



IBERDROLA
RENEWABLES

**Buffalo Ridge II
Site and Route Permit
Applications
South Dakota Public Utility
Commission**

January 5, 2009

Presentation Overview

- Corporate Overview and Project Development-
Tim Seck
- Project Construction- Paul Skurdahl
- Project Operation- Dave Sweet

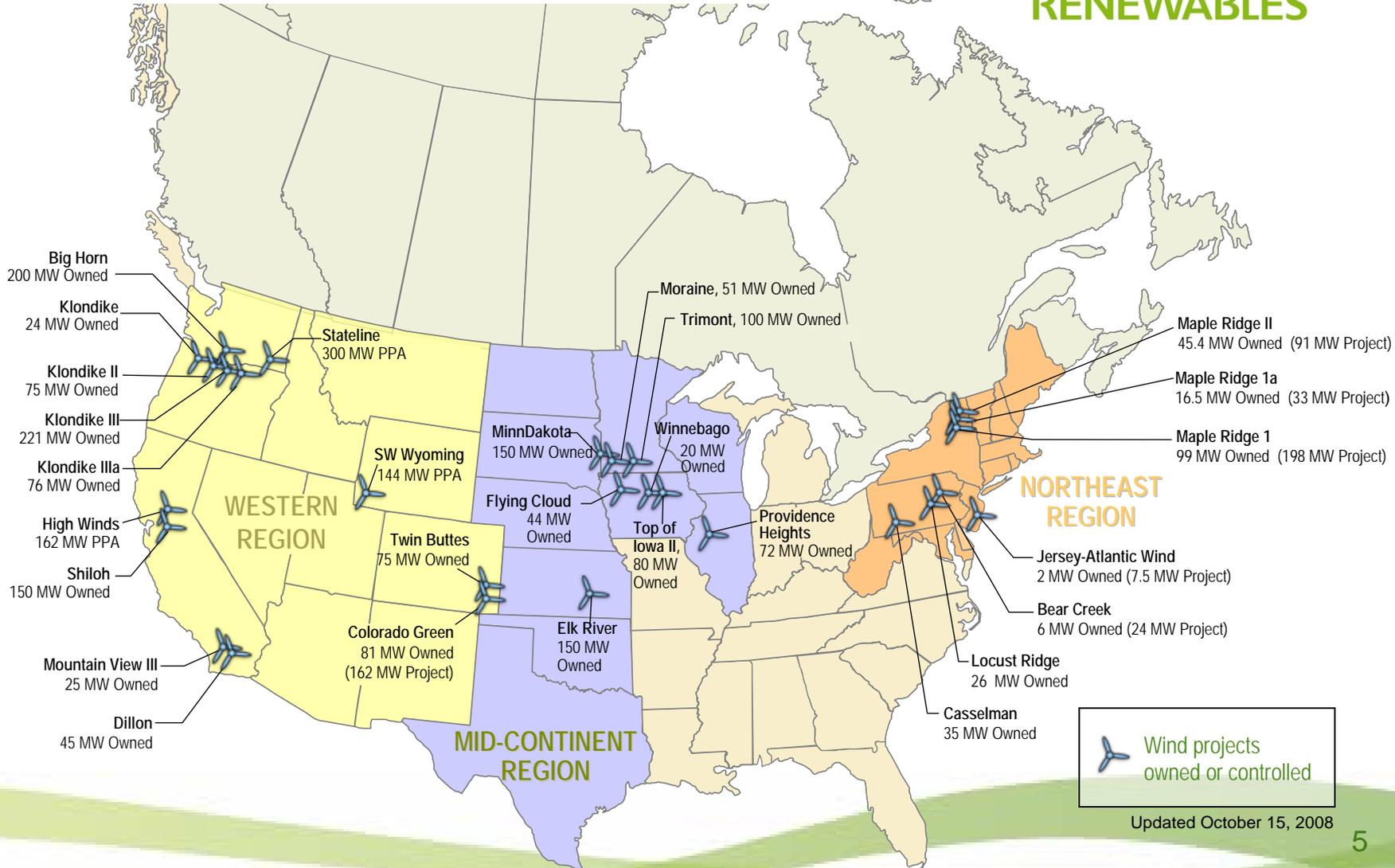
Project Development Lead

- Tim Seck, Director of Development- oversees project to construction
- 15 years of wind experience. Has developed 500 MW of wind including MinnDakota and Buffalo Ridge I in South Dakota

Iberdrola Renewables Overview

- Largest owner/operator of wind in world
- Constructed (2007) and operating 54 MW of wind in SD - MinnDakota
- Completed construction of 50 MW of wind in SD (Dec 2008) - Buffalo Ridge I

North American Wind Assets



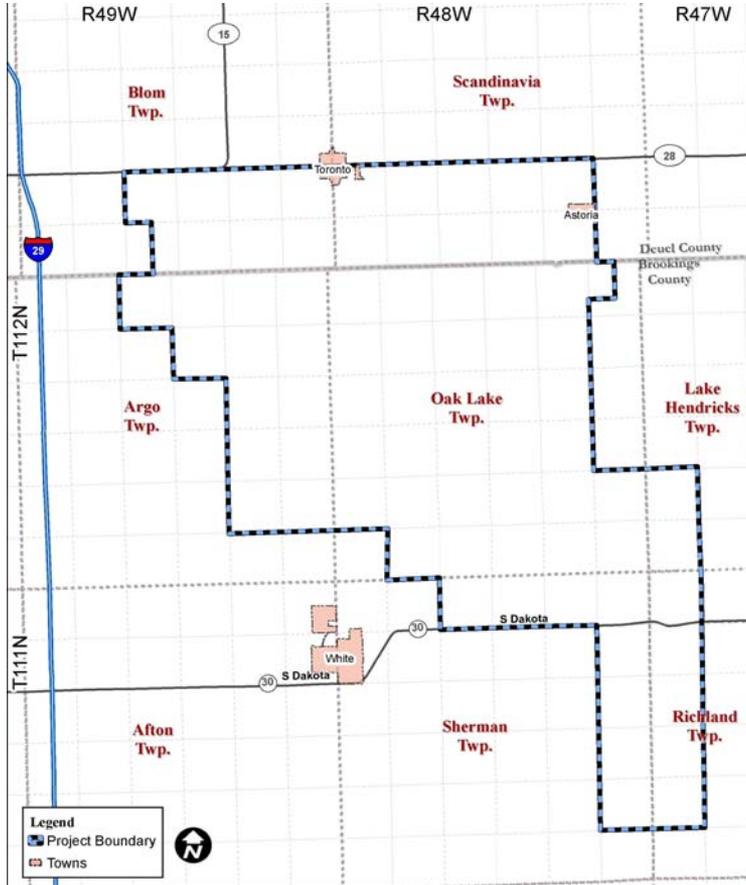
Project Background-continued

- Operations and maintenance facility
- Two (2) project substations
- Permanent meteorological tower(s) and SODAR
- Target in-service date as early as 2010/2011
- Meet annual energy needs of over 100,000 homes

Project Background

- 306 MW project
- Turbine TBD - 1.5-2.4 MW size range
 - 80 to 100 meter tower (262-328 ft)
 - 78 to 95 meter rotor diameter (256-312 ft)
- Access roads to turbines - 16 ft gravel
- Underground 34.5 kV collection system
- 115 kV/34.5 kV overhead transmission line
- Interconnect at Brookings Substation

Project Location



- Brookings County & Deuel County, SD
- Project area is spread over 77 sections of land.
- Project footprint will be located on approximately 77 acres – less than 1% of project area.

Project Development-Key Steps

- Site - IBR has secured the site, through voluntary lease agreements.
- Wind data - Six meteorological towers in or adjacent to project site with several years of data.
- Interconnect - Signed interconnect agreement (IA) with MISO for 210 MW and expect IA for 96 MW shortly.

Project Development-Key Steps

- Develop constraint map - with regulatory and company setbacks
 - Greater of 1,000 feet or 50 dBA from occupied residences
 - Greater of 500 feet or 1.1 times tower height from roads and property lines with no lease on one side
- Preliminary site layout - 2 MW turbine layout staked

Project Development-Key Steps

- Field Review - Development team. *Revise layout.*
- Field work - Conduct avian, cultural, wetland and habitat surveys of project footprint. *Revise layout.*
- Landowner input - Multiple meetings with landowners seeking input. *Revise layout.*
- Secure permits - BRII has applied for site and route permits with SDPUC and Brookings County. Other permits as required.

Project Development-Key Steps

- Turbines - Iberdrola has turbine commitments from several manufacturers.
- Finalize layout - After turbine is selected and geo-tech is completed.
- Sell power - Iberdrola will either sell power under a long-term agreement to a utility or sell into the market - “merchant.”
- Financing - Iberdrola typically finances project through construction off balance sheet (self finance).

Project Construction Lead

- Paul Skurdahl, Director Construction Engineering
- 28 years of experience
- Paul has been the construction engineer for almost 1,000 MW wind including Buffalo Ridge I
- Project Manager for the construction of more than 270 MW of wind

Project Construction

- IBR typically hires a civil contractor and an electrical contractor to construct the project.
- Peak of construction expect up to 130 workers hired by civil and electrical contractor.
- Buffalo Ridge II and its contractors will comply with all rules, regulations and permits governing the construction of the project.

Construction - Schedule

- Target in-service date – as early as 2010/2011
- Can either construct entire project in calendar year of Commercial Operation Date (COD) or break-up project over 2 years.
- Two year schedule typically involves building roads and foundations in calendar year before COD year.

Road with Geotechnical Fabric





Wind turbines & roads post-construction



- Access road is scaled back to 16 feet width after construction
- Access road is constructed as low-profile, year-round gravel road





Construction photos (foundations)





Construction photos (foundations)



Top of foundation is 16 feet in diameter

Turbine Erection



Turbine Erection





Construction Photos (trenching)



Collection system will be trenched or plowed in, a minimum of 42 inches below surface

Tile repairs managed by Iberdrola during and after construction

PRELIMINARY CONCEPT

DESIGN ASSUMPTIONS:

- MAXIMUM SPAN: 500'
- 795 KCMIL 26/7 ACSR "DRAKE"

* DIMENSIONS ARE TO ATTACHMENT HOLE.

NOTES:

1. STRUCTURE DIMENSIONS ARE APPROXIMATE. ACTUAL DIMENSIONS MAY VARY.
2. DIMENSIONS ARE TO ATTACHMENT HOLES.
3. DRAWING IS NOT TO EXACT SCALE

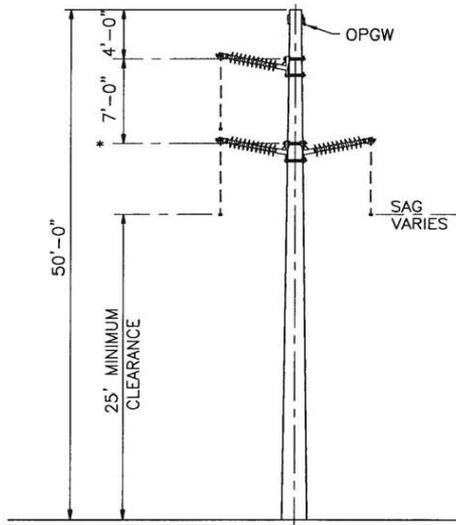


Figure 6e - Typical 115 kV Single Circuit Structure
Buffalo Ridge II Wind Farm
Iberdrola Renewables
Brookings and Deuel Counties, SD

PRELIMINARY CONCEPT

DESIGN ASSUMPTIONS:

- MAXIMUM SPAN: 250'
- 795 KCMIL 26/7 ACSR "DRAKE"

* DIMENSIONS ARE TO ATTACHMENT HOLE.

NOTES:

1. STRUCTURE DIMENSIONS ARE APPROXIMATE. ACTUAL DIMENSIONS MAY VARY.
2. DIMENSIONS ARE TO ATTACHMENT HOLES.
3. DRAWING IS NOT TO EXACT SCALE

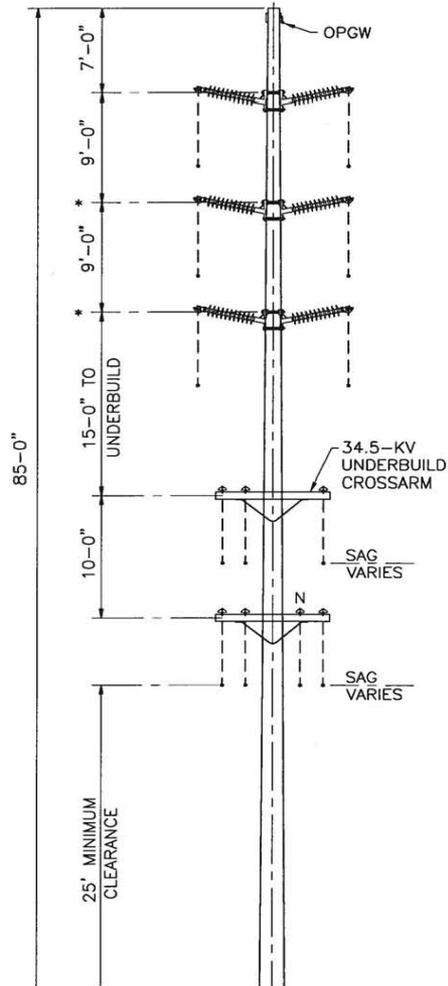


Figure 6f - Typical 115 kV Double Circuit
with Double 34.5 kV Underbuild Structure
Buffalo Ridge II Wind Farm
Iberdrola Renewables
Brookings and Deuel Counties, SD

Operations and Maintenance Lead

- Dave Sweet, Director-Operations and Maintenance, MinnDakota and Buffalo Ridge I.
- Will manage Buffalo Ridge II. Over 12 years of wind experience. Lives in SD.

Operations and Maintenance

- 15-20 permanent O and M positions
- Hire as many as possible from local community and train
- Perform scheduled and unscheduled maintenance
- Primary contact for landowners and community

O and M building – MinnDakota Wind Farm



Thank you