



**EIGHT POINT WIND, LLC  
115kV Transmission Line**

**Case No. 18-T-\_\_\_\_\_**

**Exhibit 3**

**Alternatives**



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## Exhibit 3: Alternatives

Part 86.4(a) of the NYPSC's Rules and Regulations require an Article VII applicant to "...submit a statement explaining what consideration, if any, was given to: (1) any alternative route; (2) the expansion of any existing right-of-way of the applicant or another; (3) any alternate method which would fulfill the energy requirements with comparable costs. Such statement shall include the comparative advantages and disadvantages of any alternative considered." Part 86.4(b) provides that the applicant shall, on New York State Department of Transportation maps, indicate any alternative route considered.

### 3.1 Proposed Location

Eight Point Wind, LLC (Eight Point Wind or Applicant) is planning to construct, operate and maintain an approximately 16.5 miles of new overhead 115 kV interconnection transmission line (Project) to support the Eight Point Wind Energy Center (EPWEC), a utility scale wind energy generation project located in the Towns of Greenwood and West Union, Steuben County, New York. The Project consists of the construction of approximately 16.5 miles of new overhead 115 kV interconnection transmission line which begins at the wind generation collection substation in Greenwood, and interconnects to new Point of Interconnection (POI) facilities within the New York State Electric and Gas Corporation (NYSEG) existing 115 kV Bennett substation in Hornellsville, New York. This transmission line and its POI are collectively referred to as the Project or Project facilities. The proposed transmission line will pass through the Towns of Greenwood, Hartsville, and Hornellsville in Steuben County, New York. The proposed transmission line will require installation of steel monopoles, steel 3-pole structures, wood H-frame, and wood 3-pole structures at 143 locations along the route. The majority of the line is comprised of single monopole steel structures, which limit the overall visual and land impacts. The existing Bennett substation ("Substation") will be modified to accommodate the new 115 kV transmission line. The Applicant has been in consultation with NYSEG regarding the Project and the required Substation upgrades.

### 3.2 Alternative Route Consideration

Alternative routes were evaluated in relation to the Project's purpose and need. For alternatives that met the Project's purpose, factors including land availability, potential environmental impacts, cost, logistics, and technology were considered to identify which alternatives were reasonable. As explained below, the Applicant considered alternate routes for the proposed Project but they were all determined to be inferior from an environmental, construction, logistics and other practicable considerations.

The point of interconnection (POI) for the proposed Project is the New York State Electric and Gas Corporation (NYSEG) existing 115 kV Bennett substation in Hornellsville, New York. The impact of this POI on New York State Transmission System (NYSTS) was evaluated by the New York Independent System Operator's (NYISO) review of a System Reliability Impact Study (SRIS) and the Project has moved into the NYISO 2017 Class Year Facility Study. Therefore, the Applicant focused on finding a transmission line corridor to connect the EPWEC collection substation in Greenwood, New York to the POI. Due to the need to locate the collection station in a central area of the wind energy facility, the logical, most direct route for the transmission line is due north through the Towns of Greenwood, Hartsville, and Hornellsville.

Once the origin and end point were set, the Applicant conducted an analysis of connection options within a reasonably determined distance bounded by State Route 248 to the east and the Steuben / Allegany County line to the west. The Applicant reviewed potential routing options using publically-available GIS datasets to determine the scope of potential resource impacts within the identified boundary. The criteria used in the resource assessment were selected based on their likely applicability to the Project's proposed construction and operation impacts, as well as availability of associated datasets. These criteria included but were not limited to wetlands and water bodies, land use, visual impact, and potential ease of acquisition.

An alignment along Route 248, a New York State Highway, initially appeared to offer a relatively direct route with fewer terrain changes and more access from public roads. However, a windshield survey indicated multiple environmental and engineering constraints. Residential homes were adjacent to the Highway, which would lead to a material increase in the visual impacts associated with each of the properties, as well as the roadway itself. The Highway also has other infrastructure such as electric distribution and communication poles suggesting a space constraint for locating a new line. Also, the route would directly impact developed areas of the Village of Canisteo, which would lead to a substantial increase in visual impacts compared to the proposed Project ROW, including the Village of Canisteo's "World Famous Living Sign". The sign is a 50-year living pine tree sign on the west side of Route 248. Additionally, an alignment along Route 248 would be located adjacent to and within a greater area of agricultural lands and therefore more visible to residents and visitors.

Even if the required landowner rights could be obtained, the construction of the transmission line along Route 248 would also result in a greater impacts to agricultural lands due to the predominance of agricultural land located both east and west of Route 248. The amount of agricultural land that would be crossed, compared to the proposed Project ROW, would double. Similarly, more than ten times as much wetland acreage would be impacted if a Route 248 ROW (11.21 acres) could be obtained compared to the proposed Project ROW (0.26 acres). There would also be more stream crossings if a Route 248 ROW could be obtained (27) compared to the Proposed ROW (18). The 248 route would also impact Rock Hollow State Forest along the west side of Route 248 in Greenwood.

In terms of engineering constraints, existing overhead electrical and communication utilities occupy long stretches of Route 248 and buried utilities are common. Avoiding the multiple structures located adjacent to or in close proximity to Route 248 would pose significant siting challenges. Based on this analysis, the Applicant determined that an alignment along Route 248 would pose significantly more environmental and logistical constraints than the proposed Project ROW.

Finally, the proximity of Route 248 to residential and business areas would have diminished residential landowner interest in granting the required easements. In contrast, the Applicant was able to secure easements for the entire proposed Project right-of-way (ROW). The Project's voluntary land acquisition success is a significant advantage over attempting to certify a ROW under Article VII without securing all necessary easements and being compelled to resort to eminent domain and related litigation.

An investigation was also conducted along the western portion of the corridor, mainly along County Road 61 (Ridge Road) north to County Road 28 (Purdy Creek Road) and then east near the existing NYSEG 115kV transmission corridor. Like the Route 248 alternative, this route posed similar siting challenges with residences adjacent to the road, extensive agricultural development, rolling terrain and was longer in total

line distance. Again, the Applicant would also need to acquire easements and would face similar challenges as described above.

Recognizing these significant siting constraints, the Applicant engaged in a three year process to identify and secure private landowners within the Study Area willing to sign long term leases to host components of the transmission facility. As landowners accepted or declined to participate in the Project, routing options solidified or, in some cases, terminated. While there was a preference to secure easements from large landowners to promote efficiency, this concern was superseded by environmental and engineering considerations.

Once the Project Study Area was narrowed down to the areas of available land (i.e., participating landowners), the siting analysis moved from the broad to the specific. Extensive and focused analyses and studies were conducted to site the final locations of all transmission line components. There were numerous site visits to conduct environmental studies (e.g., wetland and cultural surveys, drone flyovers, etc.), with resource information being compiled in a central database. The Applicant completed extensive consultation with all participating landowners, developing landowner agreements that showed the relative location of the Project on their lands. An entire site walkdown was also conducted in October of 2017 with biological and engineering staff to identify areas to avoid and minimize impacts while supporting environmental resource protection and constructability.

The resulting proposed Project ROW minimizes impacts to environmental resources, including wetland and agricultural lands, to the maximum extent practicable. It incorporates landowner siting preferences as well as good engineering design. It also meets electric and magnetic field edge of Right-of-Way regulatory guidelines and standards i.e., magnetic field of 200 milligauss and electric field of 1.6 kilovolts per meter. Any others possible routes would be longer in overall length, thereby increasing likely impacts as well as costs, and would have significantly higher impacts to sensitive areas such as agricultural land, residences, wetlands and streams based on the previously discussed analysis. Based on these factors, the proposed Project ROW is the most desirable and reasonable route.

### 3.3 Alternative Methods

The Project is necessary to connect the renewable energy generated by the EPWEC to the grid, as there are no other transmission lines of sufficient capacity at or near the site of the generation facility collection substation. There are also no other proximate transmission substations in the region for interconnection to the NYSEG grid. The Applicant is unaware of any alternative reasonable method for delivering power from the EPWEC to the Bennett Substation.

Undergrounding the project transmission line was assessed and showed significant environmental and community impacts, and costs. Underground construction would add tremendous cost to the Project compared to the proposed overhead transmission line. Undergrounding would include an extended construction schedule, blasting, additional construction equipment, heavy equipment access, additional laydown yards, numerous line splice boxes/ vaults, and multiple stream, wetland and road horizontal directional drill crossings, among a few of the issues. Undergrounding would also require multiple large spool reels of protected underground cable to be transported to the site, stored, and installed. Right-of-Way maintenance and safety monitoring would also be more intense to avoid accidental cuts of the buried line and repairs are hampered by the difficulties associated locating a break in an underground cable.

