

215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
www.otpco.com

July 12, 2019

Mr. Steve Kahl
Director of Administration/Executive
Secretary
North Dakota Public Service Commission
State Capitol
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0408



**RE: Langdon Wind Energy Center, Cavalier County, ND
Case No. PU-09-244
Wind Decommissioning Plan**

Dear Mr. Kahl:


On January 11, 2019 Otter Tail Power Company (Otter Tail) submitted an updated decommissioning plan (hereinafter the 2019 Langdon Decommissioning Plan) for the portion of the Langdon Wind Energy Center owned by Otter Tail Power Company.

On June 12, 2019, the North Dakota Public Service Commission (Commission) held an informal hearing on the 2019 Langdon Decommissioning Plan. During the informal hearing Otter Tail agreed to make certain revisions to the plan.

Enclosed in the above-referenced matter are an original and seven (7) copies of a revised 2019 Langdon Decommissioning Plan. The revised plan includes new cost estimates that do not consider the salvage value of wind generation assets. The revised decommissioning costs are reflected in revised financial assurance documents, which are in the form of a financial test the Company provides to the North Dakota Department of Health assuring that agency of Otter Tail's performance of closing and post-closing activities concerning solid waste disposal facilities at Coyote Station near Beulah, North Dakota. Otter Tail understands that the Commission was comfortable with this form of financial assurance.

Please contact me at (218) 739-8956, or cstephenson@otpco.com should you have any questions with respect to this filing.

Very truly yours,


Cary Stephenson
Associate General Counsel

mmo
Enclosure
By electronic filing

7 **PU-09-244** Filed: 7/12/2019 Pages: 14
Revised Decommissioning Plan

**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

Otter Tail Power Company)
Decommissioning Plan for)
Langdon Wind Energy Center)

Case. No. PU-09-244

Revised Decommissioning Plan

In accordance with N.D. Admin. Code Chapter 69-09-09, Otter Tail Power Company (Otter Tail) presents an updated decommissioning plan for the Otter Tail-owned portion of the Langdon Wind Energy Center (Langdon Facility). This revised plan replaces and supersedes the decommissioning plan filed with the Commission on January 11, 2019.

Otter Tail's Langdon Facility is a 40.5 MWh wind conversion facility located in Cavalier County, North Dakota, consisting of 27 General Electric 1.5 MW wind turbines. The facility was commissioned in December 2007 and was in full commercial operations in January 2008. Otter Tail filed its initial decommissioning plan for the facility in June 2009 in Docket PU-09-244.

This revised decommissioning plan is provided in accord with revised decommissioning rules approved in Docket PU-17-023, effective July 1, 2017, and the Commission's Notice in Docket PU 17-251 requesting owners of wind conversion facilities to provide updated decommissioning plans.

This revised decommissioning plan is premised on proper protocol and implementation of the ARO (asset retirement obligation) and in accordance to generally accepted accounting principles.

Anticipated Life of the Facility - N.D. Admin. Code 69-09-09-01 (6)(a)

Otter Tail's Langdon Facility 1.5 MW turbines have an anticipated useful life of at least 40 years (of which approximately 30 years remain). Anticipated technological updates allow the possibility for the wind site to continue to operate in an efficient manner beyond this time. In accordance with N.D. Admin. Code 69-09-09-04, decommissioning of Otter Tail's Langdon Facility shall begin within twelve months after the end of the useful life of the facility. Decommissioning shall be completed within twenty-four months after the end of the facility's useful life.

Decommissioning Cost Estimate - N.D. Administration Code 69-09-09-01 (6)(b)

Otter Tail will implement the ARO for its Langdon Facility in accordance with generally accepted accounting principles. Decommissioning will also include any restoration obligations. The ARO does not include any offsetting salvage value associated with the Langdon Facility

turbines or components. The total estimated cost of decommissioning and restoration at the end of useful life for the facility is \$5,994,000 or \$222,000 per turbine. These are gross figures exclusive of salvage value. When salvage value is considered, the total estimated net cost of decommissioning the facility is \$3,375,000 or \$125,000 per turbine. In accordance to N.D. Admin. Code 69-09-09-06 the decommissioning plan was made by a licensed North Dakota professional engineer. Additional details are provided in the attached Exhibit A.

Decommissioning Cost Estimate Method -N.D. Administration Code 69-09-09-01 (6)(c)

The methodology used to prepare the cost estimate is discussed in the attached **Exhibit A**.

Decommissioning Anticipated Activity - N.D. Administration Code 69-09-09-01 (6)(d)

Otter Tail will decommission its Langdon Facility in accordance with N.D Admin. Code 69-09-09-05. Decommissioning shall include disassembly of turbines and removal of components, access roads, and the associated collection system. All costs associated with these decommissioning activities have been evaluated individually, as follows:


1. **Turbine Components.** Wind turbines are GE 1.5 MW mounted on steel tower sections. Estimation for the disassembly includes the steel tower sections, the wind turbine nacelle and components, and the hub and turbine blades. The turbine pad mount transformer and all associated wiring with the turbine is included as well. The estimation is based on the requirement that all materials be removed from site.
2. **Foundations.** Tower and transformer foundations, along with all connections to the turbine from the foundations, will be removed to a depth of three feet below grade. All site restoration will be reclaimed to the approximate topography that existed prior to construction.
3. **Access Roads.** Access roads will be removed and returned to pre-existing condition according to Natural Resource Conservation Service (NRCS) recommendations. The exception being a Commission-approved landowner request that the road features remain in place.
4. **Collection System.** The underground collection system will be removed to a depth of twenty-four inches near the transformers. The remaining underground collection system shall be left in place at a minimum of forty-eight inches below grade to the top of the cables. Any disturbed areas requiring restoration will be reclaimed to the approximate topography that existed prior to construction according to NRCS recommendations. Best recommended practices will be followed for any unspecified restoration.

Effects of Present and Future Natural Resource Development -- N.D. Administration Code 69-09-09-01 (6)(e).

Otter Tail is committed to providing our customers with reliable renewable energy from wind resources at the Langdon Facility. At the end of the facility's useful life Otter Tail will return the site to its pre-existing condition in accordance with the N.D. Admin. Code Chapter 69-09-09 and this decommissioning plan. Otter Tail does not anticipate that its Langdon Facility will materially impact present or future natural resource development with respect to both existing operations or decommissioning.

Financial Assurance N.D. Admin. Code 69-09-09-01 (6)(f).

Otter Tail directly owns the Langdon Facility as described in this filing. Attached as **Exhibit B** is Otter Tail's financial assurance for the decommissioning of the Langdon Facility.


Harvey McMahon
Manager, Renewable Energy Construction
and Operations Wind Generation Development
Otter Tail Power Company

Signed:

Date: July 12, 2019



July 11, 2019

North Dakota Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

Regarding: *Decommissioning Estimate*
Langdon Wind / Otter Tail Power Co

North Dakota Public Service Commission,

Per the request of Otter Tail Power Co, the team of DEMCO Inc. and AE2S is pleased to submit the following *Decommissioning Cost Estimate* for the existing *Langdon Wind Facility* located in Cavalier County, North Dakota. The estimate is based on information gathered from DEMCO's historical data from the past 28 years of experience in the demolition and decommissioning industry, and AE2S's experience in engineering and environmental services throughout North Dakota over the last 25 years. Our team believes that the estimate is a conservative budgetary cost to complete this work.

Background: DEMCO Inc.

DEMCO, Inc. is a twenty eight year old, privately held, nationally recognized decontamination & decommissioning firm that specializes in environmental remediation, deconstruction and salvage for the US Government and commercial sector. DEMCO's management team is comprised of individuals with a total of over 200 years' worth of experience in environmental remediation and deconstruction services. To date, the total dollar volume of projects that DEMCO has safely and successfully performed is in excess of \$850 million. DEMCO has successfully performed over 600 remediation and deconstruction projects, including numerous fossil power plants, nuclear power plants, wind farms, and other industrial facilities.

Background: AE2S

AE2S offers a total solution by providing master planning, capital improvement planning, study and report, design, bidding administration, surveying, mapping, general civil engineering, structural engineering, electrical engineering, and site development. With over 25 years of experience in the North Dakota area, AE2S is familiar with the environment, work force, and rules/regulations involved with working in the state. With eighteen locations located within the Midwest, AE2S has a vast pool of resources and equipment that are relative to the area.

The Team:

DEMCO and AE2S partnered to help prepare a decommissioning cost estimate for the Langdon Wind Facility. DEMCO has experience in decommissioning wind farms throughout the country, while AE2S has experience regarding North Dakota's specific conditions, regulatory requirements, work force, hazards,



etc. With DEMCO's national decommissioning experience, and AE2S's experience in engineering and environmental services specifically in the state of North Dakota, our team is confident that our estimates are reasonable and all encompassing.

The Process:

DEMCO and AE2S worked hand in hand to prepare the attached estimate. During an initial planning phase, personnel from both parties conversed, shared notes, and had discussions about past experience, historical data, and other similar projects. Responsibilities were then assigned, and each company set out to obtain additional data and resources to assist in preparing the final document. Next, a draft version of the estimate was distributed and each team member reviewed and made notes. The final decommissioning estimate was created through a collaborative process which included discussion and agreement from all parties.

Methodology:

The cost estimate was developed on a per turbine basis. DEMCO has historical data for the man power, equipment, schedule, and respective costs for each phase of wind turbine decommissioning. Each phase of decommissioning was discussed during the estimate development process. AE2S provided input on how the timing, equipment, and man power could be specifically impacted by performing this work in the state of North Dakota.

Recent discussion has focused on topsoil restoration practices. It is feasible that the landowners may elect to leave the access roadways in place in lieu of removal during decommissioning. The decommissioning plan and costs assume that access roadways will be completely removed and the site restored to its native predevelopment surface profile condition.

The cost estimates assume that the aggregate surface road material will be stripped, and removed from the site to an appropriate disposal location. In practice, the land owner will almost always request that the aggregate surface material be stockpiled on the site for the land owner's future use. The avoided cost of hauling the material is inherent in the cost estimates.

Typical practice to construct the access roads and aggregate surface pads is to fold the existing topsoil to the side and then to blend it into the existing grade. In theory, there is sufficient, recoverable quantities of topsoil on the site to completely restore the roads and foundation pad. An allowance for imported topsoil would thus be needed. However, the salvage value of the aggregate materials more than compensates for this seemingly necessary expense and additional costs for topsoil materials are thus offset and are not included.

DEMCO's data originated from the decommissioning of turbines at wind farm sites with similar scopes of work. During the development of the cost estimate, DEMCO and AE2S compared labor, equipment, and material costs and made adjustments to reflect the regional rates in the North Dakota area. Additionally DEMCO/AE2S are familiar with existing site conditions and how the varying terrain would affect the cost.

Please see the attached *Exhibit A*, providing a detailed cost breakdown of the work required which is presented in current 2017 dollars. This breakdown shows the costs for each phase of work required to



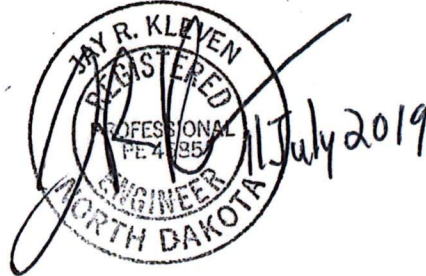
safely decommission the turbines. The decommissioning cost estimate is reasonable and it is our conclusion that the costs include the scope of work and project management needed to properly decommission the Langdon Wind Facility.

Sincerely,
DEMCO Inc

AE2S, Inc.

A handwritten signature in blue ink, appearing to read "Patrick Callahan".

Patrick Callahan
President



Jay Kleven, PE (ND PE-4685)
Senior Project Manager



EXHIBIT A



Langdon Wind/Ottertail Power Co.
Decommissioning Cost Estimate - Langdon Wind/Ottertail Power Co.
Cavalier County, ND

LANGDON WIND - CAVALIER COUNTY

FACILITY INFORMATION:

Facility Location:	Cavalier County, ND
Facility Size:	40.5 MW
Technology:	GE 1.5 SLE
Number of Turbines:	27

TURBINE COST BREAKDOWN

For (1) GE 1.5 SLE Wind Turbine & Associated Equipment

Removal Activity	Percentage of Cost (%)	Cost
Removal of Oil/Grease	4%	\$5,000.00
Nacelle & Hub Removals	35%	\$43,750.00
Tower Removal	15%	\$18,750.00
Down Tower Equipment Removal	3%	\$3,750.00
Removal of Underground Cables (24")	6%	\$7,500.00
Foundation Removals (to base of pier, ~ 4' Below Grade)	25%	\$31,250.00
Removal of Contaminated Soil	1%	\$1,250.00
Backfill, Topsoil, Seed	10%	\$12,500.00
Removal of Communication Tower	1%	\$1,250.00
Net Cost Per 1 Turbine (2018) ^{Note 1}		\$125,000.00
Scrap value credit ^{Note 2}		\$26,000.00
Prep/ transportation / disposal of materials ^{Note 3}	\$97,000.00	
Differential Cost disposal in lieu of scrap ^{Note 4}		\$71,000.00
Gross cost per turbine, disposal		\$222,000.00

TOTAL DECOMMISSIONING GROSS COST - COMPLETE FACILITY

Gross Cost Per Turbine	Number of Turbines	Total Gross Cost
\$222,000.00	27	\$5,994,000.00

TOTAL DECOMMISSIONING NET COST - COMPLETE FACILITY

Net Cost Per Turbine ^{Note 1}	Number of Turbines	Total Net Cost
\$125,000.00	27	\$3,375,000.00

Notes:

Note 1 - Past experience, net cost inclusive of scrap sales

Note 2 - The value of the scrap would be between \$18,000 and \$35,000 based on fluctuating market conditions, used \$26,000 as a median. This scrap value was not deducted from the \$125K number.

Note 3 - This is the value of transportation and disposal including onsite additional segmentation/processing, loading, permitting, trucking and landfill tipping fees. Material going to a landfill requires significantly more sizing and configuration control than that going to a scrap yard. The scrap is now a waste liability and not a credit.

Note 4 - This is the differential cost of disposal and preparation, relative to scrap

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July 12, 2019



Mr. Steve Kahl
Executive Secretary
Director of Administration
North Dakota Public Service Commission
600 East Boulevard, Dept 408
Bismarck, ND 58505-0408

RE: Financial Assurance for Langdon Wind Energy Center Decommissioning

1. I am the Chief Financial Officer for Otter Tail Power Company (Otter Tail or Company), an investor-owned electric utility regulated by the North Dakota Public Service Commission (Commission).
2. Otter Tail is the owner of 27 General Electric 1.5 MW wind turbines 1.5 MW GE and associated equipment at the Langdon Wind Energy Center (Langdon Facility), as more fully described in Otter Tail's revised decommissioning plan filed with the Commission in conjunction with this letter.
3. This letter provides Otter Tail's financial assurance that the Company will complete the decommissioning of its Langdon Facility. The current cost estimate for decommissioning the Langdon Facility is provided in the decommissioning plan filed in conjunction with the letter. The total estimated cost of decommissioning and restoration at the end of useful life for the facility is \$5,994,000 or \$222,000 per turbine. These are gross figures exclusive of salvage value. When salvage value is considered, the total estimated net cost of decommissioning the facility is \$3,375,000 or \$125,000 per turbine.
4. North Dakota Administrative Code 69-09-09-08(3) authorizes the Commission to accept several different forms of financial assurance, and any other "form of financial assurance that is acceptable to the commission to cover the anticipated costs of decommissioning."
5. On August 24, 2018, Otter Tail provided financial assurance to North Dakota Department of Health that Otter Tail will perform closing and post-closing activities concerning solid waste disposal facilities at Coyote Station, an electric generation facility located near Beulah, North Dakota. Otter Tail demonstrated financial assurance through a financial test specified by N.D. Admin. Code 33-20-24-02 through 33-20-14-07, which included a statement Otter Tail's Tangible Net Worth derived from Otter Tail's independently audited year-end financial statements for the fiscal year 2017. A copy of the financial test filed with the North Dakota Department of Health is attached to this letter.

6. The financial test provided the North Dakota Department of Health remains an accurate statement of Otter Tail's Tangible Net Worth and demonstrates that Otter Tail has the resources necessary to complete its decommissioning obligations.
7. Otter Tail's financial assurance of its Langdon Facility decommissioning obligations combined with the Company's other decommissioning obligations does not exceed twenty-five percent of the owner's tangible net worth in the United States.
8. Otter Tail respectfully requests that the North Dakota Public Service Commission accept the financial test incorporated by reference in this filing as financial assurance of Otter Tail decommissioning obligations for the Langdon Facility.



Todd Wahlund
Chief Financial Office
Otter Tail Power Company

Signed:

Date: July 12, 2019

215 South Cascade Street
PO Box 496
Fergus Falls, Minnesota 56538-0496
218 739-8200
www.otpco.com

Exhibit B



August 24, 2018

North Dakota Department of Health
1200 Missouri Avenue
PO Box 5520
Bismarck, ND 58502

Subject: COYOTE STATION-2017
FINANCIAL ASSURANCE FOR
SOLID WASTE DISPOSAL FACILITIES

I am the Chief Financial Officer for Otter Tail Power Company, a wholly owned subsidiary of Otter Tail Corporation. This letter is in support of this firm's use of a financial test to demonstrate financial assurance for closure and post-closure costs, as specified in Section 33-20-14-07 NDAC.

1. This firm is the owner or operator of the following facilities for which financial assurance for closure and/or post-closure care is demonstrated through the financial test specified in Section 33-20-14-02 through 33-20-14-07 NDAC. The current closure and/or post-closure cost estimates covered by the test are shown for each facility:

Coyote Station – Slag Pond Closure Special Use Permit SP-170

Closure Cost estimate: \$851,220 (Otter Tail's share¹ \$297,927)
Post-closure Cost Estimate: \$ 706,567 (Otter Tail's share \$247,299)
(30 years remaining)

Coyote Station – Blue Pit Special Use Permit SP-182

Sequence 6-8 Closure Cost Estimate: \$1,215,231 (Otter Tail's share \$425,331)
Post-closure Cost Estimate: \$498,262 (Otter Tail's share \$174,392)
(30 years remaining)

Coyote Station-Black Pit SP-090

Post-closure Cost Estimate: \$195,005 (Otter Tail's share \$68,252)
(13 years remaining)

Coyote Station – Green Pit Special Use Permit SP-032

Post-closure Cost Estimate: \$8,358 (Otter Tail's share \$2,925)
(1 years remaining)

North Dakota Department of Health
 Financial Assurance for Coyote Station

2. This firm guarantees, through the guarantee specified in Sections 33-20-14-02 through 33-20-14-07 NDAC, the closure and/or post-closure of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure and post-closure so guaranteed are shown for each facility: None.

The fiscal year of Otter Tail Power Company ends on December 31. The Tangible Net Worth shown below is derived from Otter Tail Power Company's independently audited year-end financial statements for the latest completed fiscal year ended December 31, 2017.

Financial Test

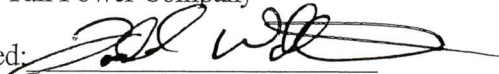
	12/31/17 (In Thousands)
1. Sum of Current Cost Estimates (Total of all cost estimates shown in paragraphs above)	\$1,216
2. Current Bond Rating of Most Recent ² Issuance of this Firm and Name of Rating Service	Moody's A3 Standard & Poor's BBB Fitch BBB+
3. Date of Issuance of Bond	February 27, 2014
4. Date of Maturity of Bond	February 27, 2029 and 2044 ³
5. Tangible Net Worth (If any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line)	\$550,486
6. Total Assets in U.S. (Required only if less than 90% of firm's assets are located in the U.S)	N/A
7. Is line 5 at least \$10 million?	Yes
8. Is line 5 at least 4 times line 1?	Yes
9. Are at least 90% of firm's assets located in the U.S.?	Yes
10. Is Line 6 at least 4 times line 1?	N/A

I hereby certify that the wording of this letter meets the requirements specified in Subsection 5 of Section 33-20-14-07 NDAC as such regulation was constituted on the date shown above.

Included with this letter is a report on applying agreed-upon procedures from the company's independent accountant's Deloitte & Touche LLP.

North Dakota Department of Health
Financial Assurance for Coyote Station

Todd Wahlund
Chief Financial Officer
Otter Tail Power Company

Signed: 

Dated: 8/27/18

¹Otter Tail Power Company's 35% share

²These ratings are as of December 31, 2017 for our senior unsecured debt.

³\$60M matures on February 27, 2029 and \$90M matures on February 27, 2044.



Deloitte & Touche LLP
Suite 2800
50 South Sixth Street
Minneapolis, MN 55402-1538
USA

Tel: +1 612 397 4000
Fax: +1 612 397 4450
www.deloitte.com

**INDEPENDENT ACCOUNTANTS' REPORT ON APPLYING
AGREED-UPON PROCEDURES**

To the Board of Directors of
Otter Tail Power Company
Fergus Falls, Minnesota:

We have performed the procedures enumerated below, which were agreed to by Otter Tail Power Company (the "Company"), a wholly owned subsidiary of Otter Tail Corporation, and the North Dakota Department of Health (NDDH), solely to assist you with respect to the Company's letter dated August 24, 2018 from the Chief Financial Officer to the NDDH (the "Letter") in evaluating the Company's compliance with the requirements of Section 33.20.14.04 and 33.20.14.07 of the North Dakota Administrative Code as of December 31, 2017. The Company's management is responsible for compliance with those requirements. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures that we performed and related findings were as follows:

- We compared the amount of \$550,486,000 under the caption Financial Test (Line 5: Tangible Net Worth) in the Letter to a consolidated schedule prepared by the Company's accounting department and found the amounts to be in agreement. The Company calculates Tangible Net Worth by subtracting intangible assets from total common equity. The Company defines intangible assets to include unamortized capitalized software and licenses and to exclude regulatory assets. We compared total common equity to the audited financial statements of the Company as of and for the year ended December 31, 2017, on which we have issued our report, dated March 5, 2018 (which expressed an unqualified opinion) and noted that such amount was in agreement. We compared intangible assets included in the consolidated schedule to the Company's general ledger as of December 31, 2017 and noted such amounts were in agreement. We recalculated the Tangible Net Worth amount as of December 31, 2017, as defined above, without exception.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of the management of the Company and the NDDH and is not intended to be, and should not be, used by anyone other than these specified parties.

A handwritten signature in black ink that reads "Deloitte & Touche LLP". The signature is written in a cursive, flowing style.

August 24, 2018