

## RENEWABLE ENERGY APPROVAL

NUMBER 7483-94DPRF  
Issue Date: April 22, 2013

Varna Wind, Inc.  
5500 North Service Rd, No. 205  
Burlington, Ontario  
L7L 6W6

Project: Bluewater Wind Energy Centre  
Location: Blackbush/Bronson Line (west), Mill Rd (north),  
Concession 5 Rd (east), Danceland Rd/Staffa Rd (south)  
Municipality of Bluewater, Municipality of Huron East,  
County of Huron

*You have applied in accordance with Section 47.4 of the Environmental Protection Act for approval to engage in a renewable energy project in respect of a Class 4 wind facility consisting of the following:*

- the construction, installation, operation, use and retiring of a 40 wind turbine generator, Class 4 wind facility with a total name plate capacity of 60 megawatts.

*For the purpose of this renewable energy approval, the following definitions apply:*

1. "Acoustic Assessment Report" means the report included in the Application and entitled "Revised Environmental Noise Impact Assessment Report", dated March 18, 2013 and signed by Alex Dundon and Alan Oldfield, AECOM Canada Ltd.;
2. "Acoustic Audit - Emission" means an investigative procedure that is compliant with the IEC Standard 61400-11 and consisting of measurements and/or acoustic modelling of noise emissions produced by wind turbine generators, assessed to determine compliance with the manufacturer's noise (acoustic) equipment specifications and emission data of the wind turbine generators, included in the Acoustic Assessment Report;
3. "Acoustic Audit - Immission" means an investigative procedure consisting of measurements and/or acoustic modelling of all sources of noise emissions due to the operation of the Equipment, assessed to determine compliance with the Noise Performance Limits set out in this Approval;

4. "Acoustic Audit Report-Emission" means a report presenting the results of the Acoustic Audit - Emission;
5. "Acoustic Audit Report-Immission" means a report presenting the results of the Acoustic Audit - Immission;
6. "Acoustic Audit - Transformer Substation" means an investigative procedure consisting of measurements and/or acoustic modelling of all noise sources comprising the transformer substation assessed to determine compliance with the Sound Power Level specification of the transformer substation described in the Acoustic Assessment Report.
7. "Acoustic Audit Report - Transformer Substation" means a report presenting the results of the Acoustic Audit - Transformer Substation.
8. "Acoustical Consultant" means a person currently active in the field of environmental acoustics and noise/vibration control, who is knowledgeable about Ministry noise guidelines and procedures and has a combination of formal university education, training and experience necessary to assess noise emissions from wind facilities;
9. "Act" means the *Environmental Protection Act*, R.S.O 1990, c.E.19, as amended;
10. "Adverse Effect" has the same meaning as in the Act;
11. "Application" means the application for a Renewable Energy Approval dated June 26, 2012, and signed by F. Allen Wiley, Vice President, Development, Varna Wind, Inc., and all supporting documentation submitted with the application, including amended documentation submitted up to the date this Approval is issued;
12. "Approval" means this Renewable Energy Approval issued in accordance with Section 47.4 of the Act, including any schedules to it;
13. "A-weighting" means the frequency weighting characteristic as specified in the International Electrotechnical Commission (IEC) Standard 61672, and intended to approximate the relative sensitivity of the normal human ear to different frequencies (pitches) of sound. It is denoted as "A";
14. "A-weighted Sound Pressure Level" means the Sound Pressure Level modified by application of an A-weighting network. It is measured in decibels, A-weighted, and denoted "dBA";
15. "Class 1 Area" means an area with an acoustical environment typical of a major population centre, where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum";

16. "Class 2 Area" means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 Areas:
  1. sound levels characteristic of Class 1 during daytime (07:00 to 19:00 or to 23:00 hours);
  2. low evening and night background sound level defined by natural environment and infrequent human activity starting as early as 19:00 hours (19:00 or 23:00 to 07:00 hours);
  3. no clearly audible sound from stationary sources other than from those under impact assessment.
17. "Class 3 Area" means a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:
  1. a small community with less than 1000 population;
  2. agricultural area;
  3. a rural recreational area such as a cottage or a resort area; or
  4. a wilderness area.
18. "Company" means Varna Wind, Inc. and includes its successors and assignees;
19. "Compliance Protocol for Wind Turbine Noise" means the Ministry document entitled, Compliance Protocol for Wind Turbine Noise, Guideline for Acoustic Assessment and Measurement, PIBS# 8540e;
20. "Decibel" means a dimensionless measure of Sound Level or Sound Pressure Level, denoted as dB;
21. "Director" means a person appointed in writing by the Minister of the Environment pursuant to section 5 of the Act as a Director for the purposes of section 47.5 of the Act;
22. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Facility is geographically located;
23. "Equipment" means the wind turbine generators and a transformer substation, identified in this Approval and as further described in the Application, to the extent approved by this Approval;
24. "Equivalent Sound Level" is the value of the constant sound level which would result in exposure to the same total A-weighted energy as would the specified time-varying sound, if the constant sound level persisted over an equal time interval. It is denoted  $L_{eq}$  and is measured in dB A-weighting (dBA);
25. "Facility" means the renewable energy generation facility, including the Equipment, as described in this Approval and as further described in the Application, to the extent approved by this Approval;

26. "IEEE Standard C57.12.90" means the IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers, 2010.
27. "IEC Standard 61400-11" means the International Standard IEC Standard 61400-11, Wind turbine generator systems – Part 11: Acoustic noise measurement techniques, 2006;
28. "Independent Acoustical Consultant" means an Acoustical Consultant who is not representing the Company and was not involved in preparing the Acoustic Assessment Report. The Independent Acoustical Consultant shall not be retained by the Acoustical Consultant involved in the noise impact assessment;
29. "Ministry" means the ministry of the government of Ontario responsible for the Act and includes all officials, employees or other persons acting on its behalf;
30. "Noise Guidelines for Wind Farms" means the Ministry document entitled, "Noise Guidelines for Wind Farms - Interpretation for Applying MOE NPC Publications to Wind Power Generation Facilities", dated October 2008;
31. "Noise Receptor" has the same meaning as in O. Reg. 359/09;
32. "O. Reg. 359/09" means Ontario Regulation 359/09 "Renewable Energy Approvals under Part V.0.1 of the Act" made under the Act;
33. "Point of Reception" has the same meaning as in the Noise Guidelines for Wind Farms and is subject to the same qualifications described in that document;
34. "Publication NPC-233" means Ministry Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995;
35. "Sound Level" means the A-weighted Sound Pressure Level;
36. "Sound Level Limit" is the limiting value described in terms of the one hour A-weighted Equivalent Sound Level  $L_{eq}$ ;
37. "Sound Power Level" means ten times the logarithm to the base of 10 of the ratio of the sound power (Watts) of a noise source to standard reference power of  $10^{-12}$  Watts;
38. "Sound Pressure" means the instantaneous difference between the actual pressure and the average or barometric pressure at a given location. The unit of measurement is the micro pascal ( $\mu\text{Pa}$ );
39. "Sound Pressure Level" means twenty times the logarithm to the base 10 of the ratio of the effective pressure ( $\mu\text{Pa}$ ) of a sound to the reference pressure of  $20 \mu\text{Pa}$ ;
40. "UTM" means Universal Transverse Mercator coordinate system.

*You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:*

## **TERMS AND CONDITIONS**

### **A - GENERAL**

- A1. The Company shall construct, install, use, operate, maintain and retire the Facility in accordance with the terms and conditions of this Approval and the Application and in accordance with the following schedules attached hereto:

Schedule A - Facility Description

Schedule B - Coordinates of the Equipment and Noise Specifications

- A2. Where there is a conflict between a provision of this Approval and any document submitted by the Company, the conditions in this Approval shall take precedence. Where there is a conflict between one or more of the documents submitted by the Company, the document bearing the most recent date shall take precedence.
- A3. The Company shall ensure a copy of this Approval is:
- (1) accessible, at all times, by Company staff operating the Facility and;
  - (2) submitted to the clerk of each local municipality and upper-tier municipality in which the Facility is situated.
- A4. If the Company has a publicly accessible website, the Company shall ensure that the Approval and the Application are posted on the Company's publicly accessible website within five (5) business days of receiving this Approval.
- A5. The Company shall, at least six (6) months prior to the anticipated retirement date of the entire Facility, or part of the Facility, review its Decommissioning Plan Report to ensure that it is still accurate. If the Company determines that the Facility cannot be decommissioned in accordance with the Decommissioning Plan Report, the Company shall provide the Director and District Manager a written description of plans for the decommissioning of the Facility.
- A6. The Facility shall be retired in accordance with the Decommissioning Plan Report and any directions provided by the Director or District Manager.
- A7. The Company shall provide the District Manager and the Director at least ten (10) days written notice of the following:
- (1) the commencement of any construction or installation activities at the project location; and
  - (2) the commencement of the operation of the Facility.

A8. As described in Schedule A of the Approval the Company shall not construct or operate more than thirty seven (37) out of the forty (40) wind turbine generators identified in the Schedule B of the Approval.

## **B - EXPIRY OF APPROVAL**

B1. Construction and installation of the Facility must be completed within three (3) years of the later of:

- (1) the date this Approval is issued; or
- (2) if there is a hearing or other litigation in respect of the issuance of this Approval, the date that this hearing or litigation is disposed of, including all appeals.

B2. This Approval ceases to apply in respect of any portion of the Facility not constructed or installed before the later of the dates identified in Condition B1.

## **C - NOISE PERFORMANCE LIMITS**

C1. The Company shall ensure that:

- (1) the Sound Levels from the Equipment, at the Points of Reception identified in the Acoustic Assessment Report, comply with the Sound Level Limits set in the Noise Guidelines for Wind Farms, as applicable, and specifically as stated in the table below:

<b>Wind Speed (m/s) at 10 m height</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Sound Level Limits, dBA</b>	40.0	40.0	40.0	43.0	45.0	49.0	51.0

- (2) the Equipment is constructed and installed at either of the following locations:
  - a) at the locations identified in Schedule B of this Approval; or
  - b) at a location that does not vary by more than 10 metres from the locations identified in Schedule B of this Approval and provided that,
    - i) the Equipment will comply with Condition C1 (1); and
    - ii) all setback prohibitions established under O. Reg. 359/09 are complied with.
- (3) the Equipment complies with the noise specifications set out in Schedule B of this Approval.

C2. If the Company determines that some or all of the Equipment cannot be constructed in accordance with Condition C1 (2), prior to the construction and installation of the Equipment in question, the Company shall apply to the Director for an amendment to the terms and conditions of the Approval.



- C3. Within three (3) months of the completion of the construction of the Facility, the Company shall submit to the Director a written confirmation signed by an individual who has the authority to bind the Company that the UTM coordinates of the “as constructed” Equipment comply with the requirements of Condition C1 (2).

#### **D - CONFIRMATION OF VACANT LOT NOISE RECEPTORS**

- D1. The one hundred thirty five (135) locations identified in the Table entitled “Blue Water Energy Centre - Noise Impact Summary Table” of the Acoustic Assessment Report as the Non-Participating Vacant Lots with ID numbers BLW\_VNP1 - BLW\_VNP135 are specified as Noise Receptors for the purposes of subsection 54 (1.1) of O. Reg. 359/09 and subsection 35 (1.01) of O. Reg. 359/09.

#### **E - ACOUSTIC AUDIT - IMMISSION**

- E1. The Company shall carry out an Acoustic Audit - Immission of the Sound Levels produced by the operation of the Equipment in accordance with the following:
- (1) the acoustic audit measurements shall be undertaken in accordance with Part D of the Compliance Protocol for Wind Turbine Noise;
  - (2) the acoustic audit measurements shall be performed by an Independent Acoustical Consultant at three (3) different Points of Reception that have been selected using the following criteria:
    - a) the Points of Reception should represent the location of the greatest predicted noise impact, i.e., the highest predicted Sound Level; and
    - b) the Points of Reception should be located in the direction of prevailing winds from the Facility;
  - (3) the acoustic audit measurements shall be performed on two (2) separate occasions within a period of twelve (12) months that represent the lowest annual ambient Sound Levels, preferably:
    - a) March and April, and
    - b) October and November.
- E2. The Company shall submit to the District Manager and the Director an Acoustic Audit Report-Immision, prepared by an Independent Acoustical Consultant, at the following points in time:
- (1) no later than nine (9) months after the commencement of the operation of the Facility for the first of the two (2) acoustic audit measurements at the three (3) Points of Reception; and
  - (2) no later than fifteen (15) months after the commencement of the operation of the Facility for the second of the two (2) acoustic audit measurements at the three (3) Points of Reception.

- E3. The Company shall carry out an Acoustic Audit - Transformer Substation and shall submit to the District Manager and the Director an Acoustic Audit Report – Transformer Substation prepared by an Independent Acoustical Consultant no later than six (6) months after the commencement of the operation of the Facility.

#### **F - ACOUSTIC AUDIT- EMISSION**

- F1. The Company shall carry out an Acoustic Audit - Emission of the acoustic emissions produced by the operation of the wind turbine generators in accordance with the following:
- (1) the acoustic emission measurements shall be undertaken in accordance with the IEC Standard 61400-11;
  - (2) the acoustic emission measurements shall be performed by an Independent Acoustical Consultant; and
  - (3) the acoustic emission measurements shall be performed on two (2) wind turbine generators used in the Facility.
- F2. The Company shall submit to the District Manager and the Director an Acoustic Audit Report-Emission, prepared in accordance with Section 9 of the IEC Standard 61400-11 by an Independent Acoustical Consultant, no later than six (6) months after the commencement of the operation of the Facility.

#### **G - STORMWATER MANAGEMENT**

- G1. The Company shall employ best management practices for stormwater management and sediment and erosion control during construction, installation, use, operation, maintenance and retiring of the Facility, as described in the Application.

#### **H - WATER TAKING ACTIVITIES**

- H1. For foundation dewatering, if the amount of discharge exceeds 50,000 litres per day:
- (1) the inlet pump head shall be surrounded with clear stone and filter fabric;
  - (2) the discharge must be sampled each day that water is discharged and analyzed for total suspended solids (TSS). In the event that sampling results show that TSS in the discharge water exceeds 25 mg/L, the Company shall implement appropriate measures (settling tank or geosock or similar device) to mitigate these impacts; and
  - (3) the Company shall regulate the discharge at such a rate that there is no flooding in the receiving water body or dissipate the discharge so that no soil erosion is caused that impacts the receiving water body.



- H2. For stream diversion, if the amount of discharge exceeds 50,000 litres per day and dam and pump technology is used:
- (1) the Company shall regulate the discharge at such a rate that there is no flooding in the downstream area and no spill erosion or stream channel scouring caused at the point of discharge. The Company shall use a discharge diffuser or other energy dissipation device, if necessary, to mitigate flows which physically alter the stream channel or banks; and;
  - (2) siltation control measures shall be installed at both the taking location upstream of the construction site and (if necessary) the discharge site and shall be sufficient for the volumes pumped. The Company shall take all measures to properly maintain these control devices throughout the construction period.
- H3. For water takings (by tanker) for the purposes of dust suppression, equipment washing, and similar activities:
- (1) notwithstanding the authorized rate of water taking, this Approval limits the taking of water at any site at the project location for up to 10% of the instantaneous streamflow present on the day or days of taking. The authorized water taking rate may therefore have to be adjusted downward to remain within this 10% maximum;
  - (2) prior to taking water from any site at the project location, the Company shall contact the Ausable Bayfield Conservation Authority to determine if any low water conditions have been declared and are in effect. The Company shall not take water if a Level 2 or Level 3 low water condition has been declared; and,
  - (3) no modification to the existing stream channel by excavation or damming is permitted under this Approval.

## **I - SEWAGE WORKS OF THE TRANSFORMER SPILL CONTAINMENT FACILITY**

- II. The Company shall design and construct a transformer/substation spill containment facility which meets the following requirements:
- (1) the spill containment area serving the transformer substation shall have a minimum volume equal to the volume of transformer oil and lubricants plus the volume equivalent to providing a minimum 24-hour duration, 50-year return storm capacity for the stormwater drainage area around the transformer under normal operating conditions;
  - (2) the containment facility shall have an impervious concrete floor and walls or impervious plastic liner on floor and walls, sloped toward an outlet, maintaining a freeboard of approximately 0.25 metres terminating approximately 0.30 metres above grade, and a minimum 300mm layer of crushed stoned (19mm to 38mm in diameter) within, all as needed in accordance to site specific conditions and final design parameters;

- (3) the containment facility shall drain to an oil control device, such as an oil/water separator, a pump-out sump, an oil absorbing material in a canister or a blind sump; and
- (4) the oil control device shall be equipped with an oil detection system and appropriate sewage appurtenances, such as, but not limited to: sump, oil/grit separator, pumpout manhole, level controllers, floating oil sensors, etc., that allows for batch discharges or direct discharges and for proper implementation of the monitoring program described in Condition I4.

12. The Company shall:

- (1) prior to the construction of the transformer substation spill containment facility, provide the District Manager and Director a report and drawings issued for construction signed and stamped by an independent Professional Engineer licensed in Ontario and competent in electrical engineering;
- (2) within six (6) months of the completion of the construction of the transformer substation spill containment facility, provide the District Manager and Director a report and drawings issued for construction signed and stamped by an independent Professional Engineer licensed in Ontario which includes the following:
  - (a) as-built drawings of the sewage works;
  - (b) confirmation that the transformer substation spill containment facility has been designed and installed according to appropriate specifications; and
  - (c) confirmation of the adequacy of the operating procedures and the emergency procedures manuals as it pertains to the installed sewage works.
- (3) as a minimum, check the oil detection system on a monthly basis and create a written record of the inspections;
- (4) ensure that the effluent is essentially free of floating and settle-able solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam on the receiving waters;
- (5) immediately identify and clean-up all losses of oil from the transformer;
- (6) upon identification of oil in the effluent pumpout, take immediate action to prevent the further occurrence of such loss; and
- (7) ensure that equipment and material for the containment, clean-up and disposal of oil and materials contaminated with oil are kept within easy access and in good repair for immediate use in the event of:
  - (a) loss of oil from the transformer,
  - (b) a spill within the meaning of Part X of the Act, or
  - (c) the identification of an abnormal amount of oil in the effluent.

13. The Company shall design, construct and operate the sewage works such that the concentration of the effluent parameter named in the table below does not exceed the maximum concentration objective shown for that parameter in the effluent, and shall comply with the following requirements:

<b>Effluent Parameters</b>	<b>Maximum Concentration Objective</b>
Oil and Grease	15mg/L

- (1) notify the District Manager as soon as reasonably possible of any exceedance of the maximum concentration objective set out in the table above;
- (2) take immediate action to identify the cause of the exceedance; and
- (3) take immediate action to prevent further exceedances.

14. Upon commencement of the operation of the Facility, the Company shall establish and carry out the following monitoring program for the sewage works:

- (1) the Company shall collect and analyze the required set of samples at the sampling points listed in the table below in accordance with the measurement frequency and sample type specified for the effluent parameter, oil and grease, and create a written record of the monitoring:

<b>Effluent Parameters</b>	<b>Measurement Frequency and Sample Points</b>	<b>Sample Type</b>
Oil and Grease	B – Batch, i.e., for each discrete volume in the sewer appurtenance as per H1(4) prior to pumpout; or Q – Quarterly for direct effluent discharge, i.e., four times over a year, relatively evenly spaced.	Grab

- (2) in the event of an exceedance of the maximum concentration objective set out in the table in Condition I3, the Company shall:
  - (a) increase the frequency of sampling to once per month, for each month that effluent discharge occurs, and
  - (b) provide the District Manager, on a monthly basis, with copies of the written record created for the monitoring until the District Manager provides written direction that monthly sampling and reporting is no longer required; and
- (3) if over a period of twenty-four (24) months of effluent monitoring under Condition I4 (1), there are no exceedances of the maximum concentration set out in the table in Condition I3, the Company may reduce the measurement frequency of effluent monitoring to a frequency as the District Manager may specify in writing, provided that the new specified frequency is never less than annual.

15. The Company shall comply with the following methods and protocols for any sampling, analysis and recording undertaken in accordance with Condition I4:

- (1) Ministry of the Environment publication "Protocol for the Sampling and Analysis of Industrial/ Municipal Wastewater", January 1999, as amended from time to time by more recently published editions, and
- (2) the publication "Standard Methods for the Examination of Water and Wastewater", 21st edition, 2005, as amended from time to time by more recently published editions.

## **J - NATURAL HERITAGE AND PRE AND POST CONSTRUCTION MONITORING**

### **GENERAL**

- J1. The Company shall implement the "Natural Heritage Environmental Effects Monitoring Plan (EEMP) for the Bluewater Wind Energy Centre", dated March 2013, the commitments made in the Bluewater Environmental Impact Study, dated March 2012, and the commitments made in the Natural Heritage Assessment and Environmental Impact Study Report Amendment, dated January 2013, prepared by AECOM, and included in the Application, and which the Company submitted to the Ministry of Natural Resources in order to comply with O. Reg. 359/09.
- J2. If the Company determines that it must deviate from either the Environmental Effects Monitoring Plan or the Environmental Impact Study, described in Condition J1, the Company shall contact the Ministry of Natural Resources and the Director, prior to making any changes to the Environmental Effects Monitoring Plan or the Environmental Impact Study, and follow any directions provided.

### **PRE-CONSTRUCTION MONITORING – SIGNIFICANT WILDLIFE HABITAT**

- J3. The Company shall implement the pre-construction monitoring described in the Environmental Effects Monitoring Plan described in Condition J1, including the following:
  - (1) A baseline survey of Amphibian Woodland Breeding for feature AWO-013.

### **POST-CONSTRUCTION MONITORING – SIGNIFICANT WILDLIFE HABITAT**

- J4. The Company shall implement the post-construction monitoring described in the Environmental Effects Monitoring Plan and the Environmental Impact Study, described in Condition J1, including disturbance monitoring described for the following features:
  - (1) Bat Maternity Colony features BMC-01, BMC-07, BMC-08, BMC-13;
  - (2) Red-headed Woodpecker Habitat feature SCB-02;
  - (3) Amphibian Woodland Breeding feature AWO-11;
  - (4) Amphibian Wetland Breeding feature AWE-01;

J5. Should the Wildlife Habitat described in Condition J3 (1) be deemed significant, the Company shall implement the post-construction monitoring described in the Environmental Effects Monitoring Plan described in Condition J1, including disturbance monitoring for the following feature:

- (1) Amphibian Woodland Breeding Habitat feature AWO-13.

#### **POST CONSTRUCTION MONITORING - BIRD AND BAT MORTALITY MONITORING**

J6. The Company shall implement the post-construction bird and bat mortality monitoring described in the Environmental Effects Monitoring Plan described in Condition J1 at a minimum of 11 of 37 constructed turbines.

#### **THRESHOLDS AND MITIGATION**

J7. The Company shall contact the Ministry of Natural Resources and the Director if any of the following bird and bat mortality thresholds, as stated in the "Natural Heritage Environmental Effects Monitoring Plan (EEMP) for the Bluewater Wind Energy Centre" described in Condition J1, are reached or exceeded:

- (1) 10 bats per turbine per year across the wind power project;
- (2) 14 birds per turbine per year at individual turbines or turbine groups;
- (3) 0.2 raptors per turbine per year (all raptors) across the wind power project;
- (4) 0.1 raptors per turbine per year (provincially tracked raptors) across the wind power project;
- (5) 10 or more birds at any one turbine during a single monitoring survey; or
- (6) 33 or more birds (including raptors) during a single monitoring survey across the wind power project.

J8. If the bat mortality threshold described in Condition J7 (1) is reached or exceeded, the Company shall:

- (1) implement operational mitigation measures consistent with those described in the Ministry of Natural Resources publication entitled "Bats and Bat Habitats: Guidelines for Wind Power Projects" dated July 2011, or in an amended version of the publication, including;
  - (a) increase cut-in speed to 5.5 m/s or feather wind turbine blades when wind speeds are below 5.5 m/s between sunset and sunrise, from July 15 to September 30 at all turbines, for the operating life of the Facility. Should site specific monitoring indicate a shifted peak mortality period, operational mitigation may be shifted to match the peak mortality, with mitigation maintained for a minimum of 10 weeks. Any shift in the operational mitigation period to match peak mortality should be determined in coordination with and confirmed by the Ministry of Natural Resources.



- (2) implement an additional three (3) years of effectiveness monitoring.
- J9. If the bat mortality threshold described in Condition J7 (1) is reached or exceeded after operational mitigation is implemented in accordance with Condition J8, the Company shall prepare and implement a contingency plan, in consultation with the Ministry of Natural Resources, to address mitigation actions which shall include additional mitigation and scoped monitoring requirements.
- J10. If either of the bird mortality thresholds described in Conditions J7 (2), J7 (3) or J7 (4) is reached or exceeded for turbines located outside 120 metres of bird significant wildlife habitat, the Company shall conduct two (2) years of subsequent scoped mortality monitoring and cause and effects monitoring. Following the completion of scoped monitoring, the Company shall implement operational mitigation and effectiveness monitoring at individual turbines as agreed to between the Company and the Ministry of Natural Resources, for the first three (3) years following the implementation of mitigation.
- J11. If either of the bird mortality thresholds described in Conditions J7 (5) or J7 (6) is reached or exceeded, the Company shall prepare and implement a contingency plan to address immediate mitigation actions which shall include:
- (1) periodic shut-down of select turbines; or
  - (2) blade feathering at specific times of year; or
  - (3) an alternate plan agreed to between the Company and the Ministry of Natural Resources.
- J12. If either of the bird mortality thresholds described in Conditions J7 (2), J7 (3) or J7 (4) is reached or exceeded while monitoring is being implemented in accordance with Condition J10, or if either of the bird mortality thresholds described in Conditions J7 (5) or J7 (6) is reached or exceeded after mitigation is implemented in accordance with Condition J11, the Company shall contact the Ministry of Natural Resources and prepare and implement an appropriate response plan that shall include some or all of the following mitigation measures:
- (1) increased reporting frequency to identify potential threshold exceedance;
  - (2) additional behavioural studies to determine factors affecting mortality rates;
  - (3) periodic shut-down of select turbines;
  - (4) blade feathering at specific times of year; or
  - (5) an alternate plan agreed to between the Company and the Ministry of Natural Resources.



## REPORTING AND REVIEW OF RESULTS

- J13. The Company shall report, in writing, the results of the post-construction disturbance monitoring described in Conditions J5 and J6, to the Ministry of Natural Resources for three (3) years on an annual basis and within three (3) months of the end of each calendar year in which the monitoring took place.
- J14. The Company shall report, in writing, bird and bat mortality levels to the Ministry of Natural Resources for three (3) years on an annual basis and within three (3) months of the conclusion of the November mortality monitoring, with the exception of the following:
- (1) if either of the bird mortality thresholds described in Conditions J7 (5) or J7 (6) is reached or exceeded, the Company shall report the mortality event to the Ministry of Natural Resources within 48 hours of observation;
  - (2) for any and all mortality of species at risk (including a species listed on the Species at Risk in Ontario list as Extirpated, Endangered or Threatened under the provincial *Endangered Species Act, 2007*) that occurs, the Company shall report the mortality to the Ministry of Natural Resources within 24 hours of observation or the next business day;
  - (3) if the bat mortality threshold described in Condition J7 (1) is reached or exceeded, the Company shall report mortality levels to the Ministry of Natural Resources for the additional three (3) years of monitoring described in Condition J7, on an annual basis and within three (3) months of the conclusion of the October mortality monitoring for each year;
  - (5) if either of the bird mortality thresholds described in Conditions J7 (2), J7 (3) or J7 (4) is reached or exceeded for turbines located outside 120 metres of bird significant wildlife habitat, the Company shall report mortality levels to the Ministry of Natural Resources for the additional two (2) years of cause and effects monitoring described in Condition J10, on an annual basis and within three (3) months of the conclusion of the November mortality monitoring for each year; and
  - (6) if the Company implements operational mitigation following cause and effects monitoring in accordance with Condition J10, the Company shall report mortality levels to the Ministry of Natural Resources for the three (3) years of subsequent effectiveness monitoring described in Condition J10, on an annual basis and within three (3) months of the conclusion of the November mortality monitoring for each year.

## **ADDITIONAL POST-CONSTRUCTION REQUIREMENTS**

- J15. To compensate for the loss of significant woodlands as identified in the Environmental Effects Monitoring Plan, a new area of woodland will be established that is equal to the area to be cleared, with the total area to be determined through a post-construction site inspection conducted by the Company. Tree planting and management may be conducted in partnership with a local organization. Details of the afforestation plan will be prepared in consultation with the Ministry of Natural Resources. This plan must be prepared and provided to the Ministry of Natural Resources within the first year of operation of the project.

## **K - ENDANGERED SPECIES ACT REQUIREMENTS**

- K1. No construction or installation activities shall be commenced in areas that support habitat for Bobolink until the Company has received any required authorizations under the *Endangered Species Act, 2007*

## **L - TRAFFIC MANAGEMENT PLANNING**

- L1. Within three (3) months of receiving this Approval, the Company shall prepare a Traffic Management Plan and provide it to the Municipality of Bluewater, the Municipality of Huron East and the County of Huron.
- L2. Within three (3) months of having provided the Traffic Management Plan to the Municipality of Bluewater, the Municipality of Huron East and the County of Huron, the Company shall make reasonable efforts to enter into a Road Users Agreement with the Municipality of Bluewater, the Municipality of Huron East and the County of Huron.
- L3. If a Road Users Agreement has not been signed with the Municipality of Bluewater, the Municipality of Huron East and the County of Huron within three (3) months of having provided the Traffic Management Plan to the Municipality of Bluewater, the Municipality of Huron East and the County of Huron, the Company shall provide a written explanation to the Director as to why this has not occurred.

## **M - ARCHAEOLOGICAL RESOURCES**

- M1. The Company shall implement all of the recommendations, if any, for further archaeological fieldwork and for the protection of archaeological sites found in the consultant archaeologist's report included in the Application, and which the Company submitted to the Ministry of Tourism, Culture and Sport in order to comply with O. Reg. 359/09.
- M2. Should any previously undocumented archaeological resources be discovered, the Company shall:
- (1) cease all alteration of the area in which the resources were discovered immediately;

- (2) engage a consultant archaeologist to carry out the archaeological fieldwork necessary to further assess the area and to either protect and avoid or excavate any sites in the area in accordance with the *Ontario Heritage Act*, the regulations under that act and the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists*; and
- (3) notify the Director as soon as reasonably possible.

## N - COMMUNITY LIAISON COMMITTEE

- N1. Within three (3) months of receiving this Approval, the Company shall make reasonable efforts to establish a Community Liaison Committee. The Community Liaison Committee shall be a forum to exchange ideas and share concerns with interested residents and members of the public. The Community Liaison Committee shall be established by:
- (1) publishing a notice in a newspaper with general circulation in each local municipality in which the project location is situated; and
  - (2) posting a notice on the Company's publicly accessible website, if the Company has a website; to notify members of the public about the proposal for a Community Liaison Committee and invite residents living within a one (1) kilometer radius of the Facility that may have an interest in the Facility to participate on the Community Liaison Committee.
- N2. The Company may invite other members of stakeholders to participate in the Community Liaison Committee, including, but not limited to, local municipalities, local conservation authorities, Aboriginal communities, federal or provincial agencies, and local community groups.
- N3. The Community Liaison Committee shall consist of at least one Company representative who shall attend all meetings.
- N4. The purpose of the Community Liaison Committee shall be to:
- (1) act as a liaison facilitating two way communications between the Company and members of the public with respect to issues relating to the construction, installation, use, operation, maintenance and retirement of the Facility;
  - (2) provide a forum for the Company to provide regular updates on, and to discuss issues or concerns relating to, the construction, installation, use, operation, maintenance and retirement of the Facility with members of the public; and
  - (3) ensure that any issues or concerns resulting from the construction, installation, use, operation, maintenance and retirement of the Facility are discussed and communicated to the Company.
- N5. The Community Liaison Committee shall be deemed to be established on the day the Director is provided with written notice from the Company that representative Community Liaison Committee members have been chosen and a date for a first Community Liaison Committee meeting has been set.

- N6. If a Community Liaison Committee has not been established within three (3) months of receiving this Approval, the Company shall provide a written explanation to the Director as to why this has not occurred.
- N7. The Company shall ensure that the Community Liaison Committee operates for a minimum period of two (2) years from the day it is established. During this two (2) year period, the Company shall ensure that the Community Liaison Committee meets a minimum of two (2) times per year. At the end of this two (2) year period, the Company shall contact the Director to discuss the continued operation of the Community Liaison Committee.
- N8. The Company shall ensure that all Community Liaison Committee meetings are open to the general public.
- N9. The Company shall provide administrative support for the Community Liaison Committee including, at a minimum:
- (1) providing a meeting space for Community Liaison Committee meetings;
  - (2) providing access to resources, such as a photocopier, stationery, and office supplies, so that the Community Liaison Committee can:
    - a) prepare and distribute meeting notices;
    - b) record and distribute minutes of each meeting; and
    - c) prepare reports about the Community Liaison Committee's activities.
- N10. The Company shall submit any reports of the Community Liaison Committee to the Director and post it on the Company's publicly accessible website, if the Company has a website.

## **O - OPERATION AND MAINTENANCE**

- O1. Prior to the commencement of the operation of the Facility, the Company shall prepare a written manual for use by Company staff outlining the operating procedures and a maintenance program for the Equipment that includes as a minimum the following:
- (1) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;
  - (2) emergency procedures;
  - (3) procedures for any record keeping activities relating to operation and maintenance of the Equipment; and
  - (4) all appropriate measures to minimize noise emissions from the Equipment.

- O2. The Company shall;
- (1) update, as required, the manual described in Condition O1; and
  - (2) make the manual described in Condition O1 available for review by the Ministry upon request.
- O3. The Company shall ensure that the Facility is operated and maintained in accordance with the Approval and the manual described in Condition O1.

## **P - RECORD CREATION AND RETENTION**

- P1. The Company shall create written records consisting of the following:
- (1) an operations log summarizing the operation and maintenance activities of the Facility;
  - (2) within the operations log, a summary of routine and Ministry inspections of the Facility; and
  - (3) a record of any complaint alleging an Adverse Effect caused by the construction, installation, use, operation, maintenance or retirement of the Facility.
- P2. A record described under Condition P1 (3) shall include:
- (1) a description of the complaint that includes as a minimum the following:
    - a) the date and time the complaint was made;
    - b) the name, address and contact information of the person who submitted the complaint;
  - (2) a description of each incident to which the complaint relates that includes as a minimum the following:
    - a) the date and time of each incident;
    - b) the duration of each incident;
    - c) the wind speed and wind direction at the time of each incident;
    - d) the ID of the Equipment involved in each incident and its output at the time of each incident;
    - e) the location of the person who submitted the complaint at the time of each incident; and
  - (3) a description of the measures taken to address the cause of each incident to which the complaint relates and to prevent a similar occurrence in the future.

- P3. The Company shall retain, for a minimum of five (5) years from the date of their creation, all records described in Condition P1, and make these records available for review by the Ministry upon request.

#### **Q - NOTIFICATION OF COMPLAINTS**

- Q1. The Company shall notify the District Manager of each complaint within two (2) business days of the receipt of the complaint.
- Q2. The Company shall provide the District Manager with the written records created under Condition P2 within eight (8) business days of the receipt of the complaint.

#### **R - CHANGE OF OWNERSHIP**

- R1. The Company shall notify the Director in writing, and forward a copy of the notification to the District Manager, within thirty (30) days of the occurrence of any of the following changes:
- (1) the ownership of the Facility;
  - (2) the operator of the Facility;
  - (3) the address of the Company;
  - (4) the partners, where the Company is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c.B.17, as amended, shall be included in the notification; and
  - (5) the name of the corporation where the Company is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the *Corporations Information Act*, R.S.O. 1990, c. C.39, as amended, shall be included in the notification.



## **SCHEDULE A**

### **Facility Description**

The Facility shall consist of the construction, installation, operation, use and retiring of the following equipment:

- (a) a total of thirty seven (37) out of forty (40) GE 1.6-100 LNTE wind turbine generators each rated at 1.6 megawatts generating output capacity, as specified in the Acoustic Assessment Report;

with a total name plate capacity of up to approximately 60 megawatts, designated as source ID Nos. B\_WTG01 to B\_WTG019 and B\_WTG21 to B\_WTG41, each with a hub height of 80 metres above grade, and sited at the locations shown in Schedule B;

- (b) one (1) transformer substation rated at 88 MVA and sited at the location shown in Schedule B; and
- (c) associated ancillary equipment, systems and technologies including on-site access roads, underground cabling and overhead transmission line,

all in accordance with the Application.

## SCHEDULE B

### Coordinates of the Equipment and Noise Specifications

Coordinates of the Equipment are listed below in UTM, Z17-NAD83 projection:

Source ID	Sound Power Level (dBA)	Easting (m)	Northing (m)	Equipment description
B_WTG01	103.0	445260	4816548	GE model 1.6-100 LNTE 1.6MW
B_WTG02	103.0	445320	4816183	GE model 1.6-100 LNTE 1.6MW
B_WTG03	103.0	445565	4813118	GE model 1.6-100 LNTE 1.6MW
B_WTG04	103.0	445568	4812063	GE model 1.6-100 LNTE 1.6MW
B_WTG05	103.0	445933	4810683	GE model 1.6-100 LNTE 1.6MW
B_WTG06	103.0	446088	4809847	GE model 1.6-100 LNTE 1.6MW
B_WTG07	103.0	446207	4820836	GE model 1.6-100 LNTE 1.6MW
B_WTG08	103.0	446521	4819890	GE model 1.6-100 LNTE 1.6MW
B_WTG09	103.0	446485	4819125	GE model 1.6-100 LNTE 1.6MW
B_WTG10	103.0	446595	4818636	GE model 1.6-100 LNTE 1.6MW
B_WTG11	103.0	446832	4817609	GE model 1.6-100 LNTE 1.6MW
B_WTG12	103.0	446877	4816800	GE model 1.6-100 LNTE 1.6MW
B_WTG13	103.0	447116	4816186	GE model 1.6-100 LNTE 1.6MW
B_WTG14	103.0	447232	4815368	GE model 1.6-100 LNTE 1.6MW
B_WTG15	103.0	447186	4814525	GE model 1.6-100 LNTE 1.6MW
B_WTG16	103.0	447590	4813794	GE model 1.6-100 LNTE 1.6MW
B_WTG17	103.0	447358	4812978	GE model 1.6-100 LNTE 1.6MW
B_WTG18	103.0	447341	4812484	GE model 1.6-100 LNTE 1.6MW
B_WTG19	103.0	448234	4820588	GE model 1.6-100 LNTE 1.6MW
B_WTG21	103.0	449105	4819060	GE model 1.6-100 LNTE 1.6MW
B_WTG22	103.0	449166	4818561	GE model 1.6-100 LNTE 1.6MW
B_WTG23	103.0	449406	4817022	GE model 1.6-100 LNTE 1.6MW
B_WTG24	103.0	448974	4816250	GE model 1.6-100 LNTE 1.6MW
B_WTG25	103.0	449175	4814818	GE model 1.6-100 LNTE 1.6MW
B_WTG26	103.0	449284	4814234	GE model 1.6-100 LNTE 1.6MW
B_WTG27	103.0	449400	4813830	GE model 1.6-100 LNTE 1.6MW
B_WTG28	103.0	450031	4813877	GE model 1.6-100 LNTE 1.6MW
B_WTG29	103.0	450097	4813116	GE model 1.6-100 LNTE 1.6MW
B_WTG30	103.0	450058	4812694	GE model 1.6-100 LNTE 1.6MW
B_WTG31	103.0	450567	4810875	GE model 1.6-100 LNTE 1.6MW
B_WTG32	103.0	450732	4819033	GE model 1.6-100 LNTE 1.6MW
B_WTG33	103.0	451219	4819080	GE model 1.6-100 LNTE 1.6MW
B_WTG34	103.0	450937	4817380	GE model 1.6-100 LNTE 1.6MW
B_WTG35	103.0	451669	4815710	GE model 1.6-100 LNTE 1.6MW
B_WTG36	103.0	451756	4815381	GE model 1.6-100 LNTE 1.6MW
B_WTG37	103.0	453294	4815596	GE model 1.6-100 LNTE 1.6MW
B_WTG38	103.0	449306	451219	GE model 1.6-100 LNTE 1.6MW
B_WTG39	103.0	449597	4815379	GE model 1.6-100 LNTE 1.6MW
B_WTG40	103.0	449532	4811269	GE model 1.6-100 LNTE 1.6MW
B_WTG41	103.0	450920	4816780	GE model 1.6-100 LNTE 1.6MW
B_WTG transformer	104.8	449415	4815905	Transformer Substation 88 MVA

NOTE: The Sound Power Levels in the above table represent the maximum values. The Sound Power Level of the Transformer Substation includes the 5 decibel (dB) adjustment for tonality as prescribed in Publication NPC-104.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Conditions A1, A2, and A9 are included to ensure that the Facility is constructed, installed, used, operated, maintained and retired in the manner in which it was described for review and upon which Approval was granted. These conditions are also included to emphasize the precedence of conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Conditions A3 and A4 are included to require the Company to provide information to the public and the local municipality.
3. Conditions A5 and A6 are included to ensure that final retirement of the Facility is completed in an aesthetically pleasing manner, in accordance with Ministry standards, and to ensure long-term protection of the health and safety of the public and the environment.
4. Condition A7 is included to require the Company to inform the Ministry of the commencement of activities related to the construction, installation and operation of the Facility.
5. Condition A8 is included to require the Company to inform the Ministry of the commencement of activities related to the construction, installation and operation of the Facility.
6. Condition B is intended to limit the time period of the Approval.
7. Condition C1 is included to provide the minimum performance requirement considered necessary to prevent an Adverse Effect resulting from the operation of the Equipment and to ensure that the noise emissions from the Equipment will be in compliance with applicable limits set in the Noise Guidelines for Wind Farms.
8. Conditions C2, C3 and D are included to ensure that the Equipment is constructed, installed, used, operated, maintained and retired in a way that meets the regulatory setback prohibitions set out in O. Reg. 359/09.
9. Conditions E and F are included to require the Company to gather accurate information so that the environmental noise impact and subsequent compliance with the Act, O. Reg. 359/09, the Noise Guidelines for Wind Farms and this Approval can be verified.
10. Conditions G, H, J, K and L are included to ensure that the Facility is constructed, installed, used, operated, maintained and retired in a way that does not result in an Adverse Effect or hazard to the natural environment or any persons.
11. Condition I1 is included to ensure that the sewage works of the transformer spill containment facility are designed to have adequate capacity to provide spill control. This condition is also included to enable compliance with this Approval, such that the environment is protected and deterioration, loss, injury or damage to any person, property or the environment is minimized and/or prevented.

12. Condition I2 is included to ensure that the sewage works of the transformer spill containment facility will be operated and maintained in accordance with the information submitted by the Company, and to adequately manage and clean-up any oil spill from the transformer.
13. Condition I3 is included to establish non-enforceable effluent quality objectives which the Company is required to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
14. Conditions I4 and I5 are included to require the Company to demonstrate that the performance of the sewage works of the transformer spill containment facility is at a level consistent with the design and effluent objectives specified in the Approval and is not causing any impairment to the environment.
15. Condition M is included to protect archaeological resources that may be found at the project location.
16. Condition N is included to ensure continued communication between the Company and the local residents.
17. Condition O is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, O. Reg. 359/09 and this Approval.
18. Condition P is included to require the Company to keep records and provide information to the Ministry so that compliance with the Act, O. Reg. 359/09 and this Approval can be verified.
19. Condition Q is included to ensure that any complaints regarding the construction, installation, use, operation, maintenance or retirement of the Facility are responded to in a timely and efficient manner.
20. Condition R is included to ensure that the Facility is operated under the corporate name which appears on the application form submitted for this Approval and to ensure that the Director is informed of any changes.

## NOTICE REGARDING HEARINGS

*In accordance with Section 139 of the Environmental Protection Act, within 15 days after the service of this notice, you may by further written notice served upon the Director, the Environmental Review Tribunal and the Environmental Commissioner, require a hearing by the Tribunal.*

*In accordance with Section 47 of the Environmental Bill of Rights, 1993, the Environmental Commissioner will place notice of your request for a hearing on the Environmental Registry.*

*Section 142 of the Environmental Protection Act provides that the notice requiring the hearing shall state:*

1. The portions of the renewable energy approval or each term or condition in the renewable energy approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The signed and dated notice requiring the hearing should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The renewable energy approval number;
6. The date of the renewable energy approval;
7. The name of the Director;
8. The municipality or municipalities within which the project is to be engaged in;

*This notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Environmental Commissioner  
1075 Bay Street, 6th Floor  
Suite 605  
Toronto, Ontario  
M5S 2B1

AND

The Director  
Section 47.5, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*Under Section 142.1 of the Environmental Protection Act, residents of Ontario may require a hearing by the Environmental Review Tribunal within 15 days after the day on which notice of this decision is published in the Environmental Registry. By accessing the Environmental Registry at [www.ebr.gov.on.ca](http://www.ebr.gov.on.ca), you can determine when this period ends.*

*Approval for the above noted renewable energy project is issued to you under Section 47.5 of the Environmental Protection Act subject to the terms and conditions outlined above.*

DATED AT TORONTO this 22nd day of April, 2013



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Vic Schroter, P.Eng.

Director

Section 47.5, *Environmental Protection Act*

SR/

c: District Manager, MOE Owen Sound  
Thomas Bird, NextEra Energy Canada