

South Dakota PrairieWinds Wind Energy Project



Outline of Presentation

- Basin Electric Information
- Proposed Project Purpose and Need
- Proposed Project Details
- Permitting Process and NEPA Schedule
- Comparison of Wind Speed and Energy Generation
- Example Photos
- Additional Considerations
- Scoping Meeting Format

South Dakota PrairieWinds Wind Energy Project

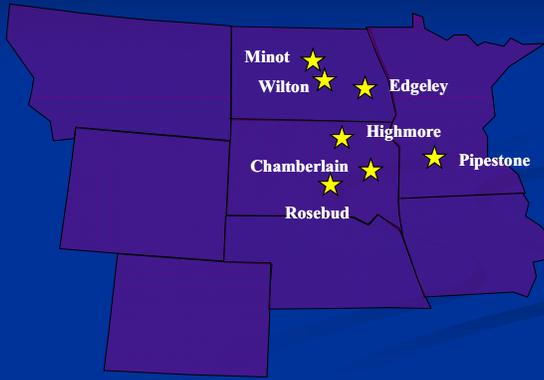
Basin Electric Information

Basin Electric Information:

- Wholesale power supplier to 126-member rural electric systems
- Serves 2.6 million consumers
- Formed in May, 1961 as supplemental power supplier
- Consumer-owned; consumer-controlled

Basin Electric's Wind Portfolio

Existing Wind Energy Generation – 136 MW



5

South Dakota PrairieWinds

Wind Energy Project

Proposed Project

Purpose and Need

6

Purpose and Need

- Current incentives/regulations encourage or require power from renewable or low environmental impact resources
- Proposals in Congress for national Renewable Portfolio Standards (RPS)
- Basin Electric needs additional renewable energy capacity to serve forecasted growth demands and meet state-mandated RPS
 - A 150 MW wind project was determined to be the best alternative to satisfy these requirements
 - Applicant – PrairieWinds SD1, Incorporated, a wholly owned subsidiary of Basin Electric

7

Agencies Involved

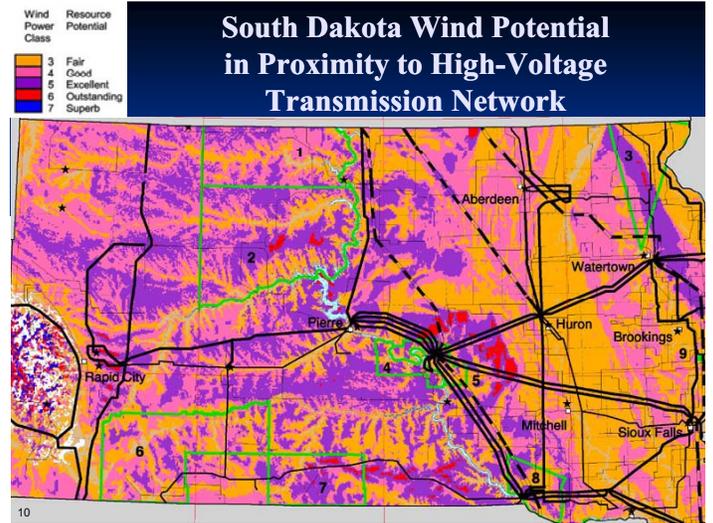
- Western's Action – Basin Electric has requested to interconnect the proposed Project with Western's transmission system
- RUS's Action – PrairieWinds has requested financing for the proposed Project from the RUS
- Both agencies intend to jointly prepare an environmental impact statement (EIS) for the Project

8

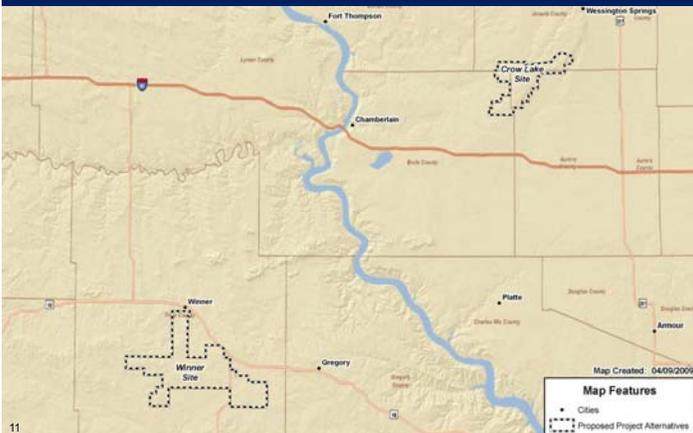
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Proposed Project Details

9



Proposed Project Alternatives



11

Project Details

- Will generate approximately 150 MW
- 2 site alternatives - Project components:
 - 101 turbines,
 - Access roads,
 - O&M building,
 - Underground feeder cables and collector substation(s),
 - Approximately 10 to 12 miles of transmission line
- Fall 2010/Winter 2010 – commercial operation

12

GE 1.5sle Turbine Specifications

- Variable speed – blades rotate at 12 to 23 RPM
- Start-up wind speed: approximately 7 to 8 MPH
- Shut-down wind speed: approximately 56 MPH
- Optimum wind speed: 26 to 55 MPH
- Operational temperature range: - 20° to 104° F
- Variable pitch blades
- High tech electronic controls
- 3 fiberglass blades (14,000 lbs per blade)
- Hub height: 262 feet
- Blade length: 135 feet

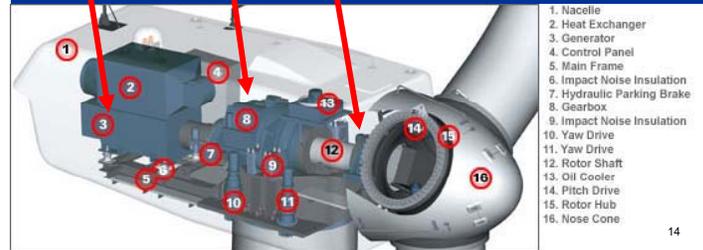
13

3 Major Components of Turbines

Generator

Gearbox

Rotor/Blades/Main Shaft



14

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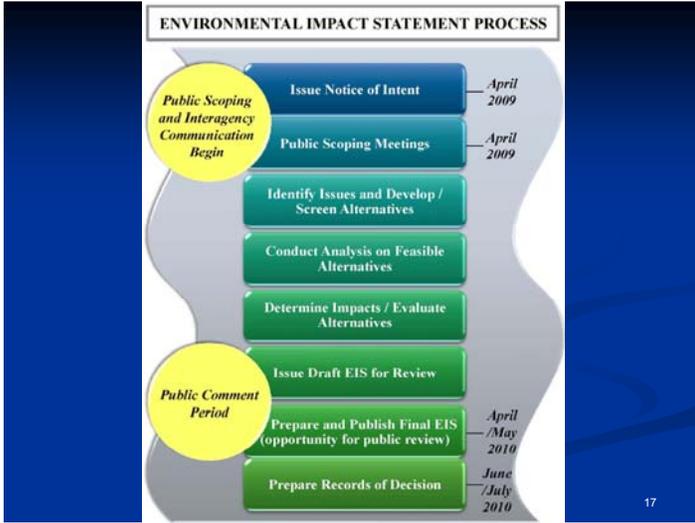
Permitting Process and NEPA Schedule

15

Permitting Process – Scoping and environmental analysis

- NEPA
 - Scoping to gain agency, organization, and public input
 - Environmental Impact Statement
 - Agency involvement:
 - financing – RUS
 - interconnection – Western
- South Dakota Public Utilities Commission – siting approval
- Local zoning
- Other pre-construction permits and authorizations

16

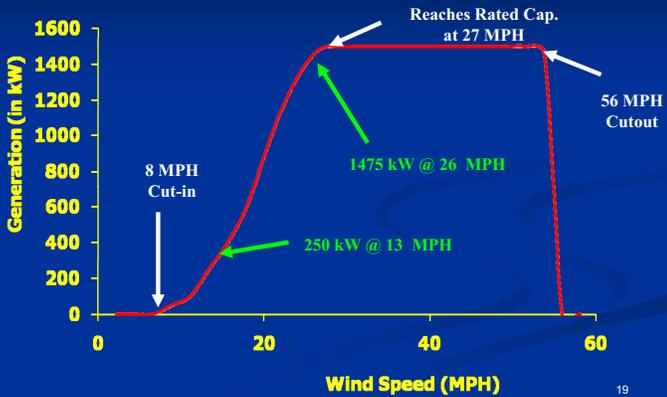


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Comparison of Wind Speed and Energy Generation

Power Curve:

A 1 MPH change in annual average speed can change production by 15%



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Example Photos:

- Turbine Construction
- Collector Substation
- Transmission Structures
- Facility Layout

Initial Construction Step: Complete Foundation



Construction of Turbines



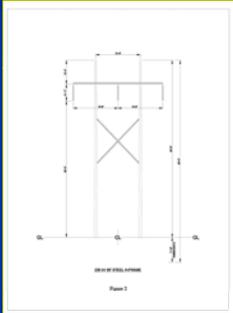
Completed Turbines



Collector Substation (Example Only)



Typical Transmission Structure



25

Facility Layout

(Example Only)



26

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Additional Considerations:

- Potential Local Benefits
- Schedule and Cost

27

Potential Local Benefits

- Project construction
 - Increase demand for local lodging, meals and construction materials
 - 225 - 250 temporary jobs
- Project operation
 - 10-12 permanent jobs
- Increase tax base
- Increase renewable energy capacity, and system reliability

28

Proposed Schedule/Cost

- Obtain permits/approvals – ongoing
- Summer 2010 – begin construction
- Fall 2010/Winter 2010 – commercial operation
- Project cost estimate = \$350 million

29

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Scoping Meeting Format

30

Open House Scoping Meeting

- Please sign in at the registration table
- Feel free to visit the various stations around the room
- Ask questions
- Provide input
- Your comments are important to this process

31

Thank You

32