

# Red Mountain Bar Pumped Storage Project

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# Red Mountain Bar

- Located 10 miles south of Sonora in Tuolumne County
- Utilizes Don Pedro Reservoir as a lower pool
- Primary Components
  - Upper Reservoir
  - Water Conveyance System
  - Underground Power Complex
  - Transmission Lines



# Red Mountain Bar



Main Dam Site



Footprint of the Main  
Dam Site

# Upper Reservoir

- Main Dam
  - Concrete Faced Rockfill Dam (CFRD)
  - 430 ft Max Height
  - 1,800 ft long across the crest
- Four Saddle Dikes
  - Roller Compacted Concrete (RCC)
  - Ranging in size:
    - 30 ft – 70 ft Max Height
    - 200 ft – 600 ft Length
- Storage 42,144 AF

# Lower Reservoir “New” Don Pedro



- Owned by TID and MID
- Operated by TID
- Storage 2,030,000 AF
  - 830 ft Elevation
- For Planned Pumped Storage Operations
  - Max Elevation 830 ft
  - Min Elevation 750 ft
- 50% Exceedance Elevation 796 ft

# Powerhouse

- Single Speed
  - 900 MW total capacity
    - 232 MW – 288 MW Capacity/Unit
    - 303 MW Pump Input Power
  - Average Energy Storage Capacity of 15,000 MWh to 18,800 MWh depending on Don Pedro Elevation
  - \$1.7 Billion
- Variable Speed
  - 1,000 MW total capacity
    - 260 MW Capacity/Unit
    - 310 MW Pump Input Power
  - Average Energy Storage Capacity of 19,000 MWh to 22,000 MWh depending on Don Pedro Elevation
  - \$2.1 Billion

# Why Pumped Storage?

- Renewable Integration
  - Renewable Portfolio Standard Requirements
  - Green House Gas Legislation
- Direct Energy Transfer
  - 75% to 82% Turnaround Efficiency
- Capacity Benefit
- Operational Efficiency Enhancements
- Grid Stability

# Process

- Feasibility Study
  - Completed August 2008
- Economic Analysis
  - Spring 2009
- Pilot Tunnel
- License Application

# Questions?

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