



Meridian Wind Project

Hyde County, South Dakota

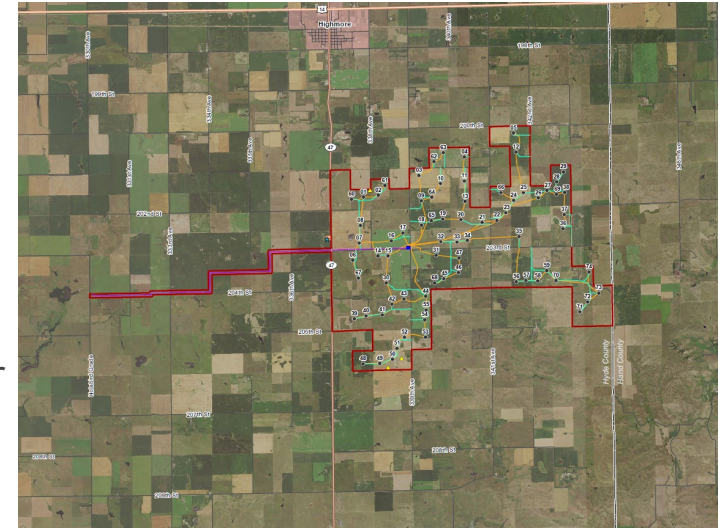
Casey Willis, Senior Advisor

June 10, 2020



Meridian Wind Project Overview

- Project was originated in 2015.
- Located on approximately 14,500 acres of land under easement. Setbacks and siting constraints limit the number of acres that could be utilized.
- Approximately 25 landowner groups participating in the Project.
- To date, Engie has completed extensive wind resource evaluations, over three years of biological/environmental field studies, and finalized the interconnection studies.
- PPAs have not been signed for the Project.
- Selected GE to supply wind turbines.
- Selected Wanzek to construct the Project.
- Target Commercial Operation – End of 2021.



Meridian Wind Project

Project Components

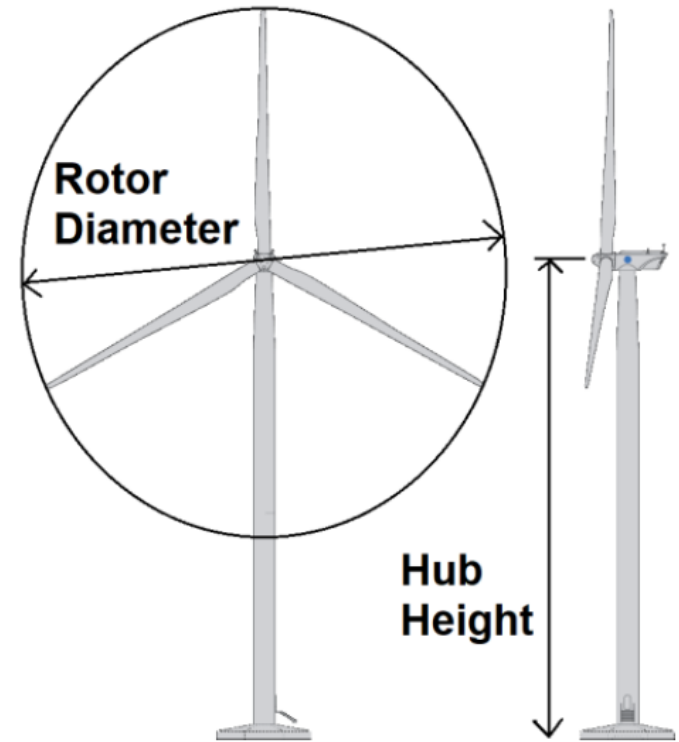
- **Proposed number of turbines.** 74 proposed locations. Only 64 will be constructed.
- **Generation Capacity.** 175 megawatts (MW).
- **Point of Interconnect (POI).** Chappelle Creek Substation (under construction). Approximately 9 mile, 345 kV transmission line from the Project area west to POI.
- **Underground Collection and Substation.** All of the wind turbines will be connected by underground 34.5 kV collection lines. Voltage is stepped up to 345 kV at the project substation.
- **Operations and maintenance facility.** O&M activities will share the use of the O&M facility that is currently under construction for the Triple H project. An additional building may be constructed on the 6 acre parcel to support additional activities from the Meridian Wind Project.
- **Permanent Meteorological Tower.** To monitor performance and wind conditions. One unguyed tower proposed.

Meridian Wind Project

General Electric – 2.72-116 Wind Turbine

- Proposed Wind Turbine – General Electric 2.72-116 wind turbine generator

Design Features	GE 2.72-116
Nameplate Capacity	2.72 MW
Hub Height	90 m (295 ft.)
Rotor Diameter	116 m (381 ft.)
Blade Length	58 m (190 ft.)
Total Height	148 m (486 ft.)
Minimum distance to Ground	32 m (105 ft.)
Cut-in Wind Speed	3 m/s (6.7 mph)
Cut-out Wind Speed	25.5 m/s (57.0 mph)



Meridian Wind Project

Wanzek Construction – General Contractor

- Wanzek Construction was selected as the General Contractor after a RFP process.
- Wanzek is considered one of the top three wind turbine construction contractors doing work in the United States.
- Based in Fargo, North Dakota.
- Completed construction on over 9,000 MW of wind energy projects constituting over 4,500 wind turbines in the United States.
- Wanzek will complete all of the preliminary/final engineering and will complete the construction of the Meridian Wind Project.
- Wanzek has successfully constructed a number of wind projects in South Dakota, including the Triple H Wind Project and Dakota Range III.

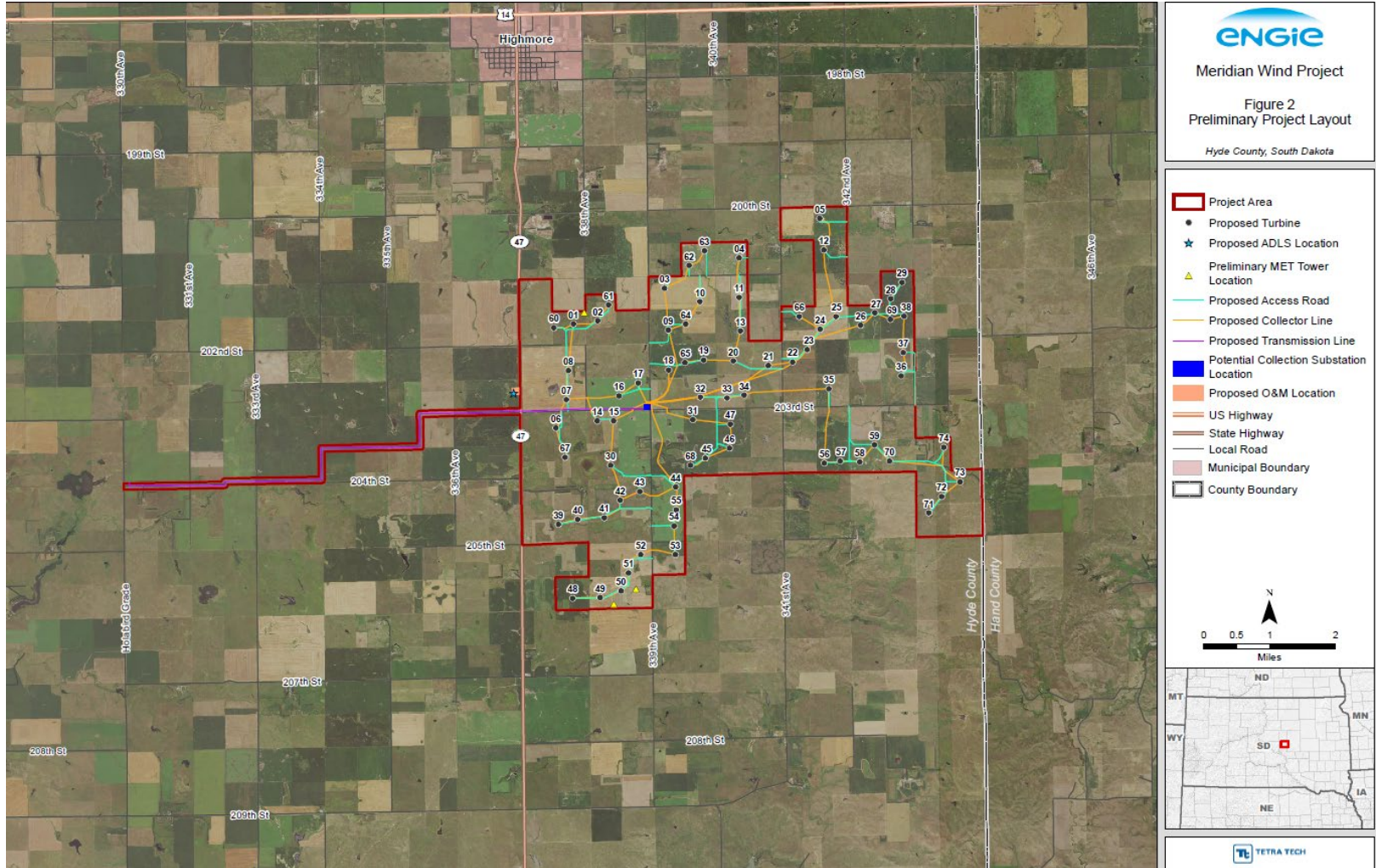
WANZEK

a **MasTec** company



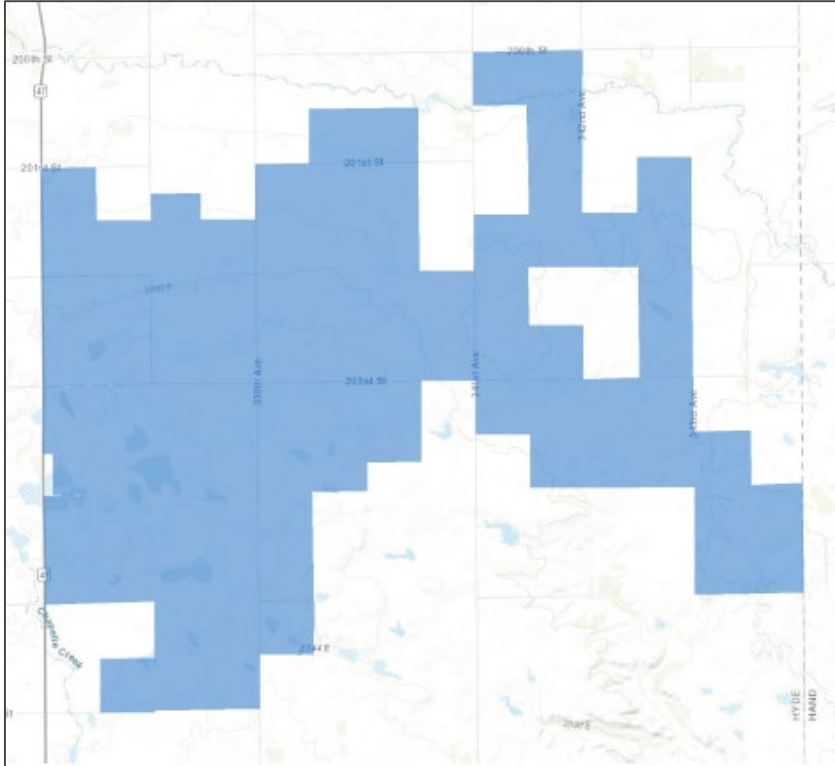
Meridian Wind Project

Site Map



Meridian Wind Project

Useable Turbine Area



- All of the area under easement cannot necessarily be developed.
- Setbacks – Roads, property boundaries, environmental constraints (USFWS grassland easements, protected wetland basins, etc), beam paths, houses, significantly reduce the area that could be considered.
- Meridian – Approximately 21.5% of the area under easement could be used for turbine siting

Meridian Wind Project

Acoustic and Shadow Flicker Analysis

- Acoustic Analysis

- Hyde County Zoning Ordinance adopted an acoustic standard for wind projects.
- County threshold is 45 decibels at existing occupied residences, but allows this threshold to be exceeded if a waiver is signed by the landowner.
- 5 participating residences exceeded 45 decibels, but were landowners that have granted a waiver.
- Engie has committed to use GE's low noise, trailing edge option to reduce noise generated by the turbines.
- Appendix D of the Facility Permit Application includes the detailed acoustic analysis.

- Shadow Flicker Analysis

- Hyde County Zoning Ordinance adopted a shadow flicker standard for wind projects.
- County threshold is 30 hours of exposure per year at occupied residences.
- No homes exceeded this threshold.
- Appendix E of the Facility Permit Application includes the detailed shadow flicker analysis.

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Discretionary Permit Approvals

- Hyde County

- Conditional Use Permit

- Scheduled for July 7, 2020.

- Road Use Agreement

- Has not been executed.
- Planning to work with the County after the CUP hearing.
- Anticipated to be similar to the agreement executed for Triple H Wind Project.

- South Dakota Public Utilities Commission

- Facilities Permit

- Application Filed – April 23, 2020.
- Public Input Meeting – June 10, 2020.
- Statutory Deadline – January 23, 2021.

Meridian Wind Project

Decommissioning Plan

- Decommissioning Plan has been developed for the Meridian Wind Project.
- Addresses removal and decommissioning at the end of Project life.
- Decommissioning involves
 - Removal of all above ground structures
 - Removal of below ground structures to a depth of 4 feet per landowner agreement
 - Restoration of topsoil
 - Revegetation and seeding
- Estimated decommissioning costs are approximately \$86,650 per turbine. A detailed analysis of the decommissioning cost estimate is included in Appendix I of the Facility Permit Application.

Meridian Wind Project

Project Benefits

- Capital Investment in Hyde County - \$220 Million.
- The Project would create approximately 6-8 full time positions during operation. O&M activities will be conducted jointly between Triple H and Meridian.
- During construction the Project would employ 400 people during construction with up to 130 onsite at any one point.
- Project is projected to generate approximately \$842,000 annually in production taxes.
 - State – Approximately \$254,000 annually.
 - Hyde County – Approximately \$294,000 annually.
 - School Districts – Approximately \$294,000 annually.
- Stable and long term payment to the landowners directly participating in the project.
- Indirect benefits – Increased use of local services/suppliers, sales tax generation.

Meridian Wind Project

Preliminary Project Schedule

- PUC Facilities Permit Issuance – January 2021
- Final Design and Engineering – June – December 2020
- Start of Construction – March 2021
- Civil Construction Work – March – June 2021
- Turbine Deliveries – July – August 2021
- Substation Energization – October 2021
- Commercial Operation Date – November 2021

* The dates above are estimated as major contracts (BOP, TSA, GIA) have not been executed for the Meridian Wind Project.



Thank You

Casey Willis, Senior Advisor
June 10, 2020

