

**Note:** Excerpts from the Tables listed in Appendix A are for the purpose of illustration. The excerpts were extrapolated from the list of Tables that can be found at the following website:

[http://www.wapa.gov/dsw/pwrmt/BCP/BCP%20Capital/BCP\\_Capital\\_Advance.htm](http://www.wapa.gov/dsw/pwrmt/BCP/BCP%20Capital/BCP_Capital_Advance.htm)

## **APPENDIX A**

### **CALCULATIONS FOR REPLACEMENT CAPITAL ADVANCES AND REPAYABLE ADVANCES**

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## APPENDIX A

### CALCULATIONS FOR REPLACEMENT CAPITAL ADVANCES AND REPAYABLE ADVANCES

This Appendix illustrates the repayment calculation as provided in Section 6 of this Amendment. The following lists the tables that correspond to the calculation.

Table 1: Compiles all Replacements from each annual Fiscal Year "Final Ten Year Operating Plan" and identifies them as an Annual Replacement or a Multi-Year Replacement.

Table 2: Calculates interest during construction and determines the annual amortization dollars on the Multi-Year Replacements from Table 1.

Table 3: Compiles all Annual Replacements" from Table 1 and calculates 96% on each Annual Replacement, see Section 6.2 (6.2.1) and determines the annual amortization dollars.

Table 4: Compiles the total amortization dollars for both Multi-Year and Annual Replacements from Tables 2 and 3).

Table 5: Calculates the Amortization Tables (P&I) for each FY from Table 4.

Table 6: Sums the Annual/Cumulative Principal Payments from Table 5.

Table 7: Sums the total "Repayable Advances" from Table 4 and Table 6.

Table 7 displays the amount that is due existing Contractors to date and into the future years based on the replacement costs to date.

<p style="text-align: center;"><b>TABLE 1</b>  <b>Historical Summary of Boulder Canyon Project Replacements</b>  <b>For The Period June 1, 1987 Through September 30, 2014</b>  <b>Plus</b>  <b>Summary of Budgeted Boulder Canyon Project Replacements</b>  <b>For The Period October 1, 2015 Through September 30, 2024</b></p>																	
ITEM NO.	DESCRIPTION	AMORT. CLASS	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	FY	
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
			\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
1	Hoover-Mead Consolidation	Multi-Yr															
2	River Telemetry Upgrade/Backup	Annual															
3	PIP Piping Replacement	Annual															
4	Jet Flow Gates-Install/Design	Multi-Yr															
5	Station/Domestic Water Systems	Multi-Yr															
6	Cooling Water Educator System	Annual															
7	Crane Modernization	Multi-Yr	358,445	312,860	44	3,135	41	530									
8	Thrust Bearing Cooler N/A/Z	Annual															
9	Unscheduled Powerplant Replacements	Annual															
10	Station Service Units-Recondition	Multi-Yr															
11	Station Service Air Compressors	Multi-Yr															
12	Jus System Upgrade	Multi-Yr															
13	Fire Alarm System	Multi-Yr															
14	Intake Emergency Generators	Multi-Yr															
15	Sewage Sludge Pumps	Multi-Yr															
16	Scheduled Communication Replacements	Annual	28,031	29,375													
17	Wicketgate Bushings/Wear Plate	Annual	146,349	123,018	635,873	343,221	182,040	547,517	209,173	218,032	359,177	39,133					
18	Ground Swtch - M4	Annual															
19	Scheduled Control System Replacements	Annual	192,379	167,817	13,650	40											
20	Upgrade Machine Shop Equipment	Multi-Yr															
21	Central Section Replacements	Multi-Yr															
22	Sewage Plant	Annual															
23	Life Safety Code/ADA Compliance	Annual	65,948	76,315													
24	Station Service Electrical	Multi-Yr															
25	Spare Unit Breaker	Multi-Yr															
26	Intake Gatehoist Starters	Annual															
27	Battery - Operated Forklifts	Annual															
28	Seal Rings - A3/A4	Annual															
29	Lighting Panels	Multi-Yr															
31	River Telemetry-MM	Annual															
32	Paradox Gate Controls	Multi-Yr															
33	Butterfly Seals/Pivot Bearings	Annual															
34	Station Service Equipment	Multi-Yr															
35	General Piping Replacements	Annual															
36	2300V Station Service Cable	Annual															
37	Needle Valve Replacement Program	Multi-Yr															
38	460V Motor Control Centers	Multi-Yr															
39	Central Section Firelines	Multi-Yr															
40	Dam/Pow erplant Elevator Controls/Elevator/Motor&Controller Replc	Multi-Yr-Ann															
41	AZNV Valvehouse Elevators	Multi-Yr															
42	Flow meter Record/Monitor Equipment	Multi-Yr															
43	Pre-88 Expense Water Piping (SSE)	Annual															
44	Pre-88 Expense A6 Windings (SCE)	Annual															
45	Temperature Monitoring Equipment	Multi-Yr															
46	Auto Grease System	Multi-Yr															
47	AZ Valve House Water Supply	Multi-Yr															
48	Central Section Sump Pumps	Multi-Yr															
49	125-250V DC Battery Charge System	Annual															
50	Fiber Optics Communications	Multi-Yr															
51	Central Section Ventilation	Ann-Multi															
52	Station Service Governors	Ann-Multi															
53	Unit GEN/NZ A1-A2, 1B, SS	Multi-Yr															
54	M Distribution Board	Multi-Yr															
55	160-Ton Cableway Control Boards/Relays	Ann-Multi															
56	Penstock Tunnel Lighting System	Multi-Yr-Ann	1,039,290	417,830				141	110	114							
57	Communications Upgrade	Multi-Yr															
58	Vacuum Purification Units	Multi-Yr															
59	Uninterruptible Power Supply	Annual															
60	4th Floor Unit Controls/NV	Multi-Yr															
61	4th Floor Unit Controls/AZ	Multi-Yr															
62	Telephone Switch	Multi-Yr															
63	Station Service Controls/Relays	Multi-Yr															
64	Station Service Compressors	Multi-Yr															
65	Dew ater Educator/Water Pumps	Annual															
66	Miscellaneous/Minor Equipment	Annual	35	3,082	23												
67	Sedans/Transportation Equipment (Rolling Stock)	Annual	22,004														
68	Unscheduled General Project Replacements	Annual															
69	Communications Test Equipment	Annual		93,104	6,092												
70	Controls System Test Equipment	Annual															
72	BC Water System Modifications	Annual															
73	Breakers/Timing Tester	Annual															
74	Machine Shop Mill	Multi-Yr															
75	Roof Drainage System	Annual															
76	Other Nonsect Replacement Expense	Annual															
77	Transformer Warranty Work	Multi-Yr															
78	Generator Coolers	Annual	20,608	133,220	9,151	211,753	30,958	114,227	258,514	244,545	112,932	326,275	416,000	459,000	459,000		
79	Misc AC Expense Paint Shop	Annual															
80	A# Compressor	Annual															
81	Power Saw	Annual															
82	Lathe	Annual															
83	Fork Lift	Annual															
84	A9 Seal Rings	Annual															
85	Auto Synchronizer	Annual															
86	Butterfly (Rubber) Valves (Seats and Seals (Reseating))	Annual	621,028	41,312		127,158	232,360	211,151	67,522				198				
87	DGWR Warehouse (Western) **	Annual															
88	Remove & Dispose of Bushings at Hoover 69KV Yard **	Annual			136,587												
89	A# Compressors Overhaul	Annual				8,054	369,311	223,224	207,201	388	10,205						
90	Batteries - UPS	Annual															
91	Emergency Compressor Repair	Annual															
92	Vibration Test/Correct A5/N7	Annual															
93	Replace Station Service Tie Brkr w/Bus	Annual															
94	Service Air System Replacement	Annual															
95	Spare Turbine Seal Rings	Annual	41,052	4,067	284,189	341,254	28,293	170,287	160,355	121,178	251,946						
96	VHF Radios (Western) **	Annual	155	(46)													
97	Relay Replacements on Hoover-Mead Lines/Digital Vault/Recorders **	Annual	50,381	135,752	257,935	272,460	157,203	225,723	283,146	141,504							
98	2300V Conduit & Power Cable (Warehouse) Replc	Annual															
99	Replace Wastew ater Treatment Facility	Annual															
100	Drum Gate Hinge Pins Replacements	Annual															170,000
101	Scrub on 17 Generator CO2 Sys.	Annual							195,007	55,447	327,022						
102	Station Service 250V Batteries	Annual															
103	Incline Tunnel Piping	Annual															
104	Life Safety (Emergency Lighting)	Annual							548								
105	Relay Protection	Annual															
106	Servo Motor (N7)	Annual															
107	SFB Breaker Modc	Annual															
108	Slot Line Piping Repair	Annual															
109	Replace/Upgrade Microv ave Telemetry System	Annual				635,587	(26,000)	131,825	524,475	37,060	-27,638						
110	Phasor Measurement Unit (PMU) Installation at Mead Substation **	Annual				76,420											
111	Drum Gate Control Valve Replacement	Annual															
112	Drum Gate Drain Hose Replacements	Annual								2,270	4,205	336,889					
113	Sump Pump - West Nevada	Annual	542,339	770,322	124		1,283										
114	Butterfly Valves Pumps/Bearings Assessment	Annual				17,350				200,400							
115	Drum Gate Seal Replacement	Annual				6,454	100,921	1,515	23,148	13,612							
116	HVAC (8th Floor)	Annual				101,976			79	327							
117	Low er Portal Tunnel Lighting refurbishment	Annual															
118	Surge Arrestors	Annual															
119	Wicketgate Replacements (Stainless)	Annual	1,387,952	872,390	2,328,799	956,378	1,539,468	262,191	1,188,287	326,176	18,809	127,905	501,000				
120	Station Service Transformers	Annual															
121	Portable Water/Fire Protection System Upgrade	Annual		138,192	139,937												
122	Hoover SCADA Upgrade and Panel/Unit Control Modernization	Annual		138,054	2,185,348	4,054,738	2,838,507	1,965,778	256,022	5,453	437						
123	Station Service Pelton Turbine Replacement	Annual							9,292	48,467	67						

## Table 1 Historical Summary of Boulder Canyon Project Replacements

Note:

Column (1). The original Item No.'s were taken from the 1997 "Boulder Canyon Project Ten Year Operating Plan", Historical E&OC documents and Financial data.

Column (2). The AMORT. CLASS identifies the Replacement as either an Annual Year or a Multi-Year. A few Replacements are identified as Ann-Multi, which indicates that the replacement has been done more than once and at least one of the replacements was an Annual and at least one was a Multi-Year. Same concept used for the Multi-Annual items.

**Item No. 30** Vibration Repair and **Item No. 71** Relay Test Equipment were removed in the FY 2000 Ten Year Operating Plan, since no money was ever spent on these items, they were removed to avoid any confusion. Table 1 was not renumbered to remain consistent with other tables. **Items 88,98,99,100,112,115,116,117** were changed to accommodate the FY 2008 new items on Table 1 since no money was ever spent in the past years on the old items.

Starting in 1999 Western's replacements are being included in the calculation. Western's replacements are not categorized as replacements in the PRS. The difference between the Replacement costs to Treasury and the Replacement costs reported in the PRS is the inclusion of Western's Replacements. Another difference between the PRS and the cost to Treasury is the Bureau's "Regional Office Engineering Services" dollars are not included in the annual Advance calculation. This number does not match the Total Replacements Cost Repayable to the U.S. Treasury because it has not been modified to show the actual expenses.

Table # 2															
(Replaces Table A.2.3 in Appendix A)															
Calculation of Interest During Construction (IDC)															
for Replacements not Placed in Service in the															
Fiscal Year Expenditure is made															
MULTI-YEAR REPLACEMENTS W/IDC; STARTING YEAR = 1998							MULTI-YEAR REPLACEMENTS W/IDC; STARTING YEAR = 1999								
(3)	(4)	(5)	(6)	(7)	(8)	(9)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Replacement Description	Replacemnt Expenditure	96% of Replacemnt Expenditure	Current Interest Rate	See Note Col (7) Annual IDC	End of Period Expenditure	Multi-Year Total For Amortization	Fiscal Year	Item Num.	Replacement Description	Replacemnt Expenditure	96% of Replacemnt Expenditure	Current Interest Rate	See Note Col (7) Annual IDC	End of Period Expenditure	Multi-Year Total For Amortization
Central Sec. Rep.	102,710	98,602	6.875%	3,389	101,991						0	6.000%	0	0	
	922,843	885,929	6.875%	37,466	1,025,386						0	6.000%	0	0	
	122,739	117,829	6.875%	74,546	1,217,761						-----	-----	-----	-----	
	-----	-----		-----							0	0	0	0	
	1,148,292	1,102,360		115,401	1,217,761										
Amort Start Yr						\$1,217,761									
<b>No Mutiple year Projects are projected for this start year at this time</b>															
Spare Unit Breakr	14,226	13,657	6.875%	469	14,126										
	14,725	14,136	6.875%	1,457	29,719										
	236,557	227,095	6.875%	9,850	266,664										
	12,744	12,234	6.875%	18,754	297,652										
	2,644	2,538	6.875%	20,551	320,741										
	-----	-----		-----											
	280,896	269,660		51,081	320,741										
Amort Start Yr						\$320,741									

**Table #2**  
**(Replaces Table A.2.3 in Appendix A)**  
**Calculation of Interest During Construction (IDC)**  
**For Replacement not place in Service in the**  
**Fiscal Year Expenditure is made**

**IDC Calculation 1999 – 2025**  
**No Multiple year Projects are projected for these years**

Notes: Table 2

Col. (1) This column provides the beginning and final year for each Multi-Year replacement activity. This column also identifies the year amortization of the replacement expense will begin, as set forth in Section 6.3 (b) of the Boulder Canyon Project Implementation Agreement.

Col. (2) Provides the Item Number from Table # 1 that corresponds to the specific replacement activity provided in the Budget & Historic Schedule.

Col. (3) Provides an abbreviated description of the replacement activity as shown in Table # 1.

Col. (4) Displays the yearly "Replacement Expenditure" amount provided by the Contractors during each multi-year replacement activity.

Col. (5) Displays 96% of the Replacement Expenditures as specified in Section 6.2.1, of the Boulder Canyon Project Implementation Agreement, "Replacement Capital Advance", which provides in part that "... Ninety-six percent (96%) of the sum of the amounts so expended ... for replacement items not placed in service in the year such expenditures are made ..."

Col. (6) Displays the current interest rate for each Fiscal Year, as determined in accordance with DOE Order R.A. 6120.2.

Col. (7) Calculates the Interest During Construction (IDC). The calculation of IDC is based on the twelve month period beginning October 1, and ending September 30, of the following year. IDC is the product of column 5 and 6 multiplied by half an annual interest period plus the product of the previous years amount, if any, in column 8 and 6.

Example:  $(257,324 * 8.5\% * 0.5) = 10,936$

$$(268,260 * 8.5\%) + (59,107 * 8.5\% * 0.5) = 25,314$$

Col. (8) The "End of Period Expenditure" displayed in this column provides an accumulation of the sum of columns (5) and (7).

Col. (9) The "Multi-Year Total For Amortization" column provides for each replacement activity the total amount, inclusive of IDC, that is to be amortized. This amount along with the amortization starting year from column (1) are provided as input to Table # 4.

**Table # 3**  
**Replacements Placed in Service in the**  
**Same Fiscal Year Expenditure is made**

ANNUAL REPLACEMENTS W/O IDC; STARTING YEAR = 2015					
(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Year	Item Num.	Replacement Description	Annual Replacement Cost	96% of Annual Replacement Cost	Cumulative Annual Total For Amortization
2015	40	Dam/Powerplant Elevator Controls/ElevatorMotor&Controller Replc	740,000	710,400	710,400
2015	78	Generator Coolers	416,000	399,360	1,109,760
2015	119	Wickgate Replacements (Stainless)	501,000	480,960	1,590,720
2015	133	Wide-Head Range Turbine CFD and Model Study	2,700,000	2,592,000	4,182,720
2015	134	Hoover Unit 16.5 KV Generator Breaker	2,600,000	2,496,000	6,678,720
2015	138	PRV Modernization - Overhauls	1,141,000	1,095,360	7,774,080
2015	144	A2,A4,A7 PRV Moderization	1,357,000	1,302,720	9,076,800
2015	145	Escalator Replacement	30,000	28,800	9,105,600
2015	153	Drum Gate Repair & Component Replacement	100,000	96,000	9,201,600
2015	155	Transformer Relay Replacements (MED 8) **	140,000	134,400	9,336,000
2015	156	Hoover-Mead #1-8 Jumper Replacement **	500,000	480,000	9,816,000
2015	157	Cylinder Gate Stem Evaluation and Replacement	20,000	19,200	9,835,200
2015	158	Telephone System Replacement - VOIP	440,000	422,400	10,257,600
2015	159	480 Volt Switchgear Replacement	200,000	192,000	10,449,600
2015	160	Mead BUS CCVT/CT Foundation Replacement **	137,500	132,000	10,581,600
2016		Annual Amort Start Year Total			\$10,581,600

  

ANNUAL REPLACEMENTS W/O IDC; STARTING YEAR = 2016					
(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Year	Item Num.	Replacement Description	Annual Replacement Cost	96% of Annual Replacement Cost	Cumulative Annual Total For Amortization
2016	40	Dam/Powerplant Elevator Controls/ElevatorMotor&Controller Replc	1,160,000	1,113,600	1,113,600
2016	78	Generator Coolers	459,000	440,640	1,554,240
2016	126	Western Outyear Projects to be defined later **	400,000	384,000	1,938,240
2016	133	Wide-Head Range Turbine CFD and Model Study	1,000,000	960,000	2,898,240
2016	134	Hoover Unit 16.5 KV Generator Breaker	3,600,000	3,456,000	6,354,240
2016	138	PRV Modernization - Overhauls	345,000	331,200	6,685,440
2016	144	A2,A4,A7 PRV Moderization	1,800,000	1,728,000	8,413,440
2016	145	Escalator Replacement	560,000	537,600	8,951,040
2016	153	Drum Gate Repair & Component Replacement	1,850,000	1,776,000	10,727,040
2016	155	Transformer Relay Replacements (MED 8) **	60,000	57,600	10,784,640
2016	157	Cylinder Gate Stem Evaluation and Replacement	80,000	76,800	10,861,440
2016	159	480 Volt Switchgear Replacement	2,225,000	2,136,000	12,997,440
2017		Annual Amort Start Year Total			\$12,997,440

**Table # 4**  
**Summary of Amortization Amounts**

(1)	(2)	(3)	(4)	(5)
Amortization Start Year	Multi-Year Total	Annual Total	Replacement Capital Advances (Total Amount to be Amortized)	Interest Rate
1989	0	1,744,871	\$1,744,871	9.250%
1990	2,873,067	474,578	\$3,347,645	8.875%
1991	1,602,090	638,513	\$2,240,603	8.750%
1992	0	174,377	\$174,377	8.500%
1993	2,129,601	579,127	\$2,708,728	7.875%
1994	5,031,640	819,950	\$5,851,590	7.125%
1995	3,470,220	2,362,466	\$5,832,686	7.250%
1996	3,129,633	972,229	\$4,101,862	7.625%
1997	19,619,294	1,841,615	\$21,460,909	6.875%
1998	2,193,664	1,874,814	\$4,068,478	6.875%
1999	1,123,336	1,676,346	\$2,799,682	6.000%
2000	5,688,516	1,962,769	\$7,651,285	5.750%
2001	2,031,238	1,259,026	\$3,290,264	6.250%
2002	0	2,473,225	\$2,473,225	5.625%
2003	320,741	2,833,173	\$3,153,914	5.500%
2004	0	2,569,674	\$2,569,674	4.875%
2005	0	2,639,725	\$2,639,725	5.125%
2006	0	4,335,357	\$4,335,357	4.625%
2007	0	3,318,829	\$3,318,829	4.875%
2008	0	5,760,722	\$5,760,722	4.875%
2009	0	6,908,500	\$6,908,500	4.500%
2010	0	6,140,371	\$6,140,371	4.000%
2011	0	6,283,219	\$6,283,219	4.125%
2012	0	5,179,890	\$5,179,890	4.000%
2013	0	6,449,341	\$6,449,341	3.000%
2014	0	10,724,514	\$10,724,514	3.000%
2015	0	7,320,125	\$7,320,125	3.375%
2016	0	10,581,600	\$10,581,600	3.375%
2017	0	12,997,440	\$12,997,440	3.375%
2018	0	15,155,520	\$15,155,520	3.375%
2019	0	12,792,960	\$12,792,960	3.375%
2020	0	4,869,120	\$4,869,120	3.375%
2021	0	2,863,680	\$2,863,680	3.375%
2022	0	939,840	\$939,840	3.375%
2023	0	941,760	\$941,760	3.375%
2024	0	969,600	\$969,600	3.375%
2025	0	997,440	\$997,440	3.375%

**Notes:**

Col. (1) This column provides the start year for amortization of the replacement expenses.  
 Col. (2) Provides, from Table #2, the Multi-Year replacement expenses that are to be amortized.  
 Col. (3) Provides, from Table #3, the Annual replacement expenses that are to be amortized.  
 Col. (4) Displays the sum of the Multi-Year replacement expenses, shown in column (2), and the Annual replacement expenses, shown in column (3). This Number is then amortized in Table #5  
 Col. (5) Displays the current interest rate for each Fiscal Year, as determined in accordance with DOE Order R.A. 6120.2.

**Table # 5  
(Replaces Table A.2.2 in Appendix A)**

**Amortization Tables for  
Replacement Capital Advances**

FY 2017						
	Amount to be Amortized	\$12,997,440				
	Yearly Interest	3.375%				
	Amortization Period	50 Years				
	Principal & Interest Paymnt	\$541,698				
(1)	(2)	(3)	(4)	(5)	(6)	
Fiscal Year	BOP Remaining Principal \$	---- Payments ---- P&I \$		Interest \$	Principal \$	EOP Remaining Principal \$
2009	0	0	0	0	0	0
2010	0	0	0	0	0	0
2011	0	0	0	0	0	0
2012	0	0	0	0	0	0
2013	0	0	0	0	0	0
2014	0	0	0	0	0	0
2015	0	0	0	0	0	0
2016	0	0	0	0	0	0
2017	12,997,440	541,698	438,664	103,034	12,894,406	
2018	12,894,406	541,698	435,186	106,512	12,787,894	
2019	12,787,894	541,698	431,591	110,107	12,677,787	
2020	12,677,787	541,698	427,875	113,823	12,563,964	
2021	12,563,964	541,698	424,034	117,664	12,446,300	
2022	12,446,300	541,698	420,063	121,635	12,324,665	
2023	12,324,665	541,698	415,957	125,741	12,198,924	
2024	12,198,924	541,698	411,714	129,984	12,068,940	
2025	12,068,940	541,698	407,327	134,371	11,934,569	
2026	11,934,569	541,698	402,792	138,906	11,795,663	
2027	11,795,663	541,698	398,104	143,594	11,652,069	
2028	11,652,069	541,698	393,257	148,441	11,503,628	
2029	11,503,628	541,698	388,247	153,451	11,350,177	
2030	11,350,177	541,698	383,068	158,630	11,191,547	
2031	11,191,547	541,698	377,715	163,983	11,027,564	
2032	11,027,564	541,698	372,180	169,518	10,858,046	
2033	10,858,046	541,698	366,459	175,239	10,682,807	
2034	10,682,807	541,698	360,545	181,153	10,501,654	
2035	10,501,654	541,698	354,431	187,267	10,314,387	
2036	10,314,387	541,698	348,111	193,587	10,120,800	
2037	10,120,800	541,698	341,577	200,121	9,920,679	
		-----	-----	-----		
<b>Subtotal</b>		<b>11,375,658</b>	<b>8,298,897</b>	<b>3,076,761</b>		

**Table # 5**  
**(Replaces Table A.2.2 in Appendix A)**

**Amortization Tables for**  
**Replacement Capital Advances**

Notes:

Col. (1) This column displays the first Fiscal Year through the last Fiscal Year of the amortization period for each capitalized replacement expense.

Col. (2) This column displays the Beginning of Period (BOP) remaining principal, which first equals the "Total Amount to be Amortized" from Table #4 for the corresponding Fiscal Year. It is then reduced in the next Fiscal Year by the amount of principal paid in that Fiscal Year as shown in Column 5.

Col. (3) This column displays the Principal and interest (P&I) which reflects the amortization schedule required to pay off the Replacement Capital Advances at the current interest rate over a 50 year repayment period beginning in the Fiscal Year following the investment going into service, as described in Section 6.3(b).

Col. (4) This column displays the amount of interest for a given Fiscal Year which is the product of the current interest rate and the BOP remaining principal shown in Column 1. The current interest rate is specified at the beginning of each amortization schedule.

Col. (5) This column displays the Principal which equals P&I from Column 3 minus Interest from Column 4. The cumulative sum of the Column 5 values for each Fiscal Year is the annual principal recovered if replacements were funded by appropriations, as shown in Column 2 of Table #6.

Col. (6) This column displays the End of Period (EOP) remaining principal which equals the BOP remaining principal shown in Column 2 minus the principal paid shown in Column 5.

**Table # 6**  
**(Replaces Table A.2.1 in Appendix A)**

**Principle Payments Required if Replacement Capital Advances  
Were Funded by Appropriations**

	(1)	(2)	(3)
	Fiscal Year	Sum of <i>Annual</i> Principal Payments from Amortization Tables \$	<i>Cumulative</i> Principal Payments \$
<b>Historical Expense:</b>			
	1989	1,959	1,959
	1990	6,434	8,393
	1991	10,015	18,408
	1992	11,163	29,571
	1993	17,090	46,661
	1994	32,355	79,016
	1995	48,110	127,126
	1996	59,998	187,124
	1997	119,743	306,866
	1998	139,000	445,866
	1999	158,828	604,694
	2000	198,973	803,666
	2001	223,406	1,027,073
	2002	248,709	1,275,782
	2003	278,834	1,554,616
	2004	310,862	1,865,478
	2005	344,197	2,209,675
	2006	390,864	2,600,539
	2007	433,385	3,033,924
	2008	490,638	3,524,562
	2009	561,286	4,085,848
	2010	637,351	4,723,199
	2011	716,769	5,439,968
	2012	794,764	6,234,732
	2013	900,218	7,134,950
	2014	1,048,384	8,183,333
<b>Subtotal</b>		<b>\$8,183,333</b>	<b>8,183,333</b>
<b>Budgeted Expense:</b>			
	2015	1,165,716	9,349,049
	2016	1,314,524	10,663,574
	2017	1,489,297	12,152,871
	2018	1,688,992	13,841,864
	2019	1,878,752	15,720,616
	2020	2,014,304	17,734,919
	2021	2,140,892	19,875,812
	2022	2,259,036	22,134,848
	2023	2,383,901	24,518,749
	2024	2,516,109	27,034,858
	2025	2,656,124	29,690,983
<b>Notes:</b>	Col. (2) Total annual principal which would have been paid by the Contractors each year had appropriations been available to fund the replacement cost. The amount shown is the sum of all principal payments displayed in column (5) of Table 5. This represents the principal portion that Treasury would have recovered annually if all replacements had been funded by appropriations.		

**Table # 7**  
**(Replaces Table A.3 in Appendix A)**

**CALCULATION OF REPAYABLE REPLACEMENT AMOUNTS**

(1)	(2)	(3)	(4)	(5)
Fiscal Year	Annual Replacement Amount to be Amortized	Sum of Annual Principal Payments Recovered Based on Amortization of Replacement Amount	Repayable Advance Amount <b>Cols (2 - 3)</b>	Cumulative Repayable Advances
	\$	\$	\$	\$
<b>Historical Expense:</b>				
1989	1,744,871	1,959	1,742,912	1,742,912
1990	3,347,645	6,434	3,341,211	5,084,123
1991	2,240,603	10,015	2,230,588	7,314,711
1992	174,377	11,163	163,214	7,477,925
1993	2,708,728	17,090	2,691,638	10,169,563
1994	5,851,590	32,355	5,819,235	15,988,798
1995	5,832,686	48,110	5,784,576	21,773,374
1996	4,101,862	59,998	4,041,864	25,815,238
1997	21,460,909	119,743	21,341,166	47,156,405
1998	4,068,478	139,000	3,929,478	51,085,883
1999	2,799,682	158,828	2,640,854	53,726,737
2000	7,651,285	198,973	7,452,312	61,179,050
2001	3,290,264	223,406	3,066,858	64,245,907
2002	2,473,225	248,709	2,224,516	66,470,423
2003	3,153,914	278,834	2,875,080	69,345,503
2004	2,569,674	310,862	2,258,812	71,604,315
2005	2,639,725	344,197	2,295,528	73,899,843
2006	4,335,357	390,864	3,944,493	77,844,336
2007	3,318,829	433,385	2,885,444	80,729,780
2008	5,760,722	490,638	5,270,084	85,999,864
2009	6,908,500	561,286	6,347,214	92,347,078
2010	6,140,371	637,351	5,503,020	97,850,098
2011	6,283,219	716,769	5,566,450	103,416,548
2012	5,179,890	794,764	4,385,126	107,801,674
2013	6,449,341	900,218	5,549,123	113,350,797
2014	10,724,514	1,048,384	9,676,130	123,026,928
<b>Subtotal</b>	<b>\$131,210,261</b>	<b>\$8,183,333</b>		<b>\$123,026,928</b>
<b>Budgeted Expense:</b>				
2015	7,320,125	1,165,716	6,154,409	129,181,337
2016	10,581,600	1,314,524	9,267,076	138,448,412
2017	12,997,440	1,489,297	11,508,143	149,956,555
2018	15,155,520	1,688,992	13,466,528	163,423,082
2019	12,792,960	1,878,752	10,914,208	174,337,290
2020	4,869,120	2,014,304	2,854,816	177,192,107
2021	2,863,680	2,140,892	722,788	177,914,894
2022	939,840	2,259,036	(1,319,196)	176,595,698
2023	941,760	2,383,901	(1,442,141)	175,153,557
2024	969,600	2,516,109	(1,546,509)	173,607,048
2025	997,440	2,656,124	(1,658,684)	171,948,363
<b>Notes:</b>				
	Col. (1) This column provides the beginning year for amortization of the replacement expense			
	Col. (2) Provides, from Table #4, the replacement expense that is to be amortized.			
	Col. (3) Total annual principal amount, from Table #6, which would have been paid by the Contractors each year had appropriations been available to fund the replacement cost.			
	Col. (4) Displays the difference between the annual replacement expense to be amortized, shown in column (2), and the principal payments shown in column (3). The difference represents an amount funded by the Contractors that is in excess of the amount that would have been paid by the Contractors if replacement were funded by appropriations and amortized.			
	Col. (5) This is the reimbursement due to the present Hoover Power Contractors by the Post-2017 Contractors having a payment obligation as set out in Section 6.4, of the Boulder Canyon Project Implementation Agreement.			

**APPENDIX B**  
**COMMITTEE REPRESENTATIVES**

DRAFT

# COORDINATING COMMITTEE

## MEMBERS:

### CITY OF ANAHEIM

**Mr. Stephen Sciortino**  
Integrated Resources Manager  
Public Utilities Department  
City of Anaheim  
201 S. Anaheim Blvd, Suite 802  
Anaheim, CA 92805

### ARIZONA POWER AUTHORITY

**Mr. Michael A. Gazda**  
Deputy Director  
Arizona Power Authority  
1810 W. Adams Street  
Phoenix, AZ 85007-2697

### CITY OF AZUSA

**Mr. George Morrow**  
Integrated Resource Planning  
Manager  
Azusa Light & Power Department  
City of Azusa  
P.O. Box 9500  
Azusa, CA 91702-9500

### CITY OF BANNING

**Mr. Fred Mason**  
Power Resource & Revenue Administrator  
City of Banning  
176 East Lincoln Street  
P.O. Box 998  
Banning, CA 92220

### CITY OF BOULDER CITY

**Mr. Scott Hansen**  
Director of Public Works  
City of Boulder City  
P.O. Box 61350  
Boulder City, NV 89006-1350

## ALTERNATES:

**Mr. Elden Krause**  
Integrated Resources Planner  
Public Utilities Department  
City of Anaheim  
201 S. Anaheim Blvd, Suite 802  
Anaheim, CA 92805

**Ms. Linda Sullivan**  
Senior Rate Analyst  
Arizona Power Authority  
1810 W. Adams Street  
Phoenix, AZ 85007-2697

**Mr. Steven Homer**  
Project Administrator  
Southern California Public  
Power Authority  
225 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Mr. Steven L. Homer**  
Project Administrator  
Southern California Public  
Power Authority  
225 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Mr. Bill D. Carnahan**  
Southern California Public  
Power Authority  
222 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Mr. Rory Dwyer**  
Electric Utility Administrator  
City of Boulder City  
P.O. Box 61350  
Boulder City, NV 89006-1350

**CITY OF BURBANK**

**Mr. Lincoln Bleveans**  
Manager Power Resource Section  
Public Service Department  
City of Burbank  
164 W. Magnolia Blvd.  
Burbank, CA 91503-0631

**Mr. Himanshu Pandey**  
Title  
Public Service Department  
City of Burbank  
164 W. Magnolia Blvd.  
Burbank, CA 91503-0631

**COLORADO RIVER COMMISSION**

**Ms. Jayne Harkins**  
Executive Director  
Colorado River Commission of NV  
555 E. Washington Ave., Suite 3100  
Las Vegas, NV 89101

**Mr. Craig Pyper**  
Assistant Hydro Manager  
Colorado River Commission of Nevada  
555 E. Washington Ave., Suite 3100  
Las Vegas, NV 89101

**CITY OF COLTON**

**Mr. Amer Jaker**  
Electric Utility Director  
Utility Department  
City of Colton  
650 N. La Cadena Drive  
Colton, CA 92324

**Ms. Peggy Keigler**  
Title  
Utility Department  
City of Colton  
650 N. La Cadena Drive  
Colton, CA 92324

**CITY OF GLENDALE**

**Mr. Glenn O. Steiger**  
General Manager – GWP  
City of Glendale Water & Power  
141 N. Glendale Avenue, Level 4  
Glendale, CA 91206-4496

**Mr. Steven Lins**  
Assistant General Manager – Supply  
City of Glendale Water & Power  
141 N. Glendale Avenue, Level 4  
Glendale, CA 91206-4496

**LOS ANGELES DEPARTMENT OF  
WATER AND POWER**

**Mr. Minh Le**  
Power Engineering Manager  
Los Angeles Department of  
Water and Power  
P.O. Box 51111, Room 1255  
Los Angeles, CA 90051-0100

**Mr. Saifuddin Mogri**  
Electrical Engineer  
Los Angeles Department of  
Water and Power  
P.O. Box 51111, Room 1263  
Los Angeles, CA 90051-0100

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

**Mr. Jon C. Lambeck**  
Manager of Power Resources  
The Metropolitan Water District  
Of Southern California  
P.O. Box 54153, Terminal Annex

**Ms. Ann T. Finley**  
Senior Engineer  
The Metropolitan Water District  
Of Southern California  
P.O. Box 54153, Terminal Annex

Los Angeles, CA 90054-0153

**CITY OF PASADENA**

**Ms. Phyllis Currie**

General Manager  
City of Pasadena  
150 S. Los Robles, Suite 200  
Pasadena, CA 91101

**CITY OF RIVERSIDE**

**Ms. Reiko Kerr**

City of Riverside  
3435 14th Street  
Riverside, CA 92501

**SOUTHERN CALIFORNIA EDISON**

**Mr. James A. Buerkle**

Director Contracts Management  
Southern California Edison Co.  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**CITY OF VERNON**

**Mr. Carlos Fandino**

Director  
City of Vernon  
Light & Power Department  
4305 Santa Fe Avenue  
Vernon, CA 90058

**WESTERN AREA POWER  
ADMINISTRATION**

**Mr. Ron Moulton**

Senior Vice President and  
Desert Southwest Region Regional Manager  
Western Area Power Administration  
P.O. Box 6457  
Phoenix, AZ 85005-6457

Los Angeles, CA 90054-0153

**Mr. Eric R. Klinkner**

Assistant General Manager of Power Supply  
City of Pasadena  
150 S. Los Robles, Suite 200  
Pasadena, CA 91101

**Mr. Bob Tang**

City of Riverside  
3435 14th Street  
Riverside, CA 92501

**Mr. Marci Palmstrom**

Manager of Power Contracts  
Southern California Edison Company  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**Mr. Scott Wiedermann**

Energy Contracts Manager  
Southern California Edison Company  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**Mr. Abraham Alemu**

Resource Engineer  
City of Vernon  
Light & Power Department  
4305 Santa Fe Avenue  
Vernon, CA 90058

**Ms. Debbie Emler**

Vice President of Power Marketing for  
Desert Southwest Region  
Western Area Power Administration  
P.O. Box 6457  
Phoenix, AZ 85005-6457

# ENGINEERING AND OPERATING COMMITTEE

## MEMBERS:

### CITY OF ANAHEIM

**Mr. Elden Krause**

Integrated Resources Planner  
Public Utilities Department  
City of Anaheim  
201 S. Anaheim Blvd, Suite 802  
Anaheim, CA 92805

### ARIZONA POWER AUTHORITY

**Mr. Michael A. Gazda**

Deputy Director  
Arizona Power Authority  
1810 W. Adams Street  
Phoenix, AZ 85007-2697

### CITY OF AZUSA

**Mr. George Morrow**

Integrated Resource Planning  
Manager  
Azusa Light & Power Department  
City of Azusa  
P.O. Box 9500  
Azusa, CA 91702-9500

### CITY OF BANNING

**Mr. Fred Mason**

Power Resource & Revenue Administrator  
City of Banning  
176 East Lincoln Street  
P.O. Box 998  
Banning, CA 92220

### CITY OF BOULDER CITY

**Mr. Scott Hansen**

Director of Public Works  
City of Boulder City  
P.O. Box 61350  
Boulder City, NV 89006-1350

## ALTERNATES:

**Mr. Tim Hammond**

Title  
Public Utilities Department  
City of Anaheim  
201 S. Anaheim Blvd, Suite 802  
Anaheim, CA 92805

**Ms. Linda Sullivan**

Senior Rate Analyst  
Arizona Power Authority  
1810 W. Adams Street  
Phoenix, AZ 85007-2697

**Mr. Steven Homer**

**Ms. Katherine Ellis**

Southern California Public  
Power Authority  
225 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Mr. Steven L. Homer**

Project Administrator  
Southern California Public  
Power Authority  
225 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Ms. Katherine Ellis**

Southern California Public  
Power Authority  
222 S. Lake Avenue, #1250  
Pasadena, CA 91101

**Mr. Rory Dwyer**

Electric Utility Administrator  
City of Boulder City  
P.O. Box 61350  
Boulder City, NV 89006-1350

**CITY OF BURBANK**

**Mr. Lincoln Bleveans**  
Manager Power Resource Section  
Public Service Department  
City of Burbank  
164 W. Magnolia Blvd.  
Burbank, CA 91503-0631

**Mr. Himanshu Pandey**  
Title  
Public Service Department  
City of Burbank  
164 W. Magnolia Blvd.  
Burbank, CA 91503-0631

**COLORADO RIVER COMMISSION**

**Mr. Craig Pyper**  
Hydropower Program Manager  
Colorado River Commission of NV  
555 E. Washington Ave., Suite 3100  
Las Vegas, NV 89101

**Ms. Lisa Ray**  
Assistant Hydropower Program Manager  
Colorado River Commission of Nevada  
555 E. Washington Ave., Suite 3100  
Las Vegas, NV 89101

**CITY OF COLTON**

**Mr. Amer Jaker**  
Electric Utility Director  
Utility Department  
City of Colton  
650 N. La Cadena Drive  
Colton, CA 92324

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Utility Department  
City of Colton  
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Colton, CA 92324

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City of Glendale Water & Power  
141 N. Glendale Avenue, Level 4  
Glendale, CA 91206-4496

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City of Glendale Water & Power  
141 N. Glendale Avenue, Level 4  
Glendale, CA 91206-4496

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**LOS ANGELES DEPARTMENT OF  
WATER AND POWER**

**Mr. Saifuddin Mogri**  
Electrical Engineer  
Los Angeles Department of  
Water and Power  
P.O. Box 51111, Room 1255  
Los Angeles, CA 90051-0100

**Mr. Omar Torres**  
Title  
Los Angeles Department of  
Water and Power  
P.O. Box 51111, Room 1263  
Los Angeles, CA 90051-0100

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OF SOUTHERN CALIFORNIA**

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Of Southern California  
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Los Angeles, CA 90054-0153

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150 S. Los Robles, Suite 200  
Pasadena, CA 91101

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Riverside, CA 92501

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City of Vernon  
Light & Power Department  
4305 Santa Fe Avenue  
Vernon, CA 90058

**Alternate Name**

Title  
Desert Southwest Region  
Western Area Power Administration  
P.O. Box 6457  
Phoenix, AZ 85005-6457

## TECHNICAL REVIEW COMMITTEE

### MEMBERS:

#### CITY OF ANAHEIM

**Mr. Elden Krause**  
Integrated Resources Planner  
Public Utilities Department  
City of Anaheim  
201 S. Anaheim Blvd, Suite 802  
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Pasadena, CA 91101

**Mr. Rory Dwyer**  
Electric Utility Administrator  
City of Boulder City

P.O. Box 61350  
Boulder City, NV 89006-1350

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Boulder City, NV 89006-1350

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Manager Power Resource Section  
Public Service Department  
City of Burbank  
164 W. Magnolia Blvd.  
Burbank, CA 91503-0631

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Title  
Public Service Department  
City of Burbank  
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Burbank, CA 91503-0631

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Colorado River Commission of NV  
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Las Vegas, NV 89101

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Colorado River Commission of Nevada  
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Las Vegas, NV 89101

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WATER AND POWER**

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P.O. Box 51111, Room 1255  
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Los Angeles, CA 90051-0100

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Los Angeles, CA 90054-0153

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Los Angeles, CA 90054-0153

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Pasadena, CA 91101

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City of Riverside  
3435 14th Street  
Riverside, CA 92501

**Ms. Cindy Reeley**  
City of Riverside  
3435 14th Street  
Riverside, CA 92501

**SOUTHERN CALIFORNIA EDISON**

**Mr. James A. Buerkle**  
Director Contracts Management  
Southern California Edison Co.  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**Mr. Marci Palmstrom**  
Manager of Power Contracts  
Southern California Edison Company  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**Mr. Scott Wiedermann**  
Energy Contracts Manager  
Southern California Edison Company  
2244 Walnut Grove Avenue  
Rosemead, CA 91770-3714

**CITY OF VERNON**

**Mr. Carlos Fandino**  
Director  
City of Vernon  
Light & Power Department  
4305 Santa Fe Avenue  
Vernon, CA 90058

**Mr. Abraham Alemu**  
Resource Engineer  
City of Vernon  
Light & Power Department  
4305 Santa Fe Avenue  
Vernon, CA 90058

**WESTERN AREA POWER  
ADMINISTRATION**

**Ms. Debbie Emler**  
Vice President of Power Marketing for  
Desert Southwest Region

**Alternate Name**  
Title  
Desert Southwest Region

Western Area Power Administration  
P.O. Box 6457  
Phoenix, AZ 85005-6457

Western Area Power Administration  
P.O. Box 6457  
Phoenix, AZ 85005-6457

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**APPENDIX C**  
**TEN YEAR OPERATING PLAN**

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**APPENDIX C  
TEN YEAR OPERATING PLAN**

1. **BCP TEN-YEAR OPERATING PLAN:** The plan will be organized into a report containing the following sections and information unless Reclamation and Western, in coordination with the E&OC, agree otherwise.
2. **BUREAU OF RECLAMATION:** This section of the report will contain information applicable to Reclamation.

**SECTION 1 – INTRODUCTION AND HIGHLIGHTS**

This section of the report contains a narrative summary of Reclamation’s ten year operating plan with supporting tables, charts, and graphs, as appropriate.

**SECTION 2 – ORGANIZATION CHART**

This section of the report contains Reclamation’s organization chart with staffing projections.

**SECTION 3 – BUDGET SUMMARY**

This section of the report contains an overall picture of Reclamation and Western’s proposed budget and revenues.

**SECTION 4 – OPERATION, MAINTENANCE, AND A&GE BUDGET SUMMARY**

These sections of the report provide information regarding Reclamation’s planned dam and powerplant operation and maintenance program at the BCP, to include administrative and general costs. This section will include Reclamation’s projected budget for the current fiscal year and for the next nine fiscal years; staffing projections; overhead costs; ten-year maintenance outage schedule; and justification for any projected increase.

**SECTION 5 – EXTRAORDINARY MAINTENANCE, REPLACEMENTS, ADDITIONS, AND BETTERMENTS BUDGET SUMMARY**

These sections of the report provide information regarding Reclamation’s planned extraordinary maintenance, replacements, additions, and betterments at the BCP for the current fiscal year and for the next nine fiscal years. The first five years of data will be provided based on specific replacement programs. The second five years of data will be provided on the basis of strategic planning processes with known items costing \$750,000 or more specifically identified. The program summaries provide information describing the substantial costs, schedule, and goals of the program for the ten year planning period. A program report provides the following information for each item in the plan:

- (a) Description of the item.
- (b) Estimated Cost of the item.
- (c) Schedule for the item.

- (d) Justification for the item. Examples of justifications could be as follows: test reports; data analysis; maintenance costs and repair frequency; criteria and assumptions used to identify the need; probability of equipment failure without action in the time period shown; cost and resulting impact from failure of action; cost/benefit analysis; emergencies; changes in laws and regulations; unavailability of spare parts; and any other pertinent information or analysis.

## **SECTION 6 - VISITOR SERVICES BUDGET SUMMARY**

This section of the report provides information regarding the planned visitor facility program at the BCP for the current fiscal year and for the next nine fiscal years; staffing projections related to visitor services; projections of the operation and maintenance costs for visitor services; and justification for any projected increase. This section of the report shall provide projections of any capital expenditures to be made in support of visitor services and shall provide supporting justification for any projected expenditure. This section of the report shall provide projections of revenues to be received from visitor services.

## **SECTION 7 - HISTORIC DATA**

This section of the report contains tables, graphs, charts, and narrative discussions, as appropriate, regarding historic operating statistics for the BCP for the most recently completed five fiscal years for the following categories:

- A. Staffing Levels
- B. Operation and Maintenance:
  - (a) Reclamation Operation Line Items and Costs
  - (b) Reclamation Maintenance Line Items and Costs
- C. Administrative and General:
  - (a) Reclamation Administrative and General Costs
- D. Extraordinary Maintenance:
  - (a) Reclamation Extraordinary Maintenance Line Items and Costs
- E. Replacements, Additions and Betterments:
  - (a) Reclamation Replacement Line Items and Costs
  - (b) Reclamation Additions and Betterments Line Items and Costs
- F. Visitor Services
  - (a) Visitor Levels
  - (b) Visitor Service Revenues

- (c) Visitor Facilities Operation and Maintenance Line Items and Costs
- (d) Visitor Facilities Replacements, Additions and Betterments Costs
- G. Generation:
  - (a) Hydrology
  - (b) Generation Output
  - (c) Generating Unit Availability Factors
  - (d) Outage Schedules and Causes
  - (e) Plant Efficiency Factors

### **SECTION 8 - BUDGET EXPENDITURES**

This section of the report contains Reclamation's most recently completed fiscal year Fund Utilization Report.

### **SECTION 9 - HYDROLOGY AND GENERATION PROJECTIONS**

This section of the report shall contain projections of generation output, outflow from Lake Mead and Lake Mead elevation for the current fiscal year and for the next nine fiscal years and contains supporting information identifying the methodology and assumptions used to develop the projections.

### **SECTION 10 – APPENDIX A: TRC REPORT AND RESPONSES**

This section of the report contains the TRC Recommendations Report submitted to the E&OC by the Contractors and the associated responses from Reclamation and Western.

3. **WESTERN AREA POWER ADMINISTRATION:** This section of the report will contain information applicable to Western.

### **SECTION 11 – INTRODUCTION AND HIGHLIGHTS**

This section of the report contains a narrative summary of Western's ten year operating plan with supporting tables, charts, and graphs, as appropriate.

### **SECTION 12 – ORGANIZATION CHART**

This section of the report contains Western's organization chart with staffing projections.

### **SECTION 13 – BUDGET SUMMARY**

This section of the report provides information regarding Western's planned operation and maintenance program at the BCP, facility expenses and systemwide expenses. This section will include Western's projected budget for the current fiscal year and for the next nine fiscal years overhead costs; and justification for any projected increase.

This section of the report also provides information regarding Western's planned retirements, replacements, additions, and Mead Common Facilities projects for the current fiscal year and for the next nine fiscal years. Specific projects will be included in years that have already been determined. The remaining data will be provided on the basis of strategic planning processes to identify projected amounts for projects to be determined at a later date

#### **SECTION 14 - HISTORIC DATA**

This section of the report contains tables, graphs, charts, and narrative discussions, as appropriate, regarding historic operating statistics for the BCP for the most recently completed five fiscal years for the following categories:

- A. Staffing Levels
- B. Operation and Maintenance:
  - (a) Western Operation Line Items and Costs
  - (b) Western Maintenance Line Items and Costs
  - (c) Western Extraordinary Maintenance Line Items and Costs
- C. Administrative and General:
  - (a) Western Administrative and General Costs
  - (b) General Western Allocation Costs
- D. Replacements, Additions and Betterments:
  - (a) Western Replacement Line Items and Costs
  - (b) Western Additions and Betterments Line Items and Costs
- E. Multi-Project Allocations
  - (a) Multi-Project Expenses distributed to the BCP by other Western projects
  - (b) Multi-Project Revenues Received by the BCP from other Western projects
- F. Generation:
  - (a) Revenues from Sale of Electric Power

#### **SECTION 15 - BUDGET EXPENDITURES**

This section of the report contains Western's most recently completed fiscal year Budget Execution Report.

## **SECTION 16 - MULTI-PROJECT PROGRAM**

This section of the report shall provide information regarding the planned Multi-Project Program at the BCP for the current fiscal year and for the next nine fiscal years; projections of multi-project costs to be paid to other Western projects and supporting documentation identifying the methodology and assumptions used to derive those projections; and, projection of multi-project revenues to be received from other Western projects and supporting documentation identifying the methodology and assumptions used to derive those projections.

## **SECTION 17 - PRELIMINARY POWER REPAYMENT STUDY**

This section of the report contains a preliminary PRS projecting BCP rates utilizing the projected costs, revenues, and power sales contained in the previous sections of the ten year operating plan and supporting work papers including investment repayment calculations, and interest during construction calculations.

## **SECTION 18 – REPLACEMENT CALCULATION**

This section of the report contains the previous year's calculation of repayable replacement amounts for the BCP.

### **4. TEN-YEAR OPERATING PLAN DEVELOPMENT:**

4.1 Reclamation and Western shall meet with the E&OC and its duly appointed TRC representatives at least annually, at a date and time to be determined jointly by Reclamation, Western and the E&OC to present and discuss a "Preliminary" Ten-Year Operating Plan for the BCP. The "Preliminary" Ten-Year Operating Plan shall be mailed to the E&OC ten (10) working days prior to the scheduled TRC meeting.

4.2 The Contractor members of the TRC shall prepare a report of recommendations for the E&OC on the "Preliminary" Ten-Year Operating Plan. Reclamation and Western will provide responses and consideration to the recommendations of the TRC for the inclusion and development of a "Proposed" Ten-Year Operating Plan for the BCP.

4.3 Reclamation and Western will meet with the E&OC, based on a previously agreed upon date, to present and discuss the "Proposed" Ten-Year Operating Plan for the BCP. The "Proposed" Ten-Year Operating Plan shall be mailed to the E&OC ten (10) working days prior to the scheduled meeting.

4.4 The E&OC shall prepare and submit final comments to Reclamation and Western regarding the "Proposed" Ten-Year Operating Plan for the BCP within three (3) working days following the E&OC meeting.

4.5 Reclamation and Western shall prepare and submit to the E&OC a "Final" Ten-Year Operating Plan for the BCP by February 1<sup>st</sup> of each year.

4.6 The E&OC shall review the "Final" Ten-Year Operating Plan for the BCP and each E&OC Member will be provided an opportunity to identify concerns, in writing, with the Ten-Year Operating Plan within fifteen (15) days of receipt.

4.7 Reclamation and Western shall respond in writing within thirty (30) days to any concerns expressed by any E&OC Member regarding the "Final" Ten-Year Operating Plan.

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**APPENDIX D**  
**WORKING CAPITAL CALCULATION**

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**APPENDIX D**  
**WORKING CAPITAL CALCULATION**

1. The initial amount of Working Capital existing on October 1, 2017 shall be \$3,000,000 and all surplus revenue from previous fiscal years above this amount shall be credited against the Annual Revenue Requirement of the BCP in fiscal year 2018.
  
2. By February 1st of each year after fiscal year 2017, the Bureau of Reclamation (Reclamation) shall prepare a Monthly Obligations and Funds Flow Analysis.
  - 2.1. The Monthly Obligations and Funds Flow Analysis shall be based upon the most recent, approved, Final Ten Year Plan for the BCP prepared in accordance with Section 12.7 of the BCP Implementation Amendment.
  - 2.2. The Monthly Obligations and Funds Flow Analysis shall show actual or projected values for the current fiscal year, the upcoming fiscal year, and the next fiscal year thereafter of the following:
    - 2.2.1. The balance of unobligated funds in the Colorado River Dam Fund on the first day of each month during the three year analysis period.
    - 2.2.2. The monthly cash in-flows to the Colorado River Dam Fund by revenue category established in Section 13 of the BCP Implementation Amendment during the three year analysis period.
    - 2.2.3. The monthly expenditure obligations to be made against the Colorado River Dam Fund by Reclamation by obligation category established in Section 13 of the BCP Implementation Amendment during the three year analysis period.
    - 2.2.4. The balance of unobligated funds in the Colorado River Dam Fund on the last day of each month during the three year analysis period.
  
3. After fiscal year 2018, the amount of the increase or decrease in the Working Capital to be accumulated through or credited against charges for BCP power during the upcoming fiscal year shall be determined by calculating the dollar amount (either positive or negative) that must be added to the Colorado River Dam Fund to ensure the balance of the unobligated funds in the Colorado River Dam Fund on the last day of each month in the next fiscal year after the upcoming fiscal year is zero or a positive amount as evident by the Monthly Obligations and Funds Flow Analysis.
  - 3.1. To the extent the Monthly Obligations and Funds Flow Analysis does not indicate a deficiency in any month during the next fiscal year after the upcoming fiscal year, the amount of Working Capital shall be reduced by an amount equal to the reduction in the beginning balance of the unobligated funds in the Colorado River Dam Fund that results in the monthly ending balance of the unobligated funds in the Colorado River Dam Fund in one or more months to be zero.
  - 3.2. To the extent the Monthly Obligations and Funds Flow Analysis shows a deficiency in any month during the next fiscal year after the upcoming fiscal year, Reclamation shall mitigate, to the extent possible, the need to increase the amount of Working Capital by adjustment of the planned expenditure obligations to match projected cash in-flow into the Colorado River Dam Fund.

- 3.2.1. Based upon any adjustments under this section 3.2., Reclamation shall prepare a revised Monthly Obligations and Funds Flow Analysis.
4. The Monthly Obligations and Funds Flow Analysis shall be distributed to the BCP Engineering and Operating Committee (E&OC) two weeks prior to the regularly scheduled February meeting of the E&OC.
  - 4.1. The Monthly Obligations and Funds Flow Analysis shall be reviewed and discussed at the regularly scheduled February meeting of the E&OC.
  - 4.2. If necessary, as determined by the E&OC, a subcommittee of the E&OC will be established at the regularly scheduled February meeting of the E&OC to further meet, review and analyze the Monthly Obligated Funds Flow Analysis with Reclamation.
5. The Monthly Obligations and Funds Flow Analysis, as revised, will be presented to the E&OC for consideration and adoption at the E&OC's regularly scheduled May meeting.
  - 5.1. Upon approval of the Monthly Obligations and Funds Flow Analysis by the E&OC, Reclamation shall notify Western of any necessary increases or decreases in the amount of the Working Capital to be accumulated through or credited against charges for BCP power during the upcoming fiscal year.

The amount of the increase or decrease in the amount of Working Capital to be accumulated through or credited against charges for BCP power during the upcoming fiscal year as determined in accordance with these instructions shall be included in the annual adjustment of the Base Charge.

**APPENDIX E**  
**INITIAL AUDIT SCOPE OF WORK**

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**APPENDIX E**  
**INITIAL AUDIT SCOPE OF WORK**

1. *GENERAL:*

1.1 *The initial audit shall establish a financial status "benchmark" of the Project including, but not limited to, specific account balances for investments, unpaid debt, Uprating Credits, expenditures, Federal overhead costs and the cash balance of the Colorado River Dam Fund.*

1.2 *The initial audit shall use as a basis the audit report and findings of Western's independent auditors prepared for the period ending May 31, 1987.*

2. *SPECIFIC:*

2.1 *The audit shall contain a detailed review of internal control procedures, accuracy and legitimacy of costs charged to the Project, and whether such costs are appropriate.*

2.2 *The audit shall contain a thorough review of all source documents (i.e. time sheets, invoices, vouchers, etc.) for appropriateness.*

2.3 *The audit shall contain a review of the flow of information from source documents through Reclamation's Financial Management System. The flow of information shall be documented and explained in the audit final report.*

2.4 *The audit shall contain a review of the financial statements for the Project (both Reclamation and Western) to determine the accuracy and conformance with applicable guidelines.*

2.5 *The audit shall review and provide recommendations regarding the specific process used by Western in preparing the annual PRSS. The audit will identify where the source information can be found and how the specific numbers are determined.*

2.6 *The audit shall review and provide recommendations regarding Western's allocation of multi-project costs to the Project. The audit shall determine the basis for the current allocation and whether such basis is reasonable.*

2.7 *The audit shall identify and establish the Operating Amount and Working Capital as of September 30, 1994.*

2.8 *The audit shall establish the amount of the Original Imbalance as of September 30, 1995.*

**APPENDIX F**  
**CONTINGENT CAPACITY, FIRM ENERGY,**  
**AND PROJECT PERCENTAGES**

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**APPENDIX F  
CONTINGENT CAPACITY, FIRM ENERGY,  
AND PROJECT PERCENTAGES**

For ease of understanding this Amendment and reference, the following table is meant to duplicate the Contractor's percentage entitlement to Contingent Capacity and Firm Energy pursuant to the Contracts. Contingent Capacity and Firm Energy are given equal weight in calculating the Contractor's Project percentage. When used in a formula in this Amendment, numbers expressed as a percent (i.e. 10.2345%) shall be interpreted to be the decimal equivalent (i.e. 0.102345). The percentages below shall be updated by 9/30/2017 to reflect the final percentages including the allocation of Schedule D Power.

Schedule A, B and D BCP Percentages

	% of Contingent <u>Capacity</u>	% of Firm <u>Energy</u>	<u>% of BCP</u> <sup>(1)</sup>
<b>Schedule A and B Percentages</b>			
Arizona:			
Arizona Power Authority	18.3572%	18.0051%	18.1811%
Nevada:			
Colorado River Commission	18.3572%	22.2021%	20.2797%
U.S. (Boulder City)	0.9739%	1.6788%	1.3263%
California:			
Anaheim	1.9477%	1.0912%	1.5195%
Azusa	0.1947%	0.1049%	0.1498%
Banning	0.0974%	0.0420%	0.0697%
Burbank	0.9800%	0.5582%	0.7691%
Colton	0.1461%	0.0839%	0.1150%
Glendale	0.9739%	1.5080%	1.2409%
Los Angeles	23.9022%	14.6517%	19.2770%
Metropolitan Water District of Southern California	12.0515%	27.1123%	19.5819%
Pasadena	0.9738%	1.2948%	1.1343%
Riverside	1.4608%	0.8184%	1.1396%
Southern California			
Edison Company	13.5123%	5.2609%	9.3866%
Vernon	1.0713%	0.5876%	0.8294%

## Schedule D Percentages

### Arizona:

<b>Arizona Power Authority (APA)</b>	0.5550%	0.5547%	0.5549%
City of Chandler, AZ Municipal Utility Department	0.0326%	0.0326%	0.0326%
City of Flagstaff	0.0097%	0.0097%	0.0097%
City of Glendale	0.0205%	0.0205%	0.0205%
City of Globe	0.0055%	0.0055%	0.0055%
City of Payson	0.0057%	0.0057%	0.0057%
City of Peoria	0.0333%	0.0333%	0.0333%
City of Phoenix	0.1446%	0.1447%	0.1447%
City of Scottsdale	0.1141%	0.1141%	0.1141%
City of Tempe, AZ Public Works Department	0.0116%	0.0116%	0.0116%
City of Tucson, AZ Water Department	0.0602%	0.0602%	0.0602%
Graham County Electric Cooperative, Inc.	0.0150%	0.0150%	0.0150%
Metropolitan Domestic Water Improvement District	0.0086%	0.0086%	0.0086%
Mohave Electric Cooperative, Inc.	0.0552%	0.0552%	0.0552%
Navopache Electric Cooperative, Inc.	0.0428%	0.0428%	0.0428%
Northern Arizona Irrigation District Power Pool	0.0119%	0.0119%	0.0119%
Sulphur Springs Valley Electric Cooperative, Inc.	0.1317%	0.1317%	0.1317%
Trico Electric Cooperative, Inc.	0.1446%	0.1447%	0.1447%
APA Subtotals.....	<b>1.4028%</b>	<b>1.4028%</b>	<b>1.4028%</b>

### Arizona Tribes:

Fort McDowell Yavapai Nation	0.0163%	0.0163%	0.0163%
Gila River Indian Community	0.1446%	0.1447%	0.1447%
Hualapai Indian Tribe	0.0184%	0.0184%	0.0184%
Kaibab Band of Paiute Indians	0.0060%	0.0060%	0.0060%
Navajo Tribal Utility Authority	0.1446%	0.1447%	0.1447%
Pascua Yaqui Tribe	0.0211%	0.0211%	0.0211%
Salt River Pima-Maricopa Indian Community	0.1446%	0.1447%	0.1447%
Tohono O'odham Nation	0.1306%	0.1306%	0.1306%
Tonto Apache Tribe	0.0121%	0.0121%	0.0121%
	<b>0.6383%</b>	<b>0.6385%</b>	<b>0.6384%</b>

**Schedule D Percentages (continued)**

**Nevada:**

<b>Colorado River Commission (CRC)</b>	0.5550%	0.5547%	0.5549%
City of Henderson, Nevada	0.0437%	0.0437%	0.0437%
City of Las Vegas, Nevada	0.0508%	0.0508%	0.0508%
City of North Las Vegas, Nevada	0.0368%	0.0368%	0.0368%
Clark County School District	0.1446%	0.1447%	0.1447%
Clark County			
Water Reclamation District	0.0328%	0.0328%	0.0328%
College of Southern Nevada	0.0135%	0.0136%	0.0136%
Las Vegas Valley Water District	0.1446%	0.1447%	0.1447%
State of Nevada			
Department of Administration	0.0053%	0.0053%	0.0053%
State of Nevada			
Department of Corrections	0.0135%	0.0136%	0.0136%
State of Nevada			
Department of Transportation	0.0056%	0.0056%	0.0056%
University of Nevada, Las Vegas	0.0147%	0.0147%	0.0147%
CRC Subtotals.....	<b>1.0610%</b>	<b>1.0609%</b>	<b>1.0609%</b>
CRC Totals	<b>19.4182%</b>	<b>23.2630%</b>	<b>21.3406%</b>
Nevada Tribes:			
Las Vegas Paiute Tribe	0.0332%	0.0332%	0.0332%

**Schedule D Percentage (continue)**

**California:**

Agua Caliente Band of Cahuilla Indians	0.0699%	0.0699%	0.0699%
Anza Electric Cooperative, Inc.	0.0770%	0.0769%	0.0769%
Augustine Band of Cahuilla Indians	0.0231%	0.0231%	0.0231%
Bishop Paiute Tribe	0.0183%	0.0183%	0.0183%
Cabazon Band of Mission Indians	0.0484%	0.0484%	0.0484%
California Department of Water Resources	0.1446%	0.1447%	0.1447%
Chemehuevi Indian Tribe	0.0674%	0.0674%	0.0674%
City of Cerritos, California	0.1446%	0.1446%	0.1446%
City of Corona, California	0.1441%	0.1440%	0.1440%
City of Rancho Cucamonga, CA Municipal Utility	0.1446%	0.1446%	0.1446%
City of Victorville, California	0.1266%	0.1265%	0.1266%
Imperial Irrigation District	0.1446%	0.1447%	0.1447%
Morongo Band of Mission Indians	0.0529%	0.0530%	0.0529%
Pechanga Band of Luiseno Mission Indians	0.0964%	0.0965%	0.0964%
San Diego County Water Authority	0.0781%	0.0780%	0.0781%
San Luis Rey River Indian Water Authority	0.1446%	0.1447%	0.1447%

San Manuel Band of Mission Indians	0.1231%	0.1232%	0.1232%
Timbisha Shoshone Tribe	0.0057%	0.0057%	0.0057%
Torres Martinez Desert Cahuilla Indians	0.0800%	0.0800%	0.0800%
Twenty-Nine Palms Band of Mission Indians	0.0636%	0.0637%	0.0637%
Viejas Band of Kumeyaay Indians	0.0669%	0.0669%	0.0669%
	<b>1.8647%</b>	<b>1.8648%</b>	<b>1.8647%</b>

(1) The % of BPC equals the sum of the percent of Contingent Capacity plus the percent of Firm Energy divided by two.

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**APPENDIX G**

**ELECTRIC SERVICE CONTRACTORS**

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## APPENDIX G

### ELECTRIC SERVICE CONTRACTORS

Agua Caliente Band of Cahuilla Indians  
Anza Electric Cooperative, Inc  
Augustine Band of Cahuilla Indians  
Bishop Paiute Tribe  
Cabazon Band of Mission Indians  
California Department of Water Resources  
Chemehuevi Indian Tribe  
City of Cerritos, California  
City of Chandler, AZ Municipal Utilities Department  
City of Corona, California  
City of Flagstaff, Arizona  
City of Glendale, Arizona  
City of Globe, Arizona  
City of Henderson, Nevada  
City of Las Vegas, Nevada  
City of North Las Vegas, Nevada  
City of Payson, Arizona  
City of Peoria, Arizona  
City of Phoenix, Arizona  
City of Rancho Cucamonga, CA Municipal Utility  
City of Scottsdale, Arizona  
City of Tempe, Arizona Public Works Department  
City of Tucson, Arizona Water Department  
City of Victorville, California  
Clark County School District  
Clark County Water Reclamation District  
College of Southern Nevada  
Fort McDowell Yavapai Nation  
Gila River Indian Community  
Graham County Electric Cooperative, Inc  
Hualapai Indian Tribe  
Imperial Irrigation District  
Kaibab Band of Paiute Indians  
Las Vegas Paiute Tribe  
Las Vegas Valley Water District  
Metropolitan Domestic Water Improvement District  
Mohave Electric Cooperative, Inc.  
Morongo Band of Mission Indians  
Navajo Tribal Utility Authority  
Navopache Electric Cooperative, Inc.  
Northern Arizona Irrigation District Power Pool  
Pascua Yaqui Tribe  
Pechanga Band of Luiseno Mission Indians  
Salt River Pima-Maricopa Indian Community  
San Diego County Water Authority  
San Luis Rey River Indian Water Authority

**ELECTRIC SERVICE CONTRACTORS (continued)**

San Manuel Band of Mission Indians  
State of Nevada Department of Administration  
State of Nevada Department of Corrections  
State of Nevada Department of Transportation  
Sulphur Springs Valley Electric Cooperative, Inc.  
Timbisha Shoshone Tribe  
Tohono O'odham Nation  
Tonto Apache  
Torres Martinez Desert Cahuilla Indians  
Trico Electric Cooperative, Inc.  
Twenty-Nine Palms Band of Mission Indians  
University of Nevada, Las Vegas  
Viejas Band of Kumeyaay Indians

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