



## **EIGHT POINT WIND ENERGY CENTER**

**Case No. 16-F-0062**

**1001.10 Exhibit 10**

**Consistency with Energy Planning Objectives**

## Contents

Exhibit 10: Consistency with Energy Planning Objectives .....	1
10(a) Consistency with State Energy Planning .....	1
10(b) Impact on Reliability.....	3
10(c) Impact on Fuel Diversity .....	4
10(d) Impact on Regional Capacity Requirements .....	4
10(e) Impact on Electric Transmission Constraints .....	5
10(f) Fuel Use.....	5
10(g) Impact on Energy Policy and Planning .....	5
10(h) Analysis of Reasonable and Available Alternative Locations.....	6
10(i) Location Suitability .....	6
References .....	7

## Exhibit 10: Consistency with Energy Planning Objectives

### 10(a) Consistency with State Energy Planning

New York Energy Law § 6-104 requires the State Energy Planning Board to adopt a State Energy Plan. The latest iteration of the New York State Energy Plan was issued on June 25, 2015. The 2015 State Energy Plan (the Plan) contains a series of policy objectives and coordinates with New York's Reforming Energy Vision (REV) initiative and its objectives to significantly reduce greenhouse gas (GHG) emissions while stabilizing energy costs (NYSEPB, 2015). As stated by the PSC in its 2015 REV Order, "A significant increase in the penetration of renewable resources is essential to meeting our objectives, state goals and proposed federal requirements." This Project also promotes innovation by providing the newest land-based wind turbines in the country to New York State and will help the State meet Governor Cuomo's nation-leading energy goals of 50 percent renewable power by 2030 and a 40 percent reduction in greenhouse gas emissions over the same time.

The Project will play an important role in supporting the State Energy Plan vision by developing job opportunities, supporting economic growth, and protecting the environment by reducing greenhouse gas emissions. The Project will support the State Energy Plan's effort to increase energy efficiency and progress toward a clean energy future. The State Energy Plan categorizes seven focus areas for initiative including:

- Renewable Energy
- Buildings and Energy Efficiency
- Clean Energy Financing
- Sustainable and Resilient Communities
- Energy Infrastructure Modernization
- Innovation and Research and Development (R&D)
- Transportation

The Eight Point Wind Energy Center will make a significant contribution to the Renewable Energy Initiative of the Plan by providing emission free energy to New York's energy market. The Plan is based on a set of five Guiding Principles, each of which is supported by the Eight Point Wind Energy Center:

**Market Transformation:** With each new, large renewable energy project, the local and regional supply chain is strengthened and expanded. The Project will help stimulate the local economy through direct and indirect spending and the demand for trained wind technicians. Construction of the Project and its associated transmission line is anticipated to create 143 full-time equivalent (FTE) local project development and on-site construction jobs, 176 FTE turbine construction and supply chain jobs, and 82 FTE induced jobs within New York according the JEDI model as more fully detailed in Exhibit 27 of this Application. The operation and maintenance of the Project and associated transmission line is expected to generate 8 FTE on-site jobs, 6 FTE local revenue and supply chain jobs, and 7 FTE induced jobs annually within New York. These impacts do not include additional jobs that will be created outside of New York by workers from other states. The Project is also helping to transform New York's energy market by moving from

a fossil fuel dominated market toward a more diverse market with renewables playing a larger role.

**Community Engagement:** Eight Point Wind has been, and will continue to be fully engaged with local and state stakeholders (as described in the Public Involvement Program (PIP)). Steuben County and the towns of Greenwood and West Union have been supportive and cooperative during the Project development process and the majority of landowners in the communities welcome the employment and economic benefits.

**Private Sector Investment:** The Applicant is making a considerable private investment to develop and construct the Project, of which, over \$28 million will directly benefit New York businesses, communities, and landowners.

**Innovation and Technology:** The Project will utilize state-of-the-art wind turbine technology that has been developed to increase efficiency while reducing acoustical levels and minimizing impacts on the surrounding environment.

**Customer Value and Choice:** By developing the Project efficiently and economically and by increasing the amount of wind generated power available in New York, the Applicant will provide competitively priced clean energy and more renewable energy to New York customers.

The Plan builds on the principles above with additional initiatives, goals, and targets. By adding up to 101.8 MW of clean, renewable wind power into the New York State energy market, the Project is consistent with the Plan and instrumental in meeting the Governor Cuomo's 2030 Targets of:

- 40% reduction in greenhouse gas emissions from 1990 levels;
- 50% of electricity generation from renewable energy sources.

To further the State's commitment to renewable energy, the New York State Energy Research and Development Authority (NYSERDA) has proposed a comprehensive Clean Energy Fund (CEF). The CEF is part of the Reforming the Energy Vision (REV) initiative, a 10-year \$5 billion funding program to support clean energy market development and innovation and to secure renewable energy resources as part of New York's clean energy future. In fact, in January 2017, Governor Cuomo announced that the Eight Point Project had been awarded a contract under NYSEDA's Renewable Portfolio Standard Program Purchase of Renewable Energy Attributes. John Rhodes, President and CEO, NYSEDA said, "Large-scale renewables are a critical component in achieving Governor Cuomo's nation-leading energy goals of 50 percent renewable power by 2030 and a 40 percent reduction in greenhouse gas emissions over the same time. These projects will provide renewables, aggressively reduce emissions and make energy more affordable for New Yorkers."

The State of New York Public Service Commission adopted a Clean Energy Standard in August 2016 instituting a timeline for the state to procure 50% of electricity consumed in the state to be generated from renewable energy resources by 2030. The Clean Energy Standard (CES) also seeks to bring investment, economic development, and jobs to New York State. This CES has been adopted in

conjunction with New York State's REV. The Project is consistent with New York State energy planning objectives.

In addition to adding to New York State's large scale renewable profile, the Project contributes to the State's renewable energy generation goals, the State's reduction in greenhouse gas emissions through providing zero emission energy, and the State's goal of fostering economic development through job creation and development.

The Project will produce enough zero emission energy to power approximately 47,000 average households in New York State (based on average annual consumption of 7.2 MWh per household in NY (EIA, 2017)), and will do so with minimal environmental impacts. The Project is consistent with New York State's energy planning objectives and provides substantial economic benefits to the State.

## 10(b) Impact on Reliability

The results presented in the System Reliability Impact Study (SRIS) indicate that the Eight Point Wind Project will not adversely impact the reliability of the New York State Transmission System. Numerous analyses were performed for the SRIS, which are summarized below. The complete SRIS is included in the Application as Appendix 5-1.

### ***Power Flow Analysis***

Pre and post contingency analyses did not identify any significant adverse impacts or violations. The Project will be subject to the applicable NYISO and/or NYSEG operating procedures (e.g., security constrained economic dispatch, meaning that pre-contingency the system will be dispatched at all times to be consistent with post-contingency applicable limits).

### ***Stability Analysis***

The normal contingency stability analysis found that the New York State Transmission System remained stable and positively damped for all contingencies tested under summer peak and light load conditions. The faults studied include four Normal contingencies and four extreme contingencies.

The local contingency stability analysis found that the New York State Transmission System remained stable and positively damped for all sixteen local faults tested under summer peak and light load conditions.

The Critical Clearing Time (CCT) testing was performed on Pre-Project and Post-Project Summer Light and Summer Peak load cases at the Bennett 115 kV substation along with its adjacent 115 kV buses. CCT Testing refers to the substation protection time, which corresponds with the maximal fault duration for which a system remains transiently stable. Each of these buses was tested at 5 cycle intervals until either an unstable condition occurred or the testing reached a maximum of 35 cycles. The results of this testing showed no adverse impacts to the system's critical clearing time.

### ***Transfer Analysis***

The transfer analysis was performed for summer peak cases for both pre-project and post-project cases. The Dysinger-East, West Central and Volney East normal thermal transfer limits were increased by 10%. Each case evaluated the system performance for various faults. The analysis showed that the system remained stable and damped for all faults tested.

### ***Short Circuit Analysis***

Short Circuit analysis was performed in accordance with the NYISO Guideline for Fault Current Assessment. The analysis was conducted by applying three-phase, double-line to ground and single-line to ground bus faults at various substations in the vicinity of the Project. The Project increased the total bus fault currents at nearby substations, but it did not cause any fault current to exceed the available lowest breaker rating at the impacted substations.

### ***NPCC A-10 Analysis***

The NPCC Bulk Power System (BPS) testing was conducted for the Bennett, Moraine Road, Meyer, Howard, Bath, and Palmitier Road 115 kV buses in accordance with the NPCC Document A-10, "Classification of Bulk Power System Elements." The BPS test showed that there was no significant adverse impact outside of the local area and the Project does not change the BPS classification of Bennett, Moraine Road, Meyer, Howard, Bath, and Palmitier Road 115 kV Substations. These stations will remain as non-BPS stations.

In summary, this SRIS analysis concludes that the Project does not have any unacceptable adverse reliability impact to the New York Transmission System.

## **10(c) Impact on Fuel Diversity**

The Project will also increase fuel diversity within New York State by increasing the amount of electricity produced by wind generation facilities. The New York electric utility system relies on supply from numerous fuel sources, including natural gas, hydroelectric, nuclear, wind, oil, solar, and coal, as well as interconnections with its neighbors and demand-response resources. Renewable resources, such as hydro, wind and solar energy, have no fuel costs and are selected in wholesale market auctions to operate more frequently than older and potentially less efficient fossil units (NYISO, 2017).

The Project is consistent with the State Energy Plan and other associated State policies, which are designed to encourage the development of renewable energy projects and contribute to the transition of New York's energy markets. Immediate benefits from the Project would include economic development, jobs for the community, greater stability in consumer energy bills, cleaner air, and compliance with the Plan and federal mandates.

## **10(d) Impact on Regional Capacity Requirements**

The proposed location of the Project was selected by the Applicant due primarily to the wind resource in the southern tier of New York State. The Project supports New York State's renewable energy goals and

initiatives as outlined in the Clean Energy Standard discussed in Section 10(a) above, and electricity consumption in all parts of the state depend on reliable electricity generation upstate, such as Zone C generation, where the Proposed project is to be located.

### 10(e) Impact on Electric Transmission Constraints

The Project will generate cost effective, zero emission energy. In the Project-approved SRIS, the NYISO did not identify any adverse impacts to existing transmission constraints that could not be resolved with certain system upgrades that will be undertaken by the Project. Furthermore, the SRIS did not identify any additional or new electric transmission system constraints that would be created by the Project.

As outlined in the 2017 NYISO “Power Trends” Report, over the past decade, the design of New York State’s wholesale electricity markets has been revised to address the unique characteristics of wind energy. As stated in the report, New York established “a centralized wind forecasting system in 2008 to better utilize and accommodate wind energy by forecasting the availability and timing of wind-powered generation” (NYISO, 2017). This system has allowed the grid operators to better anticipate when to utilize the wind energy being produced across the State.

### 10(f) Fuel Use

The proposed Project will generate electricity without the use of fuel. Therefore, there will be no adverse fuel delivery impacts and this topic will not be addressed in the Application.

### 10(g) Impact on Energy Policy and Planning

The following energy policies/long range energy planning strategies are in place in New York State:

#### ***State Energy Plan (summarized as previously mentioned)***

#### ***Renewable Portfolio Standard***

New York State operated under a Renewable Portfolio Standard (RPS) until the CES was designed and approved by the Public Service Commission. In 2004, the initial goal of the RPS was to increase renewable energy usage in the state from 19.3 percent (2004 baseline) to 25 percent by the end of 2013. In 2010 the goal was raised from 25 percent by 2013 to 30 percent by 2015. After the New York State Energy Plan was launched in 2015, the goal was increased again to 50 percent of electricity from renewable energy sources by 2030. This was established officially with the Clean Energy Standard. The CES requires 50 percent of New York’s electricity to come from renewable sources such as wind, hydro, and solar by 2030. A progressive schedule for integration of these resources started in 2017. The CES combines the renewable energy standard (RES) and the zero-emissions credit (ZEC) together to reach this goal (NYSERDA, 2017). This is one of the core components of the REV put forth by Governor Cuomo and the NYPSC (NYSERDA, 2016).

### ***Clean Energy Fund***

The Clean Energy Fund (CEF) is a fundamental piece of the REV. It is designed to help achieve a clean, resilient, and affordable energy system for all New Yorkers. It is designed to improve the State's energy efficiency, promote clean energy, as well as energy innovation programs. It also seeks to deliver on New York State's commitment to increase economic development.

The CEF consists of four portfolios of activity: Market Development; Innovation and Research; New York Green Bank (NYGB); and the NY Sun program. CEF is a 10 year, \$5 billion plan to support the clean energy market. Some of the goals of the CEF are to "encourage private investment and achieve scale for clean energy", focus on innovative solutions, and to "be a catalyst for advancing energy innovation and technology."

### ***Climate Action Plan***

Executive Order No. 24 (2009) not only set a goal to reduce greenhouse gas emission by 80 percent below 1990 levels by the year 2050, it also created the New York State Climate Action Council (CAC) to prepare a climate action plan. There is a Climate Action Interim Report that was released in November 2010. It was prepared by the CAC with assistance from NYSERDA, New York State Department of Environmental Conservation (NYSDEC), Center for Climate Strategies (CCS), and other stakeholders. A final report has not yet been released.

The proposed Project would support these plans by increasing renewable energy in New York State, in line with the State Energy Plan, Renewable Portfolio Standard, Clean Energy Fund, and Climate Action Plan.

## **10(h) Analysis of Reasonable and Available Alternative Locations**

An analysis of the comparative advantages and disadvantages of reasonable and available alternative locations/properties has been limited to sites under option to the Applicant for the Project, as authorized by 16 NYCRR Section 1001.9 (a). Please refer to Exhibit 9 for a complete analysis of reasonable and available alternatives. Exhibit 9 (Alternatives Analysis) contains an evaluation of alternative Facility designs within the Project Area, including alternative turbine locations, alternative turbine heights, turbine numbers, and a no action (or no build) alternative.

## **10(i) Location Suitability**

This section is not applicable because it requires an evaluation of the alternative locations and fuel sources, which is beyond the scope of Exhibit 9 of the Application.

## References

Environmental Protection Agency (EPA) (2017). Download all eGRID2014 files v2 (ZIP). Available at: <https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid>  
Accessed May, 2017.

Executive Office of the President (2013). The President's Climate Action Plan. The White House, Washington, D.C. Available at: <https://www.washingtonpost.com/blogs/wonkblog/files/2013/06/President%E2%80%99s-Climate-Action-Plan.pdf> Accessed 2017.

Federal Register (2001). Actions to Expedite Energy-Related Projects. 66 FR 28357, May 22, 2001. Vol. 66, No. 99. Available at: <https://www.gpo.gov/fdsys/pkg/FR-2001-05-22/pdf/01-13117.pdf>

New York State Department of Environmental Conservation (NYSDEC) (2017). *How New York Uses Renewable Energy*. Retrieved from <http://www.dec.ny.gov/energy/83070.html>

New York State Energy Planning Board (NYSEPB) (2015). *2015 New York State Energy Plan*. June 25, 2015.

New York Independent System Operator (NYISO) (2016). *Power Trends 2016: The Changing Energy Landscape*. Available at: [http://www.nyiso.com/public/webdocs/media\\_room/publications\\_presentations/Power\\_Trends/Power\\_Trends/2016-power-trends-FINAL-070516.pdf](http://www.nyiso.com/public/webdocs/media_room/publications_presentations/Power_Trends/Power_Trends/2016-power-trends-FINAL-070516.pdf)

NYISO (2016). *2016 Reliability Needs Assessment*. Final Report. Available at: [http://www.nyiso.com/public/webdocs/markets\\_operations/services/planning/Planning\\_Studies/Reliability\\_Planning\\_Studies/Reliability\\_Assessment\\_Documents/2016RNA\\_Final\\_Oct18\\_2016.pdf](http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Planning_Studies/Reliability_Planning_Studies/Reliability_Assessment_Documents/2016RNA_Final_Oct18_2016.pdf)

NYISO (2017). *Power Trends 2017: New York's Evolving Electric Grid*. Available at: [http://www.nyiso.com/public/webdocs/media\\_room/publications\\_presentations/Power\\_Trends/Power\\_Trends/2017\\_Power\\_Trends.pdf](http://www.nyiso.com/public/webdocs/media_room/publications_presentations/Power_Trends/Power_Trends/2017_Power_Trends.pdf)