

# **TransWest Express Project**

**Increasing Renewable Energy in the Western Grid Summit  
September 28, 2007  
Ft. Collins**

**Bob Smith  
Manager Transmission Planning and Engineering  
APS**

# TransWest Express Project Summary

**Two new AC or one new DC transmission line(s) from Wyoming through Utah, Colorado, and/or Nevada to Arizona capable of 3000MW**

- Project complements other planned projects
  - Navajo Transmission Project 500kV line
  - Palo Verde-Devers #2 500kV line
  - EOR 9300 Project
  - Palo Verde-North Gila #2 500kV line
- Provides access to coal and wind resources in Wyoming



# TransWest Express Project Benefits

- Improves reliability of entire western grid
  - Reinforces east side of grid
  - Adds import capability into AZ and SW
- Improves resource diversity, reliability and economics for AZ, SW, and CA
  - Access to renewables (primarily wind)
  - Encourage advanced clean coal technologies
  - Enhance wholesale market vitality
- Consistent with WGA, RMATS, and CDEAC recommendations for transmission expansion

# TransWest Express Project Benefits

- Provides APS and other utilities in Arizona, Southwest and Southern California access to additional resources to meet rapid load growth
  - APS summer resource capacity requirement expected to increase 8000MW by 2025
  - APS annual energy sales expected to increase by 70% by 2025
- APS RPS require 15% of retail energy sales from renewable resources by 2025
  - 30% of this requirement from distributed renewable resources such as rooftop solar

# Regional Planning Coordination

- Open stakeholder process
  - November 27, 2005 kick-off meeting Phoenix
  - March 17, 2006 project update meeting in SLC
  - June 23, 2006 project update meeting in Jackson
- Periodic project updates
  - Sub-regional Planning Groups
  - SSG-WI
  - WECC
- APS active participant in Frontier studies

# Feasibility Study Conclusions

- All alternatives are feasible and capable of 3000MW
- Economic analysis supports DC or AC/DC hybrid alternatives (Cost \$2.3B – \$3.2B)
- Multiple permitting opportunities have been identified
- Start project in Northern Wyoming with potential to access resources throughout Northern Rocky Mountain Region

# TransWest Express Participants

- APS project sponsor
  - Lead feasibility analysis
  - Capacity need up to 1500mw
- SCE, SRP, and TEP expressed interest in capacity
- National Grid interested as Project Manager
- Above parties and WIA engaged in negotiations for Phase 2 agreement

# Coordination with Frontier Line Activities

- APS participant in Frontier Line feasibility study
  - APS reps on steering committee
  - APS reps on all work groups
- APS provided transmission cost assumptions used in feasibility study
- TransWest Express one of transmission options in Frontier study

# PacifiCorp Gateway Projects



09/28/07

Renewable Summit  
**APS** TRANSWEST EXPRESS

# Co-development Agreement

- Agreement executed 08-07-07
- APS, NG, PAC, WIA
- NG to lead in preliminary co-development of TWE and PAC Gateway South Project
- Six month plan with total term of 8 months
- \$3M budget
- Expenses shared APS, NG, PAC 30% each and WIA 10%
- Decision 2<sup>nd</sup> quarter 2008 to move forward

# Co-development Activities

- Conceptual design analysis
- Business and regulatory analysis
- Permitting: file ROW application, negotiate MOU with lead federal agency (probably BLM), public scoping activities
- WECC Regional Project Coordination Review
- Sub-Regional planning group coordination (SWAT, NTTG)

# Potential Regional Benefits of Co-development

- Meet growing demand
- Improve overall electric reliability for the West
- Improve access for renewable energy resources
- Better use of transmission corridors
- Opportunities to coordinate permitting
- Economies of scale and cost savings in the development and construction activities