

May 28, 2020

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Steven Kahl
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

**RE: Aurora Wind Project, LLC
Aurora Wind Project – Williams County
Decommissioning Plan and Cost
Case No. PU-19-318**

Dear Mr. Kahl:

Enclosed for filing in the above-referenced matter is a Decommissioning Plan and Cost Estimate (“Plan”) submitted by Aurora Wind Project, LLC for the Aurora Wind Project. Electronic copies of the Plan and this letter are being filed with the Commission today via e-mail.

If you have any questions, please let me know.

Sincerely,



MOLLIE M. SMITH

MMS/70158473v1

Enclosure

cc: Jerry Lein (via e-mail, w/ enclosure)
Patrick Fahn (via e-mail, w/ enclosure)
Jaimee Antognazzi (via e-mail, w/ enclosure)
Jennifer Dean (via e-mail, w/ enclosure)
Jeremy Price (via e-mail, w/ enclosure)

8 PU-19-318 Filed 05/28/2020 Pages: 15
Decommissioning Plan and Cost Estimate
Aurora Wind Project, LLC
Mollie Smith, Fredrikson & Bryon, P.A.

May 27, 2020

Jeremy Price
Aurora Wind Project, LLC
16105 W. 113th Street Ste 105
Lenexa, KS 66219

Jeremy.Price@enel.com

Re: Aurora Wind Farm- Decommissioning Plan and Cost Estimate
File 0014603.00

Dear Jeremy,

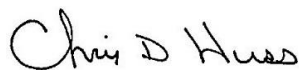
Per your request, Westwood has developed a decommissioning plan and cost estimate for the Aurora Wind Project. The plan and estimate conform to the requirements of the Williams County, North Dakota Zoning Ordinance and Subdivision Regulations, effective date September 15, 2015. The cost estimate includes the costs to remove the turbines, access roads, met towers, substation, under-ground collection system, and an off-site operations and maintenance facility. The cost estimate also includes the measures required to restore the affected land to the pre-construction condition.

The Decommission Plan and Cost Estimate has been stamped by Robert Copouls , a Professional Engineer registered in the State of North Dakota. Rob has 15 years of civil engineering experience, which includes civil engineering design on more than 20 utility scale wind farms totaling more than 5300 Mega Watts of power.

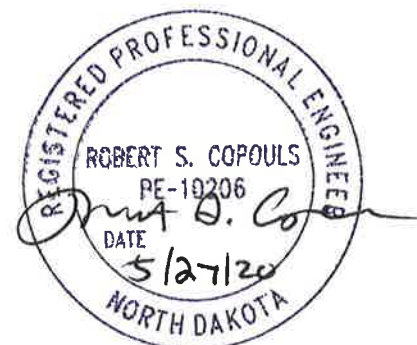
Please contact me if you have any questions.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES



Chris Huss
Civil Project Manager



Westwood

DECOMMISSIONING PLAN

Aurora Wind Project

Williams County, North Dakota

December 2019



Prepared For:

Aurora Wind Project , LLC
16105 West 113th Street, Suite 105
Lenexa, KS 66219

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APPENDIX A – NDAC 69-09-09 WIND FACILITY DECOMMISSIONING

1.0 INTRODUCTION/PURPOSE

The Aurora Wind Project (the “Facility”) is a wind power generation project proposed by Aurora Wind Project, LLC. (“Applicant”¹) in Williams County, North Dakota (The County). The Facility includes the construction of permanent facilities of 56 Nordex 149 meter rotor turbines with a 106.9 meter hub height and a name plate capacity of 4.8 megawatts (MW); 15 Vestas V110 meter rotor turbines, with an 80 meter hub height and a name plate capacity of 2.0 MW; access roads; met towers; a substation; underground collection lines; and an off-site operation and maintenance (O&M) facility. The purpose of this Decommissioning Plan (and its succeeding and revised Decommissioning Plans, (the “Plans”)) is to describe the means and methods that can be used to remove project facilities, and reclaim, restore, and return the land altered during the construction and operation of the wind project to its predevelopment condition to the extent feasible. The Plans identify components which may be removed, and the areas that may be restored once the Facility has operated at less than a ten percent annual capacity factor for a period of two consecutive years, or if the facility has been abandoned. The useful life of commercial size turbines is generally considered to be 30 years. Applicant acknowledges that decommissioning is accomplished at Applicant’s expense.

The purpose of this Decommissioning Plan is to outline the activities and estimated costs associated with the retirement of Aurora Wind Project’s assets at the end of the project’s useful life. The plan is consistent with the requirements outlined in the North Dakota Administrative Code, Section 69-09-09 (Appendix A), with the requirements of Chapter 6-10 of the Williams County Zoning Ordinance and Subdivision Regulations, and with Aurora Wind Project’s land owner lease agreements.

2.0 LAND USE AND NATURAL RESOURCE DEVELOPMENT

Prior to the development of the Facility, existing land use within the project area was primarily agricultural; including crops and grassland/pasture on gently rolling topography with a lesser extent of the area consisting of wetlands, oil and gas well pads, and access roadways. Once the project areas are decommissioned, it is anticipated that the land will continue to be managed by individual landowners for agricultural uses. After affected areas are decommissioned, these areas will be returned to their predevelopment condition.

3.0 DECOMMISSIONING ACTIVITIES

The means and methods of decommissioning activities will be the responsibility of the contractor hired to perform the work. Temporary construction activities to support decommissioning may include turning radius modifications, crane travel paths, crane pad construction. When no longer needed during the decommissioning phase, these items will be removed, and the areas restored as required by NDAC Section 69-09-09-05 (4) and (5)

¹ “Applicant” refers to any operator, subsequent owner, or transferee of the Facility.

All materials and debris associated with the wind farm decommissioning will be removed and properly recycled or disposed of. Reclamation will include appropriate stabilization and topsoil re-spread in a manner that matches the surrounding drainage patterns and land use. As necessary, topsoil will be stripped, isolated, and stockpiled on-site prior to removal of structures and facilities. Topsoil will be applied following facility removal and tilled to a farmable condition, or re-vegetated depending upon location and land use at the time of decommissioning.

A brief summary of major decommissioning activities and the basis for cost estimating is below:

Wind Turbines and Foundations

Each wind turbine consists of three (3) steel tower segments, a nacelle, a rotor hub, and three blades, which are modular components and will be disassembled and removed from the site. The top of the foundation will be removed to a depth of four (4) feet below the final surface, or the depth required by the lease agreements, whichever is greater. The concrete and rebar, broken into manageable-sized pieces, will be contained and hauled off site to be recycled or disposed. During reclamation subgrade soils will be de-compacted, and topsoil reapplied/tilled to a farmable condition or re-vegetated.

Access Roads and Turbine Area

Access road restoration will include the removal of road aggregate, treatment/decompaction of cement stabilized soil, removal of geotextile fabric (if any), minor grading to match surrounding drainage patterns, and reclamation.

Underground Electrical Collection Lines

Electrical cables at a depth of less than two (2) feet, or the depth required by the lease agreement, whichever is greater, will be removed. Following any necessary removal, the area will be restored by reapplication of topsoil to match the surrounding grade and maintain existing drainage patterns. The electrical junction boxes will be removed.

Overhead Transmission Line

All support structures (poles), conductors, switches, and lines will be removed. The foundations will be removed to a depth of at least four (4) feet, or the depth required by the lease agreement, whichever is greater. The foundation holes will be filled with a suitable subsoil material and topsoil will be applied.

Collector Substation

Any steel, conductors, switches, transformers, concrete pads, and other components of the substation will be disassembled and recycled or reused off-site. Foundations and underground components will be removed to a depth of at least four (4) feet, or the depth required by the lease agreement if applicable, whichever is greater. Aurora may seek to sell the land in "as is" condition or the aggregate may be removed, subgrade soils de-compacted, and topsoil reapplied/tilled to a farmable condition or re-vegetated.

Operations and Maintenance Building

The O&M Building is a pre-existing structure in the nearby city of Tioga, ND. Aurora will seek to sell the building “as-is”, repurpose the building, or sell the parcel before or after the structure is removed.

4.0 DECOMMISSIONING SCHEDULE

Decommissioning of the wind farm will be initiated following the “End of Useful Life”, as defined in the applicable state permits. In accordance with NDCC 69-09-09, this is defined as when the Facility has operated at less than a ten percent annual capacity factor for a period of two consecutive years. Decommissioning must begin within eight months of end of useful life, and be completed within 18 months of the end of useful life (NDCC 69-69-09-04).

5.0 DECOMMISSIONING COSTS

The following is the pre-construction estimate of the cost of dismantling the wind power facility. The estimate is based on the decommissioning approach outlined above and is based on the removal of 71 turbines, including 56 Nordex 149 meter and 15 Vestas V110 wind turbine generators and associated project infrastructure.

Cost Estimate next page:

AURORA WIND PROJECT - DECOMMISSIONING COST ESTIMATE	
General Conditions (Field Staff Cost)	\$507,000
Operation & Maintenance Building (Demolition and Removal)	\$0
Substations (Dismantle and Removal)	\$134,197
Met Tower (Dismantle and Removal)	\$37,421
Access Road Removal (Remove Agg./Regrade)	\$1,131,707
Crane Path Restoration (Excluding Erosion Control and Site Restoration)	\$0
Crane Mobilization (2, Mobilization and Demobilization)	\$400,000
Turbine Tower Dismantle, Loadout, and Haul	\$3,145,626
Transformer Removal	\$154,794
Blade Disposal (Dismantle/Disposal)	\$590,938
Turbine Foundation Removal (48 inches Demolition/Removal)	\$572,325
Electrical Collection/Transmission Line Removal	\$914,554
Erosion and Sediment Control BMP's	\$121,031
Site Restoration (Final Surfacing following Removals)	\$773,010
Public Road Restoration	\$2,000,000
Subtotal	\$10,482,603
Contingency (10%)	\$1,050,020
Total Estimated Decommissioning Cost (not including salvaged value)	\$11,532,624
Total Estimated Decommissioning Cost per Turbine (not including salvage value)	\$162,431
County Administration Costs (2.5%)	\$289,000
Crop Loss	\$321,400
Total Cost	\$12,160,624
Total Gross Decommissioning Cost Per Turbine	\$171,276
Total Resale Value for Project	\$0
Total Salvage Value for Project	\$9,916,749
Resale and Salvage Value per Turbine (71 Turbines)	\$139,673
Total Estimated Decommissioning Cost (including salvaged value)	\$3,952,138
Total Net Decommissioning Cost Per Turbine Minus Salvage Value	\$55,664

The cost estimates shown have been prepared for guidance in decommissioning costs from the information available at the time of estimate. Cost estimates are provided in 2019 dollars. No value recovery for salvaged components has been taken into consideration, but the salvage values have been calculated and shown in the table above. Steel is the most recycled material by weight, and copper and aluminum found in the electrical components has a high value per pound. The final cost of the project will depend upon the actual labor and material costs, competitive market conditions, final project quantities, implementation schedule, inflation, and other variable factors. The final project costs will likely vary from the estimates presented here.

6.0 FINANCIAL ASSURANCE

NDCC 69-09-09-08 Financial Assurance, states that prior to commencement of operations the owner shall provide financial assurance that is acceptable to the commission and sufficient to ensure complete decommissioning. Options for providing financial assurance include an incremental bond schedule and a self-guarantee or parent guarantee if the owner meets the required conditions.

7.0 PROFESSIONAL EXPERIENCE

Westwood Professional Services (Westwood) has over 18 years of Wind power experience and has supported the development of over 35 GW of Wind projects across the United States by providing services in engineering, surveying, water resources, environmental services and GIS.

Westwood has extensive experience with government and environmental regulations, project cost estimation and project management. We have worked with Developers and Contactors on both large (over 100 turbines) and small sites to provide expertise in Wind Power generation solutions.

APPENDIX A

NDAC CHAPTER 69-09-09

WIND FACILITY DECOMMISSIONING

CHAPTER 69-09-09 WIND FACILITY DECOMMISSIONING

Section

69-09-09-01	Definitions
69-09-09-02	Decommissioning Responsibility
69-09-09-03	Abandonment and Useful Life - Certificate of Operation
69-09-09-04	Decommissioning Period
69-09-09-05	Decommissioning Requirements
69-09-09-06	Decommissioning Plan
69-09-09-07	Existing Facilities
69-09-09-08	Financial Assurance
69-09-09-09	Failure to Decommission
69-09-09-10	Wind Energy Conversion Facility - Waiver

69-09-09-01. Definitions.

1. "Capacity factor" means the ratio of the actual output generated by a facility for a period of time, to the output that could be produced at the nameplate generating capacity of that facility.
2. "Certificate of operation" means an affidavit executed by the owner certifying to the commission a facility's:
 - a. Nameplate generating capacity;
 - b. Annual capacity factor;
 - c. Annual megawatt hour output; and
 - d. Monthly megawatt hour output.
3. "Commercial wind energy conversion facility" means a wind energy conversion facility with one or more wind turbines that has a total nameplate generating capacity equal to or greater than five hundred kilowatts.
4. "Commission" means the public service commission.
5. "Construction" means any clearing of land, excavation, or other action that would affect the environment of the site of a facility, but does not include activities incident to preliminary engineering or environmental studies.
6. "Decommissioning plan" means a plan filed with the commission that includes:
 - a. The anticipated life of the facility;
 - b. A decommissioning cost estimate, excluding salvage value of the turbines and equipment;
 - c. A description of the method used for determining the decommissioning cost estimate;
 - d. The anticipated manner in which the project will be decommissioned;
 - e. A description of any expected effects on present and future natural resource development; and
 - f. A detailed plan of financial assurance sufficient to ensure decommissioning.

7. "Existing facility" means a facility for which a certificate of site compatibility has been issued prior to July 1, 2017.
8. "Facility" means a commercial wind energy conversion facility, including wind turbines, turbine towers, tower bases, blades, pad transformers, collector lines, substations, facility access roads, meteorology towers, and all areas disturbed by the construction, operation, maintenance, or decommissioning activities.
9. "Owner" means a person who holds a certificate of site compatibility pursuant to North Dakota Century Code chapter 49-22.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-02. Decommissioning responsibility.

The owner is responsible for decommissioning the facility and for all costs associated with decommissioning.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-03. Abandonment and useful life - Certificate of operation.

1. After construction of a facility is complete, the owner shall annually file a certificate of operation with the commission for that facility by April first of each year.
2. If no energy is generated by one or more wind turbines for the time period specified in the certificate of operation, a written explanation for the nongenerating wind turbines must accompany the certificate of operation.
3. A facility is presumed to be at the end of its useful life if its annual capacity factor is less than ten percent for two consecutive years.
4. A facility is presumed to be abandoned if, after commencement of construction and prior to completion, a period of twenty-four consecutive months has passed with no significant construction.
5. A presumption under this section may be rebutted by filing a plan for commission approval outlining the steps and schedule for continuing construction or operation of the facility or wind turbine.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-04. Decommissioning period.

The owner shall begin decommissioning within twelve months after abandonment or the end of its useful life. Decommissioning must be completed within twenty-four months after abandonment or the end of its useful life unless the commission approves a plan specifying the steps and schedules to return the facility to operation.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-05. Decommissioning requirements.

Decommissioning includes:

1. Dismantling and removal of all towers, turbine generators, transformers, and overhead cables;
2. Removal of underground cables to a depth of twenty-four inches [60.96 centimeters];
3. Removal of foundations, buildings, and ancillary equipment to a depth of:
 - a. Three feet [91.44 centimeters] for facilities constructed before July 1, 2017; and
 - b. Four feet [121.92 centimeters] for facilities constructed on or after July 1, 2017;
4. Site restoration and reclamation to the approximate original topography that existed prior to construction of the facility with topsoil respread over the disturbed areas at a depth similar to that in existence prior to the disturbance; and
5. Grading and topsoil of areas disturbed by the facility, and reseeding according to natural resource conservation service recommendations, unless the commission approves an owner request signed by the applicable landowner, identifying the surface features the landowner prefers to remain in place, and the reason the landowner prefers those features to remain.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-06. Decommissioning plan.

1. Prior to the commencement of operation of a facility, the owner must have an approved decommissioning plan.
2. The commission shall make a determination on the decommissioning plan no later than sixty days after the decommissioning plan is deemed complete by the commission.
3. A decommissioning cost estimate for a facility:
 - a. Must be made by a professional engineer licensed by the state of North Dakota and at the owner's expense;
 - b. May include a decommissioning cost estimate, including salvage value, in addition to the decommissioning cost estimate, excluding salvage value;
 - c. Must be updated and filed with the commission ten years after initial approval of the decommissioning plan and then continue to be updated and filed with the commission every five years until decommissioning is complete.
4. The commission may at any time require the owner to file an updated decommissioning plan.

History: Effective October 1, 2008; amended effective October 1, 2010; July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-07. Existing facilities.

The owner of an existing facility shall provide financial assurance after the tenth year of operation sufficient to complete decommissioning.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-08. Financial assurance.

1. Prior to commencement of construction of a facility, the owner shall provide financial assurance equal to five percent of the estimated cost of construction of the facility that may be used to decommission the facility in the event it is abandoned prior to operation. Within sixty days of receipt of written notice from the owner that the facility is commercially operational, the commission shall return or release said financial assurance provided to the commission.
2. Prior to commencement of operation of a facility, the owner shall provide financial assurance that is acceptable to the commission and sufficient to ensure complete decommissioning.
3. Financial assurance may be in the form of a performance bond either as, or combination of, a surety bond, irrevocable letter of credit, self-guarantee, parent guarantee, or another form of financial assurance that is acceptable to the commission to cover the anticipated costs of decommissioning.
4. The commission may allow the owner to provide financial assurance through an incremental bond schedule. To be given consideration, an incremental bond schedule must include an initial bond increment prior to commencement of operation.
5. The commission may accept a self-guarantee or parent guarantee if:
 - a. The owner has been in continuous operation as a business entity for five years preceding the application. The commission may accept a self-guarantee with less than five years of continuous operation if guaranteed with a parent guarantee and the parent company has been in operation for at least five years preceding the application; and
 - b. The owner or parent guarantor has or is one of the following:
 - (1) A current rating in the "A" category or higher for its most recent bond issuance or issuer rating as issued by Moody's Investors Service, Standard and Poor's Corporation, or an equivalent rating by any other nationally recognized statistical rating organization, as defined and approved by the United States securities and exchange commission, that is acceptable to the commission. If an organization has different ratings among various rating organizations, the commission shall accept the higher of the ratings;
 - (2) A tangible net worth of at least ten million dollars, a ratio of total liabilities to net worth of 2.5 or less, and a ratio of current assets to current liability of 1.2 or greater; or
 - (3) An electric public utility as defined by subsection 2 of North Dakota Century Code section 49-03-01.5.
6. The total amount of an outstanding self-guarantee for decommissioning may not exceed twenty-five percent of the owner's tangible net worth in the United States.
7. The combined total amount of an outstanding self-guarantee and parent guarantee for decommissioning may not exceed twenty-five percent of the owner's and parent guarantor's combined tangible net worth in the United States.
8. If any financial assurance is modified, canceled, suspended, or revoked, the owner shall immediately notify the commission and provide financial assurance as soon as practicable sufficient to ensure complete decommissioning.

9. The commission may require additional financial assurance upon a finding that the current financial assurance for a facility is not sufficient to ensure complete decommissioning.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-09. Failure to decommission.

If the owner does not complete decommissioning, the commission may take action to complete decommissioning, including action to require forfeiture of a bond. The entry into a participating landowner agreement shall constitute agreement and consent of the parties to the agreement, their respective heirs, successors, and assigns, that the commission may take such action as may be necessary to decommission a facility, including the exercise by the commission, commission staff, and their contractors of the right of ingress and egress for the purpose of decommissioning the facility.

History: Effective October 1, 2008; amended effective July 1, 2017.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27

69-09-09-10. Wind energy conversion facility - Waiver.

The commission may grant a waiver of any requirement described in sections 69-09-09-03, 69-09-09-06, or 69-09-09-08 for a commercial wind energy conversion facility with a nameplate generating capacity of no more than five megawatts of electricity upon a motion demonstrating good cause for the waiver.

History: Effective July 1, 2018.

General Authority: NDCC 28-32-02, 49-02-27

Law Implemented: NDCC 49-02-27