Section 16
Sound Assessment

16.0 Sound Analysis

The Highland Wind Project (Project) is within the "expedited permitting area" as identified by the Land Use Regulation Commission (LURC) and defined by 35-A M.R.S.A. Chapter 34-A, Expedited Permitting of Grid-Scale Wind Energy Development. In accordance with the provisions of 12 M.R.S.A. § 685-B, a wind energy development within the expedited permitting area is required to meet the requirements of the Maine Department of Environmental Protection (MDEP) noise control rules. The MDEP noise control regulation thus applies in lieu of the noise regulations set forth in LURC Chapter 10 *Land Use Districts and Standards*.

An analysis of the likely sound impacts of the Project was completed by Resource Systems Group and is provided in Appendix 16-1. This assessment predicts expected sound levels from the project and relates to the MDEP sound level limits for quiet areas of 45 decibels (dBA) nighttime and 55 dBA daytime at protected locations. These limits are the most stringent generally applicable standards in the MDEP regulations.

The analysis incorporated a number of conservative assumptions in predicting sound levels from the Project. These assumptions included:

- All machines are operating at full sound power at all times;
- Wind configured such that all receivers are "downwind" of the project in all directions;
- Minimal ground absorption (treating the ground as a hard surface instead of a mixed, duff-covered surface);
- No sound attenuation from foliage or vegetation; and
- Utilizing the manufacturers' highest guaranteed sound plus any manufacturers' uncertainty factor.

The analysis concludes that the Project will not exceed MDEP sound level requirements during construction or routine operations.

Appendix 16-1

RSG INC.
ENVIRONMENT, ENERGY, & ACOUSTICS

Noise Impact Study for Highland Wind Project

December 2009

DATA ■ ANALYSIS ■ SOLUTIONS

TABLE OF CONTENTS

1.0 INTRODUCTION

The Highland Wind Project is a proposal to construct and operate up to 48 wind turbines in Highland Plantation, Maine. The maximum total capacity of the system would be 128.6 MW, with each turbine generating up to 3.0 MW.

Wind data being collected at the project met towers suggest that the area has a complex and dynamic wind regime. As a result, additional data is being collected before a final decision is made regarding the type of turbine to be used at each location. Four turbine models are under consideration: Siemens SWT 2.3-101, Siemens SWT 2.3-93, GE 2.5 xl, and Vestas V90. A single model or combination of models will be selected for use in the wind farm.

This study assesses the affects of wind turbines on noise in the surrounding area. We analyzed six scenarios involving all possible turbine combinations to determine the worst-case with respect to sound. This report includes:

1) A description of the site
2) A discussion of noise issues specific to wind turbines
3) A discussion of applicable noise limits
4) The results of background sound level monitoring
5) The results of sound propagation modeling
6) A discussion of the results
7) Summary and conclusions

2.0 SITE DESCRIPTION

The proposed turbine sites are located in Highland Plantation, a rural area in western Maine on the western edge of Somerset County. Highland Plantation is approximately 70 miles north of Augusta and 30 miles north of Madison.

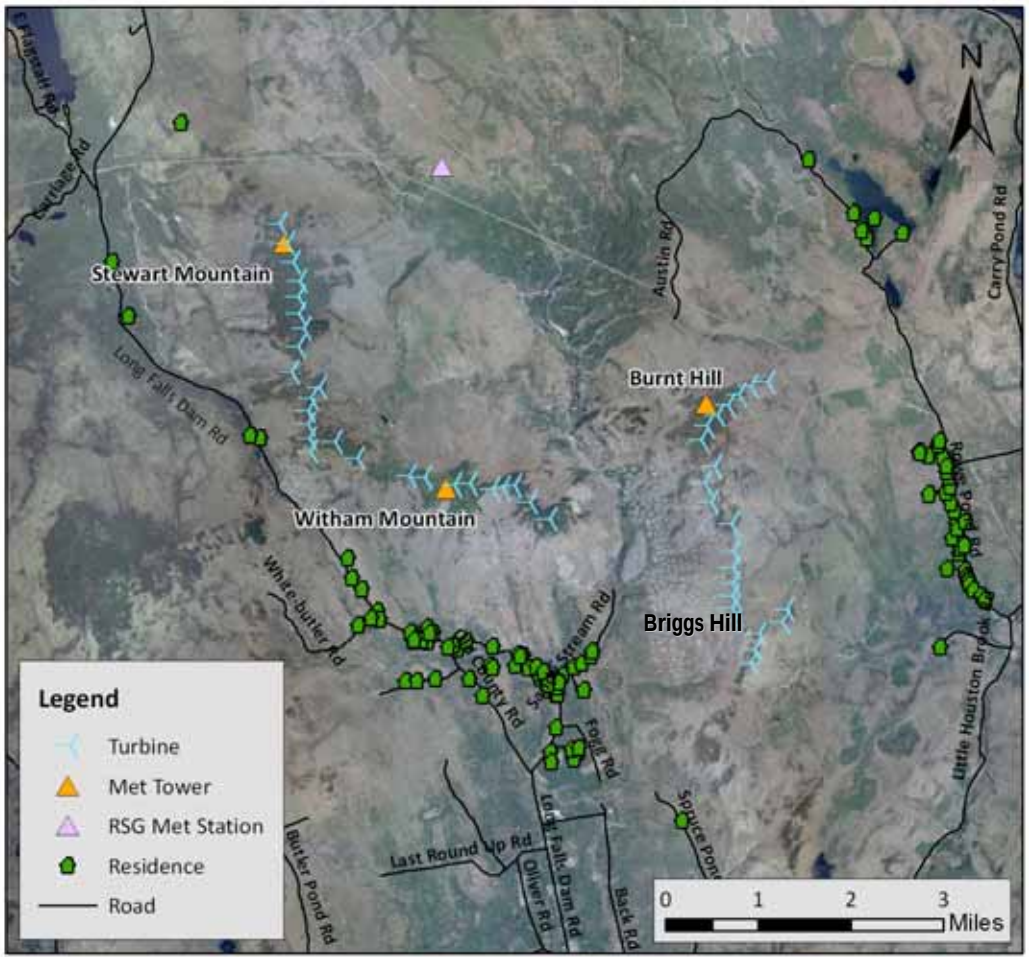
Located to the east of the Bigelow Mountain Range, the project area is forested and especially mountainous. The turbines would be constructed in two strings: a western string running north-south between Stewart Mountain and Witham Mountain, and an eastern string running north-south between Burnt Hill and Briggs Hill.

Highland Plantation is a rural township with low population density. Two seasonal camps are located within one mile and an additional 67 homes are located within two miles of the proposed turbines. There are no schools, hospitals, or centers of worship within this two-mile radius; the nearest schools and churches are situated about 10 miles away from Highland Plantation in the nearby towns of Carrabassett, Bingham, and Kingfield.

The majority of the project area is uninhabited, though frequented by deer hunters in the fall. The Appalachian Trail summits Little Bigelow Mountain at a distance of 4.5 miles from the closest wind turbine. At its closest point, near the tip of Flagstaff Lake, the Trail is just under three miles away.

Figure 1 displays the project area, including proposed turbine locations, residences, and the project's three long-term pre-development met towers (there are two additional met towers that do not have long-term data and are not used in our analysis). In addition, the figure shows the location of a 1.5 meter high anemometer to the north of the project area, placed during RSG's sound monitoring period.

Figure 1: Project Area Map



3.0 DESCRIPTION OF TERMS

Sound can be measured in many different ways. Perhaps the simplest way is to take an instantaneous measurement, which gives the sound pressure level at an exact moment in time. As an example, a sound level reading could be 62 dB, but a second later it could be 57 dB. In most environments, sound pressure levels change constantly. For this reason, it makes sense to describe noise and sound in terms of time.

The most common way to describe sound over time is by using various statistics. Take, as an example, the sound levels measured over time shown in Figure 2. Instantaneous measurements are shown as a ragged grey line. The sound levels that occur over this time can be described verbally, but it is much easier to describe the recorded levels statistically. This is done using a variety of "levels" which are described below.

3.1 Equivalent average sound level - Leq

One of the most common terms used to describe noise levels is the equivalent sound level (Leq). The Leq is the average of the root mean squared sound pressure over an entire monitoring period and expressed as a decibel. The monitoring period could be for any amount of time. It could be one second ($Leq_{1\text{-sec}}$), one hour ($Leq_{(1)}$), or 24 hours ($Leq_{(24)}$). Because Leq describes the average pressure, loud and infrequent noises have a greater effect on the resulting level than quieter and more frequent noises. For example, in Figure 2, the median sound level is about 47 dBA, but the equivalent average sound level (Leq) is 53 dBA. Because it tends to weight the higher sound levels and is representative of sound that takes place over time, the Leq is the most commonly used descriptor in noise standards and regulations.

Similar to a 24-hour Leq is the day-night sound level (Ldn). For Ldn, a 10 dB penalty is applied to the nighttime Leq between 10 P.M. and 7 A.M.

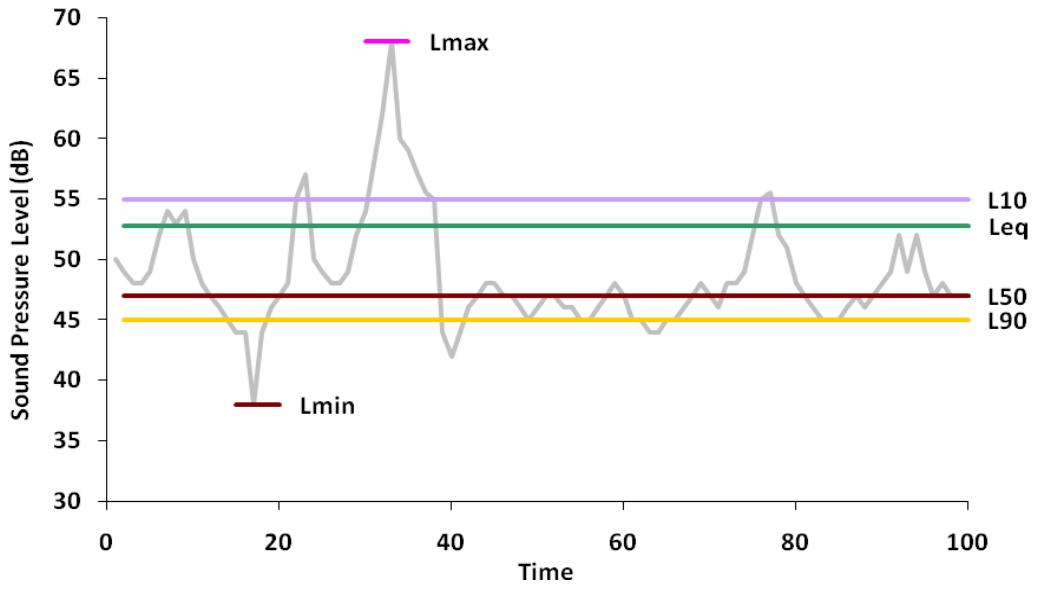
3.2 Percentile sound level - Ln

Ln is the sound level exceeded *n* percent of the time. This type of statistical sound level, also shown in Figure 2, gives information about the distribution of sound levels over time. For example, the L10 is the sound level that is exceeded 10 percent of the time, while the L90 is the sound level exceeded 90% of the time. The L50 is exceeded half the time. The L90 is a residual base level which most of the sound exceeds, while the L10 is representative of the peaks and higher, but less frequent, levels. When one is trying to measure a continuous sound, like a wind turbine, the L90 is often used to filter out other short-term environmental sounds that increase the level, such as dogs barking, vehicle passbys, wind gusts, and talking. That residual sound, or L90, is then the sound that is occurring in the absence of these noises.

3.3 Minimum and Maximum level – Lmin and Lmax

The absolute minimum and absolute maximum sound levels are often used as environmental noise descriptors. These are represented by Lmin and Lmax, respectively.

Figure 2: Example of Sound Measurement over Time and Descriptive Statistics



4.0 NOISE STANDARD

Highland Plantation falls under the planning and zoning jurisdiction of the Maine Land Use Regulation Commission (LURC), which oversees the state's townships, plantations, and unorganized areas. Highland Plantation has been deemed an "expedited permitting area", meaning that the wind energy project must conform to the Maine Department of Environmental Protection (DEP)'s state noise standards. No additional restrictions are in place.

The DEP has set out its regulations for noise in Control of Noise, Chapter 375.10, established in 1989. Generally speaking, commercial, industrial, and other non-residential areas are subject to hourly sound level limits of 70 dBA in the daytime (7am to 7pm) and 60 dBA (7pm to 7am).

The most restrictive DEP standards apply to quiet areas where pre-development hourly sound levels were 45 dBA or less during the day and 35 dBA or less during the night. Quiet areas are subject to hourly sound level limits of 55 dBA during the day and 45 dBA during the night.

Nighttime limits also apply to protected locations within 500 feet on the property of an existing or planned residence. In these areas, sound levels may not exceed 45 dBA. Beyond a distance of 500 feet or on properties without a residential structure, the daytime limit of 55 dBA applies. In this case, the project will be designed to meet the quiet area criteria.

The DEP standards apply various penalties to the overall sound levels which exceed certain tonal and short duration repetitive sound criteria. Given the nature of the turbines proposed for this location, these penalties are not expected to be applied.

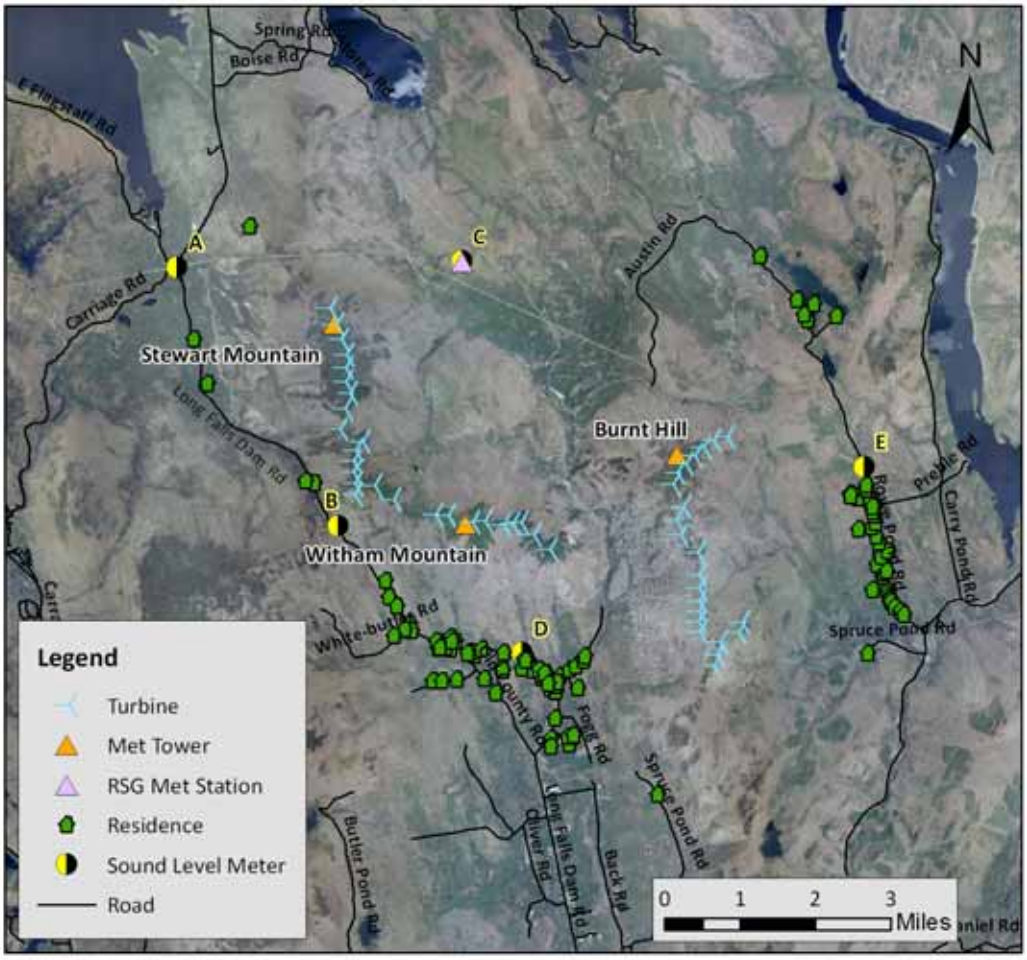
5.0 EXISTING NOISE ENVIRONMENT

The main noise sources in and around the project area include traffic, birds, insects, wind, and timber harvesting. With respect to their contribution to the background sound, we can identify several distinct soundscape areas around the project. They include:

1) The homes southwest of the project area near the intersection of Long Falls Dam Road and Old County Road
2) Residential areas east of the project area along Rowe Pond Road
3) Uninhabited areas north of the project area

Sound level meters were installed around these areas to determine ambient sound levels under a variety of weather conditions. These are shown in Figure 3 and described in detail below.

Figure 3: Sound Monitoring Locations



5.1 Background sound monitoring

To determine ambient sound levels in the area, RSG conducted sound level monitoring for five locations in the representative areas around the project (see Figure 1). The monitoring was conducted from 8 October to 16 October, 2009.

All sites were monitored with ANSI Type 1 Cesva SC310 sound level meters set to log 1/3 octave band sound levels every second or ANSI Type 2 Rion NL-22 sound level meters set to log equivalent average sound levels every 10 seconds. Each sound level meter was calibrated before and after the measurements and fitted with seven-inch diameter windscreens. The windscreens reduce the self-noise created by wind passing over the meter's microphone. Each microphone was placed approximately 1.4 meters above the ground. In each case, the ground was considered "soft", that is, it was suitable for the growth of vegetation. Table 1 shows the specifics of each measurement position and Table 2 displays summarized results from the background sound monitoring.

Table 2 displays four different sound levels: the Leq, L90, L50, and L10. As defined in Section 3, the Leq is the equivalent average sound level. This measure weights louder sound levels more than quieter levels

because it is based on a logarithm of the squared sound pressure. The L90, L50, and L10 are the sound levels exceeded 90%, 50%, and 10% of the time, respectively.[1] In this table, "daytime" refers to the period between 7am and 7pm and "nighttime" refers to the period between 7pm and 7am. This is in accordance with the Maine DEP regulations outlined in Section 4.0 of this report. The values given for each statistic correspond to the average daytime or nighttime sound levels throughout the entire monitoring period.

Table 1: Background Sound Monitoring Summary

Monitor	Meter	Start Time	End Time
A	Rion NL22	10/8/09 11:00 AM	10/16/09 9:50 AM
B	Cesva SC310	10/8/09 11:20 AM	10/9/09 12:10 AM
C	Rion NL22	10/8/09 12:00 PM	10/16/09 9:10 AM
D	Rion NL22	10/8/09 1:00 PM	10/16/09 10:10 AM
E	Rion NL22	10/8/09 2:00 PM	10/16/09 11:00 AM

Table 2: Background Monitoring Results Summary (dBA)

	Daytime				Nighttime			
	Leq	L90	L50	L10	Leq	L90	L50	L10
Monitor A	41	29	32	41	30	25	26	31
Monitor B	42	38	40	44	30	28	29	32
Monitor C	35	29	32	37	28	25	27	30
Monitor D	45	37	40	46	39	36	37	39
Monitor E	38	29	33	39	30	25	27	31

Each monitoring location and sound level readings are shown in greater detail in the figures that follow, and pictures are displayed in Appendix E. Supplementary sound modeling results are provided in Appendix C.

[1] In this case, the Ln represents the percentile based on continuous 1-second equivalent average levels in the case of Monitor B and 10-second equivalent average levels at all other stations.

Monitor A was installed near the project's northwestern limits. As shown in Figure 4, the site is located in a transmission line right-of-way approximately 380 feet east of East Flagstaff Road and 130 feet west of Long Falls Dam Road. The sound monitoring results are shown in Figure 5, which displays the 10-minute Leq and L90 throughout the monitoring period.

Figure 4: Monitor A Location

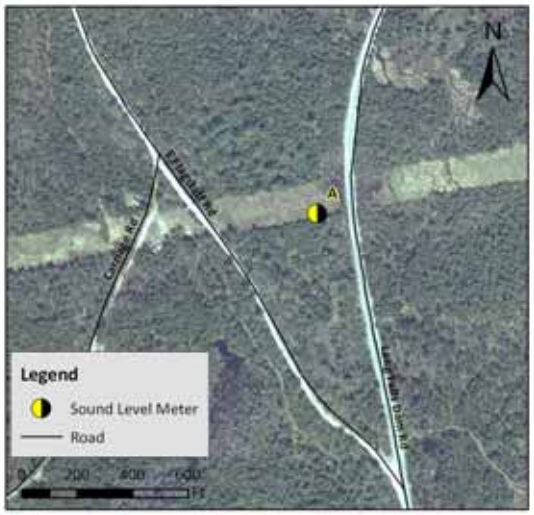
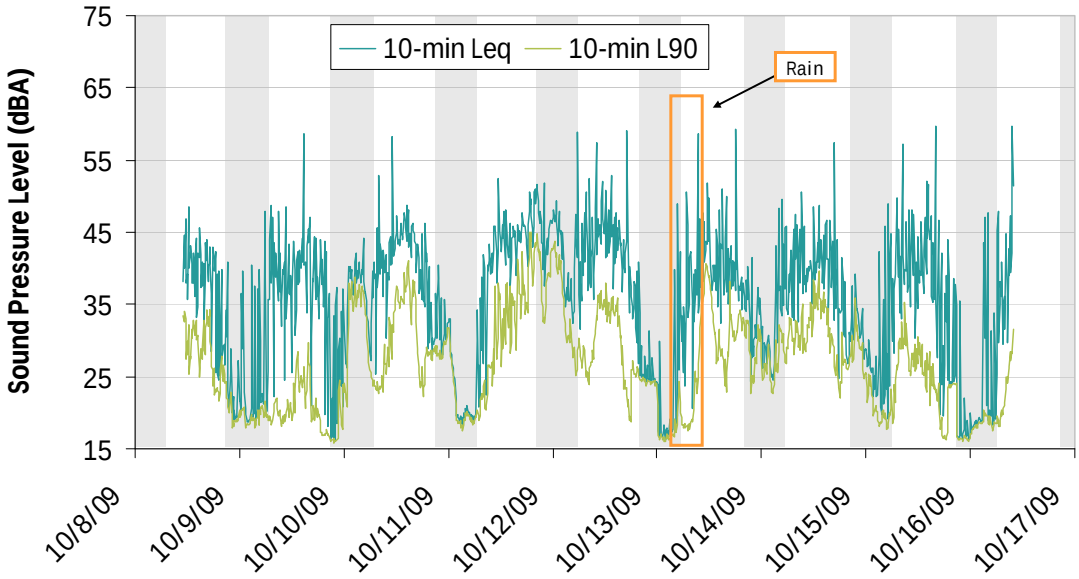


Figure 5: Sound Pressure Levels (dBA) for Monitor A



Monitor B, shown in Figure 6, was located 460 feet along a private road branching off of Long Falls Dam Road at the south end of the western string of turbines. The monitor was installed 0.46 miles from the nearest wind turbine. Monitor B experienced a power failure on 9 October; available data is shown in Figure 7.

Figure 6: Monitor B Location

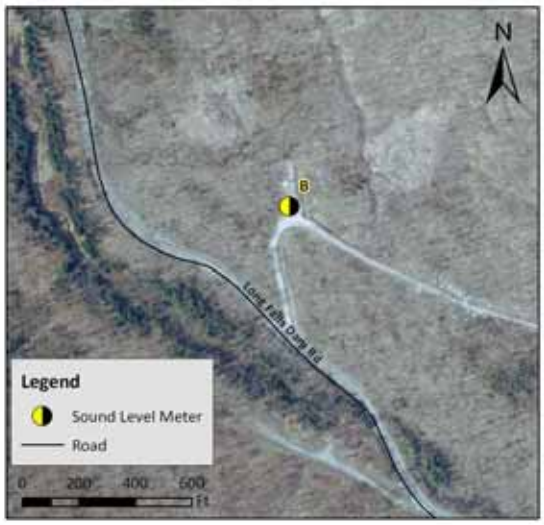
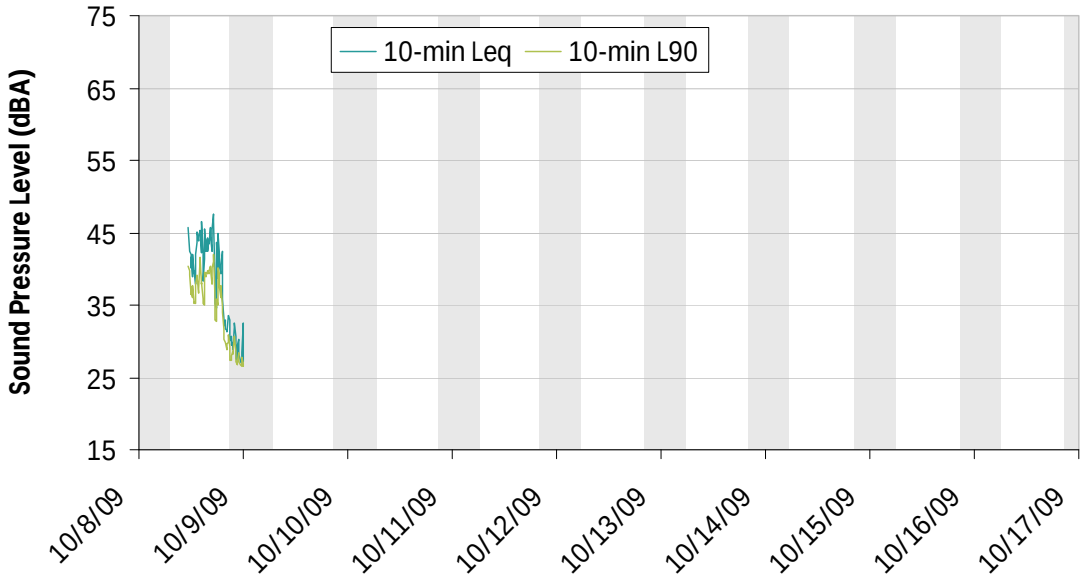


Figure 7: Sound Pressure Levels (dBA) for Monitor B



Monitor C, shown in Figure 8, was located north of the western string of wind turbines, about 35 feet north of a private access road. Figure 9 displays sound monitoring results for the site.

Figure 8: Monitor C Location

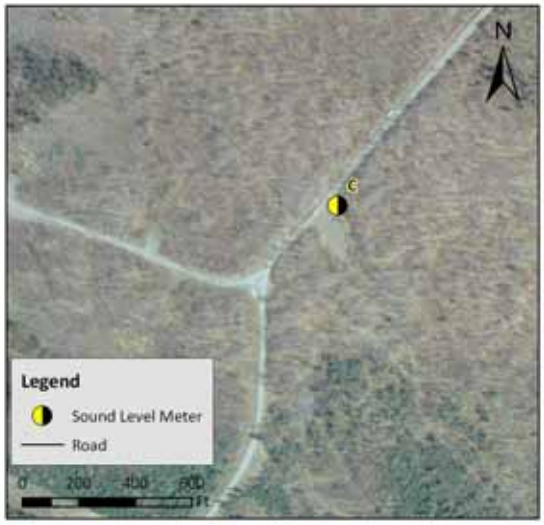
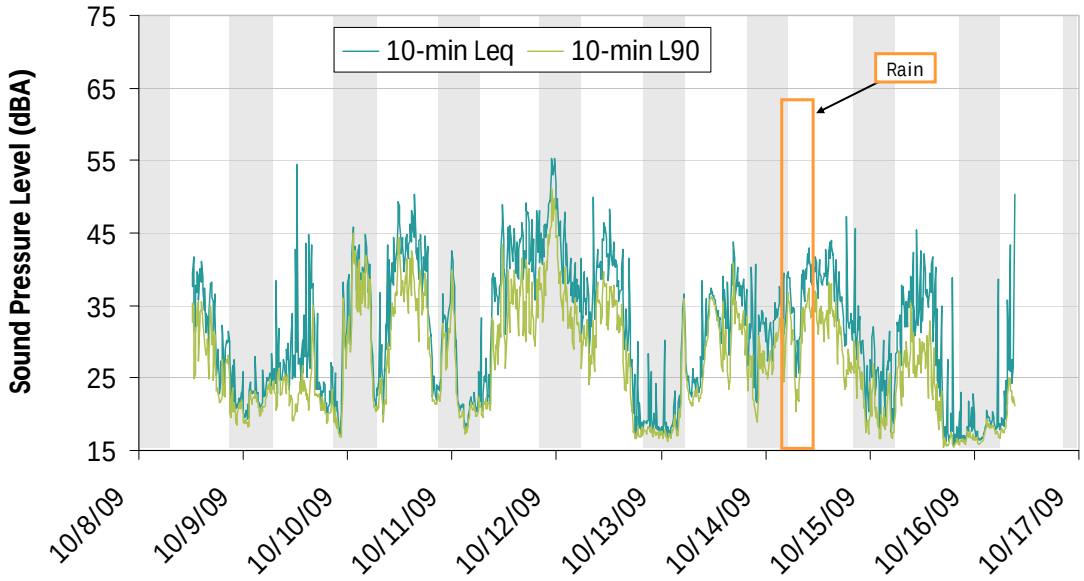


Figure 9: Sound Pressure Levels (dBA) for Monitor C



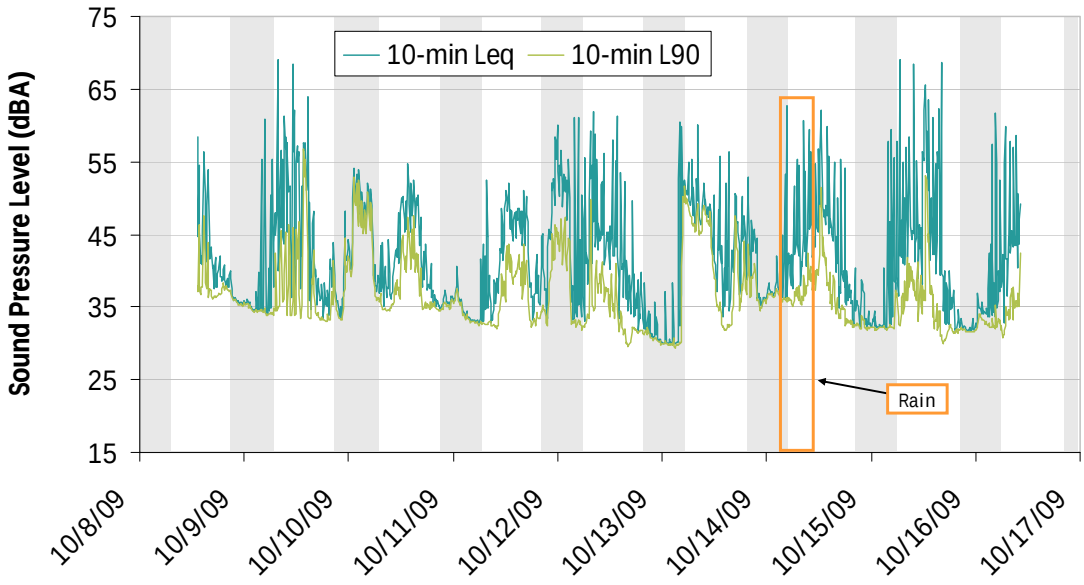
Monitor D, shown in Figure 10, was located on a private road south of the project area, approximately 320 feet northeast of Long Falls Dam Road. The monitor was installed 390 feet from the nearest residential structure.

Figure 11 displays sound monitoring results for the site.

Monitor D exhibited significantly higher sound levels than the other monitored sites, particularly at night. Sound recording files captured during the period indicate that the private road is regularly and sometimes frequently used by timber-harvesting trucks. This is a typical event for the project area.

Figure 10: Monitor D Location

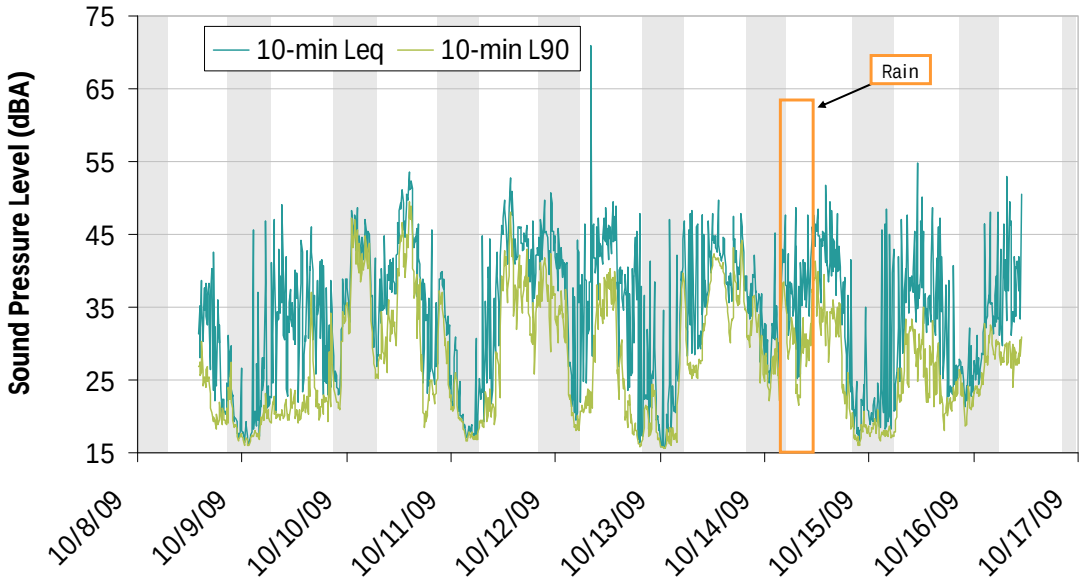
Figure 11: Sound Pressure Levels (dBA) for Monitor D



Monitor E, shown in Figure 12, was located to the east of the project area, approximately 60 feet west of Rowe Pond Road. The monitor was installed 1,250 feet from the nearest residential structure. Figure 13 displays sound monitoring results for the site.

Figure 12: Monitor E Location

Figure 13: Sound Pressure Levels (dBA) for Monitor E



6.0 METEOROLOGICAL DATA

6.1 Weather events

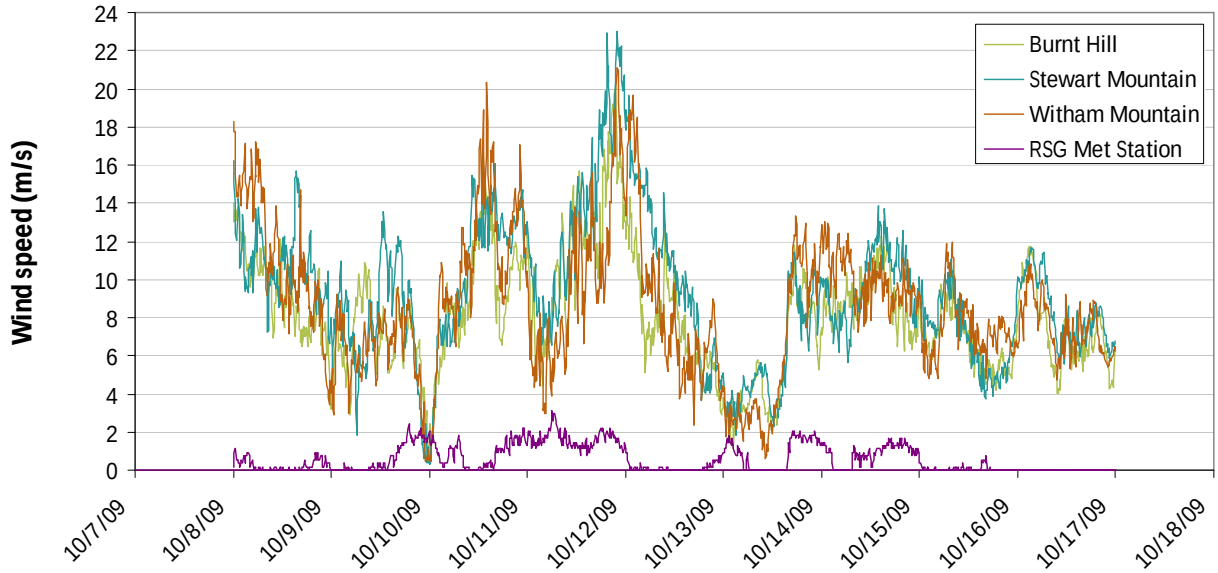
RSG installed a ground-level meteorological station near the sound level meter at Location C (See Figure 1). The RSG met station recorded temperature, relative humidity, wind speed, gust speed, and wind direction throughout the monitoring period.

During the monitoring period, the average temperature was 48˚F, ranging from a low of 15˚F to a high of 81˚F. The average relative humidity was 64%, ranging from a high of 93% to a low of 22%. On 13 October, 0.23 inches of rain fell between the hours of 5:30 and 9:30am.

6.2 Wind speeds

During the monitoring period, three long-term project met towers collected 10-minute average wind speeds at various anemometer heights. The towers were located on Stewart Mountain, Witham Mountain, and Burnt Hill (see Figure 1), and an anemometer at 1.5 meters high was included in RSG's met station. The project met towers each had several anemometers at heights varying from 10 meters to 60 meters above ground. From this data, we were able to determine the wind shear for each interval and then calculate the wind speed at a relative elevation of 80 meters, which is the turbine hub height. Figure 14 shows wind speeds at 80 meters during the monitoring period for each of the project met towers, as well as the wind speed at the ground-level RSG met station.

Figure 14: Wind Speed (10-min Averages) at Long-Term Project Met Towers (80m Height) and RSG Met Station (1m Height)



Wind speeds and sound pressure levels are typically correlated. Figure 15 through Figure 24 depict the relationship between wind speed and "daytime" and "nighttime" 10-min Leq and L90 at each monitoring station. These periods do not correspond with the 7:00am-7:00pm timeframe used by the DEP to regulate noise levels. Here, "day" refers to the period that ranges from one hour before sunrise until one hour after sunset (from about 5:45am until 7:00pm during the monitoring period). This relates to the periods that most affect atmospheric stability, an important consideration in sound propagation.

Figure 15: Daytime and Nighttime Leq Values for Monitor A

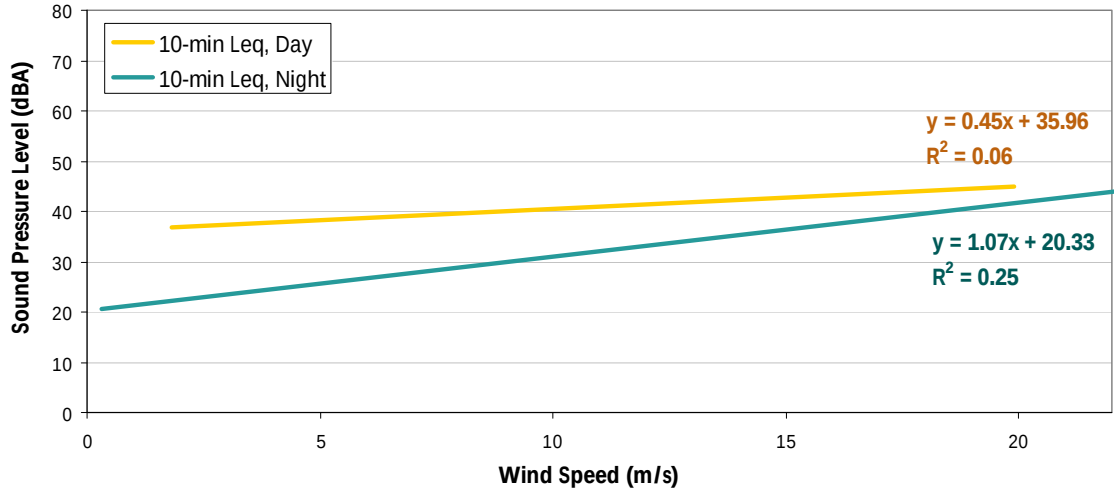


Figure 16: Daytime and Nighttime L90 Values for Monitor A

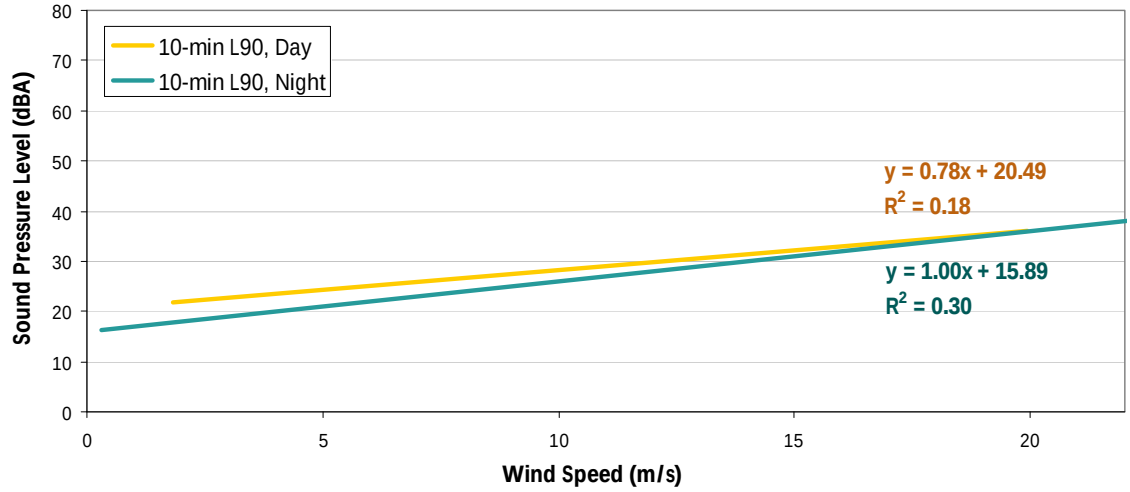


Figure 17: Daytime and Nighttime Leq Values for Monitor B

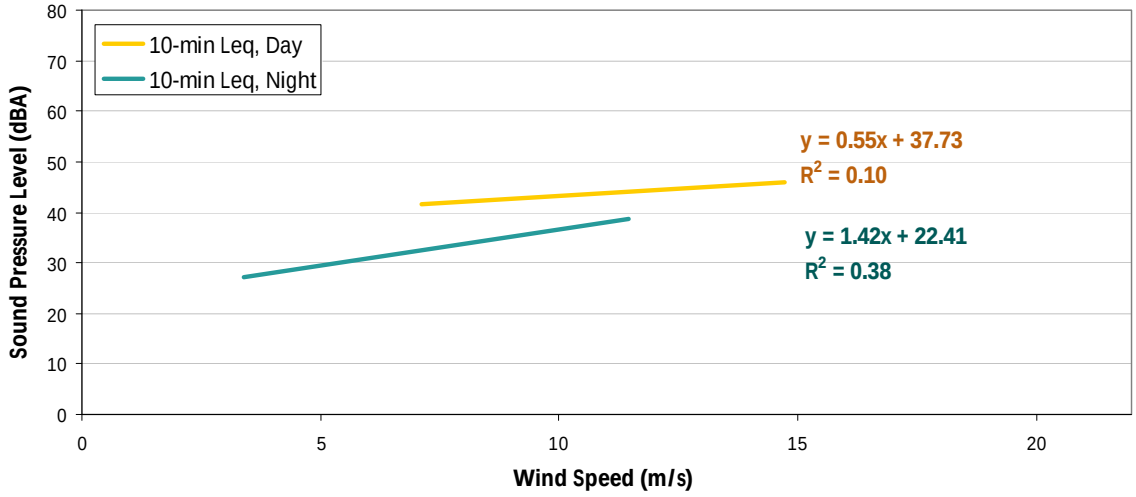


Figure 18: Daytime and Nighttime L90 Values for Monitor B

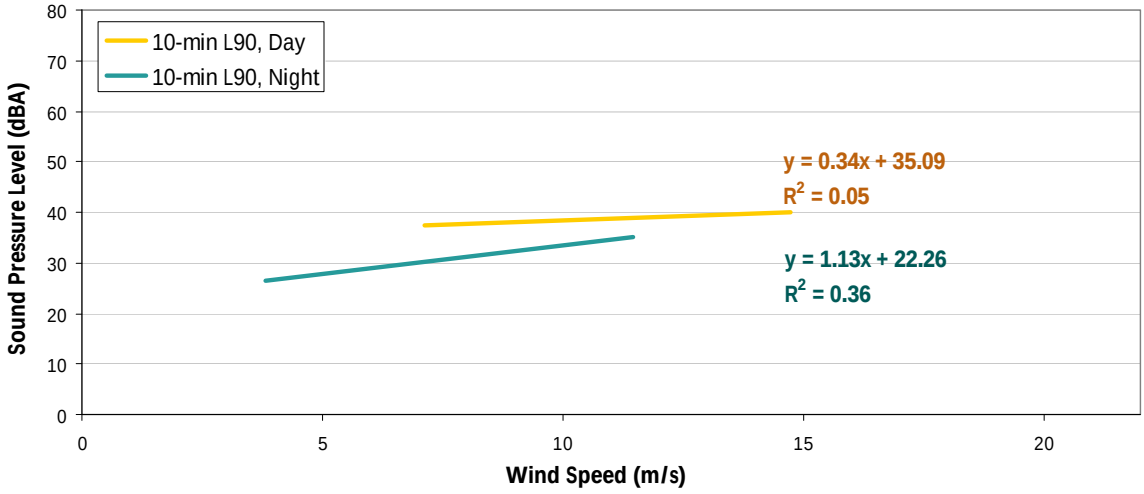


Figure 19: Daytime and Nighttime Leq Values for Monitor C

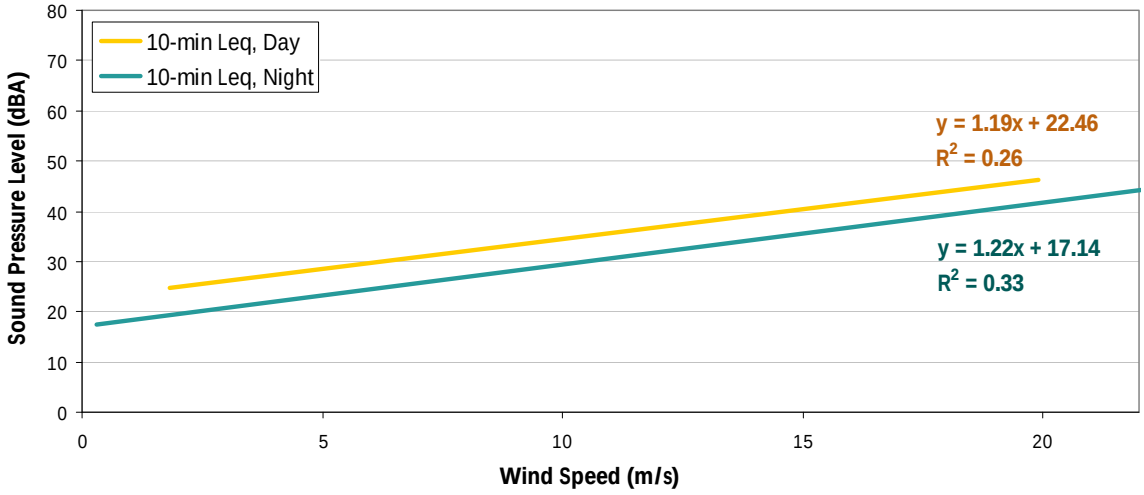


Figure 20: Daytime and Nighttime L90 Values for Monitor C

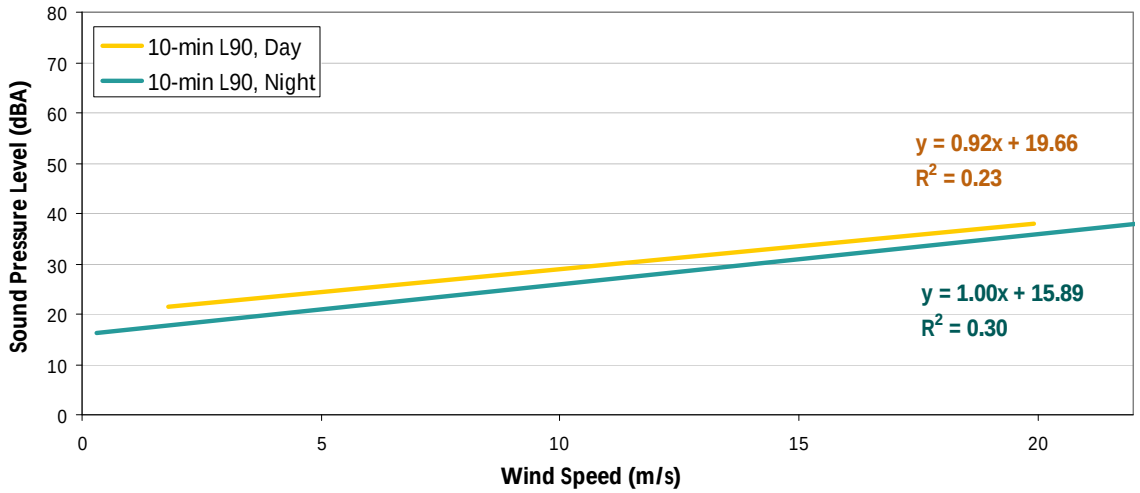


Figure 21: Daytime and Nighttime Leq Values for Monitor D

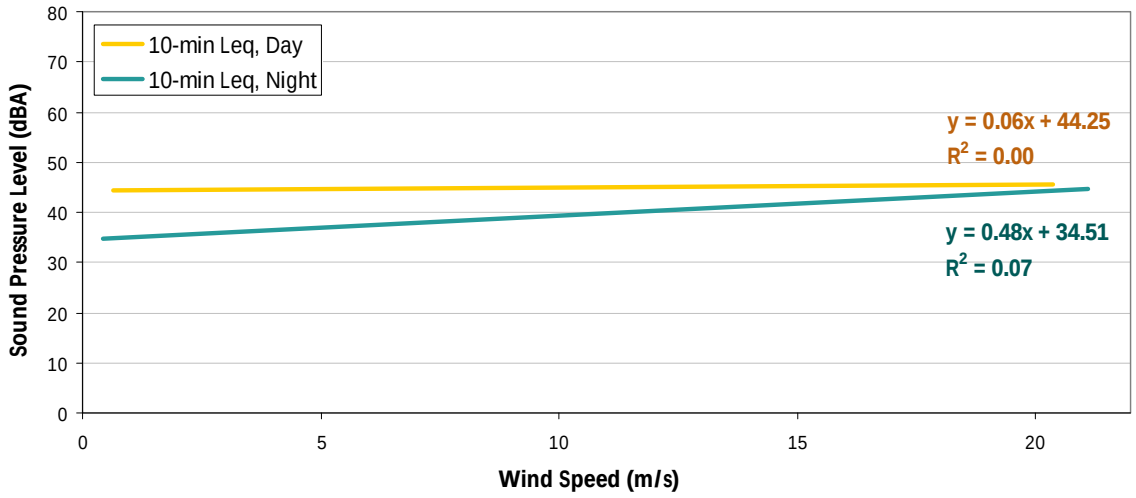


Figure 22: Daytime and Nighttime L90 Values for Monitor D

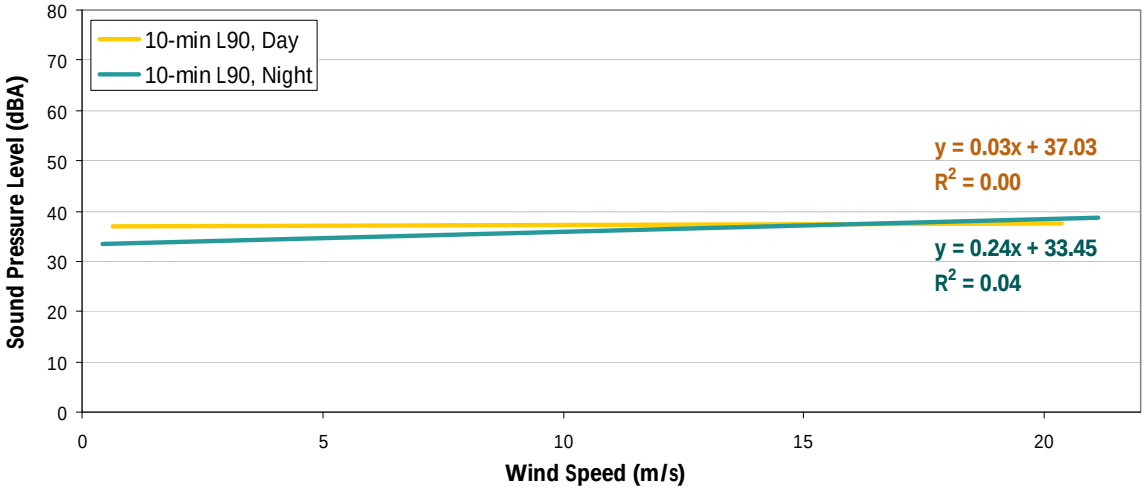


Figure 23: Daytime and Nighttime Leq Values for Monitor E

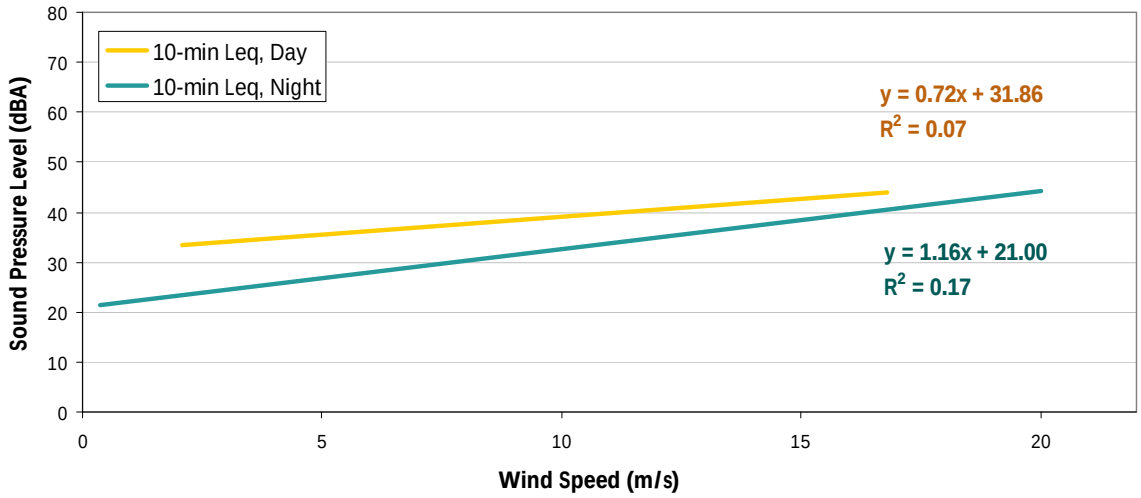
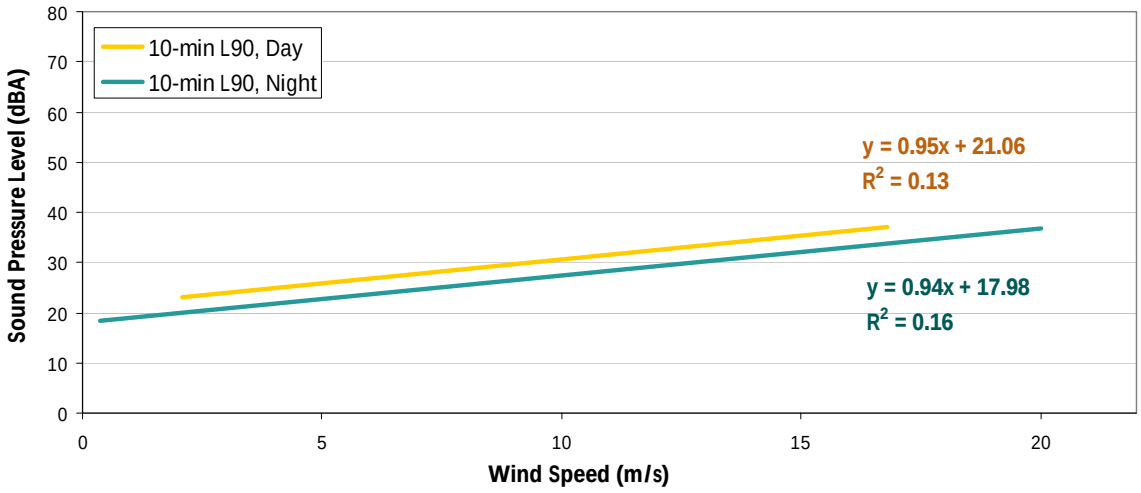


Figure 24: Daytime and Nighttime L90 Values for Monitor E



7.0 SOUND LEVELS PRODUCED BY WIND TURBINES

7.1 Manufacturer sound emissions estimates

Sound emissions from a wind turbine are measured as sound *power*. This is different from the sound *pressure* that one measures on a sound level meter. Sound power is the acoustical energy emitted by an object, and sound pressure is the measured change in pressure caused by acoustic waves at an observer location. While both pressure and power levels are often reported in decibels (dB or dBA), and thus often confused, they have different underlying units and meaning.

A manufacturer of a wind turbine must test its turbines and report their sound emissions using two international standards:

1) International Electrotechnical Commission standard IEC 61400-11:2002(E), "Wind Turbine Generator Systems – Part 11: Acoustic Noise Measurement Techniques"

2) International Electrotechnical Commission standard IEC 61400-14:2005(E), "Wind Turbine Generator Systems – Part 14: Declaration of Apparent Sound Power Level and Tonality Values"

These standards provide sound power emission levels from a turbine, by wind speed and frequency. They also provide tonal audibility level and the confidence interval around the measurements.

The wind farm is will select a combination of turbines from the following models: Siemens Model SWT 2.3-93 and Model SWT 2.3-101, GE 2.5 xl, and Vestas V90 3.0. The Siemens models have a maximum power output of 2.3 MW and the "-93" and "-101" in the model names refer to the rotor diameter. The GE and Vestas models have maximum power outputs of 2.5 MW and 3.0 MW, respectively.

The maximum sound power levels from the Siemens 93m and 101m units are 105 and 107 dBA, respectively, at the worst-case wind speed. According to the manufacturer, these levels are guaranteed and include a margin for stated confidence interval about the mean. The maximum sound power occurs at 7 m/s 10-meter wind speed. This translates into an approximate sound pressure level of 55 dBA about 75 meters away from the 93m turbine base and 35 meters away from the 101m turbine base. The maximum tonal audibility level as measured by the IEC 61400-11 methodology is less than 0 dB.

The maximum sound power level from the GE 2.5 xl unit is 104.2 MW, with an uncertainty factor of 1.8 dB. This worst-case sound power level occurs at an 8 m/s wind speed measured at a 10-meter height. This translates into an approximate sound pressure level of 55 dBA 50 meters from the turbine base. The maximum tonal audibility level as measured by the IEC 61400-11 methodology is less than 4 dB.

The maximum sound power level from the Vestas V90 unit is 107 dBA at worst-case wind speed. According to the manufacturer, this level is guaranteed and includes a margin for stated confidence interval about the mean. The maximum sound power occurs at 8 m/s 10-meter wind speed. This translates into an approximate sound pressure level of 55 dBA about 50 meters from the turbine base. The maximum tonal audibility level as measured by the IEC 61400-11 methodology is 1 dB.

8.0 SOUND FROM WIND TURBINES – SPECIAL ISSUES

Wind turbines are special sound generators in that their sound emissions are often masked by noise from the wind moving through trees and other vegetation, and their sound level is highly dependent on meteorological conditions. In addition, wind turbines generate low frequency sound which tends to propagate better than higher frequency sound. These aspects are discussed below.

8.1 Meteorology

Meteorological conditions can significantly affect sound propagation. The two most important conditions to consider are wind shear and temperature lapse. Wind shear is the difference in wind speeds by elevation and temperature lapse rate is the temperature gradient by elevation. In conditions with high wind shear (large gradient), sound levels upwind from the source tend to decrease and sound levels downwind tend to increase. With temperature lapse, when ground surface temperatures are higher than that aloft, sound levels on the ground will decrease. The opposite is true when ground temperatures are lower than those aloft (an inversion condition).

As a substitute for these conditions, we often use "stability class". Stability classes range from A to G, where A is a highly unstable condition (high solar radiation and high winds) and F or G are very stable (clear night, no wind, strong temperature inversion).

In general terms, sound propagates best under stable conditions with a strong inversion. This occurs during the night and is characterized by low winds.[1] As a result, worst-case conditions for wind turbines tend to be under moderate nighttime inversions. In areas with strong nighttime wind gradients, it is possible to have impacts with greater stability conditions.

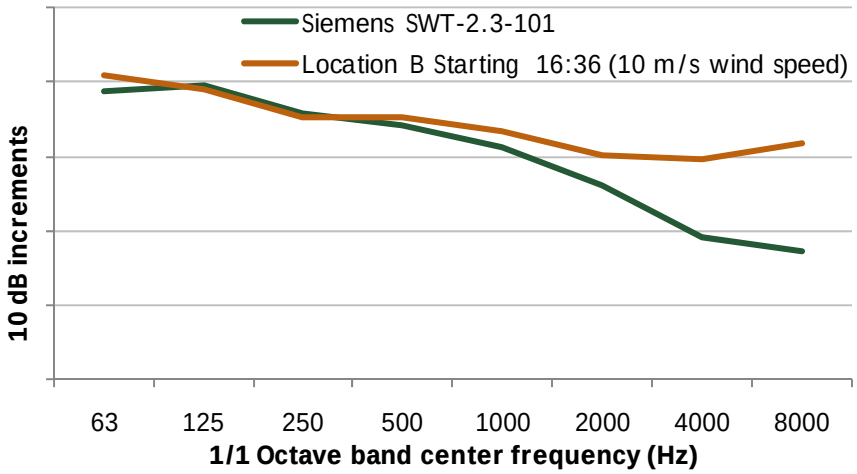
With respect to these concerns, Appendix D provides detailed analyses of data from the three long-term project met towers, including wind turbulence intensity and wind shear.

8.2 Masking

As mentioned above, sound levels from wind turbines are a function of wind speed. Background sound is also a function of wind speed, i.e., the stronger the winds, the louder the resulting background sound. This effect is amplified in areas covered by trees and other vegetation. The sound from a wind turbine can often be masked by wind noise at downwind receivers because the frequency spectrum from wind is very similar to the frequency spectra from a wind turbine. Figure 25 compares the sound spectrum measured at Monitor C during a 10 m/s wind event to a Siemens SWT 2.3-101 turbine. As shown, the shapes of the spectra are very similar at the lower frequencies. At higher frequencies, the sounds from the masking wind noise are higher than the wind turbine. As a result, the masking of turbine noise is possible at higher wind speeds.

[1] The amount of propagation is highly dependent on surface conditions and the frequency of the sound. Under some circumstances highly stable conditions can show lower sound levels.

Figure 25: Comparison of Frequency Spectra from Wind at Monitor C and a Siemens SWT 2.3-101 Wind Turbine



It is important to note that while winds may be blowing at turbine height, there may be little to no wind at ground level. This is especially true during low-level jets or strong wind gradients, which can occur at night.

To investigate this, we used the correlation of wind speed at the long-term project met towers with sound levels from Figures 15 through 24. We found that in each case, sound levels at the measurement locations were correlated with wind speed at the nearest tower (Figure 26 and Figure 27 for the overall periods). Therefore, in this case, we would expect some masking of wind turbine sound especially at higher ridgeline wind speeds.

Figure 26: Background Sound Pressure Levels by 80-Meter Wind Speed, 10-min Leq

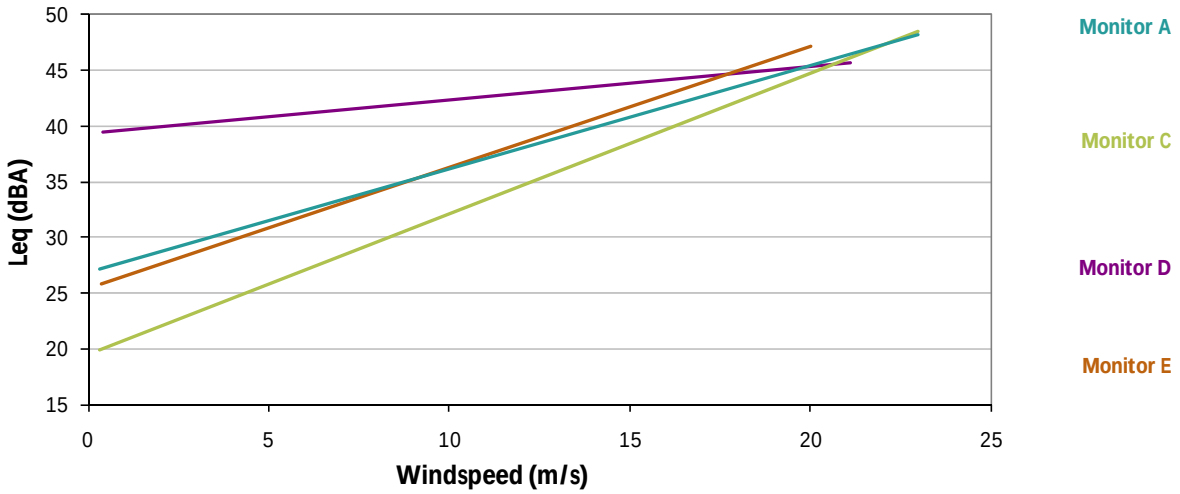
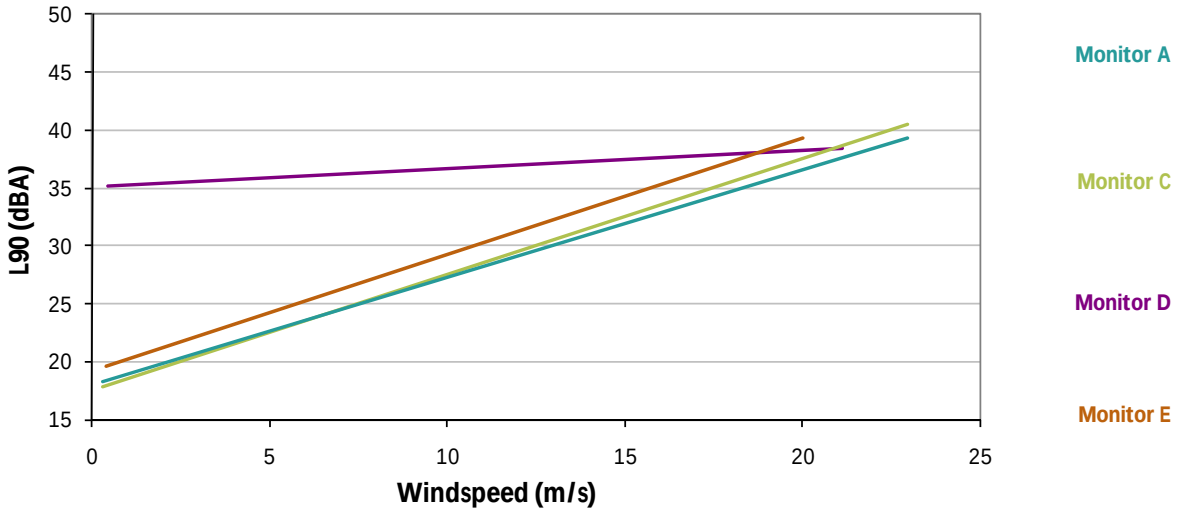


Figure 27: Background Sound Pressure Levels by 80-Meter Wind Speed, 10-min L90



8.3 Infrasound and low frequency sound

Infrasound is sound pressure fluctuations at frequencies below about 20 Hz. Sound below this frequency is generally not audible. Low frequency sound is in the audible range of human hearing, that is, above 20 Hz, but below 100 to 200 Hz depending on the definition.

At very high sound levels, infrasound can cause health effects and rattle light-weight building partitions. However, modern wind turbines, with the hub upwind of the tower, do not create this level of infrasound. A 2005 survey of all known published measurable results of infrasound from wind turbines concluded that "wind turbines of contemporary design with an upwind rotor generate very faint infrasound with a level far below the level of perception even at a rather short distance … infrasound from such upwind turbines can be neglected when evaluating the environment effects of wind turbines."[1] Thus, infrasound analysis is not necessary in this analysis.

Low frequency sound is generated by wind turbines. As with infrasound, high levels of low frequency sound – above 70 dB at 63 Hz, for example – can start to rattle light-weight partitions in buildings. These sound levels may be observed at residences in close proximity to heavy transportation noise sources.

Low frequency sound is primarily generated by the generator and mechanical components. Much of the mechanical noise has been reduced in modern wind turbines through improved sound insulation at the hub. Low frequency sound can also be generated at higher wind speeds when the inflow air is very turbulent. However, at these wind speeds, low frequency sound from the wind turbine blades is often masked by wind noise at the downwind receivers.

[1] Jakobsen, Jorgen. "Infrasound Emission from Wind Turbines". Journal of Low Frequency Noise, Vibration and Active Control 24(3): 145

Finally, low frequency sound propagates better than higher frequency sound and tends to diffract more in the atmosphere under inversion conditions. Our modeling took into account nighttime inversions and differential atmospheric absorption of low and high frequency sound.

9.0 SOUND MODELING

9.1 Modeling software

Modeling was completed for the project using Cadna A acoustical modeling software. Made by Datakustik GmbH, Cadna A is an internationally accepted acoustical model, used by many other noise control professionals in the United States and abroad. The software has a high level of reliability and follows methods specified by the International Standards Organization in their ISO 9613-2 standard, "Acoustics – Attenuation of sound during propagation outdoors, Part 2: General Method of Calculation." The ISO standard states,

> "This part of ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level … under meteorological conditions favorable to propagation from sources of known sound emissions. These conditions are for downwind propagation … or, equivalently, propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs at night."

The model takes into account source sound power levels, surface reflection and absorption, atmospheric absorption, geometric divergence, meteorological conditions, walls, barriers, berms, and terrain.

While standard modeling methodology takes into account moderate nighttime inversions and moderate wind speeds, there may be meteorological conditions that result in higher levels of sound from the turbines. In particular, much higher wind speeds can account for greater downwind propagation. Adjustments can be made to take into account the more extreme conditions. For this study, we modeled the sound propagation in accordance with ISO 9613-2 with spectral ground attenuation and non-porous ground (G=0), which has been found to yield the most accurate yet conservative results using standard modeling parameters.[1]

A 10 meter by 10 meter grid of receivers was set up in the model covering 78 square miles around the site. This accounts for a total of about 2,020,000 modeled receivers. A receiver is a point above the ground at which the computer model calculates a sound level. In addition, discrete receivers were placed at 103 residences within a 2.5-mile radius of the proposed wind turbines. Details of the modeling input assumptions are provided in Appendix A.

In summary, the model is based upon conditions favorable to noise propagation and makes the following conservative assumptions:

- Ground is hard or non-porous
- There is no noise shielding from buildings or trees

[1] Duncan, E., and Kaliski, K., "Improving Sound Propagation Modeling for Wind Power Projects," Acoustics 08, 2008, Paris, France.

- Wind is omnidirectional from each source so that all receivers are downwind from the wind turbines
- Receiver height is set to four meters, approximately the level of a second-storey window
- Wind turbines are operating at their maximum sound power levels, plus the correction factor which accounts for the margin of uncertainty

9.2 Modeling results

9.2.1 Wind Turbine Layout Scenarios

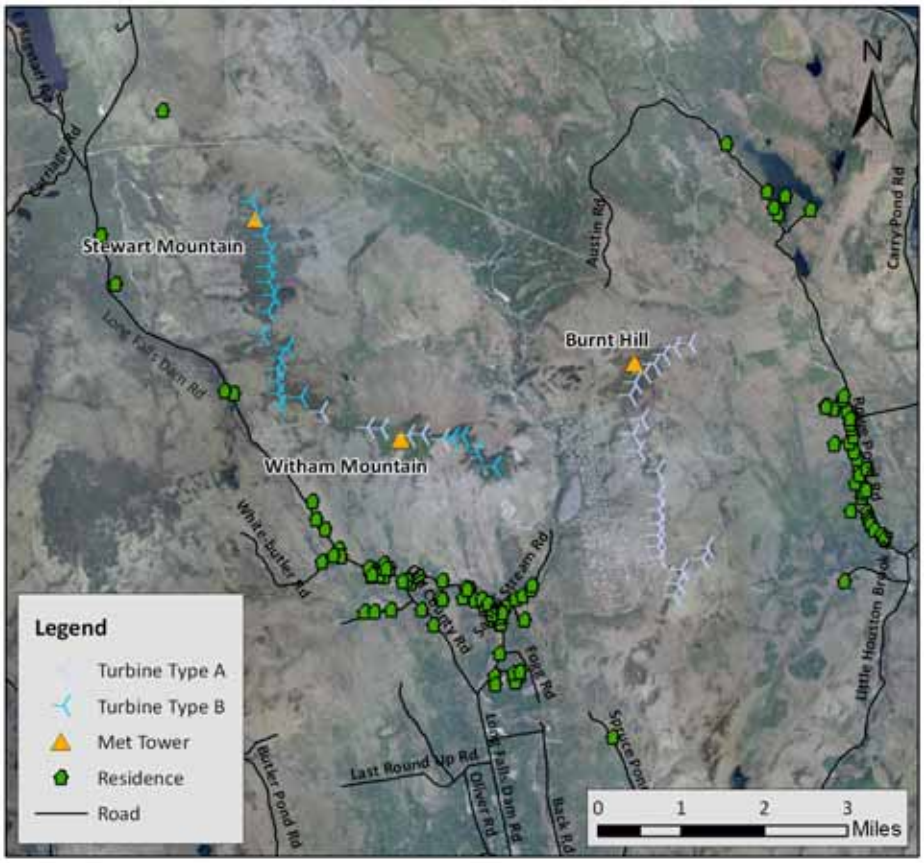
Four turbine models are under consideration for the project area: Siemens SWT 2.3-101, Siemens SWT 2.3-93, GE 2.5 xl, and Vestas V90. The Siemens 101 and GE 2.5 xl are not suitable for a number of locations. Therefore, the selected turbine technology will likely be a combination of two turbine types.

We modeled six scenarios involving all possible combinations of turbine models. Figure 28 and Figure 29, below, show the details of each scenario.

Figure 28: Modeled Turbine Scenarios

Scenario	Turbine Type A	Turbine Type B
1	Siemens 101	Siemens 93
2	Siemens 101	Vestas V90
3	GE 2.5 xl	Siemens 93
4	GE 2.5 xl	Vestas V90
5	Vestas V90	Siemens 93
6	Vestas V90	Vestas V90

Figure 29: Turbine Types and Locations



9.2.2 Overall results

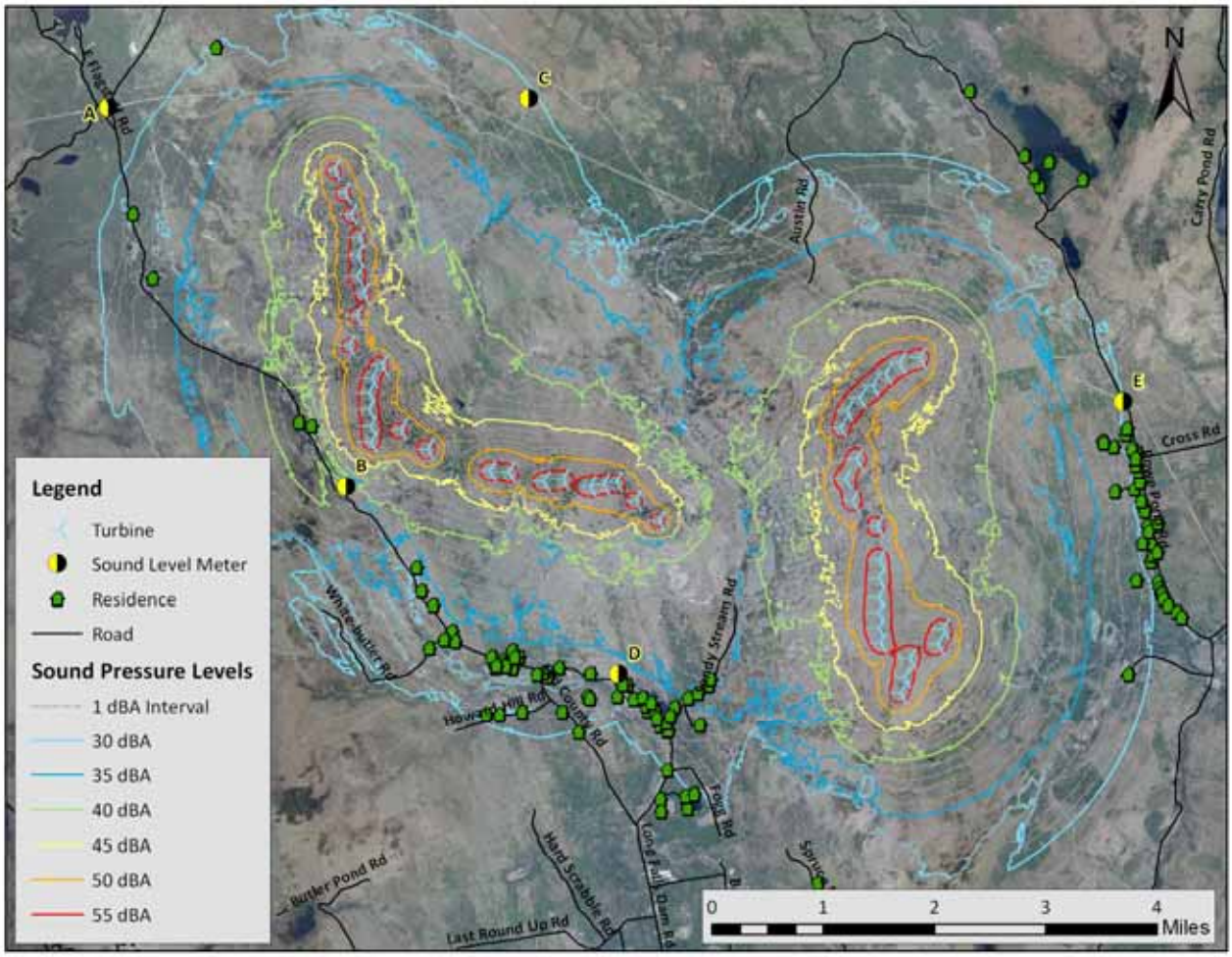
Our results show that the highest sound pressure levels occur in Scenario 1, which uses Siemens 101 and Siemens 93 wind turbines. Therefore, we base our analysis on this worst-case scenario.

The overall modeling results are shown in Figure 30. Within the figure, green house symbols represent residences. The lines emanating from the wind turbines are color-coded noise isolines, where red represents the highest sound level and light blue represents the lowest.

Modeling results show that sound pressure levels are at or below 41 dBA at all residences within 2.5 miles of the wind turbines in the worst case scenario, when all the turbines are operating at the maximum-rated sound power. In addition, we investigated sound pressure levels at a 500-foot distance from residences, as per DEP regulations. For all residences within 2.5-miles of the wind turbines, sound pressure levels are 43 dBA or less at a distance of 500 ft from the residential structure.

Appendices A and B show detailed results for all scenarios, including the sound pressure levels at each receiver, the sound power levels from each wind turbine, and a map of the overall modeled sound pressure levels.

Figure 30: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 1 (Siemens 101, Siemens 93)



9.2.3 Low frequency sound

Of all the residences in Scenario 1, the highest sound level at a frequency of 63 Hz is 49 dB. This modeled value is below the interior sound level of 70 dB that is likely to create moderately perceptible building vibrations at these frequencies[1]. Levels at lower frequencies (16 Hz and 31.5 Hz) can also cause building vibration, however, the turbine manufacturer does not have turbine emissions data for these lower frequencies.

[1] ANSI/ASA S12.2-2008, "Criteria for Evaluating Room Noise"

10.0 OTHER NOISE SOURCES

10.1 Other noise sources

There will be several minor noise sources at the site. These include:

1) Transformers –There may be a transformer at the base of each turbine. Transformer noise emissions are subject to NEMA TR-1 standards. The transformers at the base of the turbines are not likely to be audible outside of the project area. A 34.5 to 115 kV step-up transformer is proposed for this project inside of the wind turbine project area. The transformer is rated at 84/112/140 MVA and 200/450 kV BIL, for which the NEMA TR-1 standard is approximately 80 dBA ONAN (fans off) and 83 dBA ONAF (fans on). According to the calculations of equation 3 of IEEE Standard 1127-1998 (R2004), the sound pressure level at the nearest home 2,700 meters away would be 23 dBA. This is below the nighttime L90 for all of the background monitoring stations (see Table 2). As a result, transformer sound levels are expected to be insignificant.

2) Transmission lines – The transmission lines associated with the project are 115 kV and 34.5 kV. The voltage of these lines is too low to generate any significant corona noise and will likely be inaudible next to the lines.

3) Maintenance and operations –The site will be accessed via a pickup truck or off-road vehicle. This level of increased traffic will not create any adverse sound impacts. There is also a possibility for cranes to be used at the site occasionally for repairs and maintenance.

11.0 SUMMARY AND CONCLUSIONS

The Highland Wind Project proposes to construct and operate up to 48 wind turbines in Highland Plantation, Maine. This report evaluated potential noise impacts of the project and concluded the following:

1) Background sound monitoring reveals that wind speeds at hub height are highly correlated with sound levels. Based on our correlations, as shown in Figure 26 and Figure 27, the background sound levels range from 25 to 36 dB LA90 and 28 to 42 dB LAeq when the wind speed is 7 m/s at hub height.

2) Within 1 mile of any turbine, there are only two seasonal homes and no year-round residences. These two seasonal camps are upwind of the prevailing wind direction.

3) The Maine DEP noise standard was evaluated through the use of computer modeling. The model used conservative parameters based on meteorological conditions favorable to propagation and an assumption of hard ground in the entire project area. The results of the modeling indicate that Maine DEP noise standards are met at all locations for all wind turbine layouts being considered for the project.

4) The levels of low frequency sound will not create perceptible building vibration.

5) Other than extended concrete pours and similar events, major construction will take place during normal business hours.

6) Routine maintenance and transformers will not create significant noise impacts.

Overall, the project has been shown to meet the strictest Maine DEP noise standard of 45 dBA at a distance of 500 feet from residential structures.

APPENDIX A

Receiver and Source Data from Sound Modeling Results

Figure A1: Modeled Sound Levels at Residences for Each Scenario

Receiver ID	Type	Modeled Results						Relative Height (m)	Coordinates UTM NAD 83 Z19		
		1	2	3	4	5	6		X (m)	Y (m)	Z* (m)
1	Residence	39	37	39	37	39	37	4	411370	4993156	456
4	Residence	36	35	36	36	33	32	4	417120	4989374	160
6	Residence	36	36	36	36	33	32	4	417147	4989465	165
16	Residence	32	31	32	31	30	28	4	412969	4990742	337
17	Residence	34	34	34	34	32	31	4	413136	4990541	316
18	Residence	34	33	34	34	32	31	4	413406	4990166	280
19	Residence	34	33	34	33	32	31	4	413450	4990017	266
23	Residence	33	32	33	32	31	30	4	414793	4989494	204
24	Residence	33	32	34	33	31	30	4	414726	4989562	202
25	Residence	31	30	32	30	30	28	4	415004	4988982	199
26	Residence	32	31	32	31	31	29	4	415367	4989217	205
27	Residence	32	31	32	31	30	29	4	415405	4989177	210
28	Residence	34	33	34	33	32	30	4	414953	4989629	204
29	Residence	32	31	32	32	30	29	4	415413	4989553	190
30	Residence	34	33	34	33	32	30	4	415847	4989413	170
31	Residence	34	33	34	33	32	31	4	415942	4989387	172
32	Residence	34	33	34	33	32	30	4	416033	4989173	164
33	Residence	33	32	33	32	31	29	4	415802	4989211	168
34	Residence	33	32	34	33	31	30	4	416229	4988999	159
35	Residence	34	33	34	33	32	30	4	416223	4989072	160
36	Residence	34	33	34	34	32	30	4	416169	4989191	164
37	Residence	34	34	35	34	32	31	4	416631	4989049	159
38	Residence	35	35	35	35	33	32	4	416827	4989191	161
39	Residence	34	33	34	33	31	30	4	416345	4989011	159
40	Residence	33	33	34	33	31	30	4	416411	4988782	159
42	Residence	34	33	34	34	32	30	4	416290	4989112	159
43	Residence	33	32	33	32	31	29	4	416515	4988705	157
44	Residence	33	32	33	33	31	29	4	416539	4988715	157
47	Residence	34	34	35	34	32	31	4	416996	4988793	154

48	Residence	36	35	36	35	33	32	4	416962	4989254	159
53	Residence	34	33	34	33	32	31	4	412897	4991082	391
54	Residence	34	33	34	33	32	30	4	414031	4989635	234
55	Residence	34	33	34	33	32	31	4	413982	4989789	235
56	Residence	34	33	34	33	32	31	4	414129	4989741	224
57	Residence	34	33	34	33	32	30	4	414125	4989680	224
58	Residence	34	33	34	33	32	30	4	414281	4989626	214
59	Residence	35	34	35	34	33	31	4	414281	4989879	215
60	Residence	34	33	34	33	32	31	4	414383	4989788	209
61	Residence	34	33	34	33	32	31	4	413295	4990043	268
66	Residence	34	33	34	33	32	30	4	414180	4989646	219
68	Residence	31	28	31	28	31	28	4	408798	4996235	391
69	Residence	34	30	34	30	34	30	4	409082	4995285	404
73	Residence	20	20	20	20	16	16	4	418703	4986509	208
74	Residence	30	27	30	27	30	27	4	409999	4998650	516
75	Residence	34	33	34	33	32	30	4	414051	4989659	232
77	Residence	34	33	34	33	32	30	4	413079	4989912	249
79	Residence	30	30	31	30	28	27	4	416519	4988141	154
80	Residence	29	29	29	29	25	25	4	416819	4987579	152
81	Residence	29	29	29	29	25	25	4	416787	4987757	153
82	Residence	32	32	33	33	29	29	4	423304	4990894	287
83	Residence	28	28	28	28	24	24	4	423620	4990871	275
84	Residence	28	28	28	28	24	24	4	423638	4990778	270
85	Residence	28	28	28	28	24	24	4	423662	4990727	267
86	Residence	28	28	28	28	24	24	4	423694	4990653	263
87	Residence	28	28	28	28	24	24	4	423675	4990695	266
88	Residence	28	28	28	28	24	24	4	423696	4990631	262
89	Residence	22	22	22	22	18	18	4	423517	4991174	290
90	Residence	19	19	19	19	15	15	4	423542	4991261	287
91	Residence	27	27	27	27	23	23	4	423392	4991436	307
92	Residence	33	33	34	34	30	30	4	422821	4992932	347
93	Residence	33	33	33	33	29	29	4	422979	4992849	355

94	Residence	33	33	34	34	30	30	4	422836	4992903	347
95	Residence	30	30	31	31	26	26	4	423155	4993032	359
96	Residence	24	24	24	24	20	20	4	423169	4993113	352
97	Residence	33	33	34	34	30	30	4	422994	4992194	328
98	Residence	32	32	33	33	29	29	4	423190	4989534	252
100	Residence	31	30	31	30	29	28	4	414421	4988980	196
101	Residence	25	25	26	26	22	22	4	416424	4987711	150
102	Residence	27	27	28	28	24	24	4	423763	4990531	256
103	Residence	23	23	23	23	19	19	4	423523	4991424	293
104	Residence	23	23	23	23	19	19	4	423465	4991683	305
106	Residence	24	24	25	25	20	20	4	423483	4991606	303
108	Residence	22	22	22	22	18	18	4	423617	4991729	292
109	Residence	22	22	22	22	18	18	4	423429	4991909	315
110	Residence	29	29	29	29	25	25	4	423374	4992045	324
112	Residence	29	29	30	30	26	26	4	423281	4992232	331
113	Residence	28	28	29	29	25	25	4	423361	4992329	333
114	Residence	26	26	26	26	22	22	4	423329	4992489	338
115	Residence	28	28	28	28	24	24	4	423293	4992574	341
116	Residence	25	25	26	26	22	22	4	423321	4992763	341
117	Residence	24	24	25	25	20	20	4	423240	4992813	348
118	Residence	15	15	16	16	12	12	4	422531	4996734	379
119	Residence	26	26	27	27	22	22	4	423893	4990436	246
120	Residence	25	25	25	25	21	21	4	423960	4990356	244
121	Residence	31	30	31	30	29	27	4	413899	4988948	214
123	Residence	20	20	21	21	17	17	4	420897	4998015	379
124	Residence	34	33	34	33	33	31	4	414312	4989782	213
125	Residence	30	30	30	30	26	26	4	416913	4987777	152
126	Residence	18	18	19	19	15	15	4	423605	4991299	285
127	Residence	26	26	26	26	22	22	4	422043	4996996	379
1000	Residence	20	20	21	21	17	17	4	416435	4987533	149
1001	Residence	33	33	34	33	31	30	4	416514	4988831	158
1002	Residence	34	33	34	33	31	30	4	416566	4988918	159

1003	Residence	33	33	34	33	31	30	4	416366	4988888	159
1004	Residence	34	32	34	33	32	30	4	415886	4989379	167
1007	Residence	31	30	31	30	29	27	4	414098	4988945	209
1009	Residence	30	29	30	29	29	27	4	415244	4988685	208
1010	Residence	33	32	33	32	31	30	4	414641	4989536	200
1011	Residence	41	39	41	39	41	39	4	411193	4993208	434
1013	Residence	26	26	26	26	22	22	4	423293	4992674	343
1014	Residence	25	25	25	25	21	21	4	421907	4996638	379
1016	Residence	28	28	28	28	24	24	4	421829	4996767	379
1017	Residence	26	26	27	27	23	23	4	421690	4997080	379

*Z represents elevation plus the relative receiver height (1.5m)

Figure A2: Modeled Turbine Source Input for Scenario 1 (Siemens 101, Siemens 93)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z (m)
E1	Siemens 101	107	0	80	420159	4994132	624
E10	Siemens 101	107	0	80	419538	4991677	650
E11	Siemens 101	107	0	80	419569	4991189	580
E12	Siemens 101	107	0	80	419562	4990916	580
E13	Siemens 101	107	0	80	419563	4990642	592
E14	Siemens 101	107	0	80	419555	4990424	615
E15	Siemens 101	107	0	80	419553	4990207	656
E16	Siemens 101	107	0	80	419587	4989986	680
E17	Siemens 101	107	0	80	420017	4989762	630
E18	Siemens 101	107	0	80	419939	4989492	635
E19	Siemens 101	107	0	80	419874	4989259	626
E2	Siemens 101	107	0	80	419865	4994060	637
E20	Siemens 101	107	0	80	420497	4990189	554
E21	Siemens 101	107	0	80	420420	4989966	575
E3	Siemens 101	107	0	80	419662	4993907	674
E4	Siemens 101	107	0	80	419476	4993731	712
E5	Siemens 101	107	0	80	419287	4993553	745
E6	Siemens 101	107	0	80	419103	4993370	750
E7	Siemens 101	107	0	80	419010	4993123	758
E8	Siemens 101	107	0	80	419072	4992369	628
E8a	Siemens 101	107	0	80	419240	4992659	662
E9	Siemens 101	107	0	80	419178	4992053	640
W1	Siemens 93	105	0	80	411688	4996880	744
W10	Siemens 93	105	0	80	412377	4994036	745
W11	Siemens 93	105	0	80	412231	4993849	707
W12	Siemens 93	105	0	80	412182	4993632	708
W13	Siemens 93	105	0	80	412185	4993388	714
W14	Siemens 93	105	0	80	412210	4993142	730
W15	Siemens 93	105	0	80	412217	4992913	733

W15b	Siemens 93	105	0	80	412641	4993092	744
W16	Siemens 101	107	0	80	413038	4992802	708
W17	Siemens 101	107	0	80	413933	4992497	679
W18	Siemens 101	107	0	80	414210	4992472	746
W19	Siemens 101	107	0	80	414719	4992333	750
W2	Siemens 93	105	0	80	411826	4996546	826
W20	Siemens 101	107	0	80	414991	4992359	729
W21	Siemens 101	107	0	80	415382	4992260	705
W22	Siemens 93	105	0	80	415575	4992289	695
W23	Siemens 93	105	0	80	415768	4992325	690
W24a	Siemens 93	105	0	80	416038	4992049	672
W25	Siemens 93	105	0	80	416379	4991759	693
W3	Siemens 93	105	0	80	411921	4996224	895
W4	Siemens 93	105	0	80	412037	4995885	890
W5	Siemens 93	105	0	80	412011	4995617	860
W6	Siemens 93	105	0	80	412018	4995322	833
W7	Siemens 93	105	0	80	412102	4995070	839
W8	Siemens 93	105	0	80	412005	4994740	850
W9	Siemens 93	105	0	80	411900	4994307	746

Figure A3: Modeled Turbine Source Input for Scenario 2 (Siemens 101, Vestas V90)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z* (m)
E1	Siemens 101	107	0	80	420159	4994132	624
E10	Siemens 101	107	0	80	419538	4991677	650
E11	Siemens 101	107	0	80	419569	4991189	580
E12	Siemens 101	107	0	80	419562	4990916	580
E13	Siemens 101	107	0	80	419563	4990642	592
E14	Siemens 101	107	0	80	419555	4990424	615
E15	Siemens 101	107	0	80	419553	4990207	656
E16	Siemens 101	107	0	80	419587	4989986	680
E17	Siemens 101	107	0	80	420017	4989762	630
E18	Siemens 101	107	0	80	419939	4989492	635
E19	Siemens 101	107	0	80	419874	4989259	626
E2	Siemens 101	107	0	80	419865	4994060	637
E20	Siemens 101	107	0	80	420497	4990189	554
E21	Siemens 101	107	0	80	420420	4989966	575
E3	Siemens 101	107	0	80	419662	4993907	674
E4	Siemens 101	107	0	80	419476	4993731	712
E5	Siemens 101	107	0	80	419287	4993553	745
E6	Siemens 101	107	0	80	419103	4993370	750
E7	Siemens 101	107	0	80	419010	4993123	758
E8	Siemens 101	107	0	80	419072	4992369	628
E8a	Siemens 101	107	0	80	419240	4992659	662
E9	Siemens 101	107	0	80	419178	4992053	640
W1	Vestas V90	105	0	80	411688	4996880	744
W10	Vestas V90	105	0	80	412377	4994036	745
W11	Vestas V90	105	0	80	412231	4993849	707
W12	Vestas V90	105	0	80	412182	4993632	708
W13	Vestas V90	105	0	80	412185	4993388	714
W14	Vestas V90	105	0	80	412210	4993142	730
W15	Vestas V90	105	0	80	412217	4992913	733

W15b	Vestas V90	105	0	80	412641	4993092	744
W16	Siemens 101	107	0	80	413038	4992802	708
W17	Siemens 101	107	0	80	413933	4992497	679
W18	Siemens 101	107	0	80	414210	4992472	746
W19	Siemens 101	107	0	80	414719	4992333	750
W2	Vestas V90	105	0	80	411826	4996546	826
W20	Siemens 101	107	0	80	414991	4992359	729
W21	Siemens 101	107	0	80	415382	4992260	705
W22	Vestas V90	105	0	80	415575	4992289	695
W23	Vestas V90	105	0	80	415768	4992325	690
W24a	Vestas V90	105	0	80	416038	4992049	672
W25	Vestas V90	105	0	80	416379	4991759	693
W3	Vestas V90	105	0	80	411921	4996224	895
W4	Vestas V90	105	0	80	412037	4995885	890
W5	Vestas V90	105	0	80	412011	4995617	860
W6	Vestas V90	105	0	80	412018	4995322	833
W7	Vestas V90	105	0	80	412102	4995070	839
W8	Vestas V90	105	0	80	412005	4994740	850
W9	Vestas V90	105	0	80	411900	4994307	746

Figure A4: Modeled Turbine Source Input for Scenario 3 (GE 2.5 xl, Siemens 93)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z (m)
E1	GE 2.5 xl	106	1.8	80	420159	4994132	624
E10	GE 2.5 xl	106	1.8	80	419538	4991677	650
E11	GE 2.5 xl	106	1.8	80	419569	4991189	580
E12	GE 2.5 xl	106	1.8	80	419562	4990916	580
E13	GE 2.5 xl	106	1.8	80	419563	4990642	592
E14	GE 2.5 xl	106	1.8	80	419555	4990424	615
E15	GE 2.5 xl	106	1.8	80	419553	4990207	656
E16	GE 2.5 xl	106	1.8	80	419587	4989986	680
E17	GE 2.5 xl	106	1.8	80	420017	4989762	630
E18	GE 2.5 xl	106	1.8	80	419939	4989492	635
E19	GE 2.5 xl	106	1.8	80	419874	4989259	626
E2	GE 2.5 xl	106	1.8	80	419865	4994060	637
E20	GE 2.5 xl	106	1.8	80	420497	4990189	554
E21	GE 2.5 xl	106	1.8	80	420420	4989966	575
E3	GE 2.5 xl	106	1.8	80	419662	4993907	674
E4	GE 2.5 xl	106	1.8	80	419476	4993731	712
E5	GE 2.5 xl	106	1.8	80	419287	4993553	745
E6	GE 2.5 xl	106	1.8	80	419103	4993370	750
E7	GE 2.5 xl	106	1.8	80	419010	4993123	758
E8	GE 2.5 xl	106	1.8	80	419072	4992369	628
E8a	GE 2.5 xl	106	1.8	80	419240	4992659	662
E9	GE 2.5 xl	106	1.8	80	419178	4992053	640
W1	Siemens 93	105	0	80	411688	4996880	744
W10	Siemens 93	105	0	80	412377	4994036	745
W11	Siemens 93	105	0	80	412231	4993849	707
W12	Siemens 93	105	0	80	412182	4993632	708
W13	Siemens 93	105	0	80	412185	4993388	714
W14	Siemens 93	105	0	80	412210	4993142	730

W15	Siemens 93	105	0	80	412217	4992913	733
W15b	Siemens 93	105	0	80	412641	4993092	744
W16	GE 2.5 xl	106	1.8	80	413038	4992802	708
W17	GE 2.5 xl	106	1.8	80	413933	4992497	679
W18	GE 2.5 xl	106	1.8	80	414210	4992472	746
W19	GE 2.5 xl	106	1.8	80	414719	4992333	750
W2	Siemens 93	105	0	80	411826	4996546	826
W20	GE 2.5 xl	106	1.8	80	414991	4992359	729
W21	GE 2.5 xl	106	1.8	80	415382	4992260	705
W22	Siemens 93	105	0	80	415575	4992289	695
W23	Siemens 93	105	0	80	415768	4992325	690
W24a	Siemens 93	105	0	80	416038	4992049	672
W25	Siemens 93	105	0	80	416379	4991759	693
W3	Siemens 93	105	0	80	411921	4996224	895
W4	Siemens 93	105	0	80	412037	4995885	890
W5	Siemens 93	105	0	80	412011	4995617	860
W6	Siemens 93	105	0	80	412018	4995322	833
W7	Siemens 93	105	0	80	412102	4995070	839
W8	Siemens 93	105	0	80	412005	4994740	850
W9	Siemens 93	105	0	80	411900	4994307	746

Figure A5: Modeled Turbine Source Input for Scenario 4 (GE 2.5 xl, Vestas V90)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z (m)
E1	GE 2.5 xl	106	1.8	80	420159	4994132	624
E10	GE 2.5 xl	106	1.8	80	419538	4991677	650
E11	GE 2.5 xl	106	1.8	80	419569	4991189	580
E12	GE 2.5 xl	106	1.8	80	419562	4990916	580
E13	GE 2.5 xl	106	1.8	80	419563	4990642	592
E14	GE 2.5 xl	106	1.8	80	419555	4990424	615
E15	GE 2.5 xl	106	1.8	80	419553	4990207	656
E16	GE 2.5 xl	106	1.8	80	419587	4989986	680
E17	GE 2.5 xl	106	1.8	80	420017	4989762	630
E18	GE 2.5 xl	106	1.8	80	419939	4989492	635
E19	GE 2.5 xl	106	1.8	80	419874	4989259	626
E2	GE 2.5 xl	106	1.8	80	419865	4994060	637
E20	GE 2.5 xl	106	1.8	80	420497	4990189	554
E21	GE 2.5 xl	106	1.8	80	420420	4989966	575
E3	GE 2.5 xl	106	1.8	80	419662	4993907	674
E4	GE 2.5 xl	106	1.8	80	419476	4993731	712
E5	GE 2.5 xl	106	1.8	80	419287	4993553	745
E6	GE 2.5 xl	106	1.8	80	419103	4993370	750
E7	GE 2.5 xl	106	1.8	80	419010	4993123	758
E8	GE 2.5 xl	106	1.8	80	419072	4992369	628
E8a	GE 2.5 xl	106	1.8	80	419240	4992659	662
E9	GE 2.5 xl	106	1.8	80	419178	4992053	640
W1	Vestas V90	107	0	80	411688	4996880	744
W10	Vestas V90	107	0	80	412377	4994036	745
W11	Vestas V90	107	0	80	412231	4993849	707
W12	Vestas V90	107	0	80	412182	4993632	708
W13	Vestas V90	107	0	80	412185	4993388	714
W14	Vestas V90	107	0	80	412210	4993142	730
W15	Vestas V90	107	0	80	412217	4992913	733

W15b	Vestas V90	107	0	80	412641	4993092	744
W16	GE 2.5 xl	106	1.8	80	413038	4992802	708
W17	GE 2.5 xl	106	1.8	80	413933	4992497	679
W18	GE 2.5 xl	106	1.8	80	414210	4992472	746
W19	GE 2.5 xl	106	1.8	80	414719	4992333	750
W2	Vestas V90	107	0	80	411826	4996546	826
W20	GE 2.5 xl	106	1.8	80	414991	4992359	729
W21	GE 2.5 xl	106	1.8	80	415382	4992260	705
W22	Vestas V90	107	0	80	415575	4992289	695
W23	Vestas V90	107	0	80	415768	4992325	690
W24a	Vestas V90	107	0	80	416038	4992049	672
W25	Vestas V90	107	0	80	416379	4991759	693
W3	Vestas V90	107	0	80	411921	4996224	895
W4	Vestas V90	107	0	80	412037	4995885	890
W5	Vestas V90	107	0	80	412011	4995617	860
W6	Vestas V90	107	0	80	412018	4995322	833
W7	Vestas V90	107	0	80	412102	4995070	839
W8	Vestas V90	107	0	80	412005	4994740	850
W9	Vestas V90	107	0	80	411900	4994307	746

Figure A6: Modeled Turbine Source Input for Scenario 5 (Vestas V90, Siemens 93)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z (m)
E1	Vestas V90	107	0	80	420159	4994132	624
E10	Vestas V90	107	0	80	419538	4991677	650
E11	Vestas V90	107	0	80	419569	4991189	580
E12	Vestas V90	107	0	80	419562	4990916	580
E13	Vestas V90	107	0	80	419563	4990642	592
E14	Vestas V90	107	0	80	419555	4990424	615
E15	Vestas V90	107	0	80	419553	4990207	656
E16	Vestas V90	107	0	80	419587	4989986	680
E17	Vestas V90	107	0	80	420017	4989762	630
E18	Vestas V90	107	0	80	419939	4989492	635
E19	Vestas V90	107	0	80	419874	4989259	626
E2	Vestas V90	107	0	80	419865	4994060	637
E20	Vestas V90	107	0	80	420497	4990189	554
E21	Vestas V90	107	0	80	420420	4989966	575
E3	Vestas V90	107	0	80	419662	4993907	674
E4	Vestas V90	107	0	80	419476	4993731	712
E5	Vestas V90	107	0	80	419287	4993553	745
E6	Vestas V90	107	0	80	419103	4993370	750
E7	Vestas V90	107	0	80	419010	4993123	758
E8	Vestas V90	107	0	80	419072	4992369	628
E8a	Vestas V90	107	0	80	419240	4992659	662
E9	Vestas V90	107	0	80	419178	4992053	640
W1	Siemens 93	105	0	80	411688	4996880	744
W10	Siemens 93	105	0	80	412377	4994036	745
W11	Siemens 93	105	0	80	412231	4993849	707
W12	Siemens 93	105	0	80	412182	4993632	708
W13	Siemens 93	105	0	80	412185	4993388	714
W14	Siemens 93	105	0	80	412210	4993142	730
W15	Siemens 93	105	0	80	412217	4992913	733

W15b	Siemens 93	105	0	80	412641	4993092	744
W16	Vestas V90	107	0	80	413038	4992802	708
W17	Vestas V90	107	0	80	413933	4992497	679
W18	Vestas V90	107	0	80	414210	4992472	746
W19	Vestas V90	107	0	80	414719	4992333	750
W2	Siemens 93	105	0	80	411826	4996546	826
W20	Vestas V90	107	0	80	414991	4992359	729
W21	Vestas V90	107	0	80	415382	4992260	705
W22	Siemens 93	105	0	80	415575	4992289	695
W23	Siemens 93	105	0	80	415768	4992325	690
W24a	Siemens 93	105	0	80	416038	4992049	672
W25	Siemens 93	105	0	80	416379	4991759	693
W3	Siemens 93	105	0	80	411921	4996224	895
W4	Siemens 93	105	0	80	412037	4995885	890
W5	Siemens 93	105	0	80	412011	4995617	860
W6	Siemens 93	105	0	80	412018	4995322	833
W7	Siemens 93	105	0	80	412102	4995070	839
W8	Siemens 93	105	0	80	412005	4994740	850
W9	Siemens 93	105	0	80	411900	4994307	746

Figure A7: Modeled Turbine Source Input for Scenario 5 (Vestas V90, Vestas V90)

Turbine ID	Model	Sound Power (dBA)	Correction Factor (dBA)	Relative Height (m)	Coordinates UTM NAD 83 Z19		
					X (m)	Y (m)	Z (m)
E1	Vestas V90	107	0	80	420159	4994132	624
E10	Vestas V90	107	0	80	419538	4991677	650
E11	Vestas V90	107	0	80	419569	4991189	580
E12	Vestas V90	107	0	80	419562	4990916	580
E13	Vestas V90	107	0	80	419563	4990642	592
E14	Vestas V90	107	0	80	419555	4990424	615
E15	Vestas V90	107	0	80	419553	4990207	656
E16	Vestas V90	107	0	80	419587	4989986	680
E17	Vestas V90	107	0	80	420017	4989762	630
E18	Vestas V90	107	0	80	419939	4989492	635
E19	Vestas V90	107	0	80	419874	4989259	626
E2	Vestas V90	107	0	80	419865	4994060	637
E20	Vestas V90	107	0	80	420497	4990189	554
E21	Vestas V90	107	0	80	420420	4989966	575
E3	Vestas V90	107	0	80	419662	4993907	674
E4	Vestas V90	107	0	80	419476	4993731	712
E5	Vestas V90	107	0	80	419287	4993553	745
E6	Vestas V90	107	0	80	419103	4993370	750
E7	Vestas V90	107	0	80	419010	4993123	758
E8	Vestas V90	107	0	80	419072	4992369	628
E8a	Vestas V90	107	0	80	419240	4992659	662
E9	Vestas V90	107	0	80	419178	4992053	640
W1	Vestas V90	107	0	80	411688	4996880	744
W10	Vestas V90	107	0	80	412377	4994036	745
W11	Vestas V90	107	0	80	412231	4993849	707
W12	Vestas V90	107	0	80	412182	4993632	708
W13	Vestas V90	107	0	80	412185	4993388	714
W14	Vestas V90	107	0	80	412210	4993142	730
W15	Vestas V90	107	0	80	412217	4992913	733

W15b	Vestas V90	107	0	80	412641	4993092	744
W16	Vestas V90	107	0	80	413038	4992802	708
W17	Vestas V90	107	0	80	413933	4992497	679
W18	Vestas V90	107	0	80	414210	4992472	746
W19	Vestas V90	107	0	80	414719	4992333	750
W2	Vestas V90	107	0	80	411826	4996546	826
W20	Vestas V90	107	0	80	414991	4992359	729
W21	Vestas V90	107	0	80	415382	4992260	705
W22	Vestas V90	107	0	80	415575	4992289	695
W23	Vestas V90	107	0	80	415768	4992325	690
W24a	Vestas V90	107	0	80	416038	4992049	672
W25	Vestas V90	107	0	80	416379	4991759	693
W3	Vestas V90	107	0	80	411921	4996224	895
W4	Vestas V90	107	0	80	412037	4995885	890
W5	Vestas V90	107	0	80	412011	4995617	860
W6	Vestas V90	107	0	80	412018	4995322	833
W7	Vestas V90	107	0	80	412102	4995070	839
W8	Vestas V90	107	0	80	412005	4994740	850
W9	Vestas V90	107	0	80	411900	4994307	746

Figure A8: Modeled Turbine (GE SLE) Sound Power Spectrum (dBA)

Turbine Model	Octave Band Frequency (Hz)								
	63	*125*	*250*	*500*	*1000*	*2000*	*4000*	*8000*	dBA
Siemens SWT 2.3-93	84	93	100	100	97	94	89	85	105
Siemens SWT 2.3-101	84	94	98	102	102	98	91	87	107
GE 2.5 xl	86	92	99	99	98	94	86	70	104
Vestas V90, 3 MW	83	92	94	97	100	102	101	97	107

Figure A9: Modeling Parameters

Parameter	Setting
Ground Absorption	ISO 9613-2 Spectral, G=0
Atmospheric Absorption	Based on 10 Degrees Celsius, 70 % Relative Humidity
Reflections	None
Search Radius	4000 m from each source (2.6 miles)
Receiver Height	4 m (approximately 13 feet) for residences, 1.5 meters for grid
Contour Interval	5.0 m (16.4 ft) from USGS digital elevation model

APPENDIX B

Sound Level Maps for Each Turbine Scenario

Figure B11: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 1 (Siemens 101, Siemens 93)

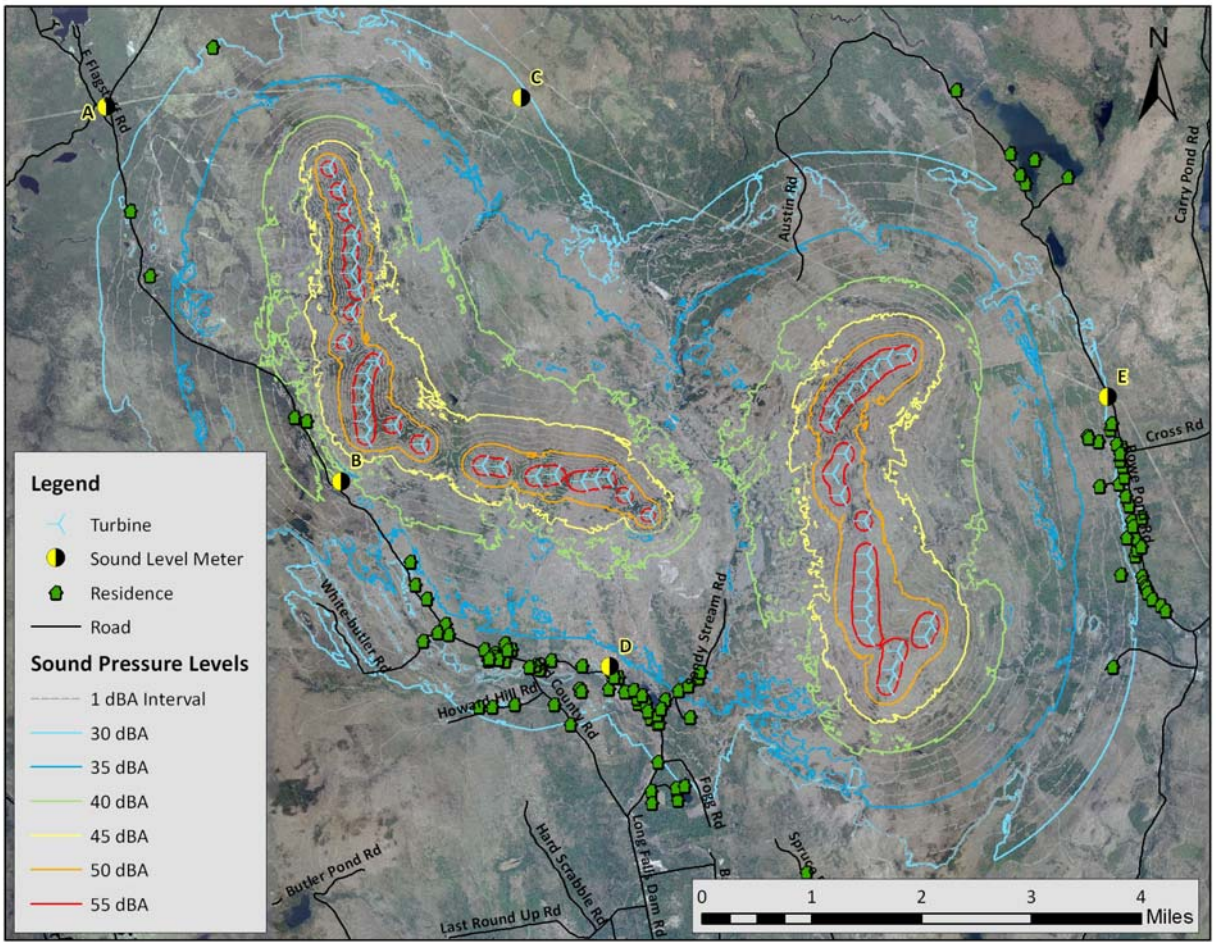


Figure B22: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 2 (Siemens 101, Vestas V90)

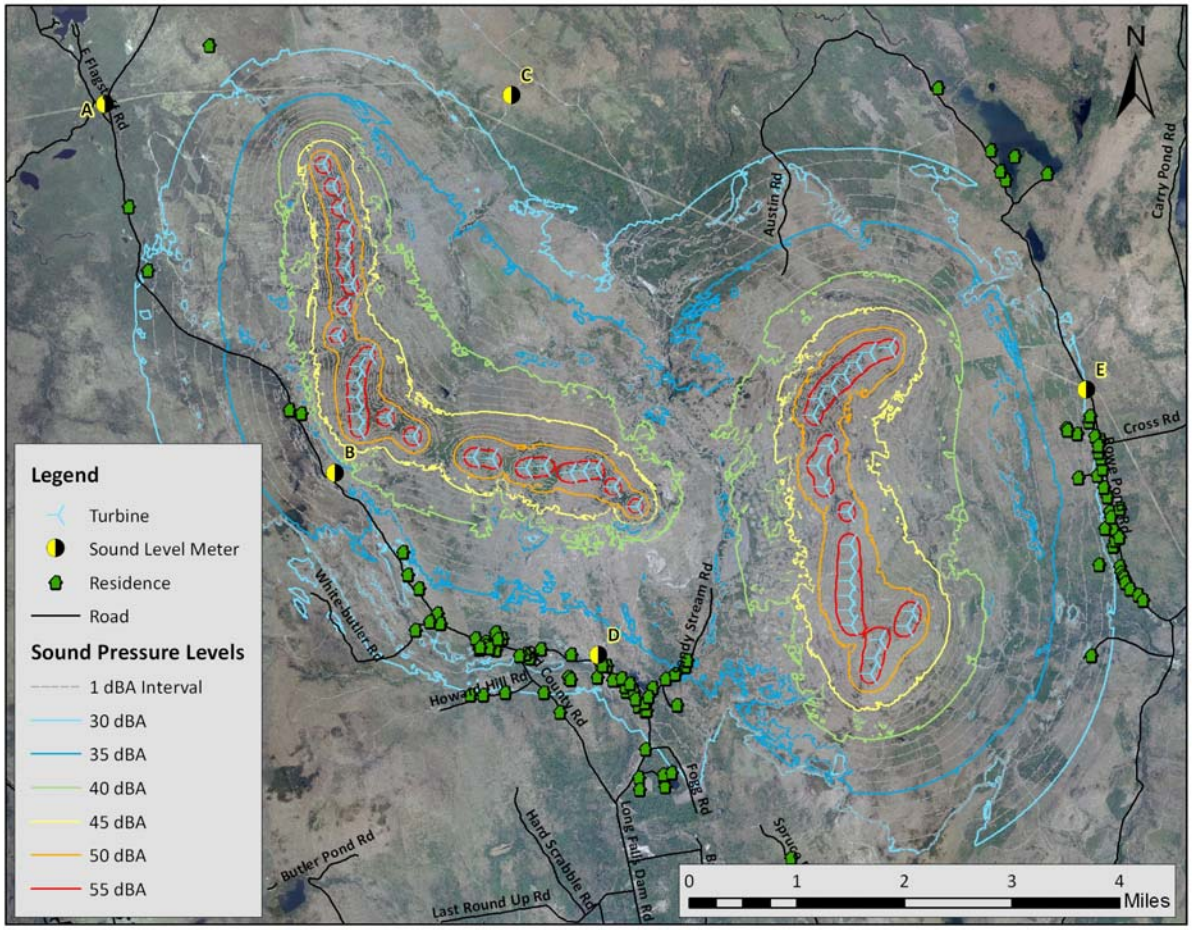


Figure B33: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 3 (GE 2.5xl, Siemens S93)

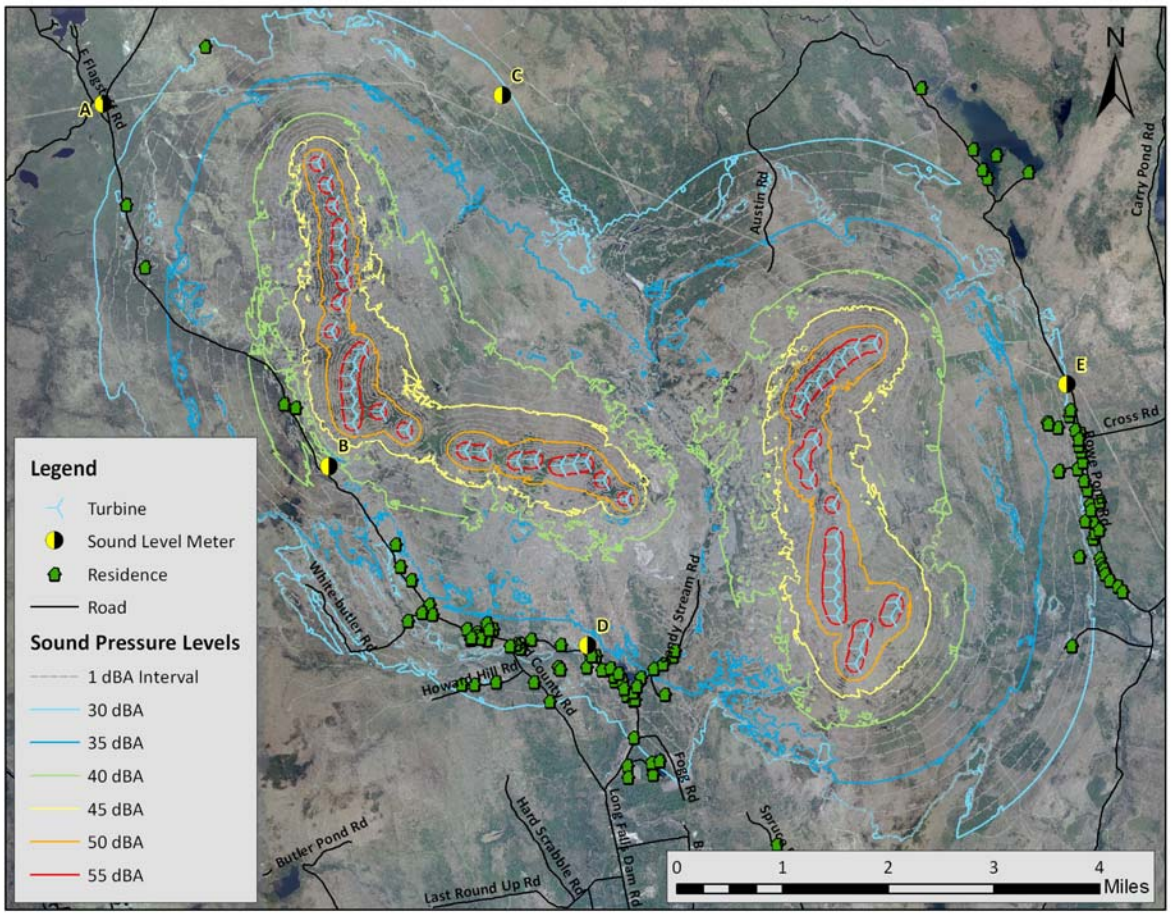


Figure B44: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 4 (GE 2.5xl, Vestas V90)

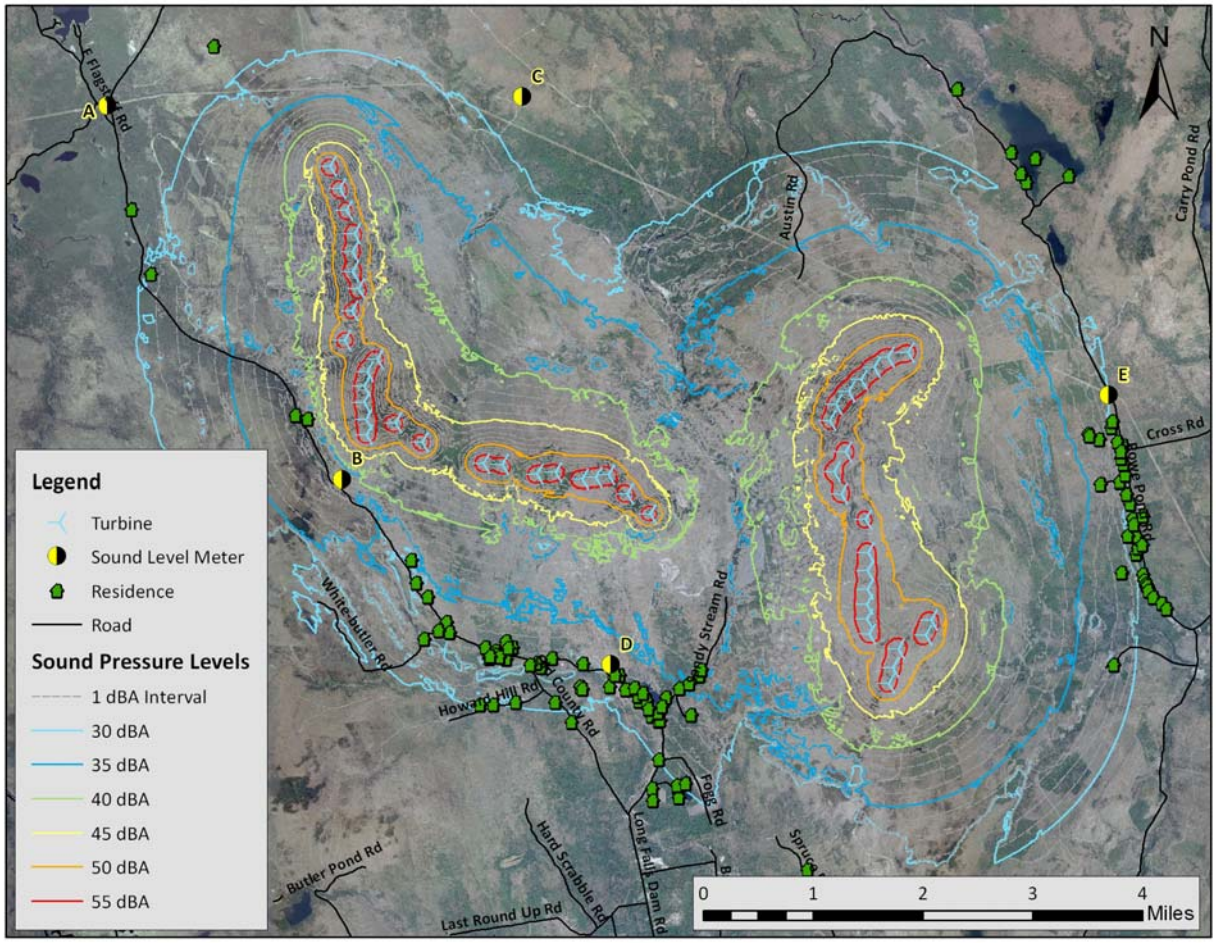


Figure B55: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 5 (Vestas V90, Siemens S93)

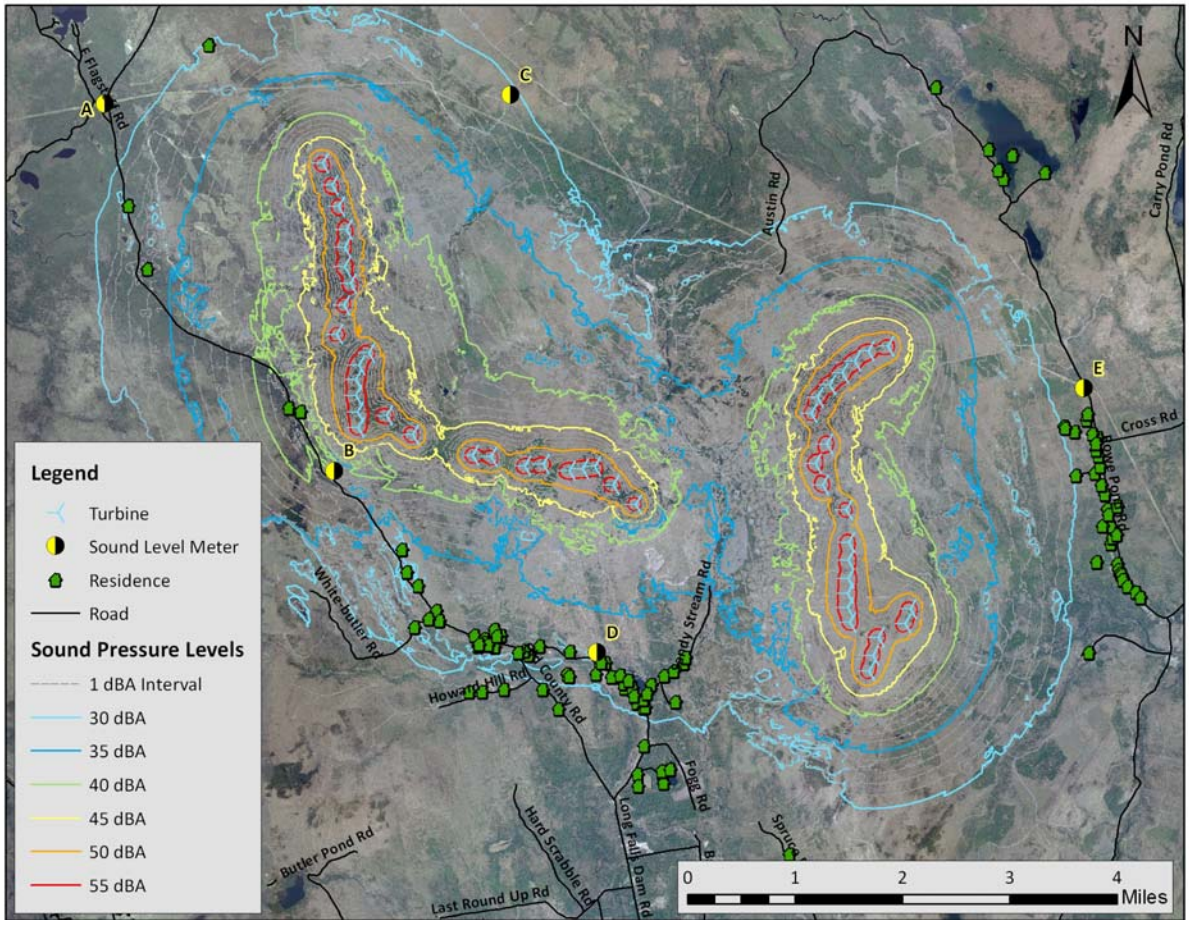
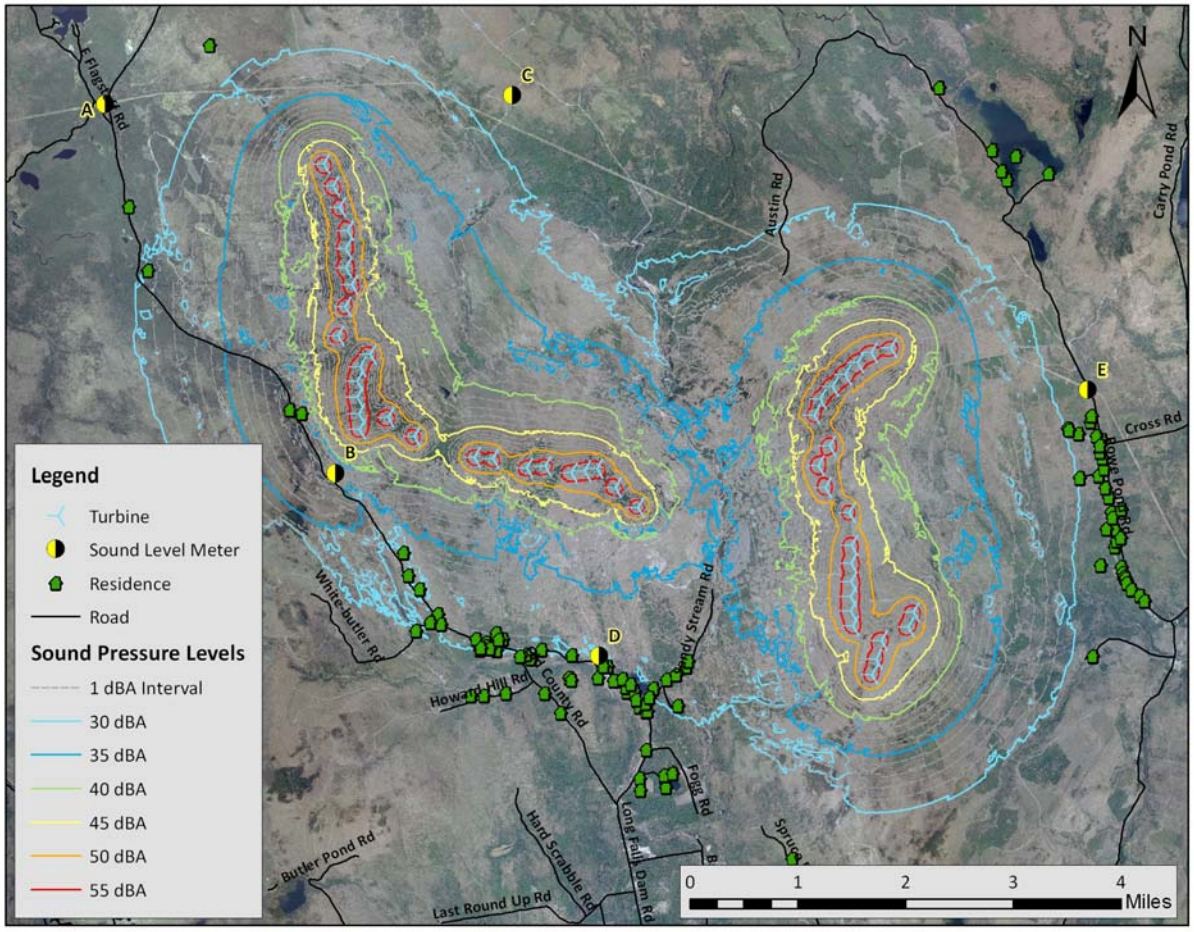


Figure B66: A-weighted Overall Modeled Sound Pressure Levels (dBA) from the Highland Wind Project at Maximum-Rated Sound Power, Scenario 6 (Vestas V90, Vestas V90)



APPENDIX C

Supplementary Sound Monitoring Results

Figure C1: Daytime and Nighttime Leqs for Monitor A

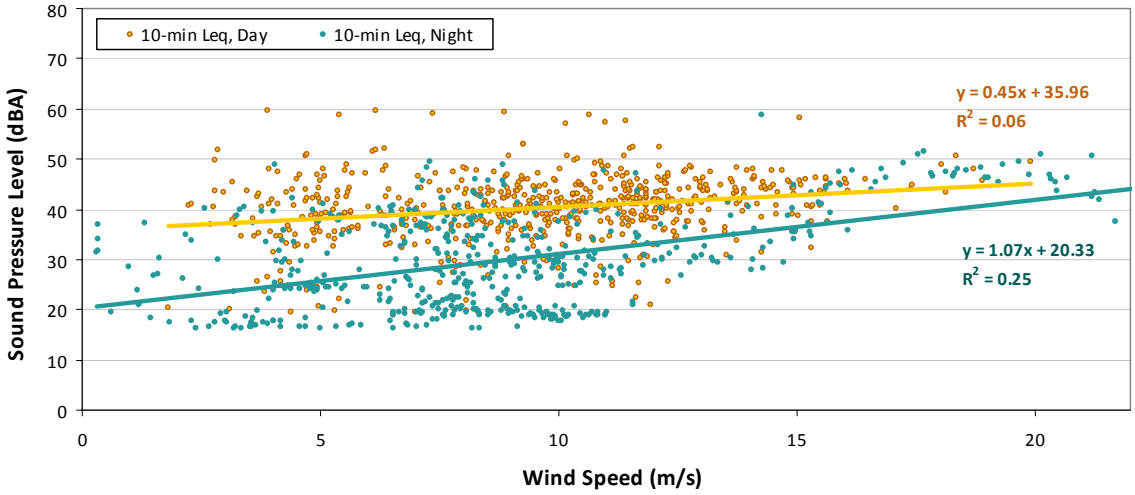


Figure C2: Daytime and Nighttime L90s for Monitor A

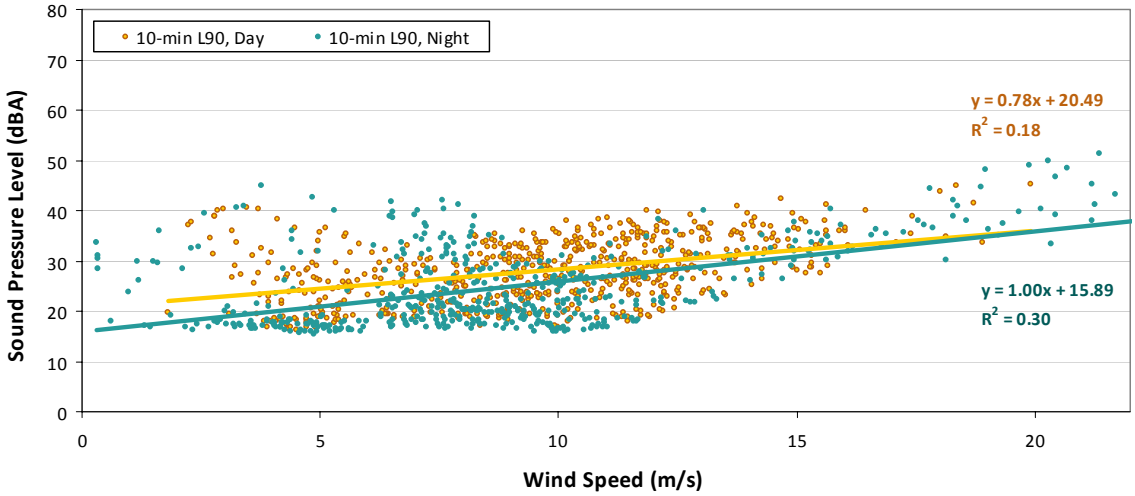


Figure C3: Daytime and Nighttime Leqs for Monitor C

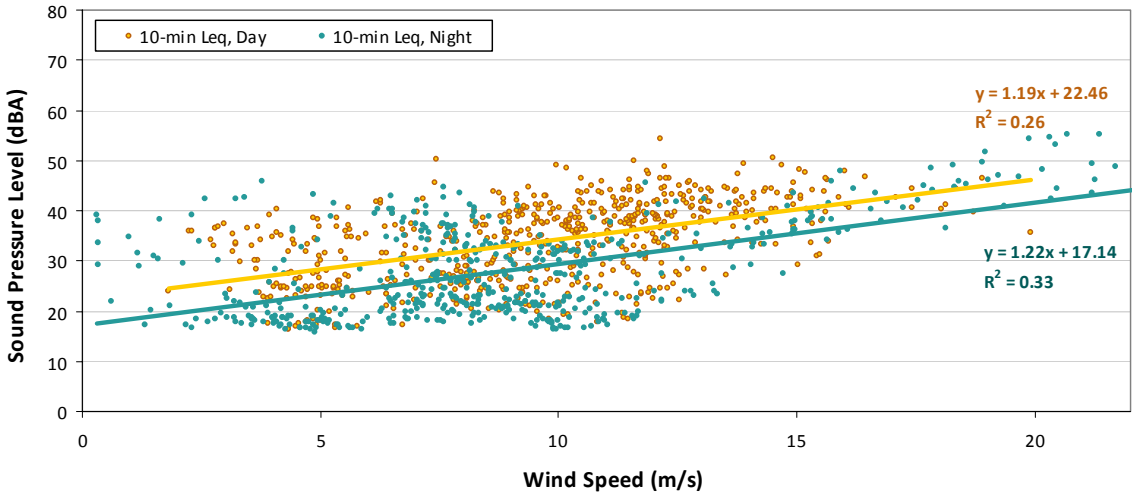


Figure C4: Daytime and Nighttime L90s for Monitor C

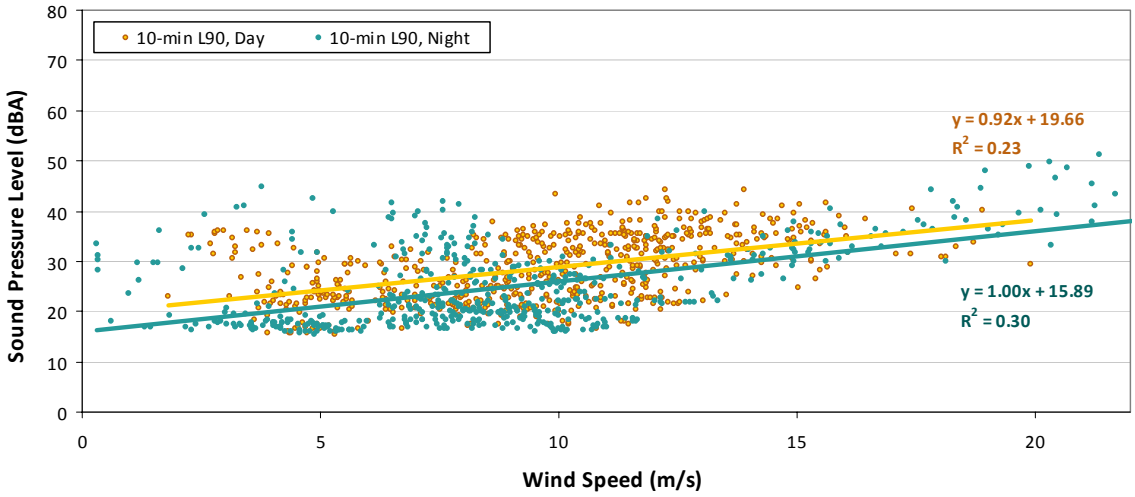


Figure C5: Daytime and Nighttime Leqs for Monitor D

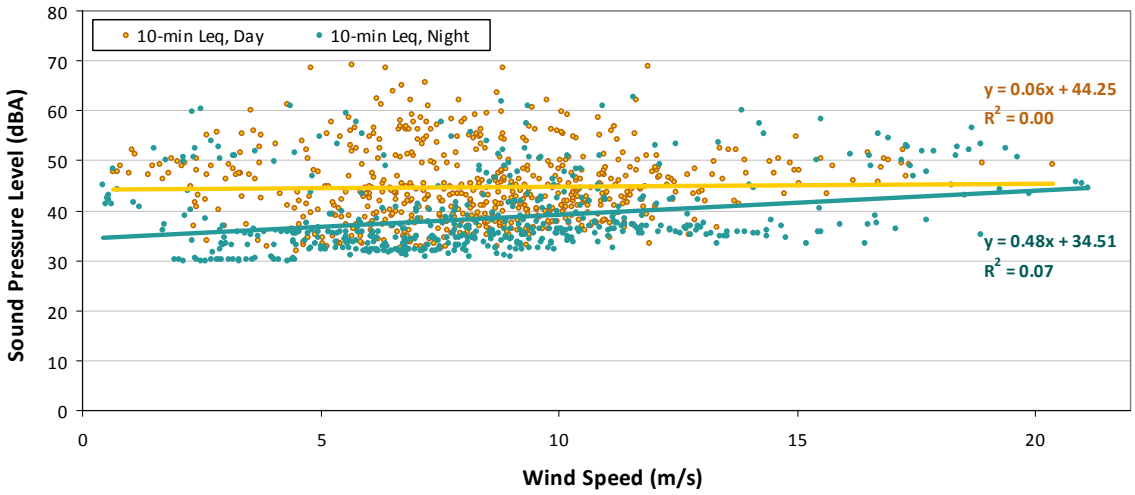


Figure C6: Daytime and Nighttime L90s for Monitor D

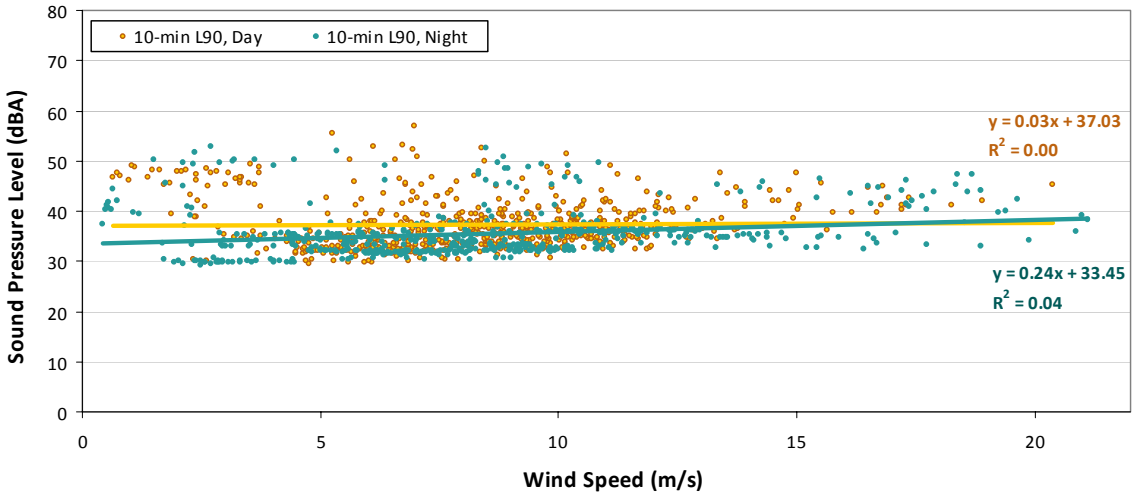


Figure C7: Daytime and Nighttime Leqs for Monitor E

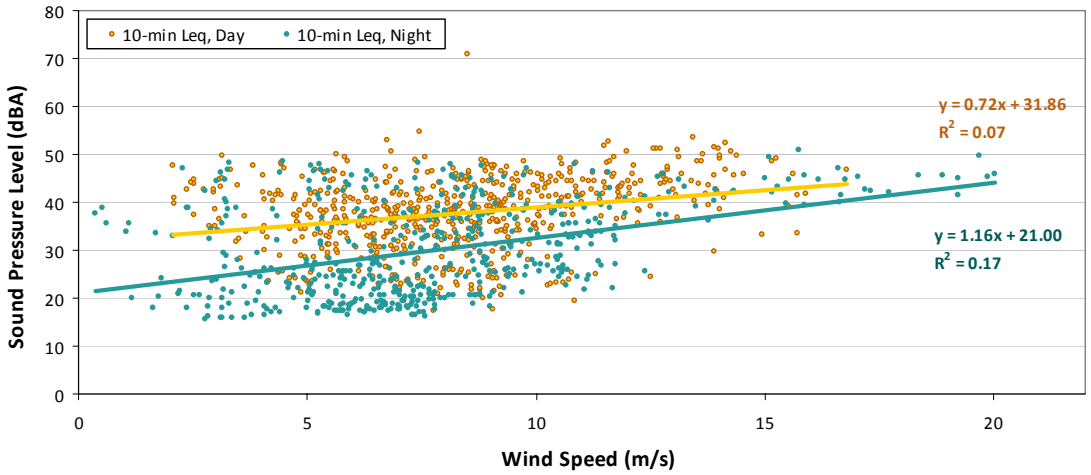
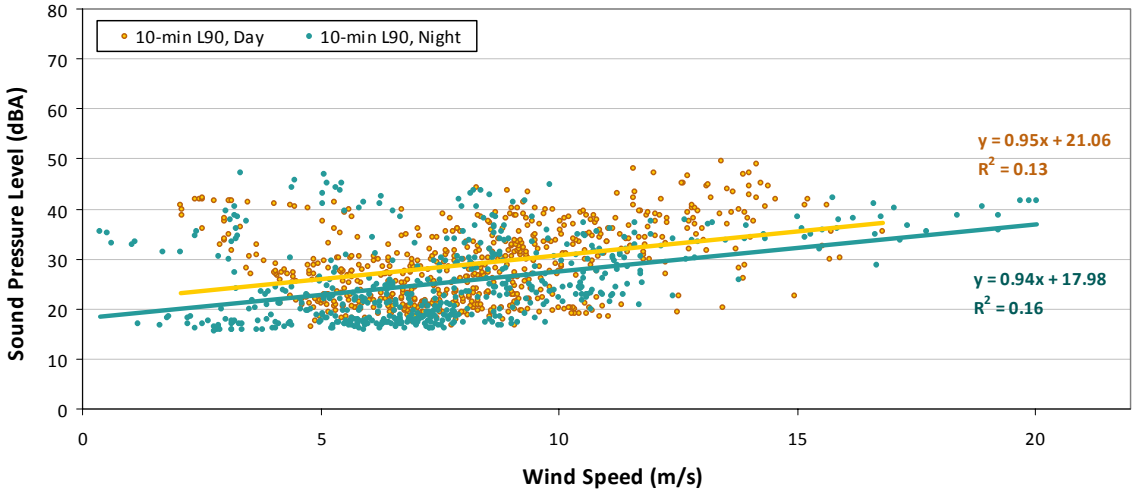


Figure C8: Daytime and Nighttime L90s for Monitor E



APPENDIX D

Supplementary Met Data

Turbulence Intensity by Wind Speed

Figure D1: Turbulence Intensity by Wind Speed at Stewart Mountain Met Tower, 60m Anemometer Height

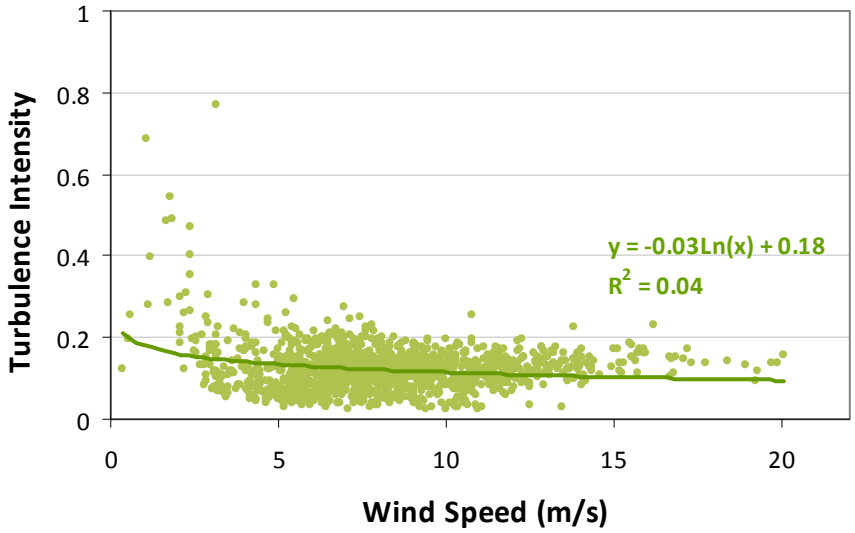


Figure D2: Turbulence Intensity by Wind Speed at Stewart Mountain Met Tower, 40m Anemometer Height

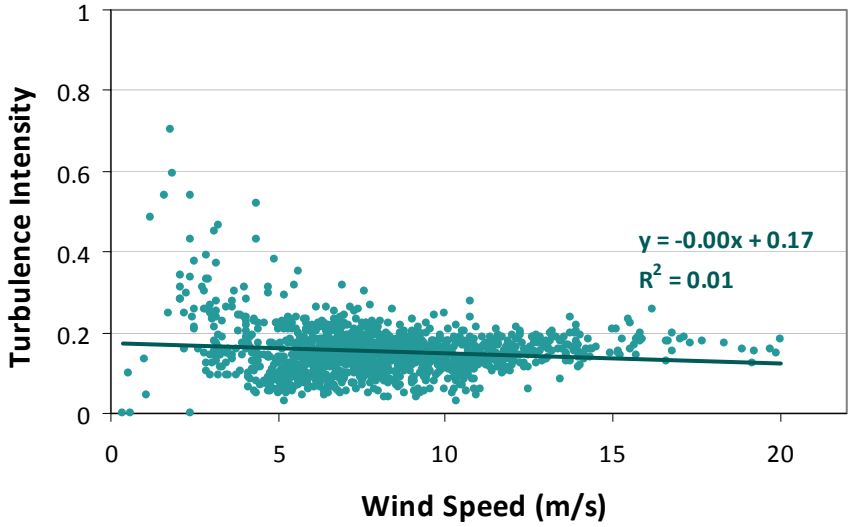


Figure D3: Turbulence Intensity by Wind Speed at Witham Mountain Met Tower, 48.5m Anemometer Height

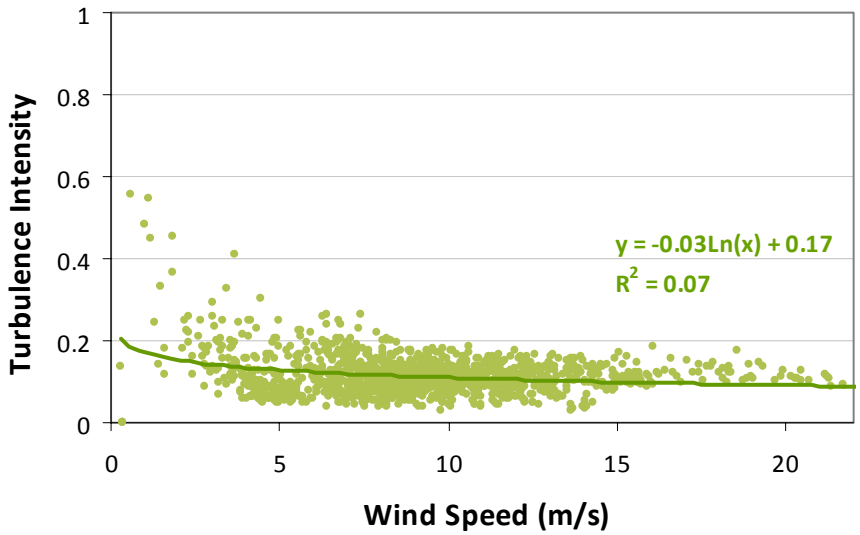


Figure D4: Turbulence Intensity by Wind Speed at Witham Mountain Met Tower, 25m Anemometer Height

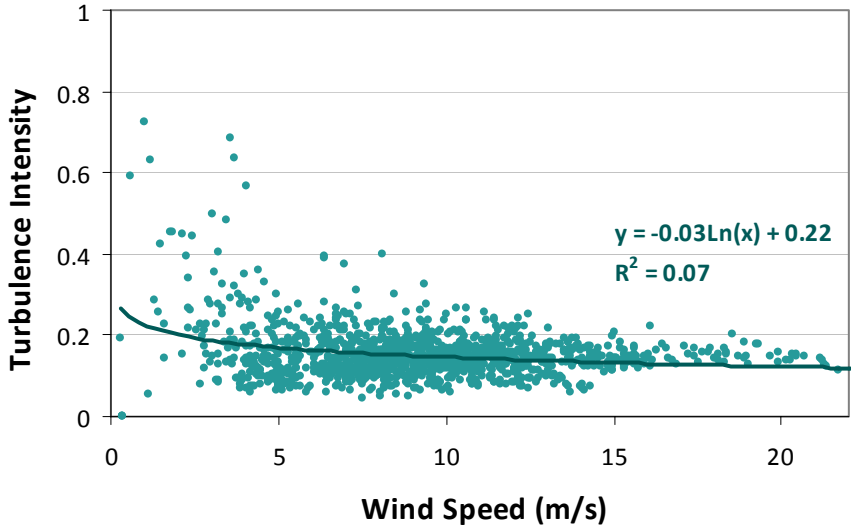


Figure D5: Turbulence Intensity by Wind Speed at Burnt Hill Met Tower, 48.5m Anemometer Height

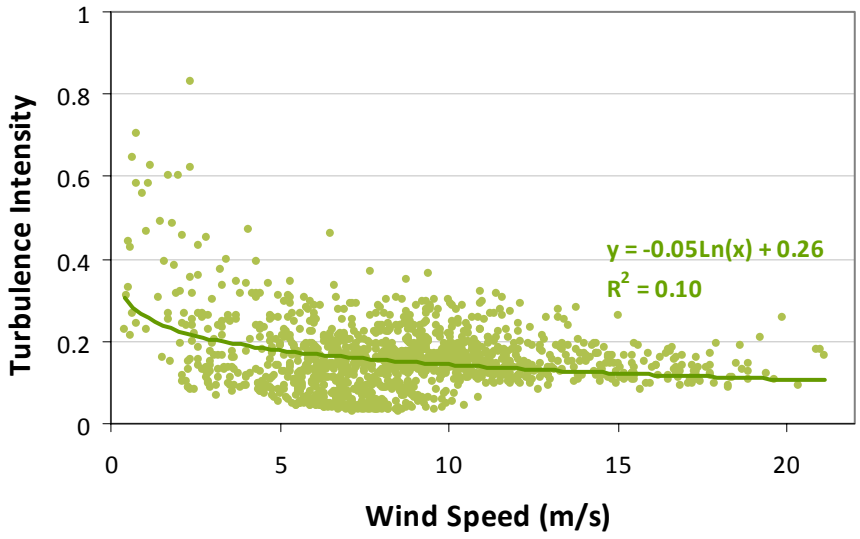
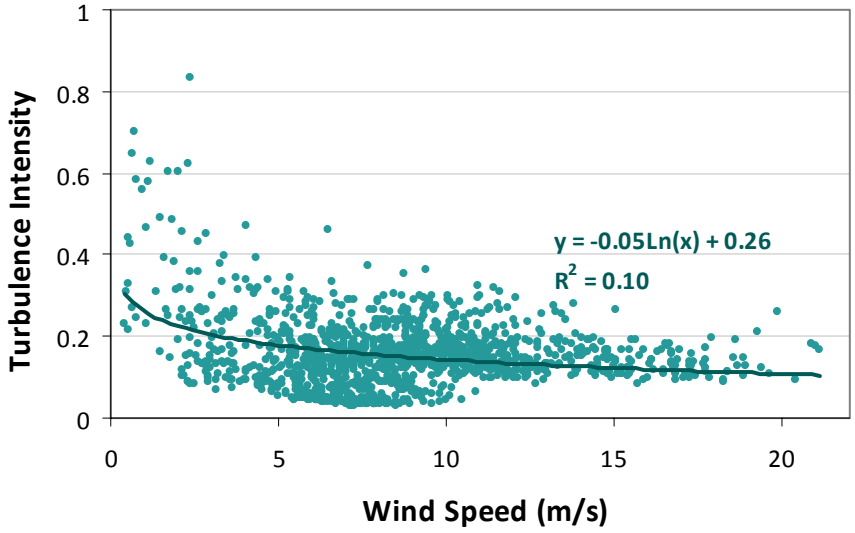


Figure D6: Turbulence Intensity by Wind Speed at Burnt Hill Met Tower, 25m Anemometer Height



Turbulence Intensity by Hour

Figure D7: Turbulence Intensity by Hour at Stewart Mountain Met Tower, 60m Anemometer Height

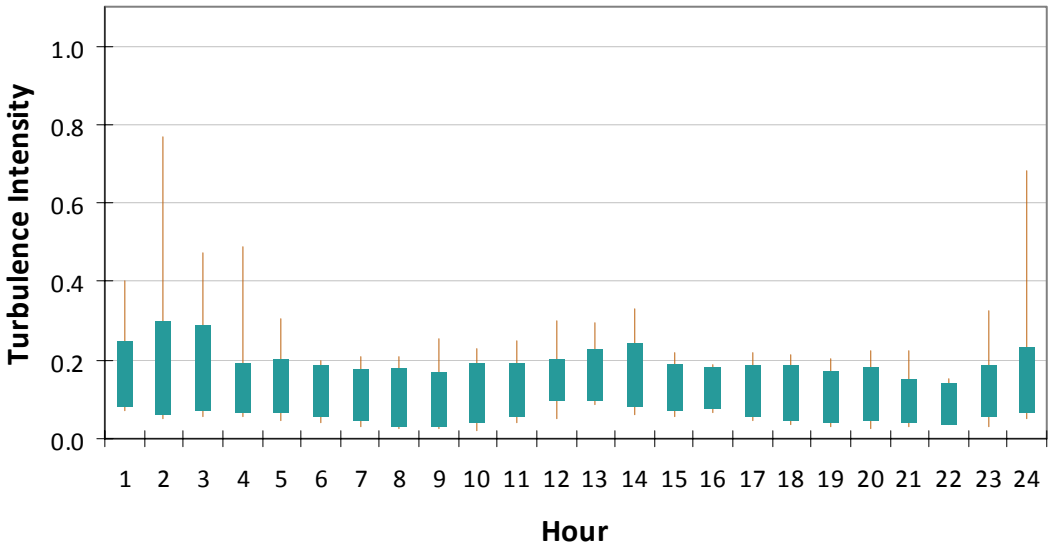


Figure D8: Turbulence Intensity by Hour at Stewart Mountain Met Tower, 40m Anemometer Height

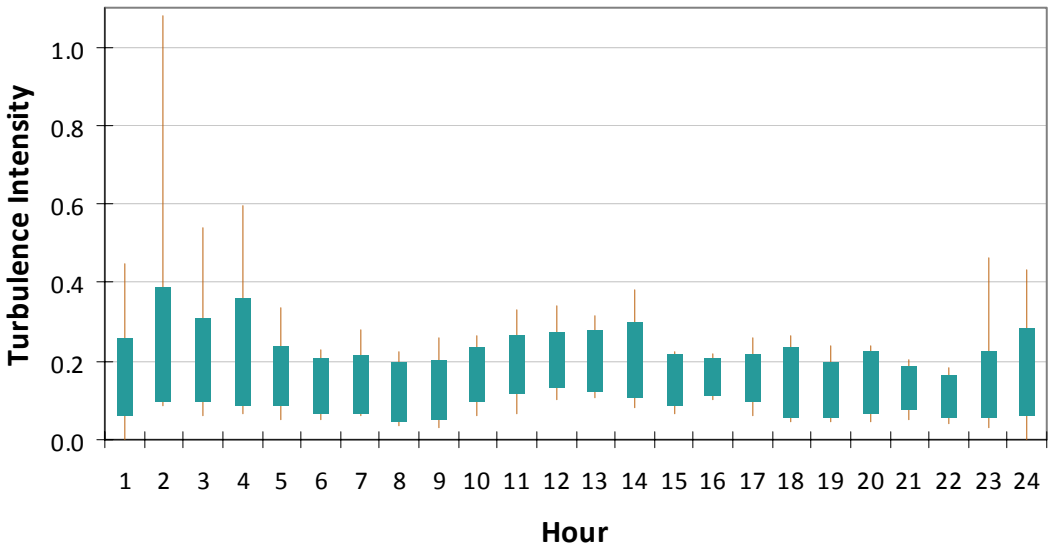


Figure D8: Turbulence Intensity by Hour at Witham Mountain Met Tower, 48.5m Anemometer Height

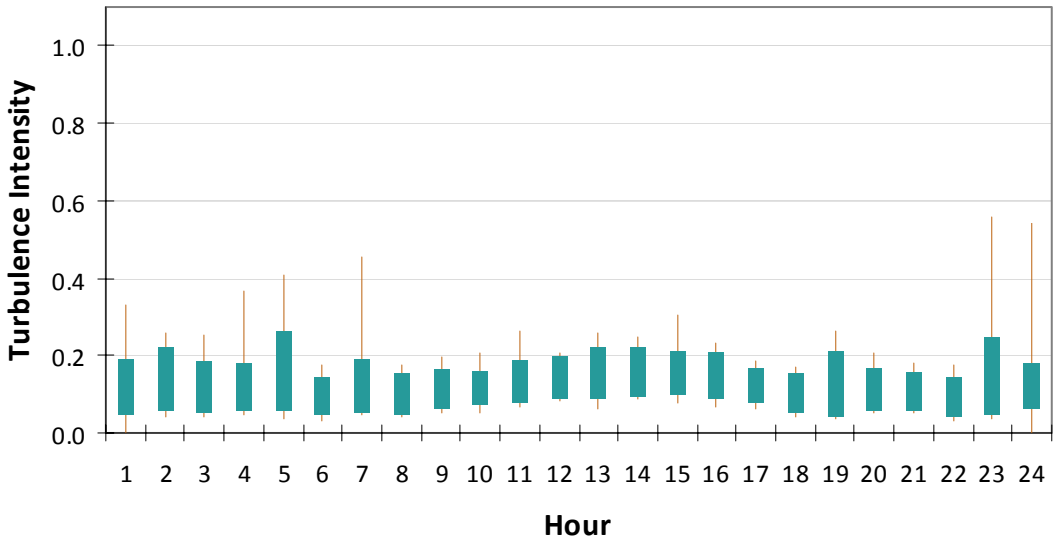


Figure D9: Turbulence Intensity by Hour at Witham Mountain Met Tower, 25m Anemometer Height

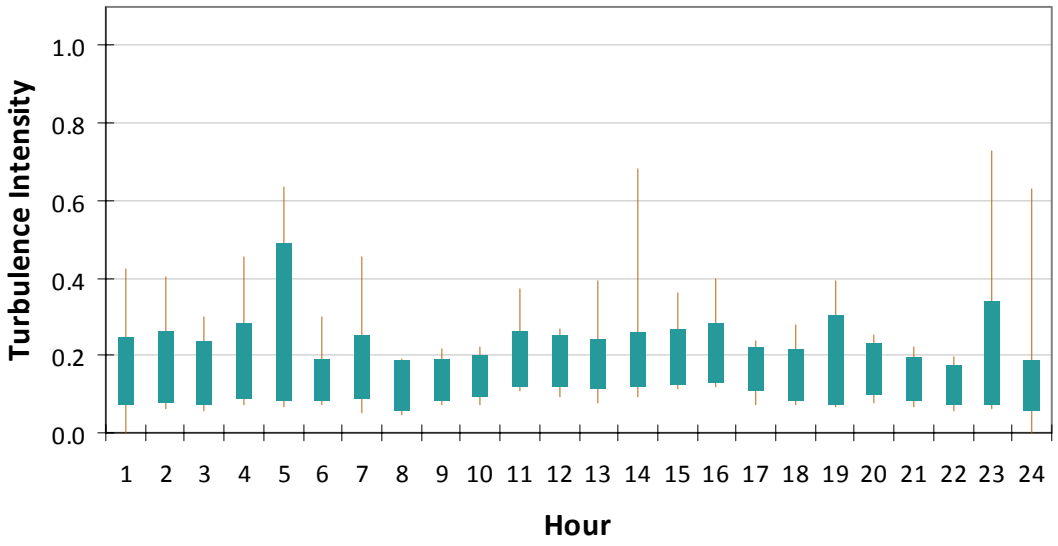


Figure D9: Turbulence Intensity by Hour at Burnt Hill Met Tower, 48.5m Anemometer Height

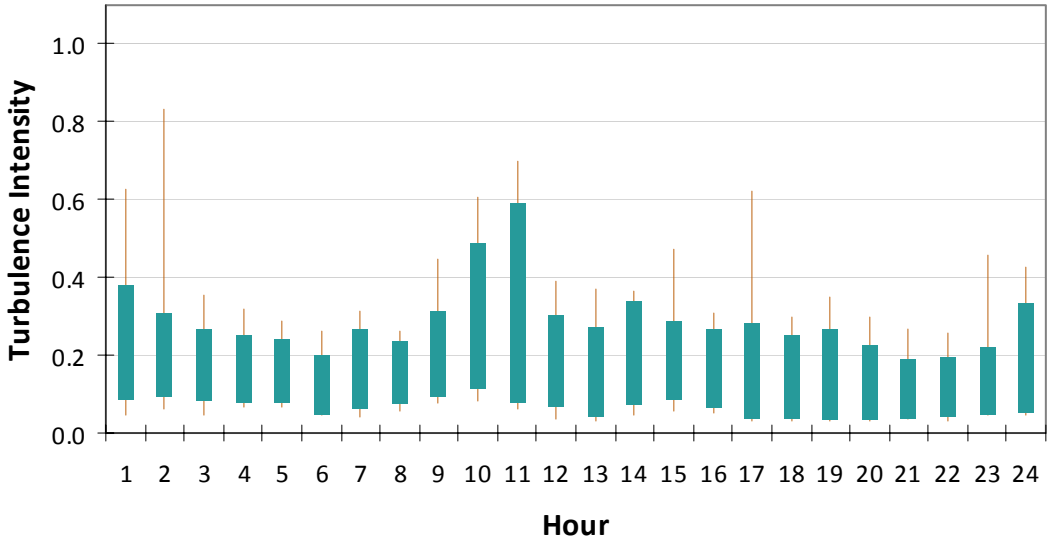
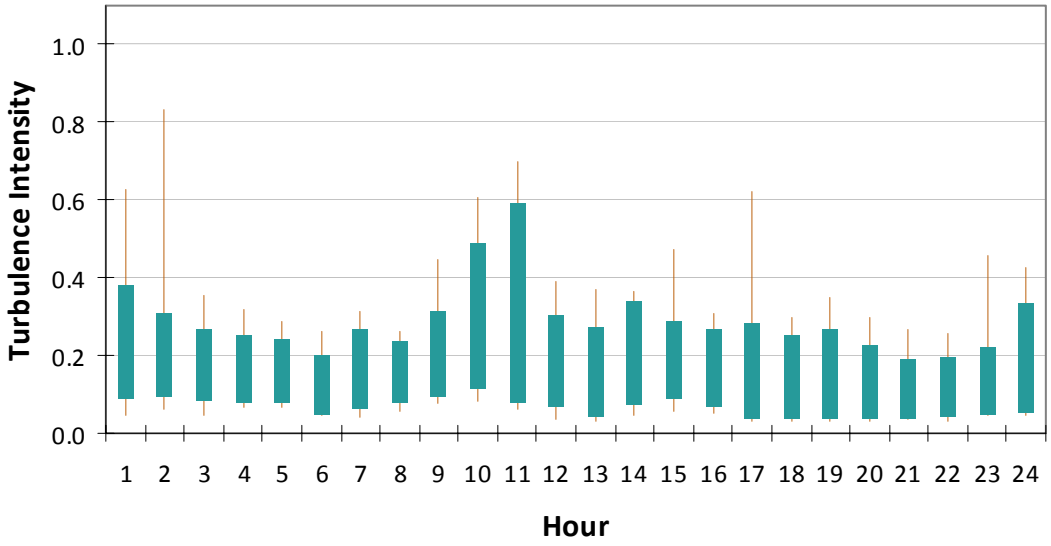


Figure D10: Turbulence Intensity by Hour at Burnt Hill Met Tower, 25m Anemometer Height



Windshear by Hour

Figure D11: Windshear by Hour at Stewart Mountain Met Tower, 80m Anemometer Height

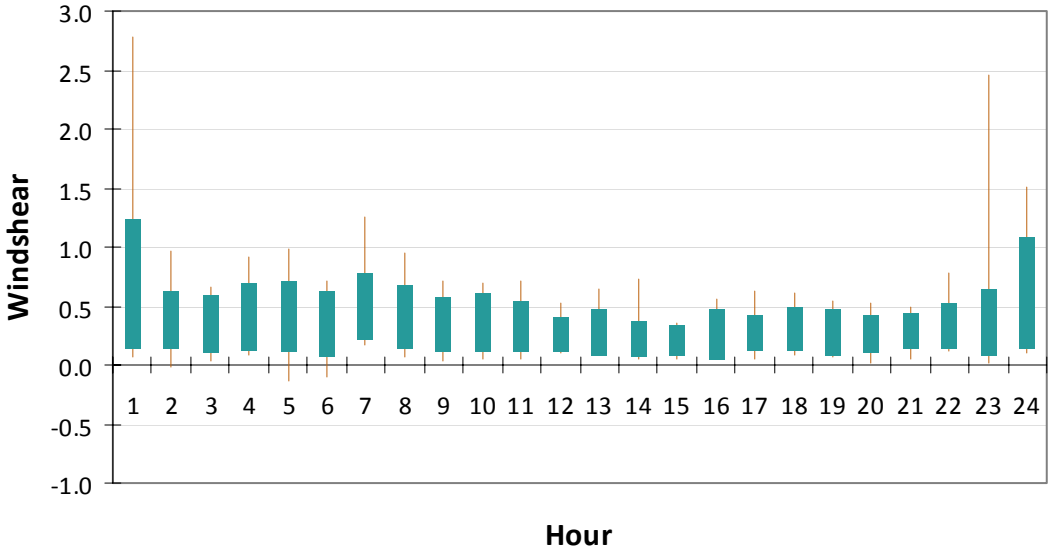


Figure D12: Windshear by Hour at Witham Mountain Met Tower, 80m Anemometer Height

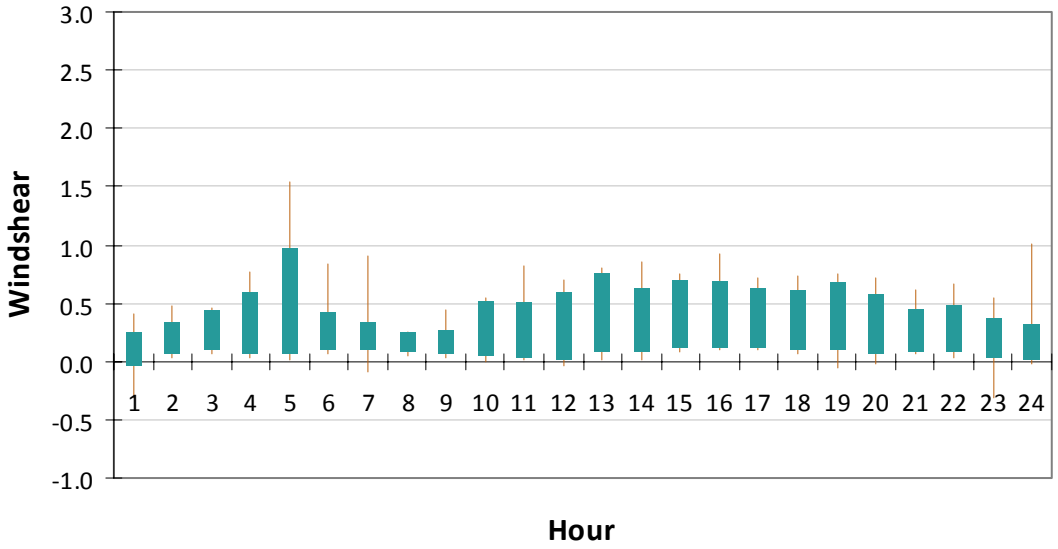
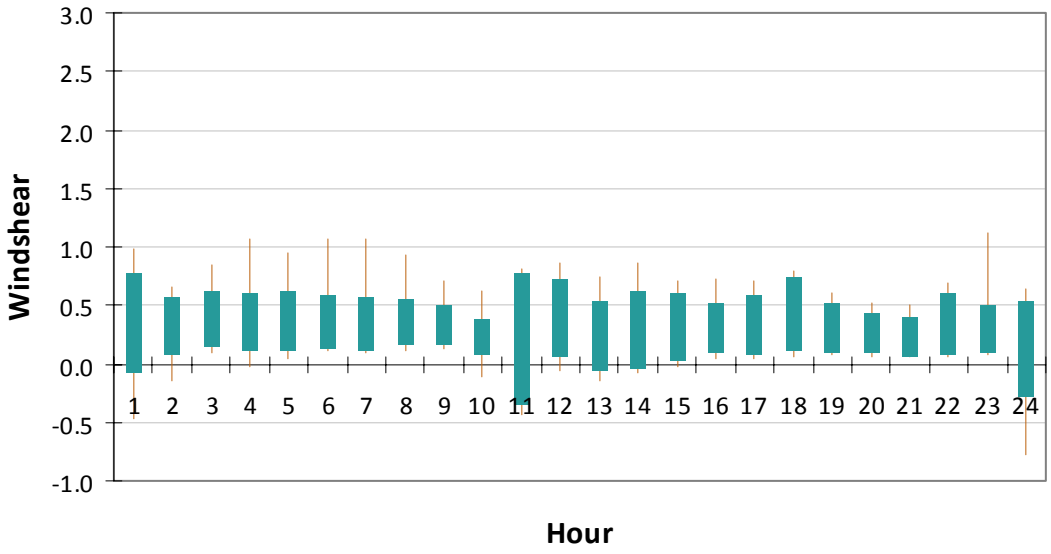


Figure D13: Windshear by Hour at Burnt Hill Met Tower, 80m Anemometer Height



APPENDIX E

Site Photographs

Figure E1: View from Monitor A Looking East

Figure E2: Monitor B

Figure E3: View from Monitor B Looking Southwest

Figure E4: Monitor C

Figure E5: Monitor D

Figure E6: Monitor E

Section 18
Post-Construction Monitoring

18.0 POST-CONSTRUCTION MONITORING

During the construction phase of the Highland Wind Project (Project), the general contractor will be responsible for site management and maintenance of roads and facilities.

Following completion of construction activities, Highland Wind LLC (Highland) will assume responsibility for monitoring and maintaining roads and facilities associated with the Project. Disturbed areas will be seeded and mulched or otherwise managed for slope stabilization, as explained in the erosion and sedimentation control plan (Refer to Section 10).

Activities and facilities at the site will be monitored both remotely and by on-site personnel. Turbines and overhead electrical systems will be visually inspected once a month. The turbines will receive a detailed annual inspection and will undergo regular maintenance in accordance with the manufacturer's recommendations. These inspections and maintenance procedures will be conducted by technicians trained in the design and specifications of the turbines used for this Project.

Overhead electrical collector system inspections will focus on ensuring adequate vegetation clearances and integrity of poles, insulators, and guy wires. Any trees that threaten the collection system will be removed, and vegetation will be managed on an 8 to 10-year cycle to ensure adequate clearance below the lines.

Highland or its contractors will conduct any services necessary to maintain stormwater and erosion control structures. See Appendix 10-1 of this application for a preliminary maintenance schedule for such structures. Ditches, culverts, and drainages for roads and access ways will be inspected and repaired as necessary after spring runoff each year and following heavy rain events. Maintenance and inspection logs will be maintained and kept at the Operations and Maintenance building.

Post-construction wildlife monitoring generally will follow the protocol outlined in Appendix 18-1. The protocol used to monitor wildlife following construction of commercial wind developments is continuing to evolve and as such, methodology presented here will be adapted as new information becomes available. The specific methods to be used on this Project will be discussed and approved with biologists from the Maine Department of Inland Fisheries and Wildlife (MDIFW) prior to implementation. As currently outlined, post-construction wildlife monitoring on this Project will include bird and bat casualty assessments and a bog lemming (*Synaptomys borealis*) habitat assessment.

Appendix 18-1

1.0 INTRODUCTION

Highland Wind LLC (Highland) has developed the following study protocol for post-construction monitoring to assess bird and bat casualties that may result from the proposed Highland Wind Project (Project). The protocol is based on evolving methods associated with post-construction assessment, including the most recent efforts at Mars Hill, and will continue to evolve in consultation with the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the U.S. Fish and Wildlife Service (USFWS). This continuing consultation with MDIFW and USFWS is necessary to ensure that the most current and technologically advanced survey methodology is employed at the Project. This consultation will necessarily also help define assessment schedule and timing.

In addition to the bird and bat casualty assessment, Highland may also conduct pre- and post-construction monitoring at an identified bog lemming habitat in wetland W134, which is located in the saddle between Witham and Bald Mountains. Based upon discussions with biologists from MDIFW, this habitat is of particular interest. As with the casualty monitoring, the need for and specifics of the survey efforts and methods will occur through further consultation with MDIFW. The purpose of the monitoring would be to establish pre-construction baseline use of the habitat by bog lemmings and repeat these surveys following construction and operation to document any changes in habitat use.

2.0 BIRD AND BAT CASUALTY ASSESSMENT

2.1 Background

This post-construction monitoring protocol is based upon similar post-construction monitoring plans developed for other existing or proposed wind development projects in the northeast. The draft guidance of the Maine Wind Power Advisory Group also was considered when developing this plan. This draft guidance includes contributions by several recognized experts in the field of wind energy and wildlife interaction and other state-sponsored wind-wildlife survey protocols (e.g., the Pennsylvania Game Commission's post-construction monitoring protocols). Finally, other recent studies of bird and bat fatalities at wind power projects in the U.S. and Europe were reviewed with regard to methods and search techniques (e.g., Arnett *et al*. 2008, Arnett 2005, Kerns and Kerlinger 2004, Barrios and Rodriguez 2004, de Lucas *et al*. 2004, Krewitt and Nitchs 2003, and Osborn *et al.* 2000). The following does not necessarily represent all post-construction monitoring methods that could be employed, but does represent those required for recently constructed wind development projects in Maine. Additional surveys, if required, will be developed through consultation with MDIFW biologists.

2.2 Proposed Casualty Monitoring Protocol

At a minimum, Highland proposes to fund and conduct the following wildlife casualty monitoring protocols during Year 1 of operation:

1) Standardized searches during peak activity periods for birds and bats (spring migration, summer nesting and pup-rearing, late-summer swarming, and fall migration);
2) Searcher efficiency trials to estimate the percentage of carcasses found by searchers in each habitat surrounding the turbines; and
3) Carcass removal trials to estimate the length of time that carcasses remain in the field for possible detection.

These monitoring protocols are consistent with those approved for and employed at other wind development projects in Maine and in the northeast. Other survey methods also will be employed during Year 1. These methods will include documentation of casualties outside the standard search plots and monitoring of weather conditions. A more detailed work scope for these surveys will be developed in consultation with the MDIFW and USFWS between the time that construction is initiated and the first spring survey period that occurs after operation (currently planned as winter of 2011). This will allow for the incorporation of survey results from post-construction monitoring at other wind development projects in Maine, including the Mars Hill Wind Project and the Stetson Mountain Wind Farm.

In addition, Highland proposes to conduct follow-up monitoring in Years 3 and 5. The scope and timing of the follow-up monitoring will be determined through consultation with the MDIFW and USFWS with consideration being given to current research priorities within the industry and the region as well as the results of the first year of monitoring at the Project.

2.2.1 Standardized Searches

Monitoring will involve regular, systematic searches by trained technicians of the area beneath each turbine and the guyed meteorological (met) towers.

2.2.2 Schedule and Search Effort

Monitoring will be conducted during the first full year following completion and initial operation of the Project. Subsequent survey efforts will be evaluated based upon the number of casualties documented during the initial year of survey, indications of correlations between casualties and weather, or indications of correlations between casualties and bird or bat activity.

Four distinct survey periods will occur. The timing of these periods will result in a total of 24 consecutive weeks of surveys. These survey periods are as follows.

- April 15 – May 31 for spring migration
- June 1 – July 14 for summer bird nesting and bat pup-rearing
- July 15 – August 15 for late-summer bat activity
- August 15 – October 15 for fall bird and bat migration

During each time period, all turbines will be searched weekly. Additionally, the cleared area under one of the met towers, which primarily lies directly underneath the guy wires, will be searched once per week.

2.3.3 Search Plot Sizes

Casualties from turbine strikes may be found at considerable distances from the base of the turbine. In some instances, casualties have been found at distances equal to or greater than the total height of the turbine and rotor, commonly in the range of 300 to 400 feet (Erickson *et al*. 2004, 2003 and 2000, Johnson *et al*. 2000a and 2000b). Survey plots to cover this range could include a substantial area of forest cover (primarily recently-selection cut areas) and in some instances steep terrain beyond clearing needed for the individual turbines. Because the Project is considering turbines that demand different minimum turbine clearings and pads, the search extent beyond the reach of the clearing will need to be determined in consultation with the resource agencies. Further, because the cover and terrain in these forested settings are distinctly different from many of the published studies conducted at existing projects in the western United States, which are located in relatively level agricultural landscapes, survey methods will need be adjusted.

As noted in the draft Maine Audubon guidelines, conducting searches at this level of intensity may simply be impractical in hilly and forested terrain. For similar reasons, Kerns *et al*. (2005) scaled down their search areas in consideration of existing site constraints. This problem is somewhat offset by the fact that most fatalities are being found much closer to the turbines. For example, working at the Meyersdale project in Pennsylvania, Kerns and Kerlinger (2004) reported that the majority of bird and bat fatalities were found within approximately 30 meters (100 feet) of the turbine bases, and Kerns *et al.* (2005) reported that greater than 80 percent of bat fatalities were found within 40 meters (131 feet) of turbines at Meyersdale, Pennsylvania and Mountaineer, West Virginia.

In light of the above, options for tailoring the monitoring methods at the Project have been considered. It is currently anticipated that the standardized searches will focus on monitoring the cleared and leveled lay-down areas around each turbine and applying a correction factor to account for fatalities that fall outside of the smaller search plots. The methods for calculating this correction factor will be determined

through further discussions with MDIFW and USFWS and will incorporate survey results targeting this issue at the Mars Hill Wind Farm.

2.3.4 Search Timing and Frequency

As noted above, systematic searches will be conducted weekly at all turbines and one met tower during four survey periods. These survey periods are essentially consecutive time periods ranging from four to eight weeks in length that represent different time periods in the activity and habits of birds and bats. The result will be approximately 24 weeks of consecutive casualty monitoring and a total of 1,152 individual turbine searches and 24 met tower searches.

2.3.5 Standardized Searches

Plots will be searched by walking parallel transects located at regular intervals across the turbine laydown area. Initially, transects will be set at 6 to 8 meters (20 to 26 feet) apart. A searcher will walk at a rate of approximately 45 to 60 meters (148-197 feet) a minute along each transect and will search both sides of the transect for casualties. The search area will extend approximately 3 to 4 meters (10-13 feet) on each side of the transect. Depending upon whether casualties are found, it should take an average of 60 minutes to search each plot and then travel to the next. The distance between transects will be modified, if needed, based on vegetation development within the plots.

All casualties found will be documented on standardized field forms, photographed, and collected. If a state- or federally-listed species is collected, it will be reported within 24 hours of identification. The type of observation or condition of carcasses will be recorded, such as intact carcass, scavenged, or feather spot. From the location of the carcass, a bearing to the wind turbine will be recorded, and the distance to the turbine will be determined using a laser range finder.

Casualties found incidentally during normal on-site operations at the Project will also be recorded and collected. Operations personnel will be instructed on the proper handling and notification requirements for these occurrences.

2.3.6 Searcher Efficiency Trials

Searcher efficiency trials will be conducted in the Project search areas to estimate the percentage of avian and bat casualties that are found by searchers. The trials will consist of periodic placement of carcasses at the search turbines the night before searches occur. Carcasses will be placed within all available 'search habitats' under the turbines, including the gravel access way immediately surrounding each turbine and the restored (loamed, seeded, and mulched) portions of the lay-down areas. Searchers will not have prior notification as to when these trials will occur. Over the course of the full survey period, a target of 25-50 carcasses (targeting up to 25 birds and up to 25 bats, if available) will be placed in the search plots. The number of carcasses placed for searcher efficiency trials will be modified, if necessary, based on the number of searchers used over the course of the surveys.

The carcasses used for these trials will be obtained during earlier searches at the Project or other facilities. Trial carcasses will be marked with a small piece of black electrical tape placed around the animal's leg. If too few carcasses are available, then substitute species similar in size to native species will be obtained. Estimates of searcher efficiency will be used to adjust for detection bias using methods similar to Kerns *et al.* (2005).

2.3.7 Carcass Removal Trials

Two carcass removal trials will be performed during the survey, one in spring and one in fall. These will be conducted independently of the searcher efficiency trials. The objective will be to estimate the percentage of bird and bat fatalities that disappear from study plots due to scavengers. Estimates of carcass removal will be used to adjust the number of carcasses found, thereby correcting for the effects of scavengers.

For each trial, a minimum of 6, but preferably 25 carcasses (species composition as noted for searcher efficiency trials), will be placed near search plots. These carcasses will not be placed within search plots to avoid contamination from blowing feathers or similar effects. Carcasses will be checked on days 1, 2, 3, 4, 5, 7, 10, and 14, or until all evidence of the carcass is absent. On day 14, carcasses, feathers, or parts will be retrieved and properly discarded.

2.3.8 Weather Data Collection

Weather conditions will be recorded throughout the duration of the survey effort to evaluate if there are correlations with the number of casualties. Weather parameters, including wind speed and wind direction, will be recorded at the on-site met towers or at the wind turbines. Temperature at or near hub height and near the ground also will be recorded. Additional include barometric pressure, relative humidity, and precipitation will be recorded.

2.3.9 Reporting

A report will be provided after the full year (i.e., spring and fall) of monitoring. The report will summarize the methods and results of the post-construction avian and bat assessment surveys. For the nocturnal radar surveys, the report will include information on passage rates, mean flight direction and flight altitude for each season. These results will be compared to the two seasons of pre-construction monitoring. For the casualty monitoring, the report will include estimates of the total number of wind turbine-related fatalities based on five components: 1) observed number of carcasses; 2) searcher efficiency expressed as the proportion of trial carcasses found by searchers; 3) removal rates expressed as the length of time a carcass remains in the study area and is available for detection by searchers; 4) factors such as the proportion of casualties likely to land or move outside the plot (e.g., forested conditions beyond the cleared area surrounding turbines); and 5) an estimate of the number of carcasses found by observers where cause of death could not be attributed to wind energy development, and calculations of the number of bird and bat fatalities on a per turbine per year basis or other possible measurement methods (i.e., per megawatt per year). Calculation methods are presented in Kerns *et al*. (2005).

4.0 BOG LEMMING HABITAT ASSESSMENT

Stantec conducted initial surveys of suitable habitats within the Project area to identify those habitats with bog lemming activity. These surveys were conducted in July of 2009 and bog lemming activity was documented in three wetlands: W011, W067, and W134 (Refer to Section 12, Appendix 12-2). Methods used to determine the presence of bog lemmings involved documenting indirect evidence including runways and tunnels through the peat moss (*Sphagnum* spp.), browse and clippings on graminoid vegetation, and fecal pellets. Such indirect evidence indicates the presence of one of the two bog lemming species, but does not distinguish between the northern bog lemming (*Synaptomys borealis*) and southern bog lemming (*Synaptomys cooperi*). Because identification of these two species requires trapping in order to observed dental characteristics, all indirect evidence was presumed to reflect the presence of the northern bog lemming.

Based upon results of these surveys and the Project design, biologists from MDIFW suggested that additional surveys, both pre- and post-construction, would be appropriate at wetland W134. The intent of these surveys would be to assess bog lemming activity before and after the Project is constructed and operational. These surveys would go beyond those initially conducted to determine species presence,

but because so little is known about the northern bog lemming such methods have not yet been developed. Through consultation with MDIFW biologists, survey methodology will be developed to assess activity level (i.e., pellet or runway counts along established transects) and to track potential changes in habitat quality (i.e., documentation of sedimentation or changes in wetland hydrology). A Project specific work plan will be developed and surveys and reporting will follow this plan.

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Section 19
Decommissioning Plan

19.0 DECOMISSIONING PLAN

19.1 Anticipated Life of Wind Turbines

Megawatt-scale wind turbines are designed and certified by independent agencies for a minimum expected operational life of 20 years. Turbines such as the Vestas, Siemens, and GE machines being considered here meet these criteria and are expected to last for at least 20 years (see Section 22, Public Safety).

It is in the applicant's long-term financial interests to maximize the operational lifespan of the wind turbine generators, and thus the applicant plans to employ a proactive maintenance regime to ensure turbines are in good repair for at least the full 20 years of expected life. As the wind turbines approach the anticipated end of life, it is expected that technological advances will economically drive the replacement of existing turbines with newer models.

19.2 Trigger for Implementing Decommissioning Plan

Decommissioning will follow the standards of the Land Use Regulation Commission (LURC) in effect at the time of this application. These standards are based on a rebuttable presumption that decommissioning is required if no electricity is generated for a period of 12 continuous months. Under these standards, Highland Wind LLC may rebut these presumptions by providing evidence that although the project has not generated electricity for a continuous period of 12 months, it should not be considered abandoned. Such evidence may include delays surrounding long lead time for spare part procurement, or a force majeure event that interrupts the generation of electricity. As used here, a "force majeure" event means instances such as fire, earthquake, flood, tornado, or other acts of God and natural disasters; strikes or labor disputes; war; any law, order, proclamation, regulation, ordinance, action, demand or requirement of any government agency; suspension of operations of all or a portion of the project for routine maintenance, overhaul, upgrade, or reconditioning; or any other act or condition beyond the reasonable control of Highland Wind LLC.

19.3 Description of Work Required – Wind Turbines

If triggered, decommissioning will involve the following specific work. The applicant shall physically remove all wind turbines and associated foundations to a depth of 24 inches. We shall also remove buildings, cabling, electrical components, and other facilities, provided that the project owner or land owner does not propose to put these facilities into a productive use. All earth disturbed during decommissioning would be graded and re-seeded, unless the landowner of the affected land requests otherwise in writing.

Based on a work plan developed by Reed and Reed, Inc., the turbines will be dismantled in the reverse of the erection sequence. A large (i.e., +/- 400-ton) crane will be brought to the site and assembled, along with various support cranes and equipment. On a particular tower site, the work sequence will most likely proceed as follows:

- Install erosion control measures as required;
- Assemble and stage crane on pad at turbine;
- Disconnect electrical connections;
- Remove rotor and block on ground;
- Disassemble rotor;
- Remove nacelle and set on ground;
- Remove turbine tower sections and stage on ground;
- Remove electrical down tower assembly;
- Haul off turbine components;
- Remove foundation;
- Backfill foundation;

- Remove electrical collector system; and
- Rehabilitate disturbed areas.

The turbines will be dismantled using standard Best Management Practices. Critical lift plans will be developed specifically for each major turbine component. The components will be removed from the site and transported to appropriate facilities for reconditioning, salvage, recycling, or disposal. Depending upon the ultimate destination, some components may need to be disassembled on-site to maximize reuse or ensure compliance with applicable disposal regulations.

19.4 Description of Work Required – Other Components

Decommissioning of the non-turbine aspects of the project will follow LURC permitting guidelines. Currently, these provisions call for foundations, anchor bolts, rebar, conduit, and other subsurface components to be removed to a minimum of 24 inches below grade. Items not known to be harmful to the environment buried greater than 24 inches below grade may be left in place, at the applicant's sole discretion. Once removal is complete, the excavation will be backfilled with material of quality comparable to the immediate surrounding area. The disturbed soils of the site will be rehabilitated, including appropriately grading and re-seeding the area, unless the landowner of the affected land requests otherwise in writing.

The Project collector system, substation, and interconnection facilities will be removed and salvaged, recycled, or repurposed to the maximum amount economically practical, providing that applicable regulations are followed. Any other components will be hauled to approved disposal sites. Any trenches or holes that remain after removal will be backfilled, and the surface areas will be rehabilitated. Construction pads will be rehabilitated and re-seeded. Road improvements and stream crossings will not be removed. Improvements to town and county roads that were not removed after construction at the request of the town or county will remain in place.

Disturbed areas will be reseeded with native species to promote re-vegetation of the area. Restoration shall include, as reasonably required, leveling, terracing, mulching, and other necessary steps to prevent soil erosion to ensure establishment of suitable grasses and forbs and to control noxious weeds and pests.

19.5 Estimate of Decommissioning Costs

Decommissioning costs are estimated at $140,100 per turbine, and $42,500 for the Operations and Maintenance building. We anticipate the cost to decommission the substation to be $1,100,000 and the collector lines to be $3,900,000. A detailed breakout of these costs can be found below in Table 1.
The Total Estimated Decommissioning Cost will be $2,455,300.

Table 1. Total Estimated Decommissioning Costs

	Decommissioning Cost	Salvage Value	Net Cost
Turbines & Project Management	$ 6,724,800	$ 6,432,000	$ 292,800
Buildings	$ 42,500	$ -	$ 42,500
Substation	$ 1,100,000	$ 250,000	$ 850,000
Collection Lines	$ 3,900,000	$ 2,630,000	$1,270,000
Total	**$ 11,767,300**	**$ 9,312,000**	**$2,455,300**

19.6 Ensuring Decommissioning and Site Restoration Funds

Consistent with past permitted projects and with regulatory guidelines, the project will ensure that financial assurance for decommissioning costs will be fully established at least five years prior to the expected end of useful economic life of the project. Because of the 20-year design life of turbine equipment it is difficult to envision a scenario where a turbine would be decommissioned within ten years of installation—even in the event of a major mechanical failure the turbine would be replaced as part of the standard operations and maintenance plan.

At the discretion of Highland Wind LLC, a study may be commissioned to update the Total Estimated Decommissioning Cost at any time prior to year 15 of the project, which will replace the cost estimate in Table 1. On or prior to December 31 of each year, years 11-14 of the project's operation, 20 percent of the Total Estimated Decommissioning Cost ($491,060, using the cost estimate in Table 1), will be reserved in the form of cash or a letter of credit to the Decommissioning Fund. On or prior to December 31 of year 15 of the project's operation, the estimated cost of decommissioning (minus salvage value) will be reassessed, and an amount equal to the balance of such updated estimated cost of decommissioning, less salvage value and less the amounts reserved in years 11-14, shall be reserved for decommissioning and site restoration. Upon complete decommissioning of the site, any remaining balance of the Decommissioning Fund shall be returned to the Applicant.

The decommissioning fund will be held in the form of a performance bond, surety bond, letter of credit, parental guaranty or other acceptable form of financial assurance. Highland Wind LLC commits to working with LURC to determine a mutually acceptable form no later than six months prior to the fund's establishment.

Section 21
Tangible Benefits

21.0 TANGIBLE BENEFITS

The Highland Wind Project (Project) will provide significant tangible benefits to surrounding communities, Somerset County, and the entire State of Maine.[1] On a local level, the nearby communities will benefit through employment opportunities and the local purchase of materials and supplies. Like they offered in connection with the development of Record Hill Wind, the applicant will continue its ground-breaking proposal to provide electricity assistance to every resident in the host community that is connected to the electric grid. The Electricity Assistance Program is described in Appendix 21-1.

The Plantation and County will benefit through the taxes paid on the Project. The Project is not seeking Tax Increment Financing, and thus the tax benefits of this Project are considerable. On a larger scale, the Project will increase energy diversity thereby helping to reduce electric price volatility in Maine. The Project will also help Maine meet its commitments under the Regional Greenhouse Gas Initiative, which establishes limits for emissions associated with the generation of electricity.

[1] See 35-A MRSA §3454 and 38 MRSA §484(3) for relevant criteria.

Appendix 21-1

1.0 Tangible Benefits

The Highland Wind Project (Project) will provide a number of significant tangible benefits both locally and throughout the state. It will provide substantial amounts of new, clean, renewable energy that will help achieve the energy independence and price stability goals of the state. Specific benefits related to its carbon-free production of electricity from renewable sources include implementation of the Act to Implement Recommendation of the Governor's Task Force on Wind Power Development, progress toward meeting the state's commitments under the Renewable Greenhouse Gas Initiative, and contribution to the achievement of goals in the state's Renewable Energy Portfolio Standard. Because the project is located in a plantation and is not proposing Tax Increment Financing (TIF), which would change the taxable benefits to the town, county and state, it has a particularly large economic benefit to the town and county, with attendant additional benefits to state finances. It is worth noting that it is among only two large wind projects not to seek tax reductions through a TIF. Finally, the Project plans to offer some mitigation of potential impacts on the Appalachian Trail (AT) hiking experience, if ongoing negotiations with organizations representing the AT interests are successful.

2.0 Local Tangible Benefits

2.1 Tax Benefits

Before Highland Wind LLC (Highland) announced its initial project plans, residents of Highland Plantation considered a vote to de-organize due to the extremely high tax burden on all property owners—at that time its, mil rate of 34 was the highest municipal rate in the state. With the prospect of a large new taxpayer in town, the voters decided to wait and try to preserve their status as an independent municipality. The current valuation of all property in Highland Plantation is less than $9 million, and the estimate of value added by the wind project is approximately $220 million. This means that over the next twenty years, Highland would pay about 96 percent of all taxes within the town, and this will allow the mil rate for all existing property owners to drop to about 3 mils.[1] Other property taxpayers in Highland Plantation are projected to experience an approximate 80 percent reduction in taxes. This benefit to the town and its taxpayers of about $680,000 new annual tax revenue and about $13,600,000 over the Project's twenty year life is greatly appreciated by Highland residents.[2] Because Highland is not seeking a TIF, this benefit is approximately twice what it would likely be for the town if there were a TIF.

2.2 Electricity Assistance

Highland is offering to pay every existing household in Highland Plantation the value of its electricity generation charge up to 500 kilowatt hours on each month's bill for the next twenty years. This benefit mirrors that of the Project's sister wind farm in Roxbury, Maine, and it is the only other offer of free electricity provided by any wind developer in Maine or elsewhere, as far as we know. Our intent in making this offer is to have residents feel a direct economic benefit from this Project in their back-yard and to encourage them to think of the Project as belonging in their town. We hope they will feel pride in having their town host Maine's largest wind generating facility and the clean renewable power that it will provide. The direct tangible benefit to each customer at today's prices is about $600 per household/per year, and this is inflation-proof whenever the cost of energy increases, as it inevitably will. Based on the Central Maine Power Company's count of current customers, the estimated value of this benefit today is $25,000 per year, for a total of $500,000 over the twenty year life of the offer.

[1] The mil rate reduction identified is projected to result even after taking into account the fact that Highland Plantation's county tax obligations will increase and its state education aid and revenue sharing subsidy will decrease as a result of the new property value.

[2] These amounts include $450,000 to be paid annually to account for increased county taxes, approximately $50,000 to be paid annually to account for reductions in state education aid and approximately $7,000 to be paid annually to account for reductions in the state revenue sharing subsidy, all described in Sections 3.1 and 3.2.

2.3 Employment

The Project is already having significant employment impact in Maine, as virtually all contractors working on it are Maine residents (the payroll impact for Maine residents has already reached about $2 million). Local job impacts will occur during construction, as some heavy equipment operators, security guards, and providers of support services will see an upsurge in local hiring. Small businesses such as restaurants, gas stations, convenience stores, motels, and other lodging providers will see a significant increase in local business activity during the two-year construction period. After construction, there will be four to six people employed by Highland who will work out of the Operations and Maintenance building there. These people will live in the area and contribute to the local economy. All of these new employees will pay taxes and provide new business in the community.

3.0 State and Regional Tangible Benefits

3.1 County Tax benefits

The impact of the Project on county taxes will be significant. We estimate that Somerset County's tax receipts from Highland will increase by about $450,000 annually or $9,000,000 over the project's life. The county will then be able to lower taxes on every other town in the county, thus sharing a significant economic benefit with neighboring towns. It is important to understand that this benefit to the county would typically be reduced to less than half of this amount if a TIF approach were used for Highland.

3.2 State tax benefits

The impact on state revenues will be significant, even though it is far lower proportionally than for the town and county. State education aid to Highland Plantation will be reduced by about $50,000 per year, revenue sharing by $7,000, and state corporate tax revenues will increase by an unknown but significant amount in every year of the Project's life. Finally, the economic stimulus of $220,000 million in new construction will be significant—hard to calculate precisely, but very large indeed.

3.3 Recreational Impact Mitigation

Since November 2008, Highland has met nine times with representatives of statewide groups interested in recreational trails, specifically the AT and leaders of the Maine AT Club, the group that has built and still maintains the AT throughout its entire distance in Maine. We have also met with officials of the Maine Bureau of Parks and Lands, the agency that manages the Bigelow Preserve. In these meetings, we have discussed the impact on the AT and the degree to which the project would have an impact on the AT experience. We have reviewed the only three locations from which the Project can be seen from the AT—Avery Peak, Little Bigelow Summit, and Arnold Point on West Carry Pond (see the visual impact section to read more about detailed impact evaluations). While Highland feels strongly that the impact on the AT is modest, we have not yet reached agreement with the principal AT groups on how that impact should be addressed. Discussions continue, and Highland expects to update this application with a more specific plan for a tangible way to offset impacts when negotiations conclude. At this time, we can only say that in concept we support some mitigation, and look to the Kibby Mountain project as the only other wind project that has addressed this issue to date. We intend to reach a negotiated mitigation plan with the Maine AT Club, but reserve the option to offer a specific, unilateral proposal as a supplement to this application.

3.4 Electricity Pricing

Highland anticipates entering into an agreement with an electricity aggregator to sell power into the Maine and New England grid at fixed prices for 15-18 years, as part of its ultimate financing package. The price for this energy has not yet been established; at current market prices, wind energy is competitive with other energy sources—not substantially cheaper. However, natural gas is the energy source currently used for more than half of Maine and New England's electricity needs. About 86 percent of the time, natural gas generators are the ones that determine the "clearing price" for electricity sales, and natural

gas prices today are relatively low compared with the previous five years. A fixed contract for wind energy at today's gas generation prices is a very significant benefit over the life of this Project, as virtually every energy expert expects that gas prices will rise over time as the economy recovers. Thus, the Project is expected to have a moderating effect on overall electricity prices over its 20-year life. The cost of this wind power will not increase, both because long term contracts will keep it flat, and because there is no prospect of rising fuel costs for wind. This part of the energy generation equation requires no expenditure for fuel purchase and is not vulnerable to inflationary effects.

3.5 Environmental Benefits

While Maine law presumes that renewable energy developments provide emissions-related benefits to the state, it is worthwhile to summarize the extent of those benefits. Wind energy generation facilities harness renewable power without creating air or water pollution. The power generated at wind energy facilities can be used to offset power that would otherwise be generated by more traditional fossil-fuel based plants. According to publications of the United States Environmental Protection Agency, every kilowatt of renewable power avoids the emission of more than one pound of carbon dioxide. Other federal government sources have estimated the national average amount of carbon dioxide emitted per kilowatt hour of fossil fuel-generated power is as high as 1.5 pounds. The Project is expected to generate approximately 360 million kilowatt hours of clean, renewable energy each year. Using the most recent ISO-New England report summarizing regional energy production and emissions output, New England's current energy mix would emit approximately 162,650 metric tons of carbon dioxide annually in generating a comparable amount of electricity.

Section 22
Public Safety

22.0 PUBLIC SAFETY

The Maine Wind Power Law requires a demonstration that the proposed generating facility will be constructed with setbacks adequate to protect public safety. Subsequent guidance from the Land Use Regulation Commission (LURC) and the Maine Department of Environmental Protection states that this requirement is fulfilled by providing documentation that the turbine design meets accepted safety standards and has appropriate safety controls.

Because the Highland Wind Project (Project) is considering a number of turbine models, safety documentation for each machine can be found in the attached Appendix 22-1.

LURC's application guidance documents recommend a minimum setback from property lines, roads, or other structures equal to the local setback requirements or 1.5 times the maximum turbine blade height, whichever is greater. The Project has been sited with appropriate setbacks from structures and public roads (setbacks of more than 5 times turbine height apply), but two turbines—E27 and E46—abut commercial timberland at distances less than 1.5 times the maximum turbine height. Plum Creek is the landowner for the property within that setback for both turbines. Highland Wind LLC and Plum Creek are in negotiations to secure a public safety waiver. Evidence of this negotiation can be found in Appendix 22-2. Because the Plum Creek property is managed for commercial timber growth and there are no structures or public roads within the setback distance, it is not anticipated that the locations of these turbines pose a public safety concern. Although there is no apparent public safety concern, Highland Wind LLC is prepared to shift or eliminate turbines in the event that an adequate waiver cannot be secured during the application processing period.

Appendix 22-1

The 2.5xl is a three bladed, upwind, horizontal-axis wind turbine with a rotor diameter of 100 meters and a generator rated at 2.5 megawatts. The machine employs active blade pitch control and variable speed generator designed to regulate turbine rotor speed.

The blade pitch system acts as the main braking system for the wind turbine. Braking under normal operating conditions is accomplished by feathering the blades out of the wind. Only two feathered rotor blades are required to decelerate the rotor safely into idling mode. Independent back up is provided to drive each blade in order to feather the blades and shut down the machine in the event of a grid line outage or other fault. By having all three blades outfitted with independent pitch systems, redundancy of individual blade aerodynamic braking capability is provided.

The wind turbine operates automatically. It is self-starting when the wind speed reaches an average of about 3 meters per second (m/s) (about 7 miles per hour [mph}). The output increases with the wind speed until the wind speed reaches approximately 12 m/s (about 27 mph). At this point, the power is regulated at rated power. If the average wind speed exceeds the maximum operational limit of 25 m/s (about 56 mph), the wind turbine is shut down automatically by feathering of the blades.

The wind turbine is mounted on top of a tubular tower. Access to the turbine is through a door at the base of the tower. Service platforms are provided. A ladder provides access to the nacelle and also supports a fall arrest safety system. Interior lights are installed at critical points from the base of the tower to the tower top.

Service switches at the tower top prevent service personnel at the bottom of the tower from operating certain systems of the turbine while service personnel are in the nacelle. To override any machine operation, emergency-stop buttons located in the tower base and in the nacelle can be activated to stop the turbine in the event of an emergency.

Statement of Compliance

GL Renewables Statement No. **DAA-GL-004-2009**

This Statement of Compliance for the A-Design Assessment of the Wind Turbine

GE 2.5xl 50 Hz, Hub Height 75 m

is issued to **GE Energy GmbH, Holsterfeld 16, 48499 Salzbergen / Germany**

This statement attests the compliance with normative references stated below concerning the design. The A-Design Assessment is based on the calculations and fabrication drawings listed in the relevant Certification Reports referenced below and the characteristic data given in the attached Annex.

Certification Report numbers and titles:

73321-1, Rev. 1	dated 27.05.2008	Load Assumptions according to IEC 61400-1 WTGS Class IIB (Rotor Blade LM 48.7 P)
73767-1	dated 02.02.2009	Load Assumptions according to IEC 61400-1 WTGS Class IIB (Rotor Blade GE 48.7)
72229-1, Rev. 6	dated 29.01.2009	Load Assumptions for dimensioning of the blades and the machinery
72356-2, Rev. 2	dated 12.02.2009	Safety System and Manuals
72356-3, Rev. 2	dated 12.02.2009	Rotor Blade LM 48.7 P
73320-3	dated 12.02.2009	Rotor Blade GE 48.7
72356-4, Rev. 2	dated 12.02.2009	Machinery Components
1062380-1, Rev. 3	dated 20.02.2009	Tubular Steel Tower, Hub Height 75 m
72356-6, Rev. 2	dated 06.02.2009	Electrical Installations and Lightning Protection
72356-8, Rev. 1	dated 16.01.2009	Commissioning
72356-12, Rev. 1	dated 16.01.2008	Nacelle Cover and Spinner

Normative references: International Standard IEC 61400-1 "Wind turbine generator systems – part 1: Safety requirements", second edition, dated February 1999

"Guideline for the Certification of Wind Turbines", Edition 2003 with Supplement 2004 of Germanischer Lloyd

Changes in design are to be approved by Germanischer Lloyd, otherwise this statement loses its validity.

Hamburg, 27th March 2009
HoBe/Mer

Germanischer Lloyd Industrial Services GmbH

i. V. Mike Woebbeking

i. V. Andreas Anders

By DAP German Accreditation System for Testing
accredited Certification Body for products
The accreditation is valid for the fields of certification
listed in the certificate

Deutscher Akkreditierungs Rat
DAR
DPT-ZE 3443.00

Germanischer Lloyd Industrial Services GmbH
Renewables Certification
Steinhoeft 9
20459 Hamburg, Germany

Statement of Compliance

Annex

27th March 2009
page 1/5

GL Renewables Statement No. **DAA-GL-004-2009**

Technical Specifications for GE 2.5xl 50 Hz, Hub Height 75 m

Main data	Type	Horizontal axis wind turbine with variable rotor speed
	Rotor diameter	100 m
	Power regulation	Independent electromechanical pitch system for each blade
	Rated power	2500 kW
	Hub height	75 m
	Rated rotational speed	14.05 rpm
	Operating range rotational speed	3.83 ... 15.61 rpm
	Cut-in wind speed	3.0 m/s
	Rated wind speed	12.0 m/s
	Cut-out-wind speed (10 min mean)	25.0 m/s
	Extreme wind speed (50-year-wind)	42.5 m/s
	Annual average wind speed	8.5 m/s
	Design life time	20 years
	IEC 61400-1, class	**IIB**
Nacelle	Manufacturer	GE Energy
	Drawing No.	400000
Nacelle cover	Manufacturer	Jupiter Plast
	Drawing No.	102W3917, Rev. A 114W1243
Rotor	Cone angle	3°
	Tilt	4°
	Blade pitch angle	Variable
	Orientation	Upwind

Statement of Compliance

Annex

GL Renewables Statement No. **DAA-GL-004-2009**

Blade	Type	LM 48.7 P
	Material	Glass fibre reinforced polyester
	Blade length	48.7 m
	Number of blades	3
	Manufacturer	LM Glasfiber
	Drawing No.	DR-02557 Eng change Id.: 21351 DR-01022/A5 Eng change Id.: 24510
	<u>alternative:</u>	
	Type	GE 48.7
	Material	Glass fibre reinforced epoxy
	Blade length	48.7 m
	Number of blades	3
	Manufacturer	GE Energy
	Drawing No.	103W1678, Rev. A 103W1679, Rev. A 103W1682, Rev. A 103W1683, Rev. A
Pitch gear	Manufacturer	s.me.i
	Type	RES1300GR3S
Hub	Type	Cast
	Material	EN-GJS-400-18U-LT
	Drawing No.	115W6058, 3 sheets
Hub cover	Manufacturer	Fassmer
	Drawing No.	400048, Rev. 1 400049, Rev. 2
Main shaft	Type	Forged
	Material	34CrNiMo6
	Drawing No.	400990, Rev. 0

Statement of Compliance

Annex

GL Renewables Statement No. **DAA-GL-004-2009**

Main bearing front	Design	Tapered roller bearing
	Type	808471A
	Manufacturer	F.A.G
	alternative:	
	Design	Tapered roller bearing
	Type	E-46206 (drawing no.)
	Manufacturer	Timken
Main bearing rear	Design	Cylindrical roller bearing
	Type	NU30 / 710
	Manufacturer	F.A.G
	alternative:	
	Design	Cylindrical roller bearing
	Type	NU30 / 710
	Manufacturer	Timken
Main bearing housing	Type	Cast
	Material	EN-GJS-400-18U-LT
	Drawing No.	400003, Rev. 8
Gearbox	Manufacturer	Bosch Rexroth
	Type	GPV 530 D
	Ratio	1:117.31
Mechanical brakes	No of callipers	1
	Position	High speed shaft of main gear
	Manufacturer	Svendborg Brakes
	Type	BSAK 3000-MS 40 S-100
Generator	Manufacturer	ABB
	Type	AMG 0500LN08 AAM (Permanent magnet synchronous generator)
	Rated power	2640 kW
	Rated speed	1650 rpm
	Isolation class	F
	Degree of protection	IP 55

Statement of Compliance

Annex

GL Renewables Statement No. **DAA-GL-004-2009**

Transformer	Manufacturer	Pauwels Trafo
	Type	liquid-cooled
	Rated power	2.800 kVA
	Rated voltage LV	0.69 kV
	Rated voltage HV	10.0 kV
	alternative:	
	Manufacturer	Hainan Jinpan Electric
	Type	dry type cast resin
	Rated power	2.800 kVA
	Rated voltage LV	0.69 kV
	Rated voltage HV	20.0 kV
Medium Voltage Switchgear	Manufacturer	Merlin Gerin
	Type	RM6 Typ RE IQI + DE B
	Rated voltage	24 kV
Main frame	Type	Cast
	Material	EN-GJS-400-18U-LT
	Drawing No.	115W2048, 3 sheets
		115W2049, 2 sheets
Yaw system	Type	Active, 4 yaw drives, 5 active hydraulic brakes with ball bearing
	Drawing No.	none
Yaw gear	Manufacturer	s.me.i
	Type	RES 6000 GR4-KT
Yaw brake	Manufacturer	Svendborg Brakes
	Type	BSAB 120
Tower	Design	Tubular steel tower with 3 sections
	Length	70.86 m
	Drawing No.	115W1658, Rev. A

Statement of Compliance

Annex

GL Renewables Statement No. **DAA-GL-004-2009**

Control and safety system Manufacturer GE Energy

End of Annex

The SWT-2.3-93 and SWT-2.3-101 turbines are 3-bladed, horizontal-axis, upwind, variable-speed, pitch-regulated turbines. The 2.3-101 has a larger rotor diameter (101 meter [m]) than the 2.3-93 (93m) and a different blade design. The SWT-2.3-101 is designed to Class IIB wind conditions whereas the SWT-2.3-93 is designed to Class IIA. The hub of the 2.3-101 has been redesigned to accommodate the larger blades as compared with the 2.3-93 and may be supplied with a different tower. The nacelle, its contents, and the controls system, however, are exactly the same between the two turbines.

The speed and power output is controlled primarily by an active, hydraulic pitch regulation system. The blades are mounted on pitch bearings and can be feathered 80 degrees for shutdown purposes. Each blade has its own independent pitching mechanism capable of feathering the blade under any operating condition. The independent pitch mechanism on each of the blades provides for redundancy.

The wind turbine operates automatically. It is self-starting when the wind speed reaches an average about 3 to 5 meters per second (m/s) (about 10 miles per hour [mph]). The output increases approximately linearly with the wind speed until the wind speed reaches 13 to 14 m/s (about 30 mph). At this point, the power is regulated at rated power.

If the average wind speed exceeds the maximum operational limit of 25 m/s, the wind turbine will shut down automatically by feathering of blades. The aerodynamic brakes are redundant due to the ability to brake with one blade. When the average wind speed drops back below 20 m/s over a 10-minute average, the systems reset automatically.

The mechanical disc brake is fitted to the gearbox high-speed shaft and has two hydraulic calipers.

The rotor hub is sufficiently large to provide a comfortable working environment for two service technicians during maintenance of blade roots and pitch bearings from inside the structure.

The SWT-2.3-93 and 2.3-101 wind turbines are mounted on a tapered tubular steel tower. The tower has internal ascent and direct access to the yaw system and nacelle. It is equipped with platforms and internal electric lighting.

In addition to the Siemens WebWPS SCADA system, the SWT-2.3-93 and 2.3-101 wind turbines are equipped with the unique Siemens TCM condition monitoring system. This system monitors the vibration level of the main components and compares the actual vibration spectra with a set of established reference spectra.

DET NORSKE VERITAS

TYPE CERTIFICATE

SWT-2.3-93

IEC TC-213705-2
Type Certificate number

2007-01-11
Date of issue

Manufacturer:
Siemens Wind Power A/S
Borupvej 16
DK - 7330 Brande

Valid until: 2011-09-12

This certificate attests compliance with IEC 61400-1 ed. 2: 1999 concerning the design and manufacture. The conformity evaluation was carried out according to IEC WT 01: 2001 "IEC system for conformity testing and certification of wind turbines - Rules and procedures."

Reference documents:

Design Evaluation Conformity Statement:	IEC DE-216501-0
Type Test Conformity Statement:	IEC TT-216501-0
Manufacturing Conformity Statement:	IEC MC-216501-0
Final Evaluation Report:	WTDK-4364, rev. 1

Wind Turbine specification:

IEC WT class: II A. For further information see Appendix 1 of this Certificate.

Date: 2007-01-11

Christer Eriksson
Management Representative
Det Norske Veritas, Danmark A/S

PRODUCTS
RvA C257

Date: 2007-01-11

Bente Vestergaard
Project Manager
Det Norske Veritas, Danmark A/S

APPENDIX 1 - WIND TURBINE TYPE SPECIFICATION

General:

IEC WT class acc. to IEC 61400-1 ed. 2: 1999:	II A
Rotor diameter:	92.6 m
Rated power:	2300 kW
Rated wind speed V_r:	13 – 14 m/s
Hub height(s):	80 m
Operating wind speed range V_{in}-V_{out}:	3 – 25 m/s
Design life time:	20 years

Wind conditions:

V_{ref} (hub height):	42.5 m/s
V_{ave} (hub height):	8.5 m/s
I_{15} (V_{hub}=15 m/s) acc. to IEC 61400-1 ed. 2: 1999:	18 %
Mean flow inclination:	8°

Electrical network conditions:

Normal supply voltage and range:	690 V ±10%
Normal supply frequency and range:	50/60 Hz ±1%
Voltage imbalance:	1%
Maximum duration of electrical power network outages:	No limits when requirements in manuals are followed
Number of annual electrical network outages:	Maximum 1000 per year

Other environmental conditions (where taken into account):

Air density:	1.225 kg/m^3	
Normal and extreme temperature ranges:	Standard:	Normal: -10°C to +40°C Extreme: -20°C to +50°C
	Arctic:	Normal: -20°C to +40°C Extreme: -30°C to +50°C
Relative humidity:	100%	
Solar radiation:	1000 W/m^2	
Salinity:	Present	
Description of lightning protection system:	Designed according to IEC 61024-1 and IEC 61312-1	

Main components:

Blade type:	Siemens Wind Power, B45 or B45-01
Gear box type:	Winergy PEAB 4456.2 or PEAB 4456.5
Generator type:	ABB AMA 500L4A
Tower type:	Tubular steel tower
Service lift:	Not present
Crane:	HMF 262 T2

DET NORSKE VERITAS

TYPE CERTIFICATE

SWT-2.3-101

IEC TC-218901-0
Type Certificate number

2009-11-04
Date of issue

Manufacturer:
Siemens Wind Power A/S
Borupvej 16
DK - 7330 Brande

Valid until: 2014-10-30

This certificate attests compliance with IEC 61400-1 ed. 3: 2005 concerning the design and manufacture. The conformity evaluation was carried out according to IEC WT 01: 2001 "IEC system for conformity testing and certification of wind turbines - Rules and procedures."

Reference documents:

Design Evaluation Conformity Statement:	IEC DE-218901-0
Type Test Conformity Statement:	IEC TT-218901-0
Manufacturing Conformity Statement:	IEC MC-218901-0
Type Characteristics Measurement Conformity Statement(s):	IEC TM-218901-0
Final Evaluation Report:	PD-642189-1240749-22

Wind Turbine specification:

IEC WT class: 2 B. For further information see Appendix 1 of this Certificate.

Date: 2009-11-04

Tove Feld
Management Representative
Det Norske Veritas, Danmark A/S

PRODUCTS
RvA C257

Date: 2009-11-04

Bente Vestergaard
Project Manager
Det Norske Veritas, Danmark A/S

DET NORSKE VERITAS, DANMARK A/S

APPENDIX 1 - WIND TURBINE TYPE SPECIFICATION

General:

IEC WT class acc. to IEC 61400-1 ed. 3: 2005:	II B
Rotor diameter:	100.6 m
Rated power:	2300 kW
Rated wind speed V_r:	12 m/s
Hub height(s):	80 m
Operating wind speed range V_{in}-V_{out}:	4 m/s – 25 m/s
Design life time:	20 years
Low noise option/modified power curve:	May be used, which gives lower energy production

Wind conditions:

V_{ref} (hub height):	42.5 m/s
V_{ave} (hub height):	8.5 m/s
I_{ref} (V_{hub}=15 m/s) acc. to IEC 61400-1 ed. 3: 2005:	14 %
Mean flow inclination:	8°

Electrical network conditions:

Normal supply voltage and range:	690 V ±10%
Normal supply frequency and range:	50/60 Hz ±1%
Voltage imbalance:	1%
Maximum duration of electrical power network outages:	No limits when requirements in manuals are followed
Number of annual electrical network outages:	Maximum 1000 per year

Other environmental conditions (where taken into account):

Air density:	1.225 kg/m^3
Normal and extreme temperature ranges:	Normal: -10°C to +40°C Extreme: -20°C to +50°C
Relative humidity:	100%
Solar radiation:	1000 W/m^2
Salinity:	Present
Description of lightning protection system:	Designed according to IEC 61024-1 and IEC 61312-1

Main components:

Blade type:	Siemens Wind Power, B49-00
Gear box type:	Winergy PEAB 4456.2 or Winergy PEAB 4456.5 or Hansen EH851AQ21
Generator type:	ABB AMA 500L4A
Tower type:	Tubular/Conical steel tower
Service lift:	Not present
Crane:	HMF 262 T2

The Vestas V90-3.0 MW wind turbine is a pitch regulated upwind turbine with active yaw and a three-blade rotor. The Vestas V90-3.0 MW turbine has a rotor diameter of 90 meters with a generator rated at 3.0 MW.

The main brake on the turbine is aerodynamic. Braking the turbine is done by fully feathering the three blades (individual turning of each blade). Each blade has a hydraulic accumulator as power supply for turning the blade. In addition, there is a mechanical disc brake on the high-speed shaft of the gearbox with a dedicated hydraulic system. The mechanical brake is only used as a parking brake and when activating the emergency stop push buttons.

The wind turbine operates automatically. It is self-starting when the wind speed reaches an average of about 4 meters/second (m/s) (about 9 miles per hour [mph]). The output increases with the wind speed until the wind speed reaches approximately 17 m/s (about 38 mph). At this point, the power is regulated at rated power. If the average wind speed exceeds the maximum operational limit of 25 m/s (about 56 mph), the wind turbine is shut down automatically by feathering of the blades.

The generator rotations per minute (RPM) and the main shaft RPM are registered by inductive sensors and calculated by the wind turbine controller in order to protect against overspeed and rotating errors. The turbine is equipped with a VOG (Vestas Overspeed Guard), which is an independent computer module measuring the rotor RPM, and in case of an overspeed situation, the VOG activates the emergency feathered position (full feathering) of the three blades independently of the turbine controller in the turbine.

Access to the turbine from the outside is through a door equipped with a lock at the bottom of the tower. Access to the top platform in the tower is by a ladder with a fall arrest system (rigid rail). Rest platforms are provided at intervals of nine meters along the tower ladder between platforms.

Access to the nacelle from the top platform is by ladder. Access to the transformer room in the nacelle is equipped with a lock. Unauthorized access to electrical switchboards and power panels in the turbine is prevented according to IEC 60204-1 2006.

In addition to the normal access routes, alternative escape routes from the nacelle are through the crane hatch, from the spinner by opening the nose cone, or from the roof of the nacelle. Rescue equipment is placed in the turbine. The hatch in the roof can be opened from both the inside and outside. An emergency response plan placed in the turbine describes evacuation and escape routes.

The turbine is equipped with light in the tower, nacelle, transformer room, and in the hub. There is emergency light in case of loss of electrical power. There are emergency stop push buttons in the nacelle, hub and in the bottom of the tower.

DET NORSKE VERITAS

TYPE CERTIFICATE

Vestas V90 3MW

IEC TC-205703-6
Type Certificate number

2009-06-07
Date of issue

Manufacturer:
Vestas Wind Systems A/S
Alsvej 21
DK-8900 Randers

Valid until: 2014-06-07

This certificate attests compliance with IEC 61400-1 ed. 3: 2005 concerning the design and manufacture. The conformity evaluation was carried out according to IEC WT 01: 2001 "IEC system for conformity testing and certification of wind turbines - Rules and procedures."

Reference documents:

Design Evaluation Conformity Statement:	IEC DE-205703-6
Type Test Conformity Statement:	IEC TT-205703-5
Manufacturing Conformity Statement:	IEC MC-205703-5
Type Characteristics Measurement Conformity Statement(s):	IEC TM-205703-4
Final Evaluation Report:	WTDK-2554 rev.2

Wind Turbine specification:

IEC WT class: S. For further information see Appendix 1 of this Certificate.

Date: 2009-06-07

Christer Eriksson
Management Representative
Det Norske Veritas, Danmark A/S

PRODUCTS
RvA C257

Date: 2009-06-07

Torben Søndergaard
Project Manager
Det Norske Veritas, Danmark A/S

DET NORSKE VERITAS, DANMARK A/S

APPENDIX 1 - WIND TURBINE TYPE SPECIFICATION

General:

IEC WT class acc. to IEC 61400-1:2005:	S	(IEC WT class 1A/2A except for temperature range)
Rotor diameter:	90 m	
Rated power:	3000 kW	
Rated wind speed V_r:	13.4 m/s	
Hub heights, Standard version:	65m, 75m, 79.8m, 80 m (IEC 1A, 50Hz / 60Hz) 105m (IEC 2A, 50Hz / 60Hz)	
Hub heights, LT version:	75m, 79.8m, 80m (IEC 1A, 50 Hz / 60 Hz)	
Operating wind speed range V_{in}-V_{out}:	4 – 25 m/s	
Design life time:	20 years	

Wind conditions:

	1A	2A
V_{ref} (hub height)	50 m/s	42.5 m/s
V_{e50} (hub height)	70 m/s	59.5 m/s
V_{ave} (hub height):	10 m/s	8.5 m/s
I_{ref} at V_{hub} = 15 m/s:	0.16	0.16

Electrical network conditions:

Normal supply voltage and range:	6-33 kV (50 Hz) 10-34.5 (60 Hz)
Normal supply frequency and converter types:	50 Hz VCS 60 Hz VCRS

Other environmental conditions (where taken into account):

Air density:	1.225 kg/m^3	
Normal ambient temperature range:	Standard version:	-20°C to 40°C
	LT version:	-30°C to 40°C
	(however maximum air density according to IEC 61400-1 Ed.3 at wind speed above 10m/s: 1.34 kg/m^3)	
Extreme ambient temperatures range:	Standard version:	-40°C to 50°C
	LT version:	-40°C to 50°C

Main components:

Blade type:	Vestas 44m blade
Gear box alternatives:	Hansen EF901EE55-K1, i=104.6 (50 Hz) Hansen EF901EE55-K1, i=109.0 (60 Hz)
Main bearing alternatives:	SKF: BT2-8125 C/HA1
Generator alternatives:	Leroy Somer G54-10/4P: Mk 6 (50 Hz VCS) Leroy Somer G54-9/4P: Mk 7 (60 Hz VCRS)

Transformer alternatives:	Weier DVSGM 560/4L: V5 (50 Hz VCS) Weier DVSGM 560/4L: V6 (60 Hz VCRS) Siemens AG 4GB6580-9KA SGB DTTHIL 2500/30
Yaw gear	SOM PG 1604 R=1391/1
Tower type:	Tubular steel tower
Crane and service load	Integrated, 800kg
Service Lift	Avanti, type Shark, max working load 240 kg
Controller	VMP 6000

Appendix 22-2

Highland Wind LLC
Brunswick, Maine

Marcia Spencer Famous
LURC
Augusta, ME 04332

December 14, 2009

Dear Marcia,

The purpose of this letter is to confirm that Highland Wind LLC has been working on settling any concerns about safety with our neighboring landowner, Plum Creek. As you know, we have resolved all matters concerning rights to cross Plum Creek land in Pleasant Ridge and Concord Plantations for our transmission lines. We have sought a waiver of concerns about safety that might arise from having wind turbines within certain distances of Plum Creek property. Specifically, turbine # E27 is within 221 feet of Plum Creek's property in Pleasant Ridge Plantation, and turbine #E46 is within 177 feet of their property in Lexington Plantation. In neither case will turbine blades overhang Plum Creek land. While we have reached substantial agreement with Plum Creek's woodlands staff concerning this issue, Plum Creek has not yet fully approved final terms and conditions. We expect to receive written approval for the turbine set-back distances within a week or two—certainly before the 30 day LURC period for review of application completeness.

Sincerely,

Robert H. Gardiner
President

Cc: J. Ryan

Section 23
Notices and Public Meetings

23.0 NOTICES AND PUBLIC MEETINGS

In accordance with Chapter 4 of Land Use Regulation Commission (LURC) regulations, 4.04, 4, (B), LURC staff must provide notice of the applications to all persons owning or leasing land within 1,000 feet of the proposed project. There are no properties within 1,000 feet of the generating facility. Nevertheless, the applicant published a Notice of Intent to File in the *Waterville Morning Sentinel* on December 22, 2009. A copy of that Notice format, as well as a copy of the notice as it appeared in the *Waterville Morning Sentinel*, is provided in Appendix 23-1.

Included in this final application is a form Notice of Acceptance for Processing, which will be published in the *Waterville Morning Sentinel* once the application is deemed complete by LURC. Also included is an abutters list. Note that the abutters list included here extends beyond LURC's typical requirements and provides a list of those owning property that directly abuts the parcel on which the generating facility will be developed or that abuts the generator lead line corridor, regardless of setback distance. The attached list also includes other parties likely to be interested in the filing of the application such as the town managers of nearby communities and representatives of environmental non-governmental organizations.

Prior to submitting any application materials to LURC the applicant held public meetings in Highland Plantation for the benefit of residents. These meetings were open to any attendees. These meetings were held on October 8 and October 19, 2009. Notice of each meeting was mailed to each resident prior to the event.

Appendix 23-1

NOTICE OF INTENT TO FILE
A DEVELOPMENT PERMIT APPLICATION

Please take notice that Highland Wind LLC, (Highland) P.O. Box 457, Brunswick, ME 04011, (207) 729-1911, intends to file with the Land Use Regulation Commission (LURC) a Grid-Scale Wind Energy Development permit application, pursuant to the provisions of 12 M.R.S.A. Ch. 206-A et seq. and associated regulations. Highland also will be seeking a Section 401 Water Quality Certification pursuant to 33 U.S.C. § 1341.

The application is to allow for construction and operation of 48 utility-scale wind turbines along two distinct ridgelines in Highland Plantation, Maine. The proposed 128.6-megawatt wind farm will also include electrical collection infrastructure, an electrical substation, and an operations and maintenance building. The project is located in an "expedited" permitting area and thus application review will be consistent with the requirements of *An Act To Implement Recommendations of the Governor's Task Force on Wind Power Development*, PL 2007, Ch. 661. The development area is generally zoned General Management Subdistrict (M-GN).

The Grid Scale Wind Energy Development permit application will be submitted to the Commission's office in Augusta on or about December 18, 2009, and will be available for public inspection by appointment. Notice will be provided when the application is deemed complete for processing and copies of the complete application will then also be made available at the Somerset County Commissioners Office at 41 Court Street in Skowhegan, Maine 04976. The Notice of the Complete Application will also include details and the timeframe for requesting a public hearing, and for submitting comments on the application.

The application and supporting documentation will be available by appointment for review at the LURC's office in Augusta, 18 Elkins Lane, Augusta, Maine, 04333, and at LURC's regional office in Greenville, (address), during normal working hours.

Please contact Marcia Spencer-Famous of Maine Land Use Regulation Commission staff, by calling (207) 287-4933 if you have questions. Project updates for the review of this permit application may be found on LURC's website: http://www.maine.gov/doc/lurc/index.shtml.

NOTICE OF INTENT TO FILE A DEVELOPMENT PERMIT

NOTICE OF INTENT TO FILE A DEVELOPMENT PERMIT APPLICATION Please take notice that Highland Wind LLC, (Highland) P.O. Box 457, Brunswick, ME 04011, (207) 729-1911, intends to file with the Land Use Regulation Commission (LURC) a Grid-Scale Wind Energy Development permit application, pursuant to the provisions of 12 M.R.S.A. Ch. 206-A et seq. and associated regulations. Highland also will be seeking a Section 401 Water Quality Certification pursuant to 33 U.S.C. 1341. The application is to allow for construction and operation of 48 utility- scale wind turbines along two distinct ridgelines in Highland Plantation, Maine. The proposed 128.6-megawatt wind farm will also include electrical collection infrastructure, an electrical substation, and an operations and maintenance building. The project is located in an expedited permitting area and thus application review will be consistent with the requirements of An Act To Implement Recommendations of the Governors Task Force on Wind Power Development, PL 2007, Ch. 661. The development area is generally zoned General Management Subdistrict (M-GN). The Grid Scale Wind Energy Development permit application will be submitted to the Commissions office in Augusta on or about December 18, 2009, and will be available for public inspection by appointment. Notice will be provided when the application is deemed complete for processing and copies of the complete application will then also be made available at the Somerset County Commissioners Office at 41 Court Street in Skowhegan, Maine 04976. The Notice of the Complete Application will also include details and the timeframe for requesting a public hearing, and for submitting comments on the application. The application and supporting documentation will be available by appointment for review at the LURCs office in Augusta, 18 Elkins Lane, Augusta, Maine, 04333, and at LURC's regional office in Greenville, (address), during normal working hours. Please contact Marcia Spencer-Famous of Maine Land Use Regulation Commission staff, by calling (207) 287-4933 if you have questions. Project updates for the review of this permit application may be found on LURC's website: http://www. maine.gov/doc/lurc/ index.shtml.

Appeared in: ***Morning Sentinel*** on Tuesday, 12/22/2009

LIST OF ABUTTERS

Plum Creek Maine Timberlands LLC
49 Mountain Avenue
Fairfield, ME 04937

Bayroot LLC
c/o Wagner Forest Management
150 Orford Road
Lyme, NH 03768

Eric Globisch
12 North Lime Street
Apartment 2
Quarryville, PA 17566

Glenn Dunphy
47 Maureen Avenue
Randolph, ME 04346

Daniel Bell
375 Sequin Pond Road
Georgetown, ME 04548

Lakeville Shores, Inc.
P.O. Box 96
Winn, ME 04495

Trautz Family Realty Trust
45 Jason Drive
Eastham, MA 02642

Jennifer Perkins
P.O. Box 1233
East Holden, ME 04429

Sharon Pray
1047 Long Falls Dam Road
Lexington, ME 04961

Ralph Marash
21 Salem Place
White Plains, NY 10605

Bradford Forsythe
P.O. Box 666
Fairfield, CT 06824

Highland Plantation Town Office
2392 Long Falls Dam Road
Highland Plantation, ME 04961

Central Maine Power Company
83 Edison Drive
Augusta, ME 04336

Arthur Cummings
463 Bakerstown Road
Poland Spring, ME 04274

Peter Richmond
HCR 31 Box 35
Harmony, ME 049442

Robert and Elizabeth Smith
519 Rowe Pond Road
Pleasant Ridge Plantation, ME 04920

Mary Jo Baker
14 Rowe Pond Road
Pleasant Ridge Plantation, ME 04920

FPL Energy Maine Hydro, LLC
160 Capitol Street
Suite 8
Augusta, ME 04330

OTHER INTERESTED PARTIES

Somerset County Government
County Commissioners
41 Court Street
Skowhegan, ME 04976

Chief Victoria Higgins
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, ME 04769

Chief Brenda Commander
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, ME 04730

William J. Nicholas, Tribal Governor
Passamaquoddy Tribe of Indians
Indian Township Reservation
PO Box 301
Princeton, ME 04668

Richard Doyle, Tribal Governor
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, ME 04667

Chief Kirk Francis
Penobscot Indian Nation
12 Wabanaki Way
Indian Island, ME 04468

National Park Service
Northeast Regional Office
200 Chestnut Street
Philadelphia, PA 19106

Maine Appalachian Trail Club
P.O. Box 283
Augusta, ME 04332-0283

Natural Resource Council of Maine
3 Wade Street
Augusta, ME 04330

Appalachian Mountain Club
5 Joy Street
Boston, MA 02108

Maine Audubon Society
Headquarters
20 Gilsland Farm Road
Falmouth, Maine 04105

New Portland Town Office
Stacie Rundlett, Town Manager
901 River Road
North New Portland, ME 04961

Carrabassett Valley Town Office
Dave Cotta, Town Manager
1001 Carriage Road
Carrabassett Valley, ME 04947

Kingfield Town Office
Leanna Ross Targett, Town Clerk
38 School Street
Kingfield, ME 04947

Town of Bingham
Jeannette Jacques, Municipal Clerk
PO Box 136
Bingham, ME 04920

Section 24
Other Required Permits and Notifications

24.0 OTHER REQUIRED PERMITS AND NOTIFICATIONS

This Project will require completion of the following notices and additional approvals and permits.

- Federal Aviation Administration Notice of Proposed Construction or Alteration–Off Airport: Determination of No Hazard for Turbine Lighting Plan;
- Maine Department of Environmental Protection (MDEP) Notice of Intent for a Construction General Permit;
- Forest Operation Notification;
- Maine Department of Transportation (MDOT) road opening permit;
- MDOT road crossing permit for overhead lines;
- MDEP Natural Resources Protection Act license for impacts in Moscow, Maine (if needed); and
- U.S. Army Corps of Engineers Clean Water Act license

Appendix 24-1

NOTICE OF INTENT TO COMPLY WITH MAINE CONSTRUCTION GENERAL PERMIT

PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

Name of Applicant (Owner):	**Highland Wind LLC care of Rob Gardiner**			**Applicant Mailing Address:**	**110 Foreside Road**		
Town/City:	**Cumberland Forside**			**State:**	**Maine**	**Zip Code:**	**04110**
Daytime phone: (with area code)	**207-781-8741**	**Email if available:**			**Name of Agent:**	**James W. Sewall Company Contact: Brett Hart**	
Project Location: (Town/City):	**Highland Plantation**	**UTM Northing: (if known)**	**16378315**	**UTM Easting: (if known)**	**1351315**		
Map #:		**Lot #:**		**Size of disturbed area proposed:**	**530.3 acres (temp)**		
Creating a common plan of development or sale?		**No**		**Part of a larger project?**		**No**	
Name of waterbody(ies) to which the disturbed area drains, or name municipality if drains to an MS4:	**Flagstaff Lake, Gilman Pond, Carabasset River, Kennebec River**						
Detailed directions to site, including address if available:	**Project access will be directly adjacent to Long Falls Dam Road in Highland Plantation, Maine. Existing logging road access is 2.4 miles north of the intersection of Old County Road and Long Falls Dam Road.**						
Description of project and its purpose:	**The proposed project is a commercial wind power farm with 48 wind turbine generators.**						

I am filing notice of my intent to carry out work which meets the requirements of the Construction General Permit (effective 7/21/06). I have a copy of the Construction General Permit. I have read and will comply with all of the standards. I have attached all the required submittals. *Notification forms cannot be accepted without the necessary attachments.*

- x ALL: A check for $106 (non-refundable) made payable to: "Treasurer, State of Maine".
- x ALL: A U.S.G.S. topo map or Maine Atlas & Gazetteer map with the project site clearly marked.
- x ALL: Drawing of the proposed activity (site plan)
- x ALL: An ESC plan.
- x IF this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.
- ☐ IF any construction activity will occur in essential habitat, attach written approval from the Dept. of Inland Fisheries & Wildlife.

I authorize staff of the Department of Environmental Protection to access the project site for the purpose of determining compliance with the general permit. I also understand that ***this permit is not valid until approved by the Department or 14 days after receipt by the Department, whichever is less.***

Signature of Applicant:	PRESIDENT	**Date:**	12/21/09

Keep the bottom copy as a record of permit. Send the form with attachments via certified mail to the Maine Dept. of Environmental Protection **at the appropriate regional office.** The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. An approved NOI is valid until 1/20/08. **Work carried out in violation of any standard is subject to enforcement action.**

OFFICE USE ONLY		Ck.#				Staff		Staff			
NOI #		FP		Date		Acc. Date		Def. Date		After Photos	

Maine Department of Transportation
Driveway/Entrance Permit

Permit Number:9751

Owner: **Bayroot LLC, c/o Wagner Forest Management**

Address: **P.O. Box 160**
Lyme, NH 07368

Telephone: **(603)795-2002**

Location:
Route: **C3110, Longfalls Dam Rd**
Municipality: **Highland Plt**
County: **Somerset**
Tax Map: ; Lot Number:
Culvert Size: **15"**
Culvert Type: **metal/plastic**
Culvert Length: **50'**
Date of Permit: **16-DEC-09**
Approved Entrance Width: 45'

In accordance with rules promulgated under 23 M.R.S.A., Chapter 13, Subchapter I, Section 704, the Maine Department of Transportation (MaineDOT) approves a permit and grants permission to perform the necessary grading to construct, in accordance with sketch or attached plan, an Entrance to [a] **Existing Forestry road to be improved to transport and install 48 wind turbines.** at a point **13042' N** from **Old County Rd**, subject to the Chapter 299 Highway Driveway and Entrance Rules, standard conditions and special conditions (if any) listed below.

Conditions of Approval:

This permittee acknowledges and agrees to comply with the Standard Conditions of Approval attached hereto and to any Specific Conditions of Approval shown here.

Approved Special Condition(s):

* Center line of driveway is to be at GPS. Coordinates 45.07692 -70.11939
* Drainage ditches will be required alongside of the constructed driveway so as to prevent drainage onto the traveled portion of the highway. All pipes and ditches that direct runoff toward MaineDOT ditches & drainage systems shall be constructed, stabilized and maintained with stable materials and appropriate erosion control measures such as permanent vegetation or stone.
* Owner will reduce the width of the opening to the entrance as soon as all the over sized components have been delivered. By either curbing, ditching or placing loam with seed or any other MDOT approved means to ensure access is limited to the approved width of 30 feet only.
* No improvements or objects that obstruct sight distance for traffic entering and exiting the entrance will be allowed within the Right of Way including any signage.
* The property owner will keep the trees, brush, limbs and grass trimmed looking in both directions from driveway/entrance to maintain proper sight distances.
* Install Truck Entering signs.

Approved by: Gm O Cuter Date: 12-16-09

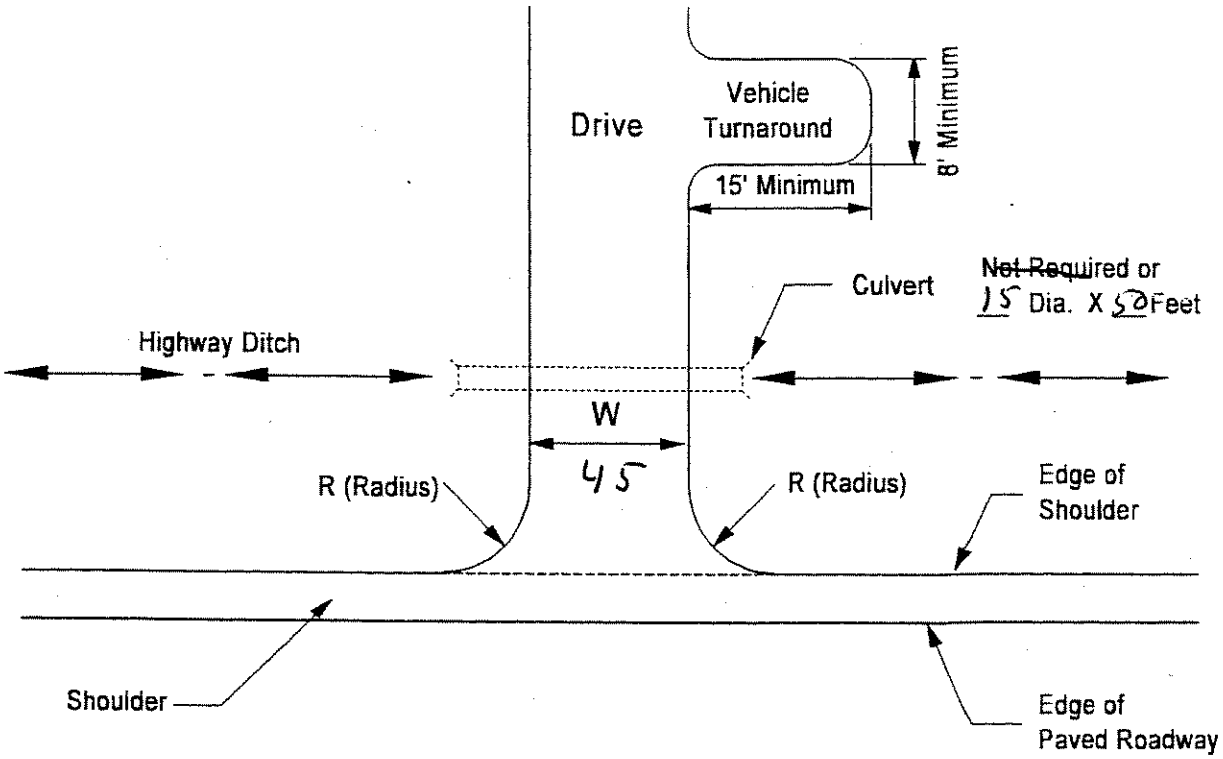
State of Maine

Department of Transportation

MaineDOT

Entrance / Driveway Details

PLAN



GENERAL NOTES -

1. ALL RESIDENTAL OR COMMERCIAL DRIVES WITH 10% GRADE OR MORE SLOPING DOWN TOWARDS THE HIGHWAY SHALL BE PAVED TO THE RIGHT OF WAY LINE, AS A MINIMUM, INCUDING SHOULDER, IF GRAVEL AND HAVE DITCHES TO CONTROL RUNOFF.
2. DRIVES SLOPING TO THE HIGHWAY SHALL BE CROWNED (1/2" PER FT. MINIMUM).
3. TO THE MAXIMUM EXTENT PRACTICAL, THE ENTRANCE MUST BE CONSTRUCTED PERPENDICULAR TO THE HIGHWAY AT THE POINT OF ACCESS. EXCEPT WHERE CURBING EXISTS OR IS PROPOSED, THE MINIMUM RADIUS ON THE EDGES OF THE ENTRANCE MUST BE 10 FEET OR AS OTHERWISE REQUIRED AS SHOWN.
4. ENTRANCES/DRIVEWAYS WILL BE BUILT WITH AN ADEQUATE TURN-AROUND AREA ON SITE TO ALLOW ALL VEHICLES TO MANUVER AND PARK WITHOUT BACKING ONTO THE HIGHWAY. THIS TURN-AROUND SHALL BE AT LEAST 8 FEET WIDE BY 15 FEET LONG.
5. ENTRANCES/DRIVEWAYS AND OTHER ASSOCIATED SITE WORK WHICH DIRECTS WATER (RUNOFF) TOWARD THE HIGHWAY MUST BE CONSTRUCTED, CROWNED STABILIZED AND MAINTAINED WITH MATERIALS AND APPROPRIATE TEMPORARY/PERMANENT EROSION CONTROL MATERIALS IN ACCORDANCE WITH MDOT BEST MANAGEMENT PRACTICES.
6. THE PROFILE OF THE ENTRANCES MUST COMPLY WITH THE DETAILS SHOWN ON PAGE 2.

STANDARD CONDITIONS

1. Provide, erect and maintain all necessary barricades, lights, warning signs and other devices as directed by MaineDOT to safeguard traffic properly while the construction is in progress.

2. At no time cause the highway to be closed to traffic.

3. Where the driveway is located within a curb, curb and gutter, and/or sidewalk section, completely remove the existing curb, curb and gutter, and/or sidewalk as may be required to create the driveway and restore drainage. All driveways abutting sidewalk sections shall meet the requirements set forth in the Americans with Disabilities Act of 1990, 42 U.S.C. Sec. 12131 et seq.

4. Obtain, have delivered to the site, and install any culverts and/or drainage structures which may be necessary for drainage, the size, type and length as called for in the permit pursuant to 23 M.R.S.A. Sec. 705. All culverts and/or drainage structures shall be new.

5. Start construction of the proposed driveway within twenty-four (24) months of the date of permit issuance and substantially complete construction of the proposed driveway within twelve months of commencement of construction.

6. Comply with all applicable federal, state and municipal regulations and ordinances.

7. Not alter, without the express written consent of the MaineDOT, any culverts or drainage swales within the MaineDOT right of way.

8. File a copy of the approved driveway permit with the affected municipality or LURC, as appropriate within 5 business days of receiving the MaineDOT approval.

9. Construct and maintain the driveway side slopes to be no steeper than the adjacent roadway side slopes, but in no case to be steeper than 3 horizontal to 1 vertical, unless the side slope is behind existing roadway guardrail, in which case it shall be no steeper than 2 horizontal to 1 vertical.

10. Notify the MaineDOT of a proposed change of use served by the driveway when increase in traffic flow is expected to occur. This does not exempt the need for obtaining a Traffic Movement Permit (TMP) if trip generation meets or exceeds 100 passenger car equivalents (pce) during the peak hour of the day.

11. Construct or implement and maintain erosion & sedimentation measures sufficient to protect MaineDOT's facilities.

12. Driveways shall be designed such that all maneuvering and parking of any vehicles will take place outside the highway right-of-way and where vehicles will exit the premises without backing onto the highway traveled way or shoulders. All driveways will have a turnaround area to accommodate vehicles using the premises.

FURTHER CONDITION OF THE PERMIT:

The owner shall assume the defense of, and pay all damages, fines, and penalties for which he/she shall become liable, and shall indemnify and safe harmless said Department, its representatives, agents and employees from liability, actions against all suits, claims, damages for wrongful death, personal injuries or property damage suffered by any person or association which results from the willful or negligent action or inaction of the owner/applicant/agent and in proceedings of every kind arising out of the construction and maintenance of said entrance(s), including snow removal. Nothing herein shall, nor is intended to, waive any defense, immunity or limitation of liability which may be available to the MaineDOT, their officers, agents or employees under the Maine Tort Claims Act or any other privileges and/or immunities provided by law. It is a further condition that the owner will agree to keep the right of way inviolate for public highway purposes and no signs (other than traffic signs and signals), posters, billboards, roadside stands, culvert end walls or private installations shall be permitted within Right of Way limits.

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E28

Show Project Summary

Case Status

ASN:	2010-WTE-181-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E28
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 43.67'' N
Longitude:	70° 1' 6.39'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1833 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E27

Show Project Summary

Case Status

ASN:	2010-WTE-182-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E27
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 46.14'' N
Longitude:	70° 0' 52.94'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1793 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E29

Show Project Summary

Case Status

ASN:	2010-WTE-180-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E29
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 38.62'' N
Longitude:	70° 1' 15.56'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1944 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E31

Show Project Summary

Case Status

ASN:	2010-WTE-178-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E31
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 27.01'' N
Longitude:	70° 1' 32.53'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2193 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E30

Show Project Summary

Case Status

ASN:	2010-WTE-179-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E30
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 32.85'' N
Longitude:	70° 1' 23.97'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2091 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E32

Show Project Summary

Case Status

ASN:	2010-WTE-177-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E32
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 20.99'' N
Longitude:	70° 1' 40.83'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2213 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E34

Show Project Summary

Case Status

ASN:	2010-WTE-175-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E34
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 58.04" N
Longitude:	70° 1' 34.14" W
Horizontal Datum:	NAD83
Site Elevation (SE):	1908 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E33

Show Project Summary

Case Status

ASN:	2010-WTE-176-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E33
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 12.97'' N
Longitude:	70° 1' 44.95'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2243 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E35

Show Project Summary

Case Status

ASN:	2010-WTE-174-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E35
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 48.56'' N
Longitude:	70° 1' 41.65'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1809 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E37

Show Project Summary

Case Status

ASN:	2010-WTE-172-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E37
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 26.34'' N
Longitude:	70° 1' 19.96'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1878 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E36

Show Project Summary

Case Status

ASN:	2010-WTE-173-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E36
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 38.37" N
Longitude:	70° 1' 36.65" W
Horizontal Datum:	NAD83
Site Elevation (SE):	1848 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Burnt Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E38

Show Project Summary

Case Status

ASN:	2010-WTE-171-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E38
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 10.54'' N
Longitude:	70° 1' 18.27'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1643 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E40

Show Project Summary

Case Status

ASN:	2010-WTE-169-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E40
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 52.80'' N
Longitude:	70° 1' 18.21'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1973 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E39

Show Project Summary

Case Status

ASN:	2010-WTE-170-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E39
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 1.69'' N
Longitude:	70° 1' 18.40'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1653 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E41

Show Project Summary

Case Status

ASN:	2010-WTE-168-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E41
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 45.74'' N
Longitude:	70° 1' 18.44'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1742 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E43

Show Project Summary

Case Status

ASN:	2010-WTE-166-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E43
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 31.55'' N
Longitude:	70° 1' 16.73'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1965 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E42

Show Project Summary

Case Status

ASN:	2010-WTE-167-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E42
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 38.71'' N
Longitude:	70° 1' 18.43'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1884 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E44

Show Project Summary

Case Status

ASN:	2010-WTE-165-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E44
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 24.48'' N
Longitude:	70° 0' 56.94'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1812 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E46

Show Project Summary

Case Status

ASN:	2010-WTE-163-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E46
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 8.13'' N
Longitude:	70° 1' 3.19'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1792 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E45

Show Project Summary

Case Status

ASN:	2010-WTE-164-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E45
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 15.70'' N
Longitude:	70° 1' 0.37'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1820 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E47

Show Project Summary

Case Status

ASN:	2010-WTE-208-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E47
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 38.50'' N
Longitude:	70° 0' 35.24'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1554 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W1

Show Project Summary

Case Status

ASN:	2010-WTE-162-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	01/08/2010 2010-01-08 Mappin...

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W1
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 7' 11.54'' N
Longitude:	70° 7' 22.21'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2184 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : E48

Show Project Summary

Case Status

ASN:	2010-WTE-161-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	E48
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 3' 31.25'' N
Longitude:	70° 0' 38.66'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1611 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Briggs Hill
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W2

Show Project Summary

Case Status

ASN:	2010-WTE-207-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	05/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W2
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 7' 0.77'' N
Longitude:	70° 7' 15.67'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2450 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W3

Show Project Summary

Case Status

ASN:	2010-WTE-206-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	01/08/2010 2010-01-08 Mappin...

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W3
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 50.40'' N
Longitude:	70° 7' 11.15'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2691 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W5

Show Project Summary

Case Status

ASN:	2010-WTE-204-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W5
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 30.76'' N
Longitude:	70° 7' 6.61'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2575 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W4

Show Project Summary

Case Status

ASN:	2010-WTE-205-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W4
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 39.47'' N
Longitude:	70° 7' 5.62'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2677 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W6

Show Project Summary

Case Status

ASN:	2010-WTE-203-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W6
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 21.21'' N
Longitude:	70° 7' 6.15'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2492 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W8

Show Project Summary

Case Status

ASN:	2010-WTE-201-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W8
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 2.35'' N
Longitude:	70° 7' 6.37'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2520 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W7

Show Project Summary

Case Status

ASN:	2010-WTE-202-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W7
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 6' 13.08" N
Longitude:	70° 7' 2.12" W
Horizontal Datum:	NAD83
Site Elevation (SE):	2499 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W9

Show Project Summary

Case Status

ASN:	2010-WTE-200-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W9
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 48.27'' N
Longitude:	70° 7' 10.88'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2189 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W11

Show Project Summary

Case Status

ASN:	2010-WTE-198-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W11
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 33.59'' N
Longitude:	70° 6' 55.45'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2063 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

« OE / AAA

Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W10

Show Project Summary

Case Status

ASN:	2010-WTE-199-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W10
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 39.70'' N
Longitude:	70° 6' 48.89'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2189 (nearest foot)
Structure Height (AGL):	420 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W12

Show Project Summary

Case Status

ASN:	2010-WTE-197-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W12
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 26.53'' N
Longitude:	70° 6' 57.56'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2061 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W14

Show Project Summary

Case Status

ASN:	2010-WTE-195-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W14
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 10.66'' N
Longitude:	70° 6' 55.97'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2136 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W13

Show Project Summary

Case Status

ASN:	2010-WTE-196-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W13
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 18.62'' N
Longitude:	70° 6' 57.27'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2075 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W15

Show Project Summary

Case Status

ASN:	2010-WTE-194-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W15
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 3.25'' N
Longitude:	70° 6' 55.50'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2147 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W17

Show Project Summary

Case Status

ASN:	2010-WTE-192-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W17
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 0.02'' N
Longitude:	70° 6' 17.90'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2055 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W16

Show Project Summary

Case Status

ASN:	2010-WTE-193-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W16
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 5' 9.24'' N
Longitude:	70° 6' 36.22'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2183 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	South of Stewart Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W18

Show Project Summary

Case Status

ASN:	2010-WTE-191-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W18
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 50.53'' N
Longitude:	70° 5' 36.76'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1971 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Witham Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W23

Show Project Summary

Case Status

ASN:	2010-WTE-186-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W23
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 44.51'' N
Longitude:	70° 4' 21.55'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2019 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Witham Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W22

Show Project Summary

Case Status

ASN:	2010-WTE-187-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W22
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 43.47'' N
Longitude:	70° 4' 30.35'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2055 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Witham Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W24

Show Project Summary

Case Status

ASN:	2010-WTE-185-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W24
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 45.75'' N
Longitude:	70° 4' 12.75'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1990 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Witham Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W25

Show Project Summary

Case Status

ASN:	2010-WTE-184-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W25
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 36.93'' N
Longitude:	70° 4' 0.23'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	1944 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Bald Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Project Name: HIGHL-000136911-10 Sponsor: Highland Wind LLC

Details for Case : W26

Show Project Summary

Case Status

ASN:	2010-WTE-183-OE	Date Accepted:	01/08/2010
Status:	Accepted	Date Determined:	
		Letters:	None
		Documents:	None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	05/01/2011
Work Schedule - End:	12/31/2011
State Filing:	Filed with State

Structure Summary

Structure Type:	Wind Turbine
Structure Name:	W26
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	45° 4' 27.68'' N
Longitude:	70° 3' 44.43'' W
Horizontal Datum:	NAD83
Site Elevation (SE):	2009 (nearest foot)
Structure Height (AGL):	445 (nearest foot)
Requested Marking/Lighting:	White Paint Only
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A New Structure
Other :	
Nearest City:	Highland Plantation
Nearest State:	Maine
Description of Location:	Bald Mountain
Description of Proposal:	Wind turbine in string of turbines along ridgeline

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies