Energy, Environment and Engineering in the Southwest

ACEC Environment and Energy Committee

August 9, 2013
William Auberle, P.E., BCEE
Navajo Generating Station
Ownership of plant

- Los Angeles Department of Water and Power: 21.2%
- Tucson Electric Power: 7.5%
- Arizona Public Service: 14.0%
- NV Energy: 11.3%
- Salt River Project: 21.7%
- U.S. Bureau of Reclamation: 24.3%
NGS Key Characteristics

- 2250 MW
- Built in 1970s
- 8 Million tons coal annually
- Located on Navajo Nation
- Kayenta mine (Navajo and Hopi reservations)
- Approximately 1000 employees; 80+% Navajo
- Leases and royalties
“...the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas...”
U.S. EPA rules

- Sulfur Oxides – 1990s
- Nitrogen Oxides – 2014 (proposed)
  - .055 lb/MMBTU by 2023
  - Effectively SCR
  - $600+ Million
Many many ‘stakeholders’

- Six owners
- Several Federal agencies (5 within DOI)
- CAP and water users in much of AZ
- Many Native American tribes
- Environmental & conservation orgs.
- Labor unions
- City of Page
Technical Work Group

- Salt River Project (for owners)
- U.S. Department of Interior
- Central Arizona Water & Conservation Dist.
- Navajo Nation
- Gila River Indian Community
- Environmental Defense Fund
- Sierra Club / Western Resource Advocates
TWG Agreement

- Partial closure of plant
- Continued operation until 2044
- Lower NOx emissions than EPA proposal
- Reduced emissions of PM, Mercury, CO$_2$
TWG Agreement

- Sustains both plant and mine jobs
- Substantially increased lease payments
- Coal royalties to Navajo and Hopi tribes
- Air quality impact mitigation fund
TWG Agreement

- Commitments from U.S. Dept. of Interior
  Lead Tri-agency initiative for low-emitting energy options (DOI, DOE, EPA)
  Reduce CO$_2$ emissions by 11.3 MM Metric tons
  Prioritize low-emitting projects for tribes
  Reallocate resources to support other Agreement elements
Complex Plan for A Complex Facility

• Public Comments to USEPA by October 4, 2013
• Decision expected in 2014
October 1, 2013

• EN3 Professionals ->

Pinyon Environmental, Inc.