

# Decommissioning Plan Summary Presentation

Pleasant Ridge Energy LLC  
Livingston County, Illinois

Date



# Stantec Introduction

At Stantec, we always **design with community in mind.**

The Stantec community unites more than 14,000 employees working in over 230 locations. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships.



## 3,000+ Environmental Professionals

With over 3,000 environmental professionals working out of 200-plus offices throughout North America, our environmental team can deliver the local understanding your projects need



## 12,000+ MW

We've provided support for the interconnection and permitting of over 12,000 MW of wind projects



## 400,000 Program Hours

We provided 400,000 program hours and over 61,000 field hours to help deliver a major transmission line build program

# Personal Qualifications

## **Dave Rautmann, PE**

- Registered Professional Engineer in IL, WI, MI, and MN
- BS and MS in Nuclear Engineering
- 10 years experience in Power Utility Industry
- 25 years experience in Environmental Engineering Consulting Industry (includes 20 years as owner of Northern Environmental)
- Experienced in Power (includes renewables), Oil & Gas, Mining, Transportation, Community Development, Water, and Buildings Business Lines.

# Decommissioning Sequence

- Reinforce access roads and prepare site
- De-energize turbines and “make safe”
- Dismantle and remove rotors and turbines
- Remove towers and internal components
- Remove transformers and collection system
- Remove foundation pedestal
- Remove crane pads
- Remove access roads and re-grade site
- Restore and vegetate disturbed land

# Decommissioning Plan Cost Estimate

## Methodology

- Real world costs for wind farm decommissioning do not exist (no turbines have been removed)
- Extensive real world data exists for decommissioning in other industries
- Consulted with engineering specialists at Stantec (structural, electrical, transportation engineers)
- Compared to other wind farm decommissioning plan reports for reasonableness.

# Decommissioning Plan Cost Estimate

## **Expenses – Total Estimate \$19,890,500**

- Overhead, management, and mobilization
- Local public road repair
- Turbine and step-up transformer disassembly and removal
- Crane pad installation and removal
- Turbine foundation demolition and removal
- Substation and electrical tie-line removal
- Access road removal
- Topsoil replacement and restoration

# Decommissioning Plan Cost Estimate

## **Revenues – Total Estimate \$14,861,640**

- Wind turbine generator salvage
- Substation and transmission line salvage
- Aggregate course materials re-use



# Decommissioning Plan Cost Estimate

## Net Cost Summary

- Decommissioning Expense - \$19,890,500
- Potential Salvage Revenue - \$14,861,640
- Net Decommissioning Cost - \$5,028,860
- Per Turbine Decommissioning Cost - \$36,977
- Based on 136 turbines

# Decommissioning Plan Cost Estimate

## Conservative Assumptions

- Each individual cost and revenue component is conservatively estimated and is additive.
- No wind farms have currently been decommissioned. As this decommissioning industry matures and is refined, we estimate additional efficiencies will drive down costs.
- Given growing demand and declining availability of raw materials, relative price for salvaged materials will increase.
- Decommissioning costs during the first 15 years of service will be significantly lower as they will be dismantled, repurposed, and sold as operating unit.
- Engineers professional opinion that actual costs may be 25% lower than the decommissioning plan cost estimates.