Owl Feather War Bonnet Wind Farm
Rosebud Sioux Tribe

Resource Development Office/Tribal Utilities Commission
Distributed Generation Systems, Inc. (Disgen)
Dept. of Energy Pre-construction Activity Grant

DOE Funding $448,551.00
DISGEN Cost share/in-kind $78,750.00
RST/TUC Cost share/in-kind $27,272.00
South Dakota - Rosebud Reservation Wind Resource Map and Capacity

Wind Power Classification

- Marginal: 200 - 300 W/m², 5.6 - 6.4 m/s, 12.5 - 14.3 mph
- Fair: 300 - 400 W/m², 6.4 - 7.0 m/s, 14.3 - 15.7 mph
- Good: 400 - 500 W/m², 7.0 - 7.5 m/s, 15.7 - 16.8 mph
- Excellent: 500 - 600 W/m², 7.5 - 8.0 m/s, 16.8 - 17.9 mph
- Outstanding: 600 - 800 W/m², 8.0 - 8.8 m/s, 17.9 - 19.7 mph
- Superb: 800 - 1600 W/m², 8.8 - 11.1 m/s, 19.7 - 24.8 mph

Transmission Line Voltage
- 69 Kilovolts
- 115 Kilovolts
- 230 Kilovolts
- 345 Kilovolts

Indian Reservations Wind Electric Potential (MW)

- Rosebud: Class 4 - 6 17,400 - 34,800 25,750 - 51,500
- Owl Feather War Bonnet Wind Farm: Class 2 - 6 30,280 - 60,560 48,975 - 97,950

Note 2 and 2a potential megawatt resource

For more info...
List location or contact for detailed schedule (or other related documents) here.
The Participants:

Rosebud Sioux Tribe, Resource Development
- Phil Two Eagle, Resource Dev. Dir.
- Ken Haukaas, Wind Farm Coordinator
- Dr. Bill Akard, Sinte Gleska University, Cultural Resources

RST Tribal Utilities
- Tony Rogers, Director

Distributed Generation Systems, Inc (DISGEN)
- Dale Osborn, President
- Chris Bergen, Project Manager (NEPA)

Bureau of Indian Affairs: Lead Agency, Aberdeen Area Office
- Dianne Mann-Klager, Lead/ Wildlife Biologist
- Dr. Carson Murdy, BIA Archaeologist

RST Game Fish and Parks/ Natural Resources
- Stephanie Middlebrooks, Wildlife Biologist

U.S. Fish and Wildlife Service, Consulting Agency

Western EcoSystem Technology, Inc. (WEST)
- Rhett Good, Environmental Consultant
Photo Aerial of Project Area

Sections 32, 33, T37N R30W  680 acres

Source: Ken Haukaas RST Resource Development Office
Wind Farm Site, looking East
Wind Farm Site, looking West
3 photo simulation locations
Photo from 1 Mile North of Project Area and St. Francis, at Old Dump Approach; Facing South by Southeast
Photo from 2.25 miles North of Project Area and St. Francis, at Eric Nixon turn off Approach; Facing South by South East

Note: 5 extra turbines
Photo from 1.25 Miles West of Project Area at Powwow Grounds Entrance Approach, Facing East by Southeast. St. Francis in Foreground.
Ecological Baseline study

Western Ecosystems Technology Inc.

1. A detailed avian study  Complete
2. Mapping of prairie dog towns  Complete
3. Grasslands bird survey  Complete
4. American Burying Beetle survey  Complete
5. Greater Prairie Chicken Lek Monitoring  Complete
6. Raptor nest Search  Complete
7. General wildlife observations  Complete
8. Bat survey  Complete
9. Flora survey  Complete
A Detailed Cultural Assessment

• Class I. File and literature search
  *(NEPA Requirement)*

  Requires a review of any and all records on the site through research of state and local records concerning investigations gathered in the past. *Conducted and completed by Dr. Carson Murdy BIA Archaeologist.*
Cultural Assessment Cont:

- Class III, Site Review
  (NEPA Requirement)

A 100% intensive site surface review, which consists of walking over the whole 680 acres of area foot by foot.

140 acres completed by Dr. Carson Murdy BIA Arch., the other 540 acres, has been completed by Dr. Bill Akard along with staff and students of Sinte Gleska University 100% Complete
Cultural Assessment Cont: Ethnographic Interviews

- Interview elderly familiar with the area
- Gather oral history relevant on the site
- Insure to all that no culturally significant area will be disturbed
- Conducted by Lakota speakers with cultural resource management degrees and conducted in a confidential manner
- Not required by NEPA, but was felt it was quite appropriate and necessary to insure success
Ethnographic Findings & Recommendations

- Native language use area by school children
- Recommend 100% intensive survey of all 680 acres
- Identify, map and classify all medicinal plants and replant/reseed as much as possible those plants affected during construction
- Hire a qualified Cultural Resource Management specialist during all excavation work
Systems Impact and Interconnection Study

- Examines the local system to determine if the proposed project can be physically interconnected technically and if the local infrastructure can absorb the energy and capacity being proposed.

Develop the substation requirements for upgrading of the substation.

Conducted by Nebraska Public Power District, green light has been given to continue on process for interconnection, study now needs to know where power will be purchased. Power Purchase Agreement.
Power Purchase Agreement

- Will be proposed on a best effort basis to several potential markets:

1. Nebraska Public Power District
2. Basin Electric
3. Western Area Power Administration
4. Omaha Public Power District
5. Lincoln Electric System
6. Xcel Energy
Anticipated Time Lines

- Nov. 2005, Complete NEPA and Submit to BIA
- Dec. 2005 Obtain Power Purchase Agreement
- Jan 2006, BIA issues FONSI
- Nov. 05- Jan 2006, Dev. financial structure, LLC and secure RST Tribal approval
- July 2006 Construction underway
- Dec 2006 Wind farm on line
Old Bristow Ranch Met tower

Old Bristow Ranch, Tower 2, Data Collection time frame, 1 year
Average wind speed at 160 feet (50 meters) is 16.9 mph Wind Power Class 5, Excellent, Possible locate for 20 turbines, 30 megawatt wind farm
North Antelope Met Tower

These 2 sections have the capacity to hold 7 turbines, at 1.5 megawatts each. 10.5 megawatt. Very rough country.

North Antelope Tower Position Data collection time frame, 1 year. Average wind speed at 160 feet (50 meters) is 19.25 mph, Wind Power Class 6, Outstanding, capacity to hold 10 turbines at 1.5 each, 15 megawatts.

Substation

WAPA 115 KV

Tribal lands