

Ball Hill Wind Energy Project
2018 Proposed Modifications: Summary of Environmental Impacts

The following is a summary of environmental impacts associated with the proposed 2018 Ball Hill Wind Energy Project modifications. References are made to the 2018 Application and Environmental Assessment Form, which can be found at Villenova and Hanover Town Halls and on the project website at www.ballhillwind.com.

The proposed modifications are:

- Utilize advanced wind energy turbine with maximum total height of 599 feet,
- Increase minimum allowable setbacks from public roads and non-participating property lines,
- Eliminate southern substation and 5.8-mile overhead transmission line, and install lines underground.

Project impacts in areas not summarized below are largely unchanged from 2016 Permit levels as a result of these proposed modifications

| Impact Area | Summary | References to Application |
|------------------|--|---|
| Visual | | <i>Application, Appendix G: Visual Resource Assessment – Technical Memorandum</i> |
| Total visibility | <p><i>“The general conclusion is that the proposed layout changes will not significantly change the visual impact of the Project, except that the height increase of the taller turbines may be perceptible from nearby viewpoints, and visibility of the originally proposed collector substation and 5.8 mile overhead electrical line will be eliminated entirely.”</i></p> <p>The area within the 5-mile viewshed area in which no turbines will be visible has decreased from 67.7% to 66.1%.</p> | |
| Shadow flicker | The new turbine increases by 3 the number of homes that would experience 10-20 hours per year of shadow flicker, and by 23 the number of homes that would experience 40+ hours per year. Of these homes, 11 are project participants. The remaining 215 homes would experience the same or fewer hours of shadow flicker annually as in the 2016 Permit. | |
| Sound | The new proposed turbine is quieter or the same at 750 out of 769 receptor points studied. At the remaining 19 points, the sound level would increase imperceptibly by 1-2 dBA. The Project remains fully compliant with Town and NYSDEC noise standards. | |

Please see over.

| | | Sound Level Change | Number of Receptor Points | Resulting Sound Level | |
|---|---|--------------------|---------------------------|-----------------------------------|---|
| | | No Change | 589 | | |
| | | Quieter | 161 | | |
| | | +1db | 17 | ≤26db (16 points); 36db (1 point) | |
| | | +2db | 2 | 22db | |
| Setbacks | <p>All WECS will be set back at least 599 feet from:</p> <ul style="list-style-type: none"> • Public roads • Offsite property lines <p>All WECS are at least 1,200 feet from a Residence, except one is 1,190 feet from a Residence.</p> | | | | Figure 1 Application Section II – Site Plan at 5.i. |
| Birds and bats | <p>Estimated bird and bat fatalities from the Ball Hill Wind project have not changed as a result of the proposed turbine change.</p> <p><i>“Even with taller turbines and more rotor swept area, it is not anticipated that fatalities to birds and bats would fall outside of the minimum and maximum rates from other studies in New York, as identified in the FEIS.”</i></p> | | | | Application Appendix C, Section F. Additional Information <i>Effects on Birds/Bats from Increased Tower Height.</i> |
| Communication signals | <p>For its 2016 Application Ball Hill Wind commissioned four studies of potential impacts on Communication Signals:</p> <ul style="list-style-type: none"> • TV Signals • Microwave Signals • Land Mobile and Emergency Signals • AM and FM Radio Signals <p>A review of the proposed taller turbines for the 2018 Application has indicated no increase in impacts to these Communication Signals.</p> | | | | |
| Tree clearing/ground disturbance | <p>Elimination of the Collection Substation will reduce clearing by approximately 5 acres.</p> <p>Undergrounding the interconnection line will reduce clearing area by ~10.4 acres.</p> | | | | Application, Appendix G. |
| Wetlands | <p><i>The route and installation modifications have resulted in a 6.52 acre decrease in the temporary wetland impacts, an approximately 50% reduction in the impacts previously anticipated from the electrical corridor connecting the Project to the Interconnection Substation. This reduction includes avoidance of more than 3 acres of forested wetland conversion, of which 2.8 acres are NYSDEC jurisdictional.</i></p> | | | | Application, Appendix C, Part II. D.2b. <i>Wetlands and Water Bodies</i> |

Please see over.