

March 9, 2017

**VIA E-MAIL AND FEDERAL EXPRESS**

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

**RE: Public Service Commission  
Public Utilities  
Rulemaking  
Case No. PU-16-775  
and  
Public Service Commission  
Public Utilities – Wind Decommissioning  
Rulemaking  
Case No. PU-17-23**

Dear Mr. Nitschke:

Enel Green Power North America, Inc. and Tradewind Energy, Inc. respectfully provide the enclosed supplemental comments regarding the rules proposed in the above-referenced rulemaking cases. Electronic copies of this letter and the enclosed comments were filed today via e-mail.

If you have any questions, please let me know.

Sincerely,



MOLLIE M. SMITH

MMS/ms/60932335

Enclosures

cc: John Schuh (via e-mail – w/ encl.)  
Jerry Lein (via e-mail – w/ encl.)  
Rob Stupar (via e-mail – w/ encl.)  
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Supplemental comments on proposed rules  
Enel Green Power North America, Inc. & Tradewind Energy, Inc.  
Mollie Smith, Fredrikson & Byron P.A.

**STATE OF NORTH DAKOTA**

**PUBLIC SERVICE COMMISSION**

**Public Service Commission  
Public Utilities  
Rulemaking**

**Case No. PU-16-775**

**Public Service Commission  
Public Utilities – Wind Decommissioning  
Rulemaking**

**Case No. PU-17-23**

**SUPPLEMENTAL COMMENTS OF ENEL GREEN POWER NORTH AMERICA, INC.  
AND TRADEWIND ENERGY, INC.**

The North Dakota Public Service Commission (“Commission”) has proposed changes to N.D.A.C. § 69-06-08-01 and N.D.A.C. Ch. 69-09-09. On February 21, 2017, Enel Green Power North America, Inc. (“EGPNA”) and Tradewind Energy, Inc. (“Tradewind”) filed proposed revisions and supporting comments regarding the proposed rule changes. Also, at the rulemaking public hearing on February 27, 2017, Mr. Frank Costanza with Tradewind presented testimony regarding the proposed rule changes. EGPNA and Tradewind respectfully provide these supplemental comments to address matters discussed at the public hearing.

EGPNA is a subsidiary of the Enel Group (“Enel”). Enel is a global power business with more than 61 million customers and a net installed capacity of 87.4 gigawatts (“GW”). In the United States, EGPNA is a leading owner and operator of renewable energy plants, with over 100 projects operating and under development in 23 states. EGPNA’s current operating capacity exceeds 2.8 GW. These facilities span the breadth of renewable energy generation, from renewable hydropower, to wind, geothermal, and solar energy. EGPNA is constructing and will operate the 150 megawatt (“MW”) Lindahl Wind Project in Williams County, North Dakota, which will provide electricity to Basin Electric Power Cooperative pursuant to a Power Purchase Agreement.

Tradewind, based in Lenexa, Kansas, is one of the largest independent wind and solar project development companies in the United States. Founded in 2003, the company has grown from its three co-founders to more than 100 employees specializing in a variety of areas, including meteorology, geographic information systems, environmental permitting, real estate, and engineering. Tradewind has 3 GW of contracted and operating projects, totaling more than \$5 billion in project capital investment, and is actively developing over 6 GW of wind assets and 3 GW of solar assets across the country. Tradewind is financially partnered with EGPNA and, in coordination with EGPNA, developed the Lindahl Wind Project.

**I. Comments Regarding Proposed N.D.A.C. § 69-06-08-01 (Case No. PU-16-775).**

With respect to proposed N.D.A.C. § 69-06-08-01(6)(n), we reiterate our concerns regarding the limited supply of Federal Aviation Administration (“FAA”) approved aircraft detection and lighting systems (“ADLS”). As Mr. David Shepherd of Drake Lighting stated in his testimony during the public rulemaking hearing, ADLS has had FAA-approval for just over a year, and the FAA is only approving installation of the system on a case-by-case basis. As a result, it may be difficult to secure an FAA-approved system – including qualified personnel to install, maintain, and monitor the system – or it may be financially untenable to do so. To address these concerns, we encourage the Commission to incorporate the proposed revisions to N.D.A.C. § 69-06-08-01(6)(n) we previously provided. In addition, we support the request by Mr. Shepherd to modify N.D.A.C. § 69-06-08-01(6)(n) to allow consideration of other lighting technologies, subject to our previously provided comments regarding ADLS.

As a point of clarification, during Mr. Jerry Lein’s testimony, there was a discussion that proposed N.D.A.C. § 69-06-08-01(6)(n) is the same as what has been required by the Commission in recent wind siting orders. However, as we noted in our prior comments, the phrase “to use commercially reasonable efforts” to install ADLS or similar technology had been included in recent Commission wind siting orders (*see* Finding of Fact No. 46 in the June 22, 2016 Findings of Fact, Conclusions of Law and Order (Case No. PU-16-123); Finding of Fact No. 46 in the July 6, 2016 Findings of Fact, Conclusions of Law and Order (Case No. PU-16-42); Order Paragraph No. 13 in the December 7, 2016 Findings of Fact, Conclusions of Law and Order (Case No. PU-16-539)). Thus, including our proposed language would align the rule more closely with prior Commission orders.

**II. Comments Regarding Proposed N.D.A.C. Ch. 69-09-09 (Case No. PU-17-23).**

We reiterate our previously filed proposed revisions and supporting comments regarding the proposed changes to N.D.A.C. Ch. 69-9-09, and offer the following additional comments in response to comments made during the public hearing.

**A. Basing Financial Assurance on a Worst-Case Decommissioning Plan.**

In our previously filed comments, and during the public hearing, we noted our concerns with requiring financial assurance during construction based on a decommissioning plan approved concurrently with a siting application. Specifically, since key project details (turbine model, number of turbines, etc.) are typically finalized just prior to construction, it would not be possible to provide an accurate decommissioning cost estimate at the time the siting application is filed, which takes place well in advance of construction. In response to this concern, Commissioner Christmann indicated that a worst-case scenario decommissioning plan could be filed, as is done for sound and shadow flicker analyses in the siting context. However, as discussed below, using a worst-case scenario decommissioning plan would create several issues.

The number of turbines and, in turn, the cost of decommissioning, can vary significantly depending on the MW of the turbine model. Generally, the fewer turbines constructed, the lower the facility’s decommissioning costs. Thus, the decommissioning costs of the facility actually constructed could be significantly less than the worst-case decommissioning cost scenario.

Since, under the current proposal, the decommissioning plan cost estimate would be the basis for setting financial assurance pre-construction, the amount of financial assurance required by the Commission may be significantly higher than the actual amount needed to fully decommission the facility, which is inconsistent with the Commission's decommissioning rules (*see* N.D.C.C. § 69-09-09-08, requiring financial assurance "to cover the anticipated costs of decommissioning.").

Further, once a facility is constructed, the owner will likely want to update its decommissioning plan to reflect the decommissioning costs of the actual facility constructed where it differs from the worst-case decommissioning scenario. Not only is such an update not provided for in the rules as currently proposed, needing to prepare a plan pre-construction and then update the plan for the actual facility constructed would be duplicative – both in cost for the owner and administrative time for the Commission and Staff. Additionally, if the decommissioning costs of the actual facility are less than the worst-case scenario, there is the issue of the Commission needing to return or refund the amount of financial assurance that exceeds the actual estimated decommissioning cost, and the owner needing to secure the revised financial assurance to provide to the Commission.

Our proposal of two separate financial assurance requirements – financial assurance during construction equal to ten percent of the cost of construction, and financial assurance during operation based on the actually-constructed facility's decommissioning cost estimate – avoids these issues. Additionally, our proposal ensures that more than sufficient funds are available to decommission the facility during construction, particularly considering that the cost to decommission a facility where construction starts and is never completed would be far less than the cost to decommission a facility that is completed and operational. In fact, if construction of a facility is close to being completed, it is likely the facility would be acquired by another entity and completed, rather than abandoned.

## **B. The Role of Project Finance in Incentivizing Wind Facility Operation.**

During the public hearing, Mr. Frank Costanza briefly explained how independently-owned wind projects are financed, and how that financing structure makes it very unlikely that a project will be abandoned once operational. To provide further information, attached and incorporated into these comments is a more detailed explanation of the financing structure for independently-owned wind projects.

As explained in the attachment, the Commission's current practice of requiring financial assurance at year ten, which is at least ten years less than the typical power purchase agreement for a wind facility, is more than sufficient assurance that funds will be available to decommission a wind facility at the end of its useful life. That said, we acknowledge the concerns of the Commission and the public regarding decommissioning. Thus, our incremental financial assurance proposal starting at operation is intended to be a compromise that sufficiently and reasonably addresses the risk that the Commission may need to complete decommissioning once a wind energy conversion facility reaches the end of its useful life, without imposing unnecessary costs on wind companies, utilities, and consumers.

# Renewable Energy Financing and Cost Recovery Overview

Renewable energy development is both capital intensive and time consuming. Wind power generation projects have timelines and investment cost levels that are very similar to that experienced by investor owned or public power utilities, when they develop new power generation facilities. Like utilities, wind projects can take up to 10 years from start of development to the actual construction and operation of the power plant. However, there are some significant differences between privately developed independent power wind project financing, including subsequent cost recovery vs. that used by regulated investor-owned utilities (referred hereinafter as “regulated utilities”).

## **Project Cost Recovery: Regulated Utilities vs. Independent Wind Projects**

Regulated utilities finance generation projects with capital raised in the public sector (e.g., debt and equity offerings). A regulated utility then recovers its costs of financing and operations from rates approved by the state regulatory commission and charged to its retail and wholesale customers (i.e., ratepayers). In the case of both regulated utilities and cooperatives, the vast majority, if not all, of the financing for a generation facility is raised via the public debt markets and no “equity capital” is typically utilized or risked.

Conversely, independently-owned wind projects are privately financed using a technique called “project finance.” In this financing model, the developer’s (aka “project owner”) private equity capital is solely placed at risk during development. Once all development aspects are completed and various approvals are received to allow construction, the project owner will seek financing (not unlike any private industrial venture) usually in the form of debt and/or tax equity. This third-party capital is raised from large institutional players (e.g., JP Morgan, Bank of America, etc.). Tax equity is basically structured (terms and conditions like coverage, reserve accounts, distributions, etc.), and priced from a yield perspective in a manner similar to long-term debt financing. Of course, there are some nuances in the structuring between a debt vs. tax equity financing, but these differences are generally to accommodate Internal Revenue Service and accounting needs. Therefore, in this discussion we will simply refer to this third-party capital as “institutional financing.”

## **Independent Wind Project Cash-flow Structure**

Normally, the ratio of capital deployed (i.e., the ratio of project owner equity to institutional capital) for wind project financing is about 50/50, and henceforth is referred to as the “debt/equity ratio.” This debt/equity ratio can vary depending upon the condition of financial markets at any point in time, but rarely varies substantially from 50/50. Typical institutional financings for a wind project provide, among other things, for the distribution of revenues received by the wind project. This so-called “cash flow waterfall” is contractually established by the institutional financier to specify the order in which funds received by the project can be utilized. For example, a typical waterfall would identify, in detail, the order in which operating and maintenance costs, debt service, debt service reserves, etc., are paid out from revenues. Without exception, and until the institutional financing is repaid, the project’s equity owner is the last to be paid from the available cash.

In a typical wind project financing, the waterfall provides that the institutional financier (tax equity) is allocated all the tax benefits (i.e., depreciation and federal production tax credits) available to the project, as

well as the majority of the free cash flow (cash available after all expenses, taxes, etc., are paid). Essentially, very little of the free cash flow (only about 10 to 20 percent in most typical projects) is distributed to the project owner, but this does vary dependent upon the strength of the PPA revenue stream. This repayment methodology will continue each year until the institutional financier attains its “target return.”

Once the institutional financier attains the target return, which is intentionally structured to be attained in about year 10 of the project operations and is timed to be coincident with the expiration of the federal tax credits, then the “Flip” occurs. This “Flip” is at a time when the institutional financier has earned its target return. After the “Flip,” the cash flow is essentially all distributed to the project owner. In actuality, for most wind projects, at the end of the 10<sup>th</sup> year of operation, the project owner will have received cash flow roughly equal to its initial equity investment in the wind project. From year 11 of the project’s operation and beyond, the project owner starts to earn a “return on” its equity investment, which is a principal reason why the project owner is highly incentivized to properly operate and maintain the wind project for the life of the PPA, if not longer.

### **Institutional Financier Requirements for Independent Wind Projects**

These highly structured project financings (i.e., the debt and/or tax equity provided by third-party institutional financiers) have strict lending requirements that must be met before the institutional player invests its capital. Third-party institutional investors will only commit their capital to a wind project after certain criteria are met, including but not limited to: (a) the project is suitably structured via underlying economically viable contractual arrangements for (1) interconnection to the grid, (2) viable construction and wind turbine supply, and (3) O&M services, etc.; (b) a viable “investment grade” long-term revenue source (i.e., PPA) with a large investment-grade quality off-taker has been secured to supply revenues sufficient to meet ongoing costs over the project’s life; (c) federal, state, and local permits have been secured; and (d) perfected lease agreements have been entered into with all landowners. To be clear, the most critical contract in the project financing approach is the long-term PPA. Without an off-taker to purchase the energy, a project simply would not have the adequate revenue source required by the capital markets to secure financing prior to project operation. Consequently, a project without a PPA is unlikely to be built.

Access to the capital markets to secure long-term project-financed institutional capital is necessary and an important element without which the price of energy from a wind project would be too expensive to attract the utility purchaser to this source of energy supply. Project financing is analogous in some respects to a person securing a mortgage in order to make a home purchase possible and affordable for his/her budget. Like the homeowner who seeks a long-term mortgage to lower the monthly cost of owning a home, the independent power project accesses cheaper institutional capital to lower the delivered price of energy from the project in order to compete in the marketplace of other energy sources and/or providers of wind energy.

Typically, the term of the institutional financing is about 15 years and sometimes as long as 18 years. The term of the institutional financing is driven by the PPA pricing terms and tenor, and in the case of tax equity, by then current depreciation and federal production tax credit policy. In all cases, the institutional financing term (e.g., 15 year term) will not exceed the term of the PPA agreement (e.g., 20 to 25 years). This factor is what drives most wind projects to seek at least a 20 year PPA term.

Before providing capital to a wind project, an institutional lender will perform an exhaustive review of the wind project to ensure the financing criteria noted above have been met. The last step before the institutional capital is transferred to the project is that the project must complete construction and meet stringent start-up testing requirements. As a result, from initiation of development through the end of construction, the private wind developer is financing its project 100 percent with its own equity capital.

Once construction is complete, the private capital from the institutional financier, along with the project equity owner's capital, will be completely at risk throughout the life of the project. Consequently, the oversight imposed by the institutional project financier prior to funding is very comprehensive and stringent to the point that, if a developer did not properly and thoroughly complete all development tasks to the institutional financier's satisfaction, the project will not receive funding. Thus, projects that are unlikely to be able to meet the stringent financing requirements are unlikely to be built. The viability of a wind project is further enhanced by the fact that the institutional financier's due diligence related to the technical, financial, environmental, contractual, and economic aspects of the wind project are performed by a cadre of third-party legal, engineering, and accounting experts. These experts, along with financier's personnel, completely vet all material wind project details over a period of months, as well as provide opinions relative to the viability of a project's revenue and expense forecasts, including both major and minor scheduled maintenance, for the life of the project.

### **Project Risks: Borne by the Independent Project Owner**

To be clear, the wind project's only source of revenue is the PPA it signs with an off-taker, and that off-taker is only obligated to pay for energy when it receives delivery of electric power from the project. Unlike regulated utilities or cooperatives, the privately owned wind project has no "members" or "ratepayers" to rely upon for payments. If a wind project is well conceived, it will generate enough revenue from energy sales to the off-taker to pay for operations (including all periodic maintenance prescribed by the equipment manufacturers), meet debt service requirements, and earn a return on the equity invested in the project by the project owner.

Conceivably, a poorly devised wind project could fail and be abandoned. However, based upon research we have performed, such instances are highly unlikely due to the extensive vetting associated with project development and financing. Further, in the unlikely event a project were to fail, the project equity owner will be at risk to lose its investment, which typically runs into the hundreds of millions of dollars. Consequently, project owners are highly incentivized to correct deficiencies and continue operations. Further, the capital requirements are so large by both the project owner and the institutional financier, and the timeline for repaying the institutional capital so long, the institutional investor is also granted contractual rights under the financing documents to step in and take legal control of a project that is either not performing, or is in default of the financing terms, in order to protect its investment. While it is highly uncommon in the independent power industry for such a default to occur, when they have occurred, the institutional lender has the option to restructure the financing and bring a new equity owner in to replace the original owner so that the project can meet its obligations under the PPA and beyond.

### **Conclusion**

In conclusion, the "pre-lending" due diligence examinations performed by the institutional financier and its third-party experts provide a level of oversight that exceeds the type of oversight possible by most regulatory bodies. Consequently, the project financing process has given leaders in most states the comfort that independent wind projects that are constructed have met all regulatory requirements and have a high likelihood of successfully operating as intended.

For these reasons, we posit that the need for decommissioning security in the very early years of project operation is unnecessary. The equity owner and the third-party institutional financiers have such a significant amount of capital at risk that walking away from a project would be a disastrous financial decision, and would

damage their prospects for future engagement with potential off-takers. It is in the project owner's best interest to meet obligations to its financier and off-take customer. This independent project financing process is a very critical difference between independently-owned wind projects and regulated utility or cooperative assets that must be understood as the state considers appropriate policy changes. This difference is likely why most other states in the Midwest region do not require decommissioning security to be in place before construction is initiated, or even at the start of commercial operations.