



April 2, 2018

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

Regarding: *Revised Decommissioning Estimate – Wilton Wind*

North Dakota Public Service Commission,

At the March 8, 2018 informal hearing, the Commission inquired about the difference in turbine decommissioning costs for the Wilton Wind Facility as compared to other facilities. I have met with my team several times to discuss this particular site. We initially believed there was a specific reason for the cost difference when we did our evaluation, but upon further review, we cannot provide a definitive answer to account for this difference. As a result, we believe it is appropriate to use the decommissioning value of \$125,000.00 per turbine, consistent with other similarity-situated sites, for the Wilton Wind Facility. A revised Exhibit A is attached.

Sincerely,

DEMCO, Inc.:

Patrick J. Callahan  
President

AE2S, Inc.  
  
Jay Klevan  
Senior Project Manager

- 13 **PU-16-690** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-16-642** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-16-641** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-11-172** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-11-171** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-10-110** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-10-108** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-10-107** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-10-104** Filed: 5/17/2018 Pages: 4  
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- 12 **PU-10-103** Filed: 5/17/2018 Pages: 4  
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- 14 **PU-10-102** Filed: 5/17/2018 Pages: 4  
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- 13 **PU-10-101** Filed: 5/17/2018 Pages: 4  
Late-Filed Exhibit 4



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

Regarding: *Decommissioning Estimate – FPL Energy Burleigh County*

North Dakota Public Service Commission,

Per the request of FPL Energy Burleigh County Wind, LLC, the team of DEMCO Inc. and AE2S is pleased to submit the following *Decommissioning Cost Estimate* for the existing *FPL Energy Burleigh County (Wilton Wind) Facility* located in Burleigh 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 FPL Energy Burleigh County (Wilton 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.

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 FPL Energy Burleigh County (Wilton Wind) Facility.

Sincerely,

DEMCO, Inc.:

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

Patrick J. Callahan  
President

AE2S, Inc.  
JAY R. KLEVEN  
REGISTERED  
PROFESSIONAL  
PE 4685  
02 APR 2018  
NORTH DAKOTA  
ENGINEER  
Jay Kleven  
Senior Project Manager

A circular professional engineer seal for Jay R. Kleven, PE 4685, State of North Dakota. The seal is stamped in blue ink and includes a date of 02 APR 2018. A handwritten signature in blue ink is written over the seal.



**EXHIBIT A**



**FPL Energy Burleigh County Wind, LLC  
Decommissioning Cost Estimate - FPL Burleigh County (Wilton Wind)  
Burleigh County, ND**

**FPL ENERGY BURLEIGH COUNTY (WILTON WIND)**

**FACILITY INFORMATION:**

Facility Location:	Burleigh County, ND
Facility Size:	49.5 MW
Technology	GE 1.5 SLE
Number of Turbines:	33

**TURBINE COST BREAKDOWN**

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

<b>Removal Activity</b>	<b>Percentage of Cost (%)</b>	<b>Cost</b>
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 (3' 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
<b>Cost Per 1 Turbine</b>		<b>\$125,000.00</b>

**TOTAL DECOMMISSIONING COST - COMPLETE FACILITY**

<b>Cost Per Turbine</b>	<b>Number of Turbines</b>	<b>Total Cost</b>
<b>\$125,000.00</b>	<b>33</b>	<b>\$4,125,000.00</b>