

CRSP TRANSMISSION PLANNING MEETING

December 6, 2011



Agenda

- Introductions
- CRSP North (Loveland) Program
- CRSP South (Phoenix) Program
- Open Forum



CRSP North (Loveland) Capital Program

- Transmission Lines
- Substations
- Communications
- Control, Protection and Metering
- Mobile & Heavy Equipment
- Programmatic Improvements



Transmission Lines

- Line Equipment Replacements
 - 50k in FY12 & every year after
- Pleasant View 24.9-kV Line Replacement
 - Estimated Project Cost (EPC) \$ 1,000k
 - FY15 \$200K
 - FY16 \$800K



Substations

Annual Equipment Replacement Program

- Substation Test Equipment
 - Combined all test equipment categories under movable property, “Test Equipment Replacements”
 - Program line at \$100K per year

- Battery and Charger Replacements
 - Program line at \$360k for FY12
 - Program line at \$110K per year after FY12

- CCVT, PT, and CT Replacements
 - Program line at \$50k per year



Substations

Annual Equipment Replacement Program

- Substation Disconnect Switch Replacements
 - Program line \$50K for FY14-FY21
- Misc Substation Elect. Equip. Replacement
 - Program line is \$900K for FY14-FY18
- Transformer monitors
 - Program line is \$110K per year
- Surge Arrester Replacements
 - Program line is \$40K per year



Substations

- Archer 230-kV Switch Replacements (Total 17- obsolescence of parts)
 - EPC: \$489K
 - Project Delayed until 2012 per Tri-State request.
 - Program line is \$145K in FY12 and \$145K in FY13

- Archer KV1A/KV2A Transformer Replacements 230/115/13.8-kV
 - 200 MVA KV1A: EPC: \$3,513k
 - FY12 \$2,500k
 - FY13 \$1,000k
 - 200 MVA KV2A: EPC \$3,100k
 - FY15 \$2,500k
 - FY16 \$600k

- Archer-Wayne Child New 20 MW 230-kV Point of Delivery (100% Customer Funded)
 - EPC: \$700k
 - FY12: \$700k



Substations

- Curecanti Substation
 - KZ2A Transformer Addition
 - EPC: \$4,750K
 - FY14 \$2,000k GFE
 - FY15 \$2,500k Construction
 - FY16 \$250K Construction and Close out
 - PCB 786, 1082, 1282 replacements (2 Oils, 1 leaking SF6)
 - EPC: \$506k FY12
- Flaming Gorge
 - KW2A, KX2A Transformer Replacements/Switchyard Improvements
 - EPC: \$760k
 - \$260k in FY12
 - KZ2B 230/138/13.8-kV 250 MVA Transformer Replacement
 - EPC=\$5,400K
 - FY16 \$3,150K GFE
 - FY17 \$2,000K Construction
 - FY18 for \$250K Construction and Close Out



Substations

- Gore Pass-Hayden 230-kV 2000A Uprate
 - EPC: FY12 \$811k (CRSP Participation \$179k)
- Hayden KZ2A Replacement 230/138/13.8-kV 250 MVA
 - EPC: \$6,913k
 - FY12 \$3,512k GFE
 - FY13 \$3,397k Construction
- Hermosa Wind 300 MW Generation AU-CRG 345-kV (100% Customer Funded)
 - EPC: \$9,600k 100% Customer Funded
 - FY12 \$2,000k
 - FY13 \$7,600k
- Midway Bus 230-kV 2000A Uprate (100% Customer Funded)
 - EPC \$880k
 - FY12 \$880k
- Moncisco Switchyard – Reclamation Project/NAPI farm (100% Customer Funded)
 - EPC: \$5,506k



Substations

- North Park Stage 02
 - EPC: \$275k
 - \$50K for FY12 for Commissioning and Closeout (100% MPEI cost)

- Poncha Power PT Replacement 230-kV, 3-50 kVA
 - EPC : \$600K for FY13

- Rifle Substation CRG-RFL/transfer bay 230-kV Uprate to 2000A
 - EPC: \$1,490k
 - FY12 \$1,150K



Substations

- Shiprock Stage 06 (2005-T2 - 100% Customer Funded)
 - EPC: \$7,050k
 - Project to place a second 345/230-kV, 600 MVA, transformer and terminate two 230-kV transmission lines – Satellite yard
 - Program line \$5,000K in FY13, and \$2,000K in FY14
- Shiprock Phase Shifting Transformers KU3A/KU3B Load Tap Changer Inspection/Alignment
 - FY12 \$600k
- Shiprock Phase Shifting Transformers KU3A/KU3B Re-Gasket
 - EPC: \$900k FY14
 - 200 MVA 230-kV



Substations

- Vernal
 - Replace 138-kV PCBs (1372, 1872, 2172 oil circa 1960) (procured in FY11)
 - EPC: \$400K
 - FY12 \$150k Installation
- Weld
 - Replace 115-kV Breakers 362, 1262, 1762 (100% CRSP)
 - EPC: \$450K
 - Program line is \$150K in FY12-FY14
 - Replace 230-kV Breakers 182, 286, 482 (100% CRSP)
 - EPC: \$471k
 - CRSP participation : \$157k each year FY13-FY15
 - 230/115-kV Transformer Additions (Stage 04) (PSCo/Western Trust)
 - EPC: \$5,100k (Western participation \$2,760K)
 - Western's share will be split evenly between PS (25%) and CRSP (25%)
 - CRSP Program line is \$425K in FY12



Substations

- Completed Projects
 - Vernal Battery Room
 - Vernal Disconnect Switch Replacement 1573, 1575
 - Curecanti Oil Spill Containment
 - Montrose Marketing Office Remodel
 - Craig Maintenance Facility
 - Cedar Mountain Radio Replacement
 - Buffalo Pass MW Building Temporary Repair
 - Pole Inspection and Treatment
 - Hayden KZ1A, 3-21 MVAR reactors
 - Hayden-Kremmling segment of Blue River-Hayden OPGW



Communications- Buildings

- Misc. Communication Facilities Replacement
 - EPC: \$750K
 - Program line is \$250K for FY12, \$100K for FY13 and \$400K for FY15

- Buffalo Pass MW Building Replacement (100% CRSP)
 - EPC: \$350k
 - FY13 - \$25k; Planning and Design
 - FY14 - \$325k; Construction

- Raspberry Creek Communication Building Replacement (100% CRSP)
 - EPC: \$586k
 - FY12 \$100k



Communications - Fiber

- Central PMOC Communications Loop
 - EPC: \$1,365k Multiple power system project (20% CRSP)
 - FY12 \$210k

- Erie-Loveland-Cheyenne I-25 fiber installation (CDOT Joint Project – CRSP participation 33%)
 - EPC: \$2,200k
 - FY15 – CRSP share \$200k

- Craig-Hayden OPGW
 - EPC: \$914K (100% CRSP)
 - \$50k for FY12



Communications - Fiber

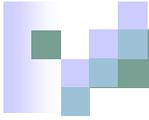
- Montrose – Blue Mesa OPGW (38 miles)
 - EPC: \$2,140k
 - FY12 - \$100K; Western's (CRSP) share = \$50K
 - FY13 - \$2,040k; Western's (CRSP) share = \$800K

- Midway – Poncha OPGW (50% CRSP)
 - EPC: \$3,480k
 - FY13 \$50k (CRSP Share)
 - FY14 \$1,690 (CRSP Share)



Communications Equipment

- Fiber Multiplexers (100% CRSP)
 - EPC: \$1,500k
 - FY12-16 \$300k each year
- Telco Channel Bank Replacements (Age related – CRSP participation at 50%)
 - EPC: \$150k FY12 \$150k
- RMR Phone Switch & Voice Recorder Replacement (CRSP participation 50%)
 - EPC: \$171k
 - FY12 \$50k
 - FY13 \$50k
- Montrose – Mexican Hat MW Replacement (100% CRSP)
 - EPC: \$1,650k
 - FY12 - \$800K
 - FY13 - \$600K
 - FY14 - \$250K



Communications

MDR 8000 Equipment

- CRSP/WCMO Spurs (MDR8000/LEDR Replacement)
 - EPC: \$4,200k
 - FY16-FY22 \$600k each year
- Magnetic – Fontanelle (MDR8000 Replacement)
 - EPC: \$ 2,200k
 - FY18 \$ 2,200k



Communications- Equipment

- Digital Crossconnect Replacements (CRSP 50% participation)
 - EPC: \$250k
 - FY13 \$50k (CRSP Share)
 - FY14 \$75k (CRSP Share)

- Mobile Radio Infrastructure Replacements (CRSP 50% participation)
 - EPC: \$500K
 - \$250K for FY13 and \$250K for FY14



Control, Protection and Metering

- Protective Relay Replacements
 - \$690k each year



Mobile and Heavy Equipment

- Misc. Heavy Equipment Replacements

- Estimated Equipment Cost (EEC): \$4,000k
- Used for out year placeholder
- FY15-FY22- \$500K

- Communication Site Generator Replacements

- EEC: 280k
- FY12-FY18 \$40K each year



Mobile and Heavy Equipment

- Craig
 - Dump Truck (1994, 25,812 miles)
 - \$150K in FY12
 - Road Grader (1985, 1,439 hours)
 - \$100K in FY13
- Montrose
 - Bobcat (1995, 926 hours)
 - EEC: \$120k FY12 \$120k
 - 400 kW Generator (new for oil reclamation)
 - EEC: \$240k FY13 \$240k
 - Digger Derrick
 - EEC: \$550k FY14 \$550k
 - JLG (Man Lift) 45' (1992, 1,122 Hours)
 - EEC: \$95k FY13 \$95k



Mobile and Heavy Equipment

- RMR
 - Digger/Derrick/Crane 160' (31% CRSP Participation)
 - \$280k FY12
- WCMO
 - Transformer Degasser (new)
 - EEC: \$80k FY12 \$80k
 - Heavy Duty Passenger Truck (cannot procure what is required from GSA)
 - EEC: \$95K FY12 \$50k



Programmatic Improvements

- RRADS Small Facility Projects
 - Program Line Item \$3,575k
 - FY12 \$325K each year



Programmatic Improvements

- Ault Surveillance Equipment
 - EPC: \$120k
 - FY12 \$20k (CRSP participation)
- IT General (Hardware) Support Systems (CRSP participation 50%)
 - EPC: \$582k
 - FY12 \$50k
 - FY13 \$42k
 - FY14 \$50k
 - FY15 \$70k
 - FY16 \$100k
 - FY17 \$70k
 - FY18 – FY20 \$50k each year



Programmatic Improvements

- IT Network (Hardware & Software) Equipment (CRSP participation 50%)
 - EPC: \$746k
 - FY12 - \$43K
 - FY13 - \$103K ,
 - FY14 – FY22 \$75K each

- Operations Center Map Board Replacement (CRSP participation 31%)
 - EPC: \$147k
 - FY12 - \$50k (CRSP participation)



Programmatic Improvements

- PMOC Power System Upgrade (CRSP participation 31%)
 - EPC: \$643k FY12 \$47k

- PMOC Main Computer Rooming Cooling Units (CRSP participation 31%)
 - EPC: \$31k FY12 \$31k



Programmatic Improvements

- SCADA Upgrades Version 12.2 SW role out (CRSP 31% participation)
 - EPC: \$440k
 - FY12 \$84k
 - FY13 \$47k
 - FY14 \$93k
 - FY18 \$216k



Operation Consolidation Program (CRSP participation 33%)

- OCP SCADA (Single Hardware & Software between regions)
 - EPC: \$112k
 - FY12 \$45k
 - FY13 \$67K
- OCP Communications
 - EPC \$420k
 - FY12- \$119K
 - FY13- \$217K
 - FY14 \$84k
- OCP IT
 - EPC: \$66k - Equipment
 - FY12 \$66K