

Presentation to  
Office of Energy and Efficiency and Renewable Energy  
**TRIBAL ENERGY PROGRAM**  
October 24, 2006  
FY2006 Program Review Meeting  
Denver, CO

Presentation by Diné Power Authority  
Ben Hoisington, Project Administrator



# DPA Overview

- Diné Power Authority (DPA) is an enterprise and instrumentality of the Navajo Nation established under Title 21 NNC §201 of the Navajo Nation Code.
- DPA was created in 1985 by the Navajo Tribal Council for the purpose of developing wholesale, high-voltage electric transmission and generation projects for the economic benefit of the Navajo Nation.

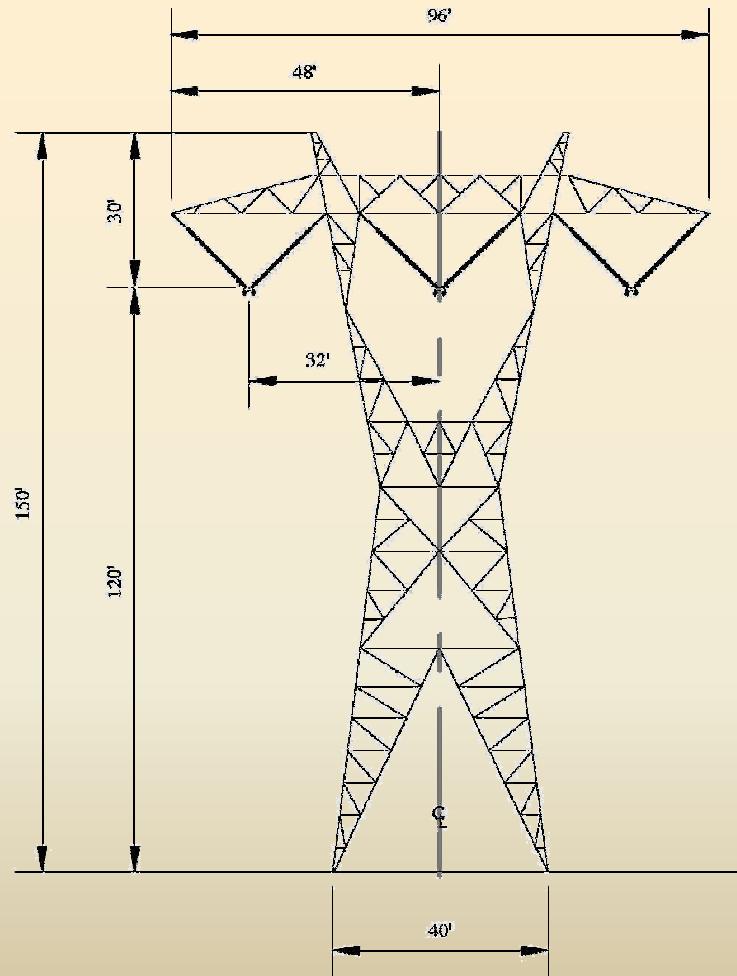


# DPA Overview, cont'd

- DPA's current energy development projects include:
  - Navajo Transmission Project (NTP)
  - Desert Rock Energy Project (DREC)
  - Dine Wind Project 1 (DWP1)
  - *Review and assess other potential utility-scale, energy development projects including solar, wind, IGCC, coal-to-fuel, grain-to-fuel, biomass, and other energy-related projects, both renewable and non-renewable*

# Navajo Transmission Project

October 2006  
Status Update



# NTP Purpose & Need

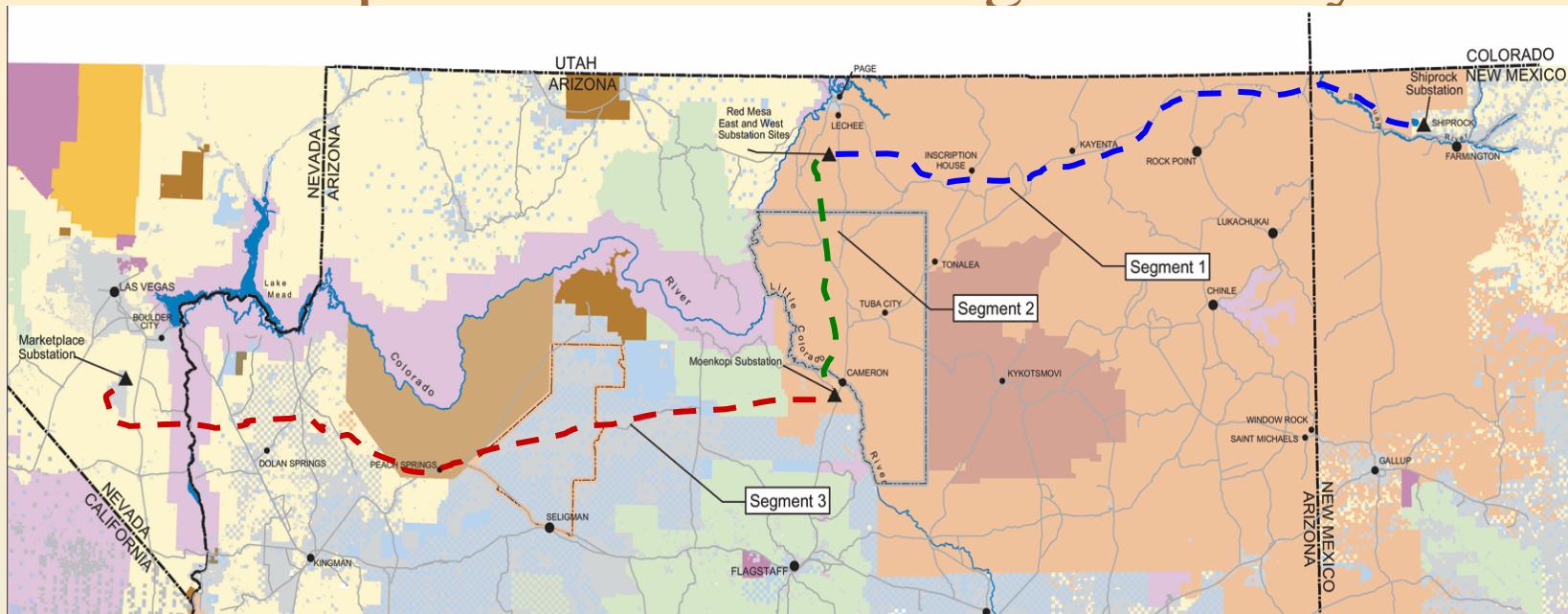
- Improving the economic situation for the Navajo Nation based on revenue that would result from the development of the NTP.
- Relieving transmission system constraints in the Four Corners Area.
- Increasing operating flexibility and reliability of the regional transmission grid.
- Allowing economical power transactions utilizing the transmission system.
- Facilitating future development of Navajo energy resources.
- In 2005/6 about 6,000 MW of the Arizona generating plants will be over 30 years old.

# NTP Project Description

- The NTP will be a 500 kilovolt (kV) transmission line extending from Western Area Power Administration's Shiprock Substation in northwestern New Mexico to the Marketplace Substation south of Boulder City, Nevada. The approximate length of the line will be 469 miles.
- Segment 1 will extend from the Shiprock Substation west for approximately 189 miles to a point south of Page, Arizona on the Kaibito Plateau.
- Segment 2 extends about 62 miles to the Moenkopi Substation south of Cameron, Arizona. An interconnection substation to the existing transmission grid would be constructed at either the Northern end of this Segment on the Kaibito Plateau (Red Mesa) or on the Southern end near the Moenkopi Substation.
- Segment 3 will extend about 218 miles from a point near the Moenkopi Substation to the Marketplace Substation.



# Navajo Transmission Project (NTP) Proposed 470 miles Right-of-Way



## Segment 3:

218 miles, crossing Navajo Reservation, Hualapai Reservation, U.S. Forest Service – Kaibab National Forest (USFS), State of AZ, BLM (Kingman & LV field office), National Park Service - Lake Mead National Recreation Area (NPS), Bureau of Reclamation, Boulder City, and private lands.

## Segment 2:

62 miles, crossing 23.66 miles of Bennett Freeze area & 0.44 miles of Navajo Indian Allotment Land within the Navajo Reservation

## Segment 1:

189 miles, crossing BLM (Farmington Field Office), State of NM and Navajo Reservation

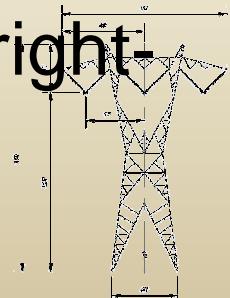
# NTP Progress Status

- Western Area Power Administration (WAPA) Record of Decision (ROD), 1997.
- Arizona Corporation Commission CEC approval, 2000.
- System Impact Study completed.
- Path Rating Study in progress.
- New Federal Lead Agency - BLM
- New Record of Decision anticipated in 2006.
- NN Archeology Department completed archeological surveys in Segment I of NTP
- MOA with Hualapai Tribe



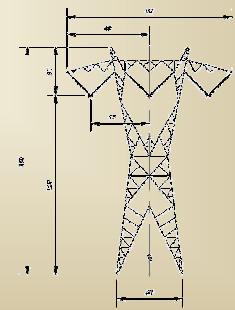
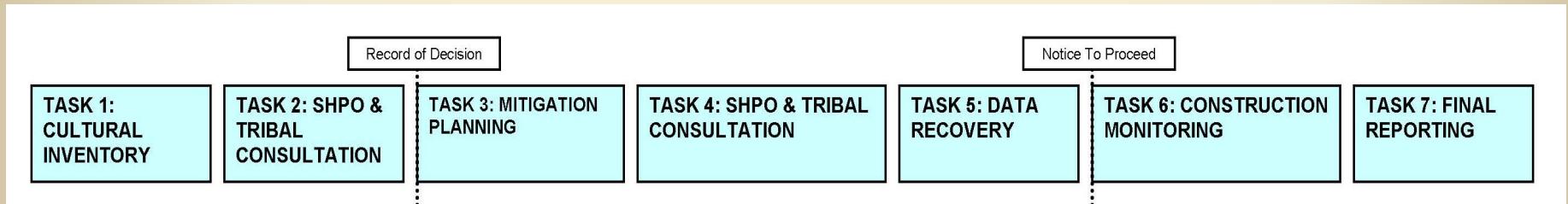
# Key 2006 Achievements

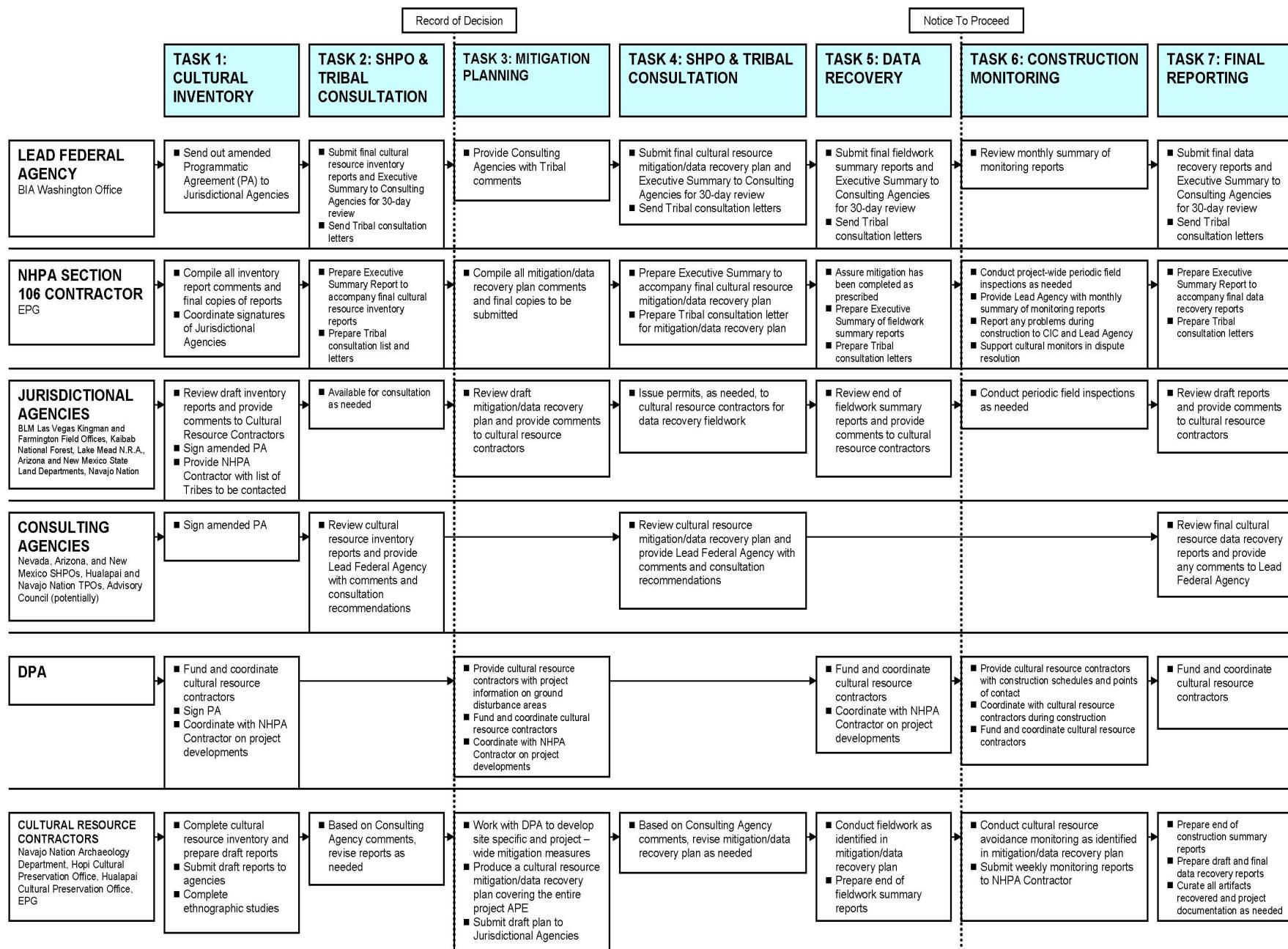
- Regular weekly coordination meetings with cooperating agencies on expectations for NEPA, Section 106, and Section 7 compliance.
- Completion of cultural surveys along centerline of NTP (Segments 1 and 2).
- Completion of Mesa Verde cactus surveys along Segment 1.
- Development and pending submittal of Biological Assessment and supporting documents.
- Progress with the Hualapai Tribe regarding right-of-way negotiations in Segment 3.





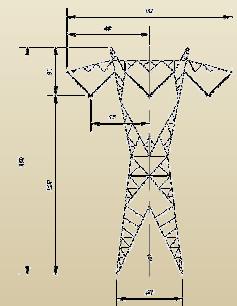
•Development Agreement with Sithe Global for Segments 1 and 2 signed.





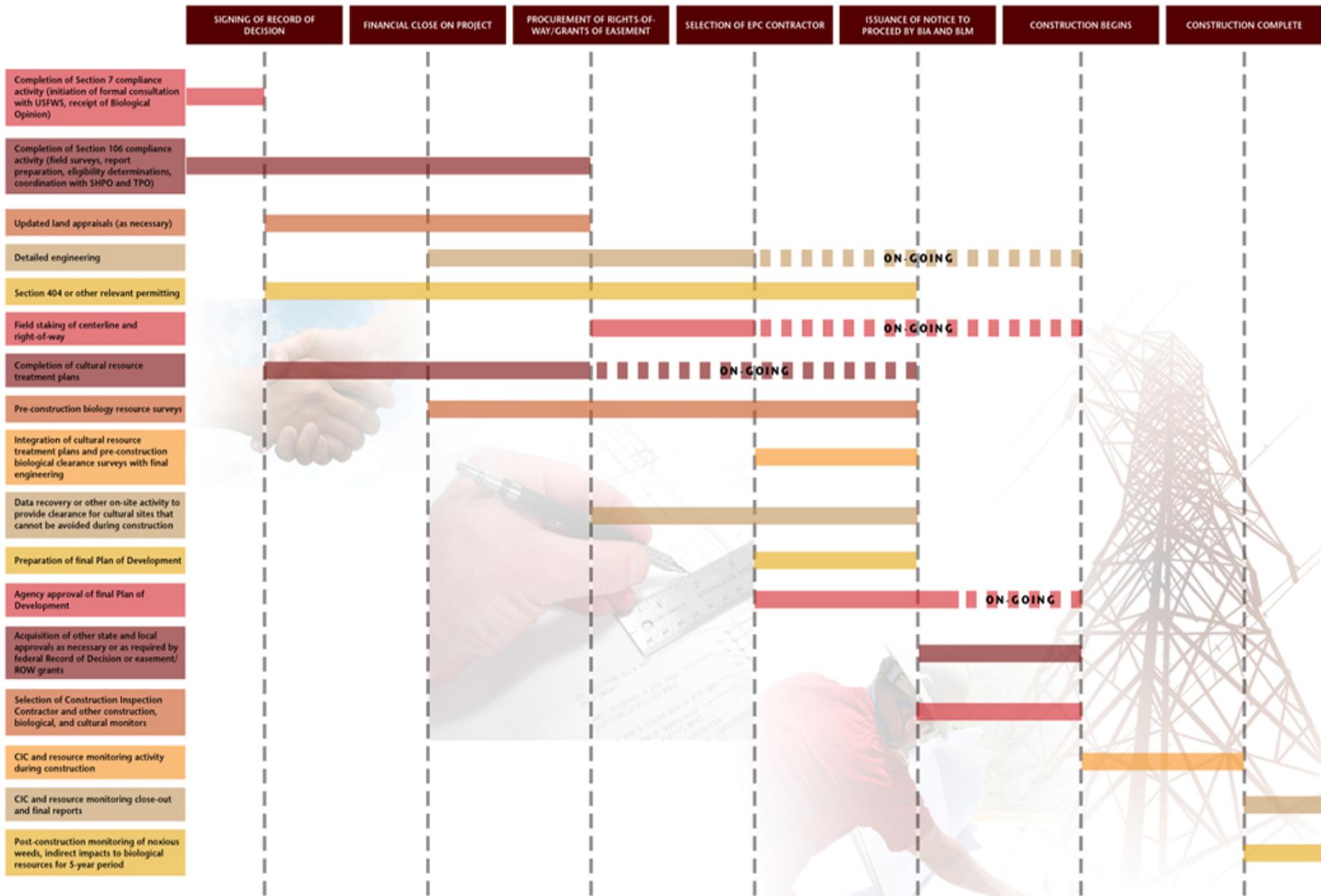
# Next Milestones

- Submittal of BA, initiation of formal consultation.
- Field work and data recovery plan for cultural resources.
- Updated Plan of Development.
- Record of Decision
- Notice to Proceed



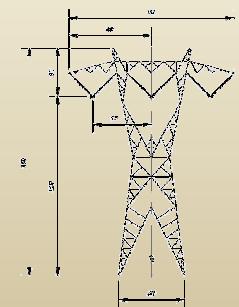
# Navajo Transmission Project

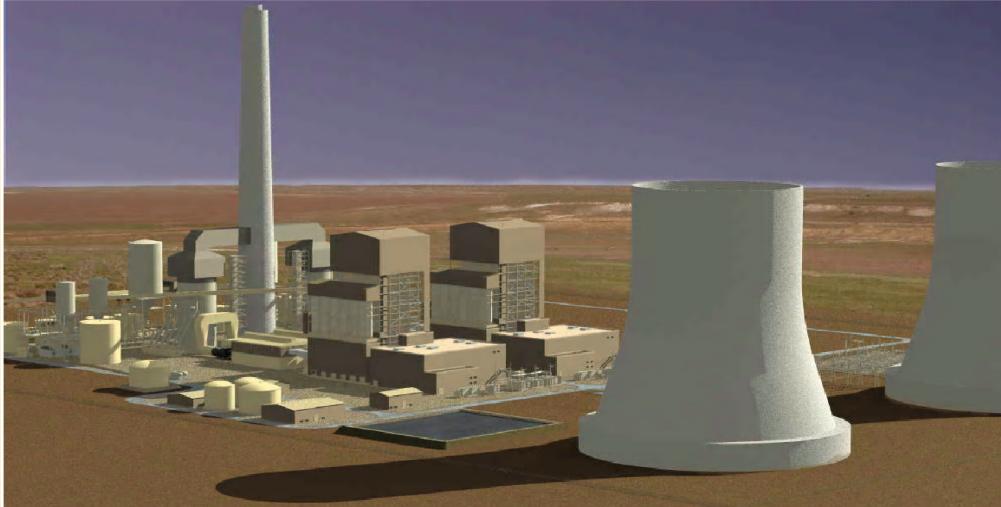
## Outstanding Permitting Tasks through In-Service of Segments 1 and 2



# Big Picture

- Tremendous emphasis on regional transmission planning throughout the western US.
- Recent California emissions legislation further limits potential for generation to occur there.
- NTP is seen as a key component in regional power transfer.

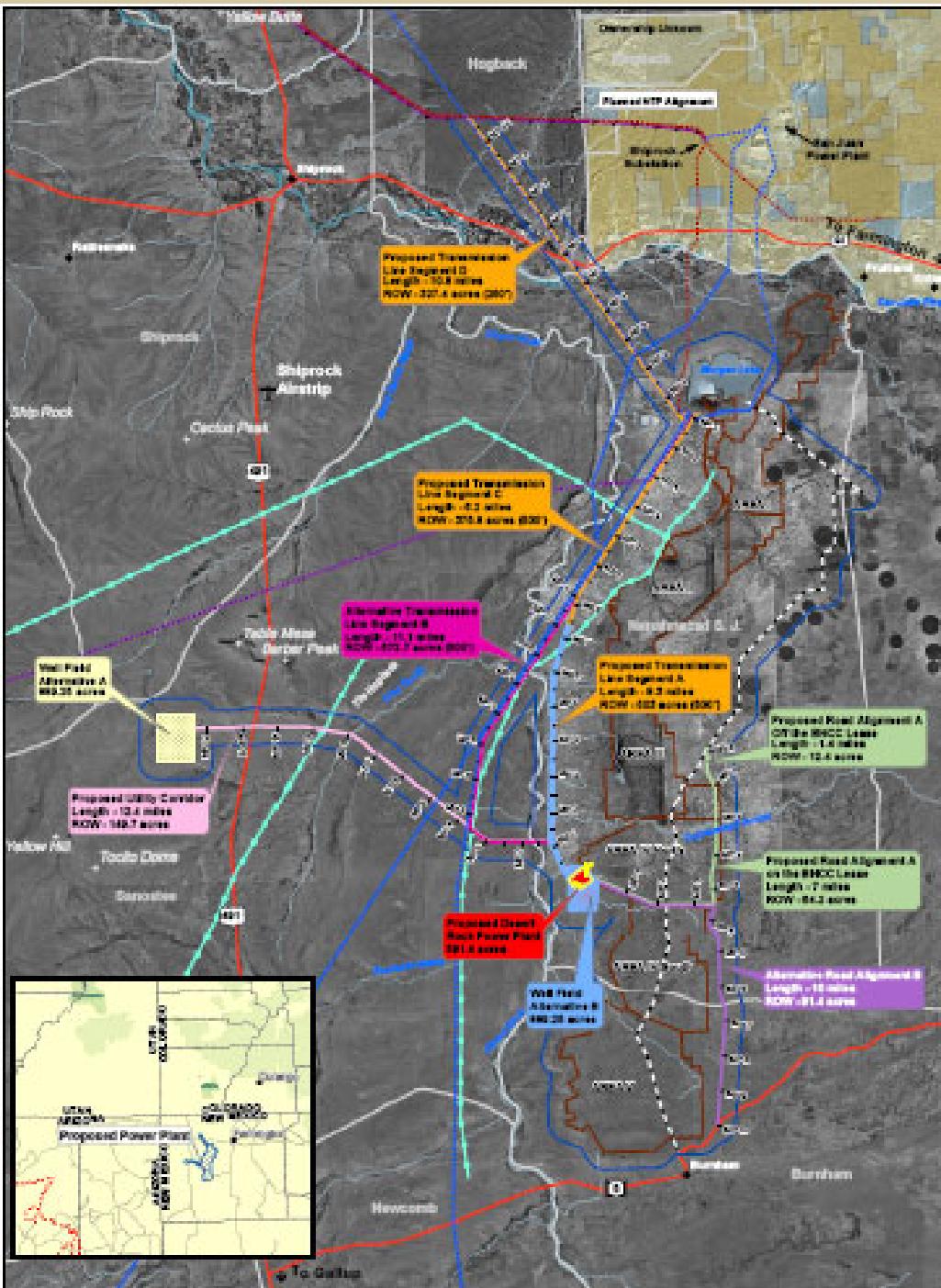




# *Desert Rock Energy Project (DREP)*

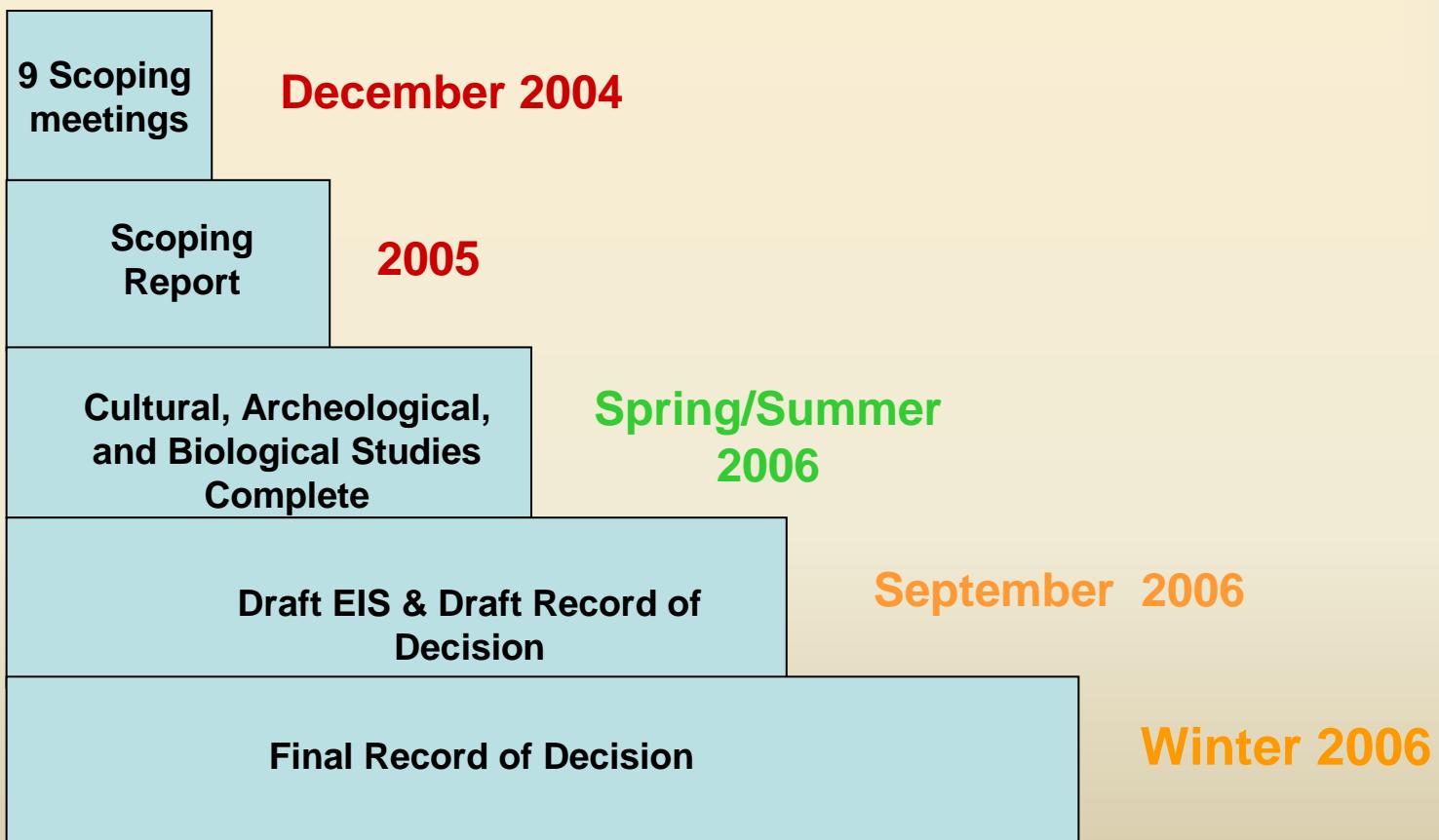
- An up to 1,500 MW mine-mouth, coal-fired electric generation facility
- The Desert Rock Power Plant and the associated Fuel Supplying Coal Mine are Located in the Nenahnezad and Burnham Chapter Areas of the Navajo Nation, San Juan County, New Mexico
- Fuel: Navajo Coal from adjacent BHP Mine
- Estimated cost of Desert Rock is \$2.8 Billion
- Construction to begin in 2007 with an online, in-service date in 2011

# Project Site Map

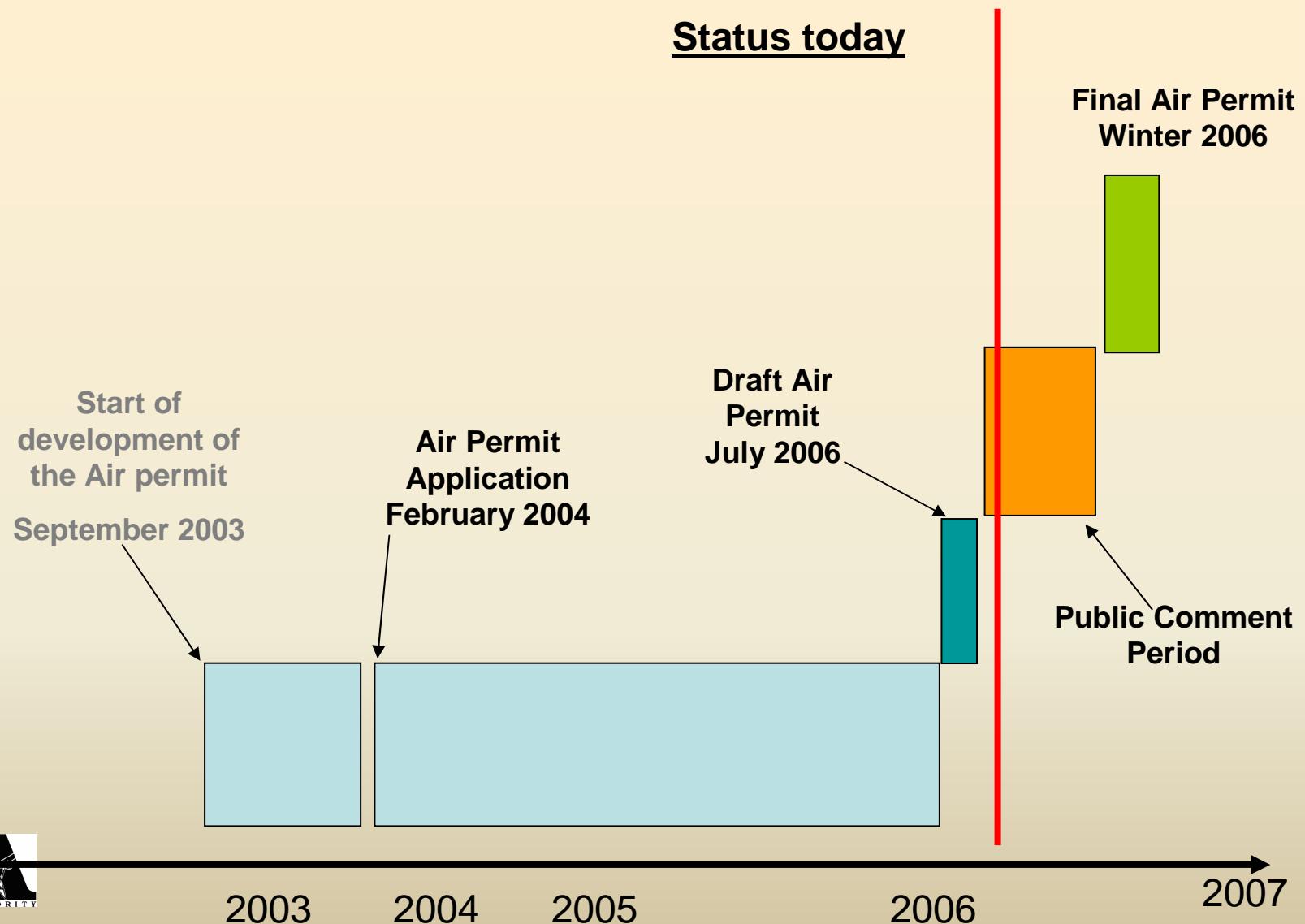


# Desert Rock EIS Status

US Bureau of Indian Affairs (BIA) is lead agency responsible for the completion of the Environmental Impact Statement (EIS)

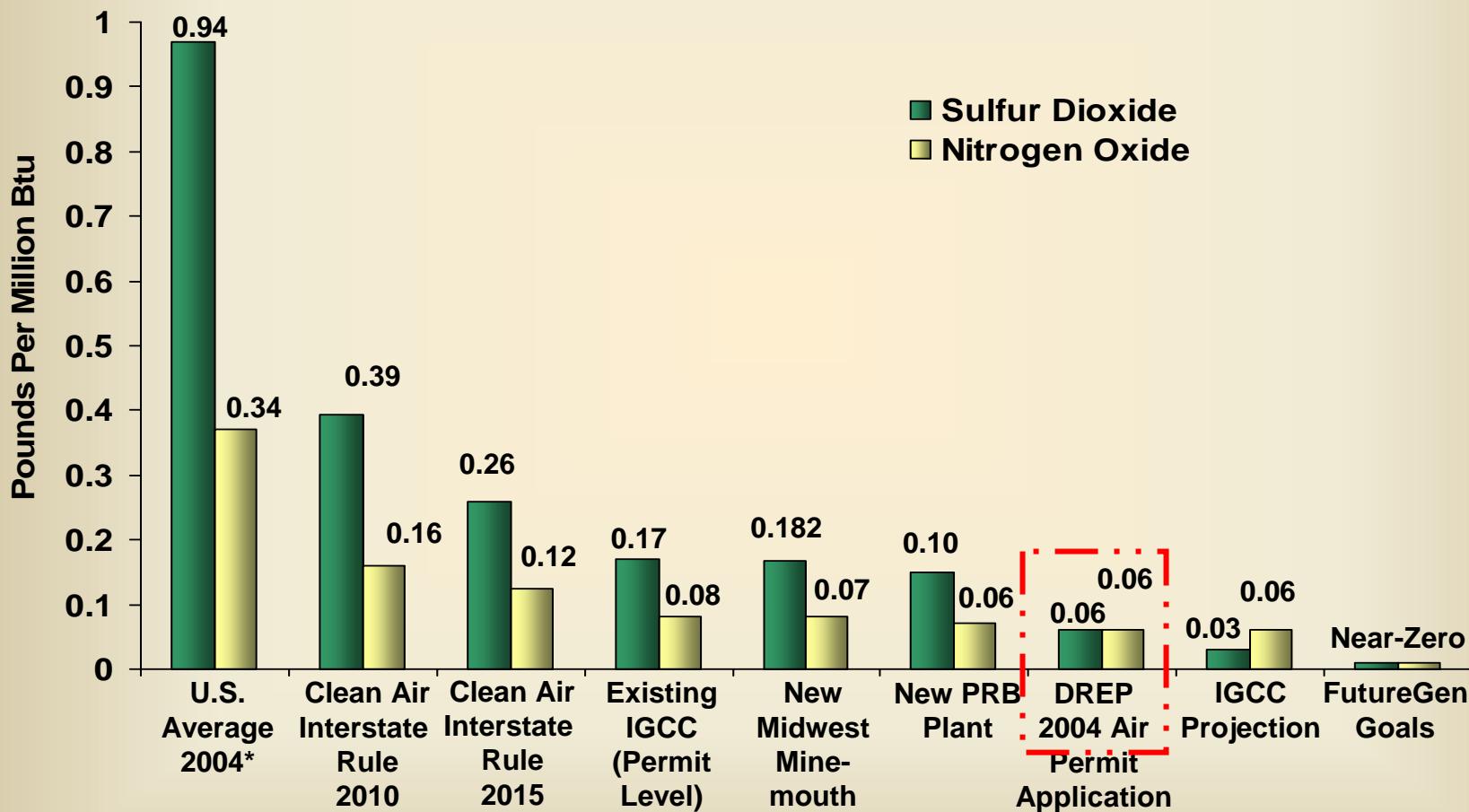


# Desert Rock - Steps to Air Permit



# Desert Rock: The Next Step To Near-Zero Emissions From Coal-Fired Generating Plants

## Emissions from Coal-Fired Generating Plants



DPA's Clean Air Markets database; EIA 2004 Annual Energy Outlook; GE Energy; SFA Pacific.

Inserted by DPA for discussion purposes only in showing relationship of Desert Rock estimated emissions.

# Air Permit

- Desert Rock submitted an application with the lowest emission rates for any pulverized coal fired power plant in the US to minimize impacts to the environment
- Permit Application Submitted March 2004
  - 98% Removal of SO<sub>2</sub>
  - 99% Removal of Particulate Matter
  - 80% Removal of Mercury
  - 98% Removal of NOx
- Application Deemed Complete in May 2005
- Extensive Modeling Completed per EPA, NN EPA, and National Park Service Requirements

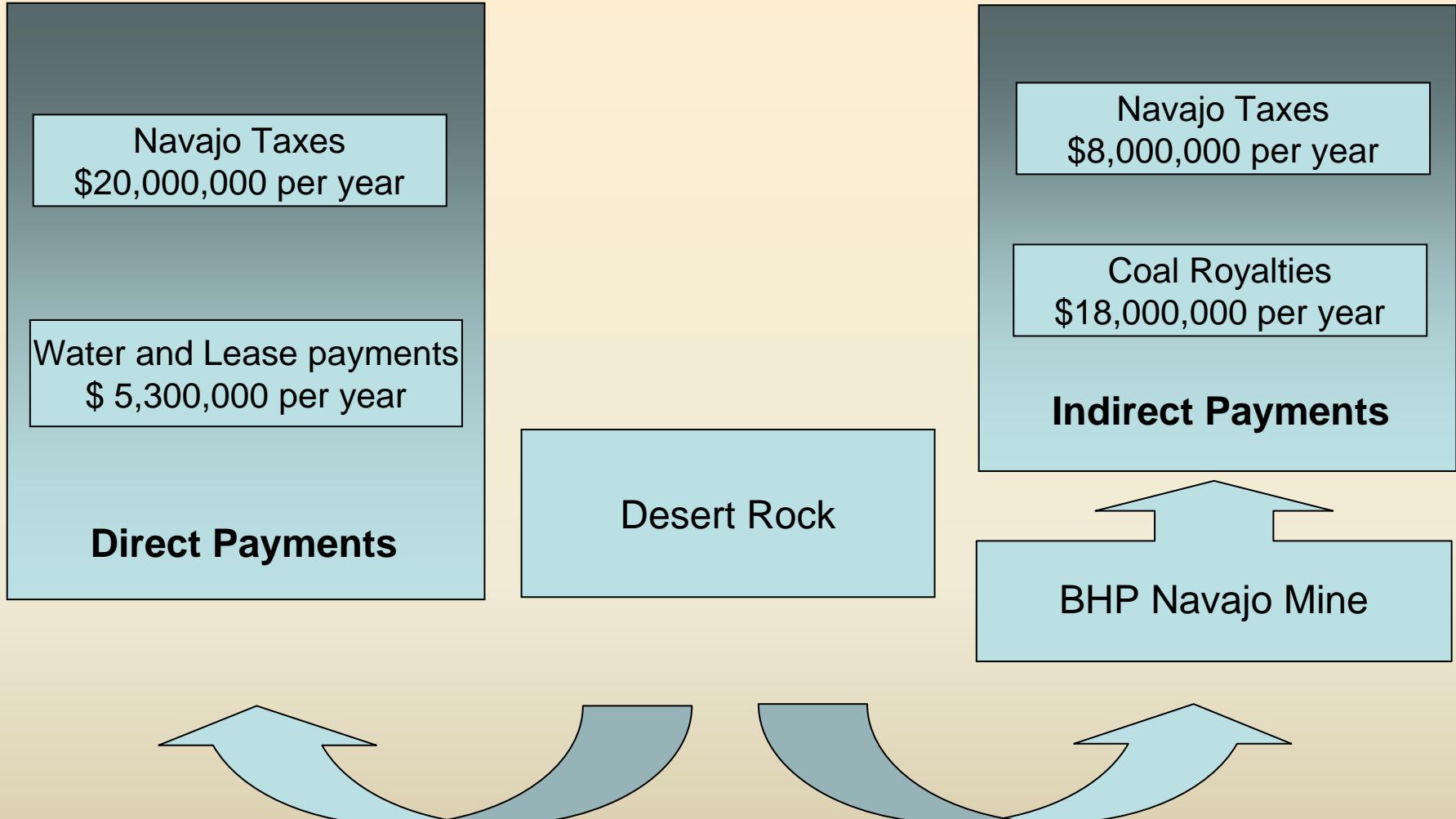
# Desert Rock Benefits : Employment Opportunities

- Job training opportunities
- Estimated Employment
  - Average of 1,000 construction workers per year for 4 plus years
  - 200 employees for power plant operation
  - 200 employees for coal mine expansion
  - Estimated 1 additional job will be created for every 2 jobs created at Desert Rock during construction
    - During Construction – 1,000 additional local jobs
    - Operations – Sustain 60 local jobs

\*Neff + Ricci, LLP, 2003



# Tax, Royalty, and Lease Revenues



# Sithe Global - Overview

- Sithe Global Power is a privately held independent power development company developing power generation projects worldwide
- Formed from the management and development teams of Sithe Energies and Steag Power in 2004
- Owned by Blackstone Capital Partners and Reservoir Capital Group
- Team of experienced developers with significant solid fuel experience



# Desert Rock and NTP Summary

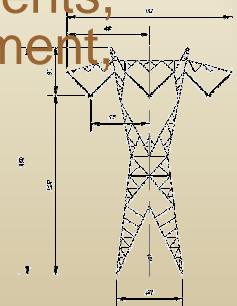
- Desert Rock and Navajo Transmission Project will:
  - Generate over \$52 Million per Year over the life of the plant
  - Increase direct & indirect NN Employment opportunities linked with education & training
  - Deliver long term benefits to the impacted chapters
  - Equity ownership opportunities for Navajo Nation
  - Sets a benchmark for Clean Coal Generation

**Energy projects will be a Catalyst for Continued Economic Development on the Navajo Nation**

# Diné Wind Project



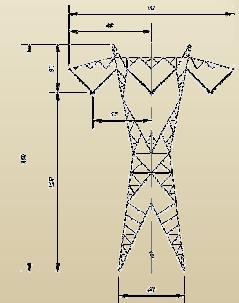
- Project Goal: 200 MW wind project on Navajo lands
- The Diné Wind Project is moving forward quickly to capitalize on favorable market conditions
- Benefits to Navajo Nation include: taxes and site lease payments, DPA ownership interest, job creation and economic development, Citizens Local Benefit Program



# Diné Wind Project



- Target date for construction to commence is 2008-2009
- Diné Wind Project to compliment other ongoing Navajo wind development efforts



# Wind Project Stages

## 200 MW Wind Farm

### Site Selection

- **1-2 Months**
- **~\$50,000**
  - Wind maps
  - Transmission
  - Road access
  - Land use
  - Environmental



### Development

- **2-4 years**
- **\$1-2 Million**
  - Wind assessment
  - Interconnection
  - Layout
  - Environmental study
  - Permitting
  - Power Contract
  - Financing
  - Procurement

### Construction

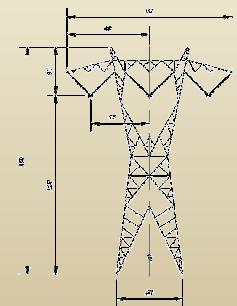
- **1-2 years**
- **\$300 Million**
  - Turbines
  - Foundations
  - Roads
  - Collection system
  - Substation
  - Facilities



# DPA and Citizens Joint Venture

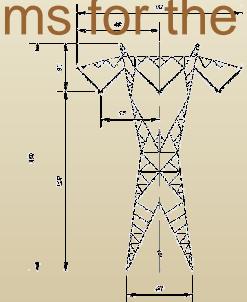


- Memorandum of Understanding entered July 2006
- Joint development activities commencing Sept. 2006
  - **Project Feasibility**
  - **Site control and layout**
  - **Wind resource assessment**
  - **Preliminary engineering**
  - **Environmental review**



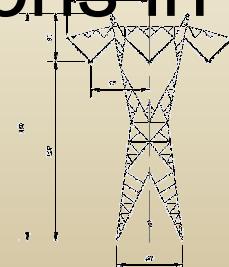
# Diné Wind Project Benefits

- 200 MW project could produce tax revenues, local benefit programs, and royalties
  - ≈ \$3-5 million per year for Navajo
- Job Creation - Local Employment
  - Temporary construction jobs
    - ≈ 100-200
  - Long-term operations and maintenance jobs
    - ≈ 10-20
  - Job training
- Citizens Local Benefit Program
  - Percentage of profits provided for foundation or other programs for the benefit of the Local Community
- Build Navajo skills and knowledge base



# Diné Power Authority: Advantages to Renewable and Sustainable Energy

- In today's world, there is an immediate need to combine and balance today's technology with the available natural resources to create an economic development process that will provide for the Navajo Nation, and it's peoples immediate economic needs, as well as produce and nurture social growth that has future needs and environmental obligations in mind.



# Thank You

## Questions on Wind Project?

Please Contact Us:

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# For Further Information

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