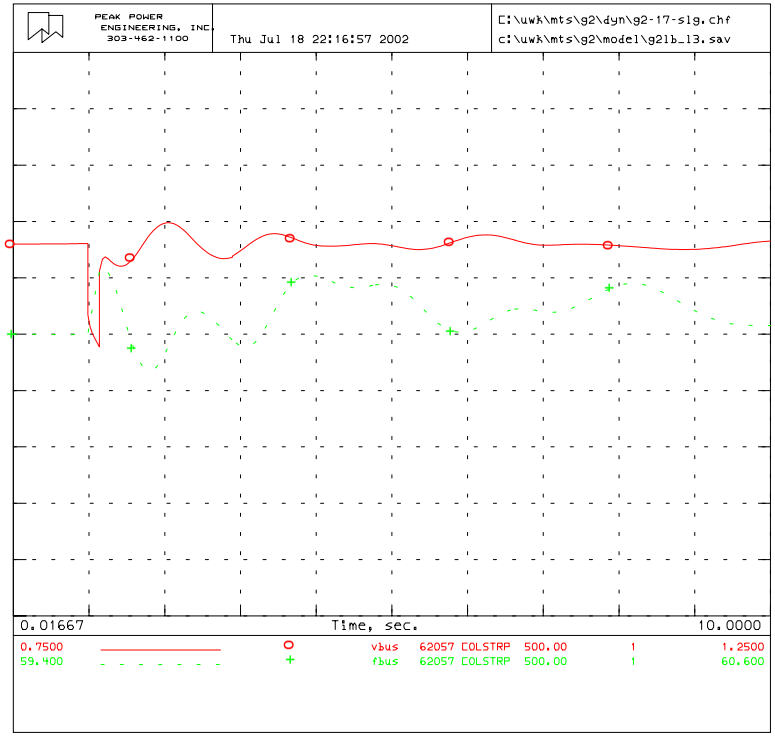

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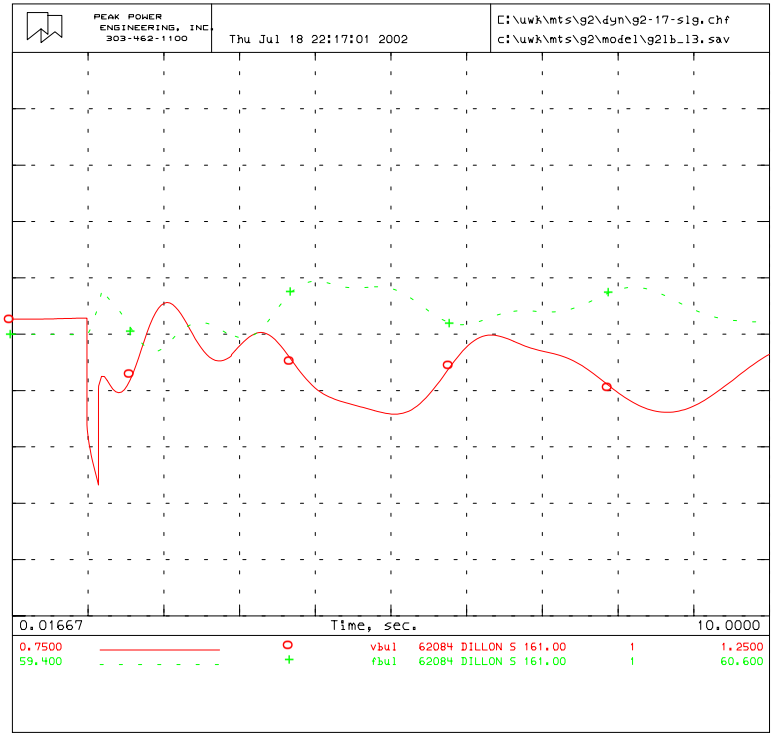

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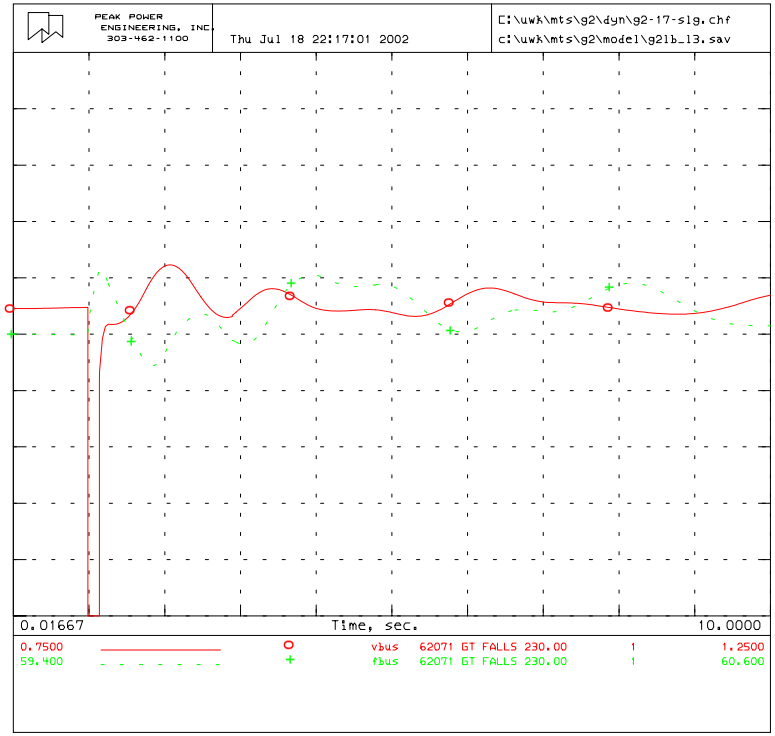

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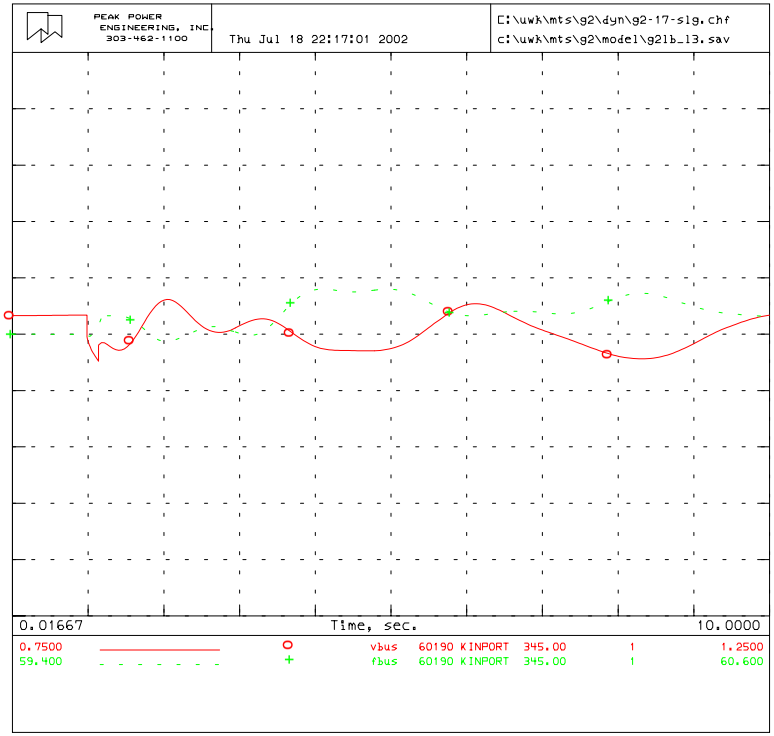

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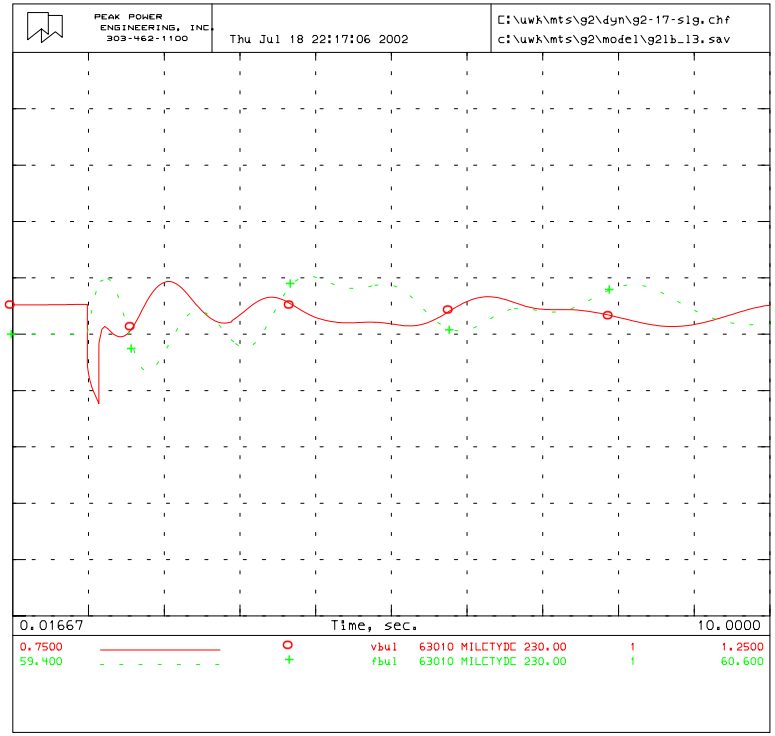

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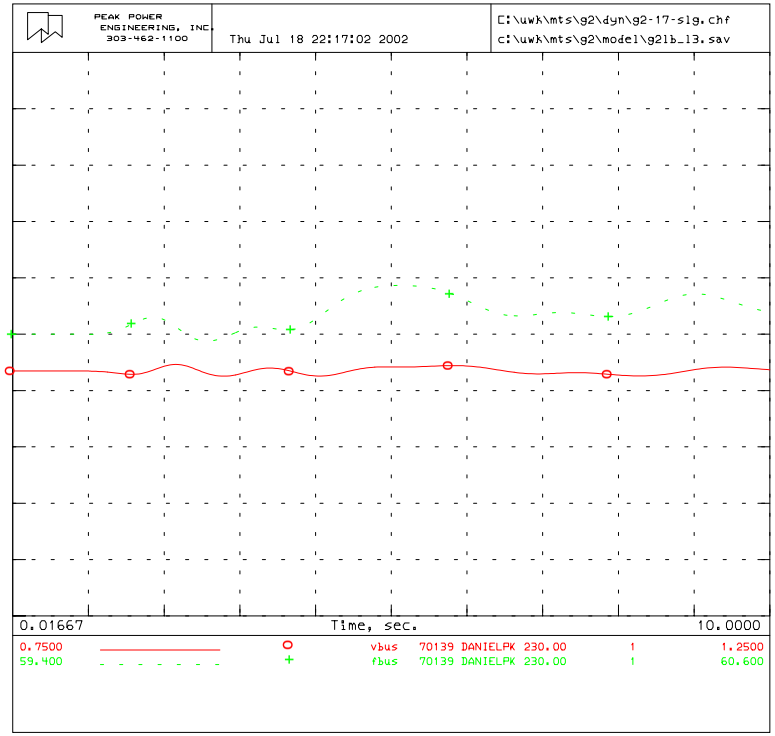

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