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June 29, 2018

VIA EMAIL AND U.S. MAIL
Mr. Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard Ave., Dept. 408
Bismarck, North Dakota 58505-0480

RE: Wind Decommissioning – Compliance
Case No. PU-17-251

Dear Mr. Nitschke:

In compliance with the North Dakota Public Service Commission's December 28, 2017 Notice Regarding Compliance with Decommissioning Rules in the above-referenced Docket, Minnesota Power hereby provides an original and copy of its decommissioning plan and cost estimate for its Bison Wind Energy Center.

If you have any questions, please do not hesitate to contact me at the number above.

Yours truly,

David R. Moeller

DRM:sr
Attach.
Cc: Tom Donofrio

1 PU-18-233 Filed 06/29/2018 Pages: 24
Decommissioning Plan and Cost Estimate for Bison Wind Energy Center

2 PU-18-232 Filed 06/29/2018 Pages: 24
Decommissioning Plan and Cost Estimate for Bison Wind Energy Center

30 West Superior Street | Duluth, Minn 2 PU-12-241 Filed 06/29/2018 Pages: 24
Decommissioning Plan and Cost Estimate for Bison Wind Energy Center

2 PU-11-560 Filed 06/29/2018 Pages: 24
Decommissioning Plan and Cost Estimate for Bison Wind Energy Center

BURNS McDONNELL

Decommissioning Plan and Decommissioning Obligation Cost Evaluation

Minnesota Power

Bison Wind Energy Center
Project No. 97540

6/28/2018

Decommissioning Plan and Decommissioning Obligation Cost Evaluation

prepared for

Minnesota Power
Bison Wind Energy Center
Morton and Oliver Counties, North Dakota

Project No. 97540

6/28/2018

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
BMcD	Burns & McDonnell Engineering Company, Inc.
BMPs	Best management practices
BOP	Balance-of-plant
BWEC	Bison Wind Energy Center
MP	Minnesota Power.
kV	Kilovolt
MW	Megawatt
O&M	Operations and maintenance
Study	This Decommissioning Study
SWT	Siemens Wind Turbine

1.0 EXECUTIVE SUMMARY

1.1 Introduction

Burns & McDonnell Engineering Company, Inc. was retained by Minnesota Power to conduct a decommissioning cost evaluation for the Bison Wind Energy Center. The Bison Wind Energy Center is located in Morton and Oliver Counties, approximately 40 miles northwest of the Bismarck, North Dakota. It was completed in four phases that have a combined a nameplate capacity of 496.6 megawatts. The Bison Wind Energy Center consists of three different models of Siemens wind turbine generators, each of which are shown below.

Table 1-1: Summary of Turbine Layouts

Phase	Turbine Model	No. of Turbines	Hub Height [m]	Rotor Diameter [m]	Commercial Operation Date	End of Useful Life
1	SWT-2.3-101	16	80	101	Dec. 8, 2010	Nov. 2045
	SWT-3.0-101	15	80	101	Jan. 31, 2012	Dec. 2046
2	SWT-3.0-101	35	80	101	Dec. 18, 2012	Dec. 2047
3	SWT-3.0-101	35	80	101	Dec. 18, 2012	Dec. 2047
4	SWT-3.2-113	64	92.5	113	Jan. 16, 2015	Dec. 2049

The purpose of the decommissioning cost evaluation was to review the Bison Wind Energy Center and provide a recommendation regarding the decommissioning cost and plan for retiring each phase of the facility at the end of its useful life.

1.2 Results

At the end of the useful life of each phase of the Bison Wind Energy Center, the above-grade steel structures and turbine nacelles are assumed to have significant scrap value to a salvage contractor, offsetting a portion of the cost to remove these items. However, the Bison Wind Energy Center will also incur costs for removal and disposal of the blades, foundations, and other facilities, along with the costs for the restoration of the site following the removal of salvageable equipment.

The decommissioning cost estimates provided herein include the costs to return the site to a condition compatible with the surrounding land and to conditions similar to those that existed before development of the Bison Wind Energy Center. Included are the costs to retire the power generating equipment that is part of the Bison Wind Energy Center as well as the costs to retire the its balance-of-plant facilities, with all equipment, structures, and supporting facilities removed to a depth of three (3) feet below grade and all cables removed to a depth of two (2) feet.

The total cost to decommission each phase of the Bison Wind Energy Center at the end of its useful life, based on the assumptions noted herein, is presented in the table below for each wind turbine layout under consideration by Minnesota Power. It is expressly noted that while costs below are presented both in total and per turbine, a change in the quantity of turbines in a given layout may not cause the total decommissioning cost to increase or decrease by the per turbine cost, due to non-scalable differences in balance-of-plant costs and other similar factors.

Table 1-2: Summary of Total Estimated Cost for Project Decommissioning (2018$)

Phase	Decommissioning Cost	Cost per Turbine
1	$862,410	$27,820
2	$831,695	$23,763
3	$1,008,680	$28,819
4	$1,731,655	$27,057
TOTAL	**$4,434,440**	**$26,875**

2.0 PROJECT OVERVIEW

2.1 Project Summary

Burns & McDonnell Engineering Company, Inc. (BMcD) was retained by Minnesota Power to conduct a decommissioning cost evaluation (Study) for the Bison Wind Energy Center (BWEC). BWEC is located in Morton and Oliver Counties, approximately 40 miles northwest of Bismarck, North Dakota. BWEC was completed in four phases that have a combined a nameplate capacity of 496.6 megawatts (MW). BWEC consists of three different models of Siemens wind turbine generators, each of which are shown in the table below. The overall BWEC configuration that was used as the basis for this Study is shown in Appendix A.

Table 2-1 Summary of Turbine Layouts

Phase	Turbine Model	No. of Turbines	Hub Height [m]	Rotor Diameter [m]	Commercial Operation Date	End of Useful Life
1	SWT-2.3-101	16	80	101	Dec. 8, 2010	Nov. 2045
	SWT-3.0-101	15	80	101	Jan. 31, 2012	Dec. 2046
2	SWT-3.0-101	35	80	101	Dec. 18, 2012	Dec. 2047
3	SWT-3.0-101	35	80	101	Dec. 18, 2012	Dec. 2047
4	SWT-3.2-113	64	92.5	113	Jan. 16, 2015	Dec. 2049

Burns & McDonnell did not visit the BWEC site as part of this Study. The contents of this evaluation, including conclusions provided herein, are based exclusively upon desktop analysis.

2.2 Project Facilities

The following sections provide an overview of the BWEC facilities.

2.2.1 Wind Turbines

BWEC was developed in three phases and consists of three Siemens wind turbine generator models.

- Phase 1 includes 16 SWT-2.3-101 wind turbine generators and 15 SWT-3.0- 101 wind turbine generators. These 31 turbines have a nominal rating of approximately 82 MW. Both models consist of a tapered tubular steel tower, with the turbine nacelle mounted at the top. The nacelle of each turbine includes three blades that are 49 meters in length and mounted to the nacelle rotor.
- Phase 2 and Phase 3 each include 35 SWT-3.0-101 wind turbine generators, with each phase having a nominal rating of 105 MW. This turbine model has the same characteristics as those installed at Phase 1, as noted in the preceding bullet.

- Phase 4 includes 64 SWT-3.2-113 wind turbine generators that have a combined nominal rating of 204.8 MW. Each turbine consists of a tapered tubular steel tower, with the turbine nacelle mounted at the top. The nacelle of each turbine includes three blades that are 55 meters in length and mounted to the nacelle rotor.

Dimensions for each part of the three models are included in the table below. All turbines were assumed to be fully removed as a part of this Study.

Table 2-2: Summary of Turbine Types

Turbine Model	No. of Turbines	Hub Height [m]	Rotor Diameter [m]	Blade Length [m]
SWT-2.3-101	16	80	101	49
SWT-3.0-101	85	80	101	49
SWT-3.2-113	64	92.5	113	55

2.2.2 Wind Turbine Foundations

Each wind turbine tower is supported by a concrete foundation. The foundations for the different Siemens turbine models were based on issued-for-construction design drawings provided by Minnesota Power. They consist of below-grade concrete pedestals that are supported by an octagonal, sloped base. The table below includes the dimensions of the foundations for the four phases of BWEC.

Table 2-3: Turbine Foundation Dimensions

Phase	Pedestal Diameter [ft]	Pedestal Height [ft]	Base Bottom Diameter [ft]	Base Height [ft]
1	17	5	60	5
2	18	4.5	58	5.5
3	18	4.5	58	5.5
4	18	4	60.5	6.67

As required by the North Dakota Administrative Code (NDAC), all underground facilities for BWEC will be decommissioned to a depth of three (3) feet below grade. Thus, all foundations will be removed to a depth of three (3) feet as part of the decommissioning; the remaining foundation will be backfilled and left in place.

2.2.3 Site Access Roads

Each wind turbine includes an access road for vehicle access to facilitate inspections and maintenance of the turbines and associated equipment during operation. Access roads were assumed to be crushed rock surfaced roads with a final width of 20 feet and a depth of 6 inches. Access road lengths for each phase were provided by Minnesota Power and are listed in the table below. Further, access roads at Phases 2, 3, and 4 of BWEC were assumed to have compacted earthen shoulders on each side at the widths shown below. These shoulders were assumed to be removed as part of this study, including decompaction and re-seeding.

Table 2-4: Site Access Road Dimensions

Phase	Road Length [mi]	Road Width [ft]	Road Depth [in]	Shoulder Width [ft]
1	14.7	20	6	None
2	15.5	20	6	7
3	17.7	20	6	7
4	32.4	20	6	8

2.2.4 Electrical Infrastructure

The BWEC site includes an underground electrical power collection system that collects the electrical power from the wind turbines and routes it to the Bison substation; Phase 4 of BWEC also routes power to the Tri-County substation. Both the Bison substation and Tri-County substation increase voltage from 34.5 kV to 230 kV. Equipment in each substation is supported on concrete piers or concrete pads. Both substations are surrounded by a perimeter fence, and the area inside the fence is surfaced with crushed rock. All foundations, including piers and pads, were assumed to be removed to a depth of 3 feet below grade.

The Bison substation contains typical equipment including four (4) main power transformers, breakers, disconnect switches, lighting masts, busbars, a control building, and other ancillary equipment. Tri-County substation includes one (1) main power transformer, breakers, disconnect switches, lightning masts, busbars, a control building, and other ancillary equipment. Above-grade equipment at each substation was assumed to be removed as part of this Study.

The project's 230-kV transmission line was assumed to remain in place for the purpose of this Study. Further, no consideration was given to the length or configuration of the underground collection cables as they were assumed to be buried at least two (2) feet deep and are assumed to be left in place following decommissioning.

2.2.5 Maintenance/Warehouse Facility

BWEC includes three operations and maintenance (O&M) buildings; removal of each is included in this Study. Table 2-5 presents the dimensions of each O&M building.

Table 2-5: O&M Facility Dimensions

O&M Facility	Dimensions
1	100’ x 72’ x 15’
2	92’ x 60’ x 15’
3	30’ x 56’ x 12’

Each O&M building is assumed to consist of a pre-engineered metal building on a concrete slab foundation. It is assumed that each O&M building has a 6-inch-thick concrete foundation. Crushed rock is assumed to cover the surrounding area of the O&M facility, extending approximately 10 feet away from each side of the building.

2.2.6 Meteorological Equipment

BWEC includes four (4) permanent meteorological towers, one per phase. The towers are permanent, free-standing, 80-meter-tall lattice-type towers. These towers were assumed to be fully removed as part of this Study.

3.0 DECOMMISSIONING

3.1 Decommissioning Plan

When it is determined that BWEC should be retired, the BWEC equipment will be removed as noted herein. It is assumed that BWEC will incur costs for removal and disposal of the blades, foundations, and other BWEC facilities, as well as for the restoration of the site following the removal of equipment, although the above-grade steel, aluminum, and copper equipment is expected to have significant scrap value to a salvage contractor. All recyclable materials will be recycled to the extent possible, while all other non-recyclable waste materials will be disposed of in accordance with state and federal law.

The wind turbine blades will be removed from the wind turbine nacelle rotors using a crane, cut into manageable-sized sections, loaded onto a trailer, and hauled to a local landfill for disposal; the wind turbine blades are constructed from a composite material that is assumed to have no salvage value at the time of decommissioning. The turbine nacelles will be removed from the towers with a crane. The towers and nacelle will then be dismantled, cut onsite, and hauled off to a scrap yard.

All concrete wind turbine foundations will be removed to a depth of three (3) feet below grade in accordance with the NDAC; the portions of the foundation that are deeper than three (3) feet below grade will be abandoned in place. The recovered concrete will be demolished, loaded into a dump truck, and hauled to a local landfill for disposal. Voids left from the removal of the concrete footings will be backfilled with surrounding subsoil and topsoil and fine graded to provide suitable drainage.

The Bison substation and Tri-County substation will be removed from the site, including above-grade equipment (e.g., transformers, breakers, busbars), buildings, crushed rock surfacing, and fencing.

All crushed rock surfacing will be removed. Areas where crushed rock surfacing has been removed will be fine graded to provide suitable drainage. In right-of-way and non-agricultural areas, the ground will be seeded to prevent erosion. The removed crushed rock will be loaded into dump trucks and hauled offsite. The cost to remove the crushed rock and load it into dump trucks will be at the expense of BWEC. At that point, the ownership of the crushed rock will be transferred to the demolition contractor. Therefore, the cost of hauling crushed rock is not included in this Study. Crushed rock can be recycled and reused and typically has a salvage value as a commodity equal to or greater than the cost to haul to an end user.

Prior to commencing activities associated with foundation removal, crushed rock surfacing removal, or any other earthwork, an approved erosion control plan will need to be developed by the demolition contractor. Best management practices (BMPs) applicable at the time that decommissioning activities

occur will need to be implemented by the contractor for control of storm water runoff; since decommissioning activities are not anticipated to occur for 20 years or more, BMPs may differ from current standards. However, Burns & McDonnell would anticipate BMPs such as silt fencing and proper compaction, seeding, and mulching practices to be implemented. BMPs will need to be reviewed by the contractor prior to commencing decommissioning activities to determine appropriate BMPs at that time. To the extent necessary, BWEC or the contractor will need to obtain any permits relating to decommissioning activities, including permits from the Environmental Protection Agency and the United States Army Corps of Engineers. The costs included in this Study are sufficient for a demolition contractor to develop suitable plans for the control of surface water drainage and of water accumulation, and a plan, where appropriate, for backfilling, soil stabilization, compacting, and grading prior to commencing demolition activities.

All disturbed areas at the site will be returned to as close to predevelopment conditions as possible. This will allow all land disturbed by the construction of BWEC to be returned to agricultural use at the end of the useful life of BWEC. The cost estimates provided in the following section include activities and costs to return the land to a condition suitable for agricultural use subsequent to decommissioning of BWEC.

The activities associated with the decommissioning plan described above are anticipated to be completed within a six (6) month timeframe, according to the following estimated schedule:

- Decommissioning Planning & Permitting 2 months
- Demolition 3 months
- Site Restoration 1 month

Additional time may be required for post-decommissioning activities including monitoring of new vegetation, however, this timetable and the cost estimates below should provide sufficient time and budget to comply with any applicable health and safety regulations.

3.2 Decommissioning Costs

The total cost to decommission BWEC at the end of its useful life, based on the assumptions noted herein, is presented in the table below for each wind turbine layout under consideration by Minnesota Power. It is expressly noted that while costs below are presented both in total and per turbine, a change in the quantity of turbines in a given layout may not cause the total decommissioning cost to increase or decrease by the per turbine cost, due to non-scalable differences in balance-of-plant costs and other similar factors.

Table 3-1: Summary of Total Estimated Cost for BWEC Decommissioning (2018$)

Phase	Decommissioning Cost	Cost per Turbine
1	$862,410	$27,820
2	$831,695	$23,763
3	$1,008,680	$28,819
4	$1,731,655	$27,057
TOTAL	**$4,434,440**	**$26,875**

A breakdown of the costs shown in the preceding table is included in Appendix B.

3.3 Decommissioning Assumptions

The following key assumptions were utilized for the decommissioning cost estimates presented herein:

1. All costs are presented in current (2018) dollars using the site cost index from Bismarck, North Dakota.
2. The decommissioning estimate is based on details and equipment defined through conversations with and documentation provided by Minnesota Power.
3. An offsite landfill is assumed to be used for disposal of demolition waste. Based on discussions with a local landfill (Mandan Landfill), the cost for disposal of debris and concrete is $48.00 per ton. The hauling distance to this landfill is approximately 50 miles from the BWEC site.
4. Where applicable, scrap values are based upon an average of monthly American Metal Market prices for June 2017 through May 2018 (i.e., one calendar year). These values include the cost to haul the scrap via truck and/or rail to the major market which provides the best price. Based on hauling and rail prices, the best market at the time of this Study was Chicago. Prices used include:
   a. Steel scrap value is $180.72 per net ton.
   b. Copper scrap value is $2.16 per pound.
   c. Aluminum scrap value is $0.42 per pound.
5. Fluids located within the turbine nacelle, including oils, fuels, solvents and process chemicals, are assumed to be drained and disposed of offsite as part of the decommissioning.
6. It is assumed that all containers and chemical storage tanks owned by BWEC will be drained and the material disposed of prior to demolition; these costs are excluded from the estimate.
7. Effects on present natural resource development was minimized in installation of the facilities, and any expected effects on future natural resource development will be negligible as the intent of the decommissioning plan is to return the site to a condition compatible with the surrounding land, similar to the conditions that existed before development of the facilities.

8. Minnesota Power is an "electric public utility" as defined by subsection 2 of North Dakota Century Code section 49-03-01.5, and will provide a self-guarantee, as allowed by subsection 5.b.(3) of NDAC section 69-09-09-08.
9. All underground equipment will be removed to a depth of three (3) feet below grade in accordance with the NDAC. All non-hazardous structures or foundations greater than three (3) feet below grade will remain and are excluded from the decommissioning estimate.
10. Collector and communication cables are assumed to be located at least two (2) feet below grade and will be left in place.
11. Access roads, parking areas, storage yards, crane pads, and all other areas constructed from asphalt, concrete, gravel, or compactable fill will be removed, recycled, and reclaimed.
12. Crushed rock from roads, balance-of-plant areas, and turbine foundation areas is assumed to have value as a commodity for reuse. The cost to remove the crushed rock and load it into dump trucks will be at the expense of BWEC at which point the ownership of the crushed rock will be transferred to the demolition contractor. Crushed rock is assumed to have a salvage value as a commodity equal to or greater than the cost to haul to an end user. The cost of hauling and disposal is excluded and is assumed to be the responsibility of the demolition contractor.
13. Waste material and crushed concrete will be properly disposed of offsite.
14. Landowner agreements state that the area will be restored to substantially the same physical condition that existed immediately before construction. Therefore, it is assumed that all BWEC-specific access roads, fences, gates, and buildings will be removed as part of the decommissioning. Additionally, disturbed areas will be restored to original grade, reclaimed with native soils, seeded, and replanted with native vegetation consistent with surrounding land use.
15. Transformers will be removed and processed on-site. The cost to drain and dispose of transformer oil off-site is included in the decommissioning cost estimate.
16. The pad-mount transformers for the Siemens turbines are assumed to contain oil for cooling.
17. The Bison substation has four (4) transformers, and the Tri-County substation has one (1) transformer that are to be removed. The removal and salvage of these oil-filled transformers is included in the decommissioning cost estimate, including the cost to drain and dispose of the oil within each.
18. The removal of Bison substation and Tri-County substation equipment is included in the decommissioning cost estimate. The Bison substation removal costs are allocated across the four phases of BWEC, and the Tri-County substation removal costs are included with Phase 4 costs.
19. The BWEC 230-kV transmission line is assumed to remain in place.
20. The removal costs of O&M buildings were assumed to be evenly allocated to each of the four phases of BWEC.

21. Cost estimates include five (5) percent indirects and ten (10) percent contingency.
22. Market conditions may result in cost variations at the time of contract execution.

3.4 Limitations

In preparation of this report, Burns & McDonnell has relied upon information provided by Minnesota Power and other third-party sources. While Burns & McDonnell has no reason to believe that the information provided to Burns & McDonnell, and upon which Burns & McDonnell has relied, is inaccurate or incomplete in any material respect, Burns & McDonnell has not independently verified such information and cannot guarantee or warranty its accuracy or completeness.

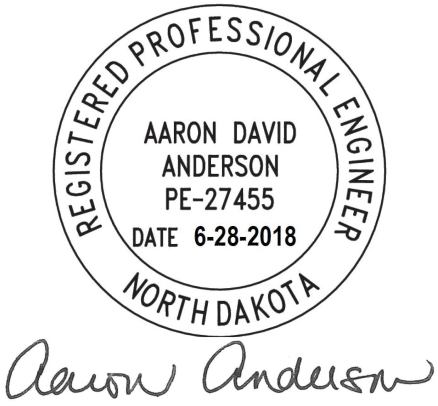
Burns & McDonnell's estimates, analyses, and recommendations contained in this report are based on professional experience, qualifications, and judgment. Burns & McDonnell has no control over weather; cost and availability of labor, material, and equipment; labor productivity; energy or commodity pricing; demand or usage; population demographics; market conditions; changes in technology; and other economic or political factors affecting such estimates, analyses, and recommendations. Therefore, Burns & McDonnell makes no guarantee or warranty (actual, expressed, or implied) that actual results will not vary, perhaps significantly, from the estimates, analyses, and recommendations contained herein.

Estimates provided herein were prepared based on current knowledge of site conditions, current regulations, and current hazardous material classifications. Burns and McDonnell has no evidence or reason to believe that the cost estimate will be inaccurate at the end of BWEC's useful life; however, Burns and McDonnell's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, and other similar items. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

This report is for the sole use, possession, and benefit of Minnesota Power for the limited purpose as provided in the agreement between Minnesota Power and Burns & McDonnell. Any use or reliance on the contents, information, conclusions, or opinions expressed herein by any other party or for any other use is strictly prohibited and is at that party's sole risk. Burns & McDonnell assumes no responsibility or liability for any unauthorized use.

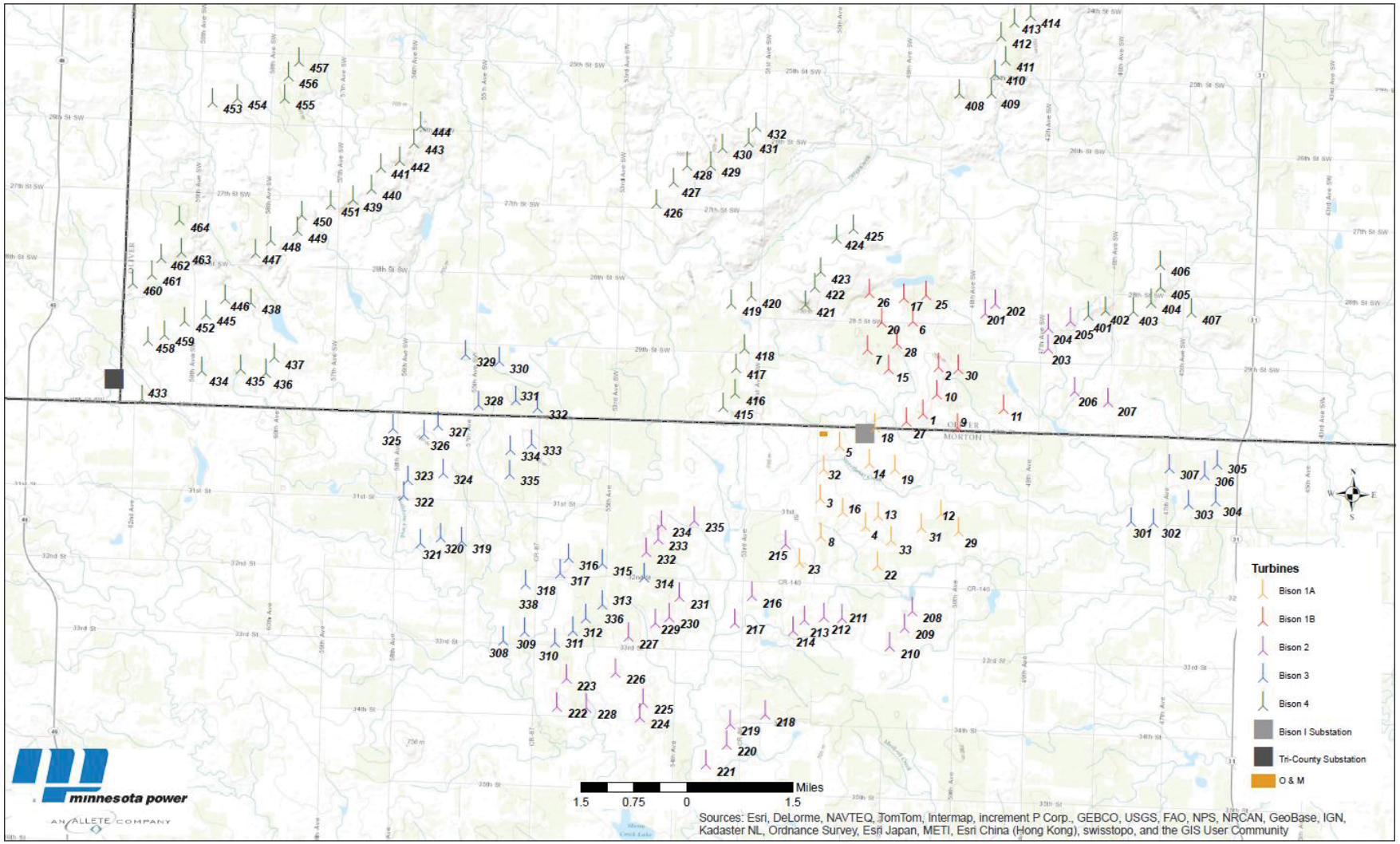
4.0 CERTIFICATION

I certify, as a Professional Engineer in the state of North Dakota, that the information presented in this report was assembled under my direct personal charge, is an accurate representation of the anticipated decommissioning costs for the Bison Wind Energy Center, subject to the assumptions and limitations presented herein, and that this report contains no intentional false statements or misrepresentations.



APPENDIX A - SITE LAYOUT AND CONFIGURATION

Figure A-1: Site Layout and Configuration



APPENDIX B - DECOMMISSIONING COST BREAKDOWN

Table B-1: Estimated Cost for Wind Turbine Decommissioning (2018$)

Bison Wind Farm Wind Project

Decommissioning Cost Evaluation

	Phase 1	Phase 2	Phase 3	Phase 4	TOTAL
Wind Turbine Removal Cost					
Removal	$ 1,177,100	$ 1,238,700	$ 1,238,700	$ 2,203,100	$ 5,857,600
Hauling & Disposal	$ 140,800	$ 154,900	$ 154,900	$ 290,200	$ 740,800
Total	**$ 1,317,900**	**$ 1,393,600**	**$ 1,393,600**	**$ 2,493,300**	**$ 6,598,400**
Scrap Value	**$ (2,285,700)**	**$ (2,548,600)**	**$ (2,548,600)**	**$ (4,630,500)**	**$ (12,013,400)**
Wind Turbine Foundation Removal Cost					
Removal	$ 79,300	$ 99,900	$ 99,900	$ 182,700	$ 461,800
Hauling & Disposal	$ 118,100	$ 148,900	$ 148,900	$ 272,200	$ 688,100
Total	**$ 197,400**	**$ 248,800**	**$ 248,800**	**$ 454,900**	**$ 1,149,900**
Substation Removal Cost					
Removal	$ 62,400	$ 62,300	$ 62,300	$ 118,200	$ 305,200
Hauling & Disposal	$ 23,700	$ 23,600	$ 23,600	$ 56,300	$ 127,200
Total	**$ 86,100**	**$ 85,900**	**$ 85,900**	**$ 174,500**	**$ 432,400**
Scrap Value	**$ (70,400)**	**$ (65,800)**	**$ (65,800)**	**$ (131,900)**	**$ (333,900)**
Civil Works Removal Cost					
Crushed Rock Surfacing Removal	$ 1,023,500	$ 1,080,700	$ 1,214,200	$ 2,170,500	$ 5,488,900
Grading & Seeding Costs	$ 140,900	$ 154,700	$ 175,100	$ 320,900	$ 791,600
Total	**$ 1,164,400**	**$ 1,235,400**	**$ 1,389,300**	**$ 2,491,400**	**$ 6,280,500**
O&M Facility Removal					
O&M Removal	$ 23,300	$ 23,300	$ 23,300	$ 23,300	$ 93,200
Hauling & Disposal	$ 13,000	$ 13,000	$ 13,000	$ 13,000	$ 52,000
Total	**$ 36,300**	**$ 36,300**	**$ 36,300**	**$ 36,300**	**$ 145,200**
Scrap Value	**$ (10,700)**	**$ (10,700)**	**$ (10,700)**	**$ (10,700)**	**$ (42,800)**
Met Tower Removal					
Tower Removal	$ 6,900	$ 6,900	$ 6,900	$ 6,900	$ 27,600
Hauling & Disposal	$ 400	$ 400	$ 400	$ 400	$ 1,600
Total	**$ 7,300**	**$ 7,300**	**$ 7,300**	**$ 7,300**	**$ 29,200**
Scrap Value	**$ (1,600)**	**$ (1,600)**	**$ (1,600)**	**$ (1,600)**	**$ (6,400)**
Total Estimated Cost	**$ 2,809,400**	**$ 3,007,300**	**$ 3,161,200**	**$ 5,657,700**	**$ 14,635,600**
Owner Indirects (5%)	**$ 140,470**	**$ 150,365**	**$ 158,060**	**$ 282,885**	**$ 731,780**
Contingency (10%)	**$ 280,940**	**$ 300,730**	**$ 316,120**	**$ 565,770**	**$ 1,463,560**
Total Gross Cost	**$ 3,230,810**	**$ 3,458,395**	**$ 3,635,380**	**$ 6,506,355**	**$ 16,830,940**
Total Scrap Value	**$ (2,368,400)**	**$ (2,626,700)**	**$ (2,626,700)**	**$ (4,774,700)**	**$ (12,396,500)**
Total Net Cost	**$ 862,410**	**$ 831,695**	**$ 1,008,680**	**$ 1,731,655**	**$ 4,434,440**

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CREATE AMAZING.

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