



# Customer Meeting CRSP Transmission South

December 6, 2011



# **CRSP Transmission South Capital Program**

- Transmission Lines
- Substations
- Communications
- Relay and Protection

# Transmission Lines

- Pinnacle Peak – Rogers Transmission Line
  - Right of Way
    - Negotiated at \$12M
    - 50/50 split between Parker-Davis and CRSP
    - LiDAR flown to document structure locations
    - Payment will take place in FY12 or FY13
    - LiDAR closeout in FY12 -- \$15K
  
- LiDAR Closeout
  - Closeout of FY11 LiDAR activities on GC-PPK
  - Final year for clear cutting activities as capitalized assets
  - \$30K in FY12
  
- Completion of Environmental Documentation
  - Final year for clear cutting environmental as capitalized assets
  - \$110K in FY12

# Substations - Flagstaff

## ■ Substation Physical Security Upgrades

- Improvements to Flagstaff fencing and security
- \$45K

## ■ 345-kV Breaker Replacement

- 95% of the work completed in FY11
- Final connections/testing/closeout remain in FY12
- Project executed early at the request of customers
- \$150K in FY12





# Substations

- Main Battery Replacement and Room Addition
  - Pinnacle Peak Substation
  - Existing batteries have deteriorated
  - No existing isolation room
  - \$130K in FY12
  - \$5K closeout in FY13
  
- Test Equipment (MOVP)
  - Breaker and transformer test equipment
  - Used and stored solely at CRSP substations
  - \$40K in FY12
  - \$60K in out years

# Substations – Glen Canyon

- 230/138-kV Transformer Addition
  - Provides a backup to the Garkane Load
  - Removes capacitor banks
  - All GFE purchased and contractor procured
  - Accelerated this project at CRSP MC request
  - \$275K in trust funding applied to project
  - Completion scheduled for June 2012
  - \$950K in FY12
  
- Main Battery Replacement
  - Glen Canyon Substation
  - \$65K in FY12
  - \$6K closeout in FY 13

# Communications

## ■ Communication Building Replacement

- Zilner Mesa and Lolamai Point communication locations
- Existing buildings are no longer repairable
- Prefab buildings will replace existing
- \$501K in FY12
- \$15K closeout in FY13

## ■ Radio Tower Inspection and Grounding

- Preston Mesa and Tower Mountain communication locations
- Inspect existing towers and validate proper grounding
- \$75K in FY12

## ■ Remote Terminal Unit Upgrades

- Flagstaff, Pinnacle Peak, Glen Canyon, and Navajo Substations
- \$320K in FY12
- \$320K closeout in FY13



# Communications

## ■ Microwave Upgrades

- Phoenix to Mexican Hat microwave path
- Bandwidth and age are the primary contributors to replacement
- Last half of the upgrades; complete in FY12
- \$1.024M in FY12

## ■ Replacement of Communication Power Systems

- Preston Mesa and Tower Mountain communication locations
- Existing batteries are failing
- Part of a standard battery replacement program
- \$35K in FY12
- \$35K in out years



# Relay and Protection

## ■ Line Relay Replacement

- ❑ Glen Canyon Substation
- ❑ Existing relays have exceeded their useful life
- ❑ \$140K in FY12

## ■ Equipment Relay Replacement

- ❑ Glen Canyon Substation 345/230 System & Other Sites
- ❑ Transformer differential and breaker fail relays
- ❑ Sync check upgrade
- ❑ Part of a standard relay replacement program
- ❑ \$192K in FY12
- ❑ \$220K in FY13
- ❑ \$110K in out years



# Relay and Protection

## ■ Differential Relay Replacement

- Glen Canyon Substation
- Phase shifter protection
- \$96K in FY12

## ■ Unit Dropping Scheme

- Glen Canyon, Pinnacle Peak, and Flagstaff Substations
- Relay changes coordinated with the USBR Glen Canyon Dam facility
- \$100K in FY12

## ■ WIN/CIP

- Glen Canyon, Pinnacle Peak, and Flagstaff Substations
- Changes required to meet CIP requirements
- \$30.1K in FY12
- \$15K in FY13/14



# Questions?

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