Hydro Project Update

January 4, 2017
Facilities Committee Meeting
Discussion Topics

- North Fork Tunnel Maintenance
- McKays Point Drain Reaming
- Collierville Powerhouse Roof Sealing
North Fork Tunnel Maintenance
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North Fork Hydro System

- Beaver Creek Diversion Dam/Tunnel @ 4,191 ft
- Highland Creek
- New Spicer Meadow Reservoir
- Power Plant
  - 3 units: 2 @ 2.75 MW, 1 @ 0.5 MW

Collierville Power Plant
- 2 units: @ 126.5 MW each
North Fork Tunnel Maintenance

- Tunnel required maintenance: age, erosion, fall-out
- Project competitively bid
- Project made scalable to optimize budget/schedule
- Three at job-walk / two submitted bids
  - Drill Tech was the responsive low-bid at $248,115
North Fork Tunnel Maintenance

- Single entry, small/long tunnel in conjunction with relatively small quantities called for ingenuity
  - Mobile plant within versus fixed at the portal
    - Reduced fixed/mobilization costs and time within tunnel
    - Much smaller air compressor
  - Custom drill attachment built for the NFT project
North Fork Tunnel Maintenance

- Installed 45 rock bolts, 45 yards of shotcrete
- $232,000 final cost
  - High priority regions 100% addressed
- Work performed October 3rd through November 23rd
Equipment
Equipment
Equipment
Drilling Rock Bolts
NORTHERN CALIFORNIA POWER AGENCY

Shotcrete Mixer
North Fork Tunnel Maintenance
Rock Bolt Pull-Out Testing
Wire Reinforcing Comparison
Shooting Gunite
North Fork Tunnel Maintenance (Before and after photos)
North Fork Tunnel Maintenance
(before and after photos)
North Fork Tunnel Maintenance (before and after photos)
North Fork Tunnel Maintenance

- 1 Year warranty inspection next August
- Return to 1 in 5-year tunnel inspections for 2022
McKays Point Dam Drain Reaming
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McKays Point Dam Drain Reaming

- Project competitively bid
- Five qualified engineering firms
- Two at job-walk / two submitted bids
- $18K/34K holesaw reaming/coring
- Mobilized November 24th, demobilized November 27th
- Three drains reamed (162 total feet) at $18K
McKays Point Dam Drain Reaming
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Collierville Powerhouse Roof Sealing
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- Water seepage into Powerhouse through concrete roof
- Product seals/protects
- $22K labor/materials