

**RENEWABLE ENERGY APPROVAL**NUMBER 7042-96FQB7  
Issue Date: July 2, 2013

St. Columban Energy Inc.  
216 Chrislea Rd  
Woodbridge, Ontario  
L4L 8S5

Project: 44221 Bridge Road  
Location: 44221 Bridge Road, Ref. McKillop  
Lot 8, Concession 4  
Huron East Municipality, 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 Renewable Energy wind facility consisting of the following:*

- the construction, installation, operation, use and retiring of a Class 4 wind facility with a total name plate capacity of 32.982 megawatts.

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

1. Acoustic Assessment Report” means the three (3) reports included in the Application entitled:

*St. Columban Wind Project Noise Assessment Report Revision 6-2.3, dated January 25, 2013, prepared by Zephyr North Ltd. and signed by J. Menendez, P.Eng, St. Columban Energy LP on January 25, 2013,*

*St. Columban Wind Project, Transformer Noise Assessment Report Revision 1, dated March 25, 2013, prepared by Zephyr North Ltd. and signed by J. Menendez, P.Eng, St. Columban Energy LP on March 25, 2013,*

and the report entitled:

*St. Columban Wind Project Noise Assessment Report Revision 6-2.3 Addendum 1, dated April 15, 2013, prepared by Zephyr North Ltd. and signed by J. Menendez, P.Eng, St. Columban Energy LP on April 15, 2013.*

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 15, 2012, and signed by Jose Menendez, Vice President Business Development, Veresen Inc., on behalf of St. Columban Energy LP, 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 St. Columban Energy Inc., as general partner for and on behalf of St. Columban Energy L.P, the partnership under the laws of Ontario, 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 15 wind turbine generators and one 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. "IEC Standard 61400-11" means the International Standard IEC Standard 61400-11, Wind turbine generator systems – Part 11: Acoustic noise measurement techniques, 2006;
27. "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;
28. "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;
29. "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;
30. "Noise Receptor" has the same meaning as in O. Reg. 359/09;
31. "Publication NPC-233" means Ministry Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995;
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. "Sound Level" means the A-weighted Sound Pressure Level;
35. "Sound Level Limit" is the limiting value described in terms of the one hour A-weighted Equivalent Sound Level  $L_{eq}$ ;
36. "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;
37. "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 ( $\mu\text{Pa}$ );
38. "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  $20 \mu\text{Pa}$ ;
39. "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 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, at least six months prior to the anticipated retirement date of the entire Facility, or part of the Facility, contact the ministry responsible for agriculture in Ontario at that time to discuss its plans for the decommissioning of the Facility, and follow any reasonable directions provided by that ministry in respect of the Company's plans to restore the project location to its previous agricultural capacity.

A8. The Company shall provide the District Manager and the Director at least 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.

A9. The Company shall ensure that any necessary authorizations under the *Endangered Species Act (2007)* have been obtained prior to the commencement of construction of the Facility in areas that support habitat for endangered or threatened species.

**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>
Sound Level Limits, dBA	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 locations identified in Table 7-2 of the Acoustic Report entitled St. Columban Wind Project Noise Assessment Report Revision 6-2.3, dated January 25, 2013, prepared by Zephyr North and signed by J. Menendez, P.Eng , St. Columban Energy LP on January 25, 2013 are specified as Noise Receptors for the purposes of subsection 54 (1.1) 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 two 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, subject to the authorization of the landowner to access the location; 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 separate occasions that represent the lowest annual ambient Sound Levels no later than 12 months after the commencement of the operation of the facility, 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-Immission, prepared by an Independent Acoustical Consultant, at the following points in time:
  - (1) no later than 12 months after the commencement of the operation of the Facility for the first of the two acoustic audit measurements at the two Points of Reception; and

- (2) no later than 18 months after the commencement of the operation of the Facility for the second of the two acoustic audit measurements at the two 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, in accordance with the Ministry Publication NPC-233 and 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 one of each of the three types of wind turbines used in the Facility.

Specifically ;

1. one of the wind turbine generators rated at 2.3 megawatts generating output capacity,
2. one of the wind turbine generators rated at 2.221 megawatts generating output capacity, and
3. one of the wind turbine generators rated at 2.126 megawatts generating output capacity 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 12 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.

G2. Within six months of the completion of the construction of the Facility, the Company shall provide the District Manager with a written description of post-construction stormwater management conditions.

## **H - WATER TAKING ACTIVITIES**



H1. The Company shall not take more than 50,000 litres of water on any day by any means during the construction, installation, use, operation, maintenance and retiring of the Facility.

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

I1. 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 (typical 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 No. I4.

I2. 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.

I3. 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.

I4. 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 – Batch, i.e., for each discrete volume in the sewer appurtenance as per I1(4) prior to pumpout; or

Oil and Grease	Q – Quarterly for direct effluent discharge, i.e., four times over a year, relatively evenly spaced.
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- (2) in the event of an exceedance of the maximum concentration objective set out in the table in Condition No. 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 No. I4(1), there are no exceedances of the maximum concentration set out in the table in Condition No. 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 No. 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 - SURFACE WATER**

- J1. The Company shall conduct the monitoring described in Water Assessment and Water Body Report, dated June 2012, and included in the Application.
- J2. Within one year of the completion of the construction of the Facility, the Company must provide the District Manager, in writing, a description of post-construction surface water quality conditions and a written description of any additional remediation works required. The written description shall include surface water conditions during the freshet period occurrence in the first Spring following the construction of the Facility.

**K - NATURAL HERITAGE AND PRE AND POST CONSTRUCTION MONITORING**

**GENERAL**

- K1. The Company shall implement the Environmental Effects Monitoring Plan for the St. Columban Wind Project, dated May 2012, and the commitments made in the St. Columban Wind Project Natural Heritage Assessment/Environmental Impact Study, dated August 2011, prepared by Stantec Consulting Ltd., the Addendum to the Natural Heritage Assessment, dated February 2012, and the Addendum to the Natural Heritage Assessment/Environmental Impact Study, dated July 13, 2012 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.
- K2. If the Company determines that it must deviate from either the Environmental Effects Monitoring Plan or the Environmental Impact Study, described in Condition K1, 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.

### **POST CONSTRUCTION MONITORING – BIRDS AND BATS**

- K3. The Company shall implement the post-construction bird and bat mortality monitoring described in the Environmental Effects Monitoring Plan described in Condition K1 at a minimum of ten (10) of the 15 constructed wind turbines, selected in consultation with the Ministry of Natural Resources.

### **THRESHOLDS AND MITIGATION**

- K4. 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 for the St. Columban Wind Project described in Condition K1, are 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) 2 raptors per wind power project per year (all raptors);
  - (4) 10 or more birds at any one turbine during a single monitoring survey; or
  - (5) 33 or more birds (including raptors) during a single monitoring survey across the wind power project.
- K5. If the bat mortality threshold described in Condition K4 (1) is 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 Ministry of Natural Resources; and

(2) implement an additional three (3) years of effectiveness monitoring.

K6. If the bat mortality threshold described in Condition K4 (1) is exceeded after operational mitigation is implemented in accordance with Condition K5, 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.

K7. If either of the bird mortality thresholds described in Conditions K4(2) or K4(3) is reached or exceeded for turbines located outside 120 metres of bird significant wildlife habitat or there is no bird SWH in the project area, 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 for the operating life of the Facility, and effectiveness monitoring at individual turbines, for the first three (3) years following the implementation of mitigation.

K8. If either of the bird mortality thresholds described in Conditions K4 (4) or K4 (5) is 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;
- (2) blade feathering at specific times of year; or
- (3) an alternate plan agreed to between the Company and the Ministry of Natural Resources.

K9. If either of the bird mortality thresholds described in Conditions K4 (4) or K4 (5) is exceeded after mitigation is implemented in accordance with Condition K8, 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**

K10. 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 the bat mortality threshold described in Condition K4 (1) is exceeded, the Company shall report mortality levels to the Ministry of Natural Resources for the additional three (3) years of monitoring described in Condition K5, on an annual basis and within three (3) months of the conclusion of the October mortality monitoring for each year;
- (2) if either of the bird mortality thresholds described in Conditions K4 (4) or K4 (5) is exceeded, the Company shall report the mortality event to the Ministry of Natural Resources within 48 hours of observation;
- (4) if either of the bird mortality thresholds described in Conditions K4 (2), K4 (3) or K4 (4) is 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 effectiveness monitoring described in Condition K8, on an annual basis and within three (3) months of the conclusion of the November mortality monitoring for each year.

## **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 Huron East, Township of Howick, Municipality of Morris-Turnberry, and Huron County.

- L2. Within three (3) months of having provided the Traffic Management Plan to the Municipality of Huron East, Township of Howick, Municipality of Morris-Turnberry, and Huron County, the Company shall make reasonable efforts to enter into a Road Users Agreement with the Municipality of Huron East, Township of Howick, Municipality of Morris-Turnberry, and Huron County.
- L3. If a Road Users Agreement has not been signed with the Municipality of Huron East, Township of Howick, Municipality of Morris-Turnberry, and Huron County within three (3) months of having provided the Traffic Management Plan to the Municipality of Huron East, Township of Howick, Municipality of Morris-Turnberry, and Huron County, 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 - CONSULTATION WITH ENVIRONMENT CANADA**

- O1. The Company shall curtail operation of the Facility, or take such other reasonable mitigation measures, when and as required, to ensure that the ability of the Environment Canada weather radar system to properly detect and monitor extreme weather events is not adversely impacted by the Facility
- O2. The Company shall, in consultation with Environment Canada, determine the circumstances in which such curtailment or other mitigation measures are required.

#### **P - OPERATION AND MAINTENANCE**

- P1. 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.
- P2. The Company shall;
  - (1) update, as required, the manual described in Condition P1; and,
  - (2) make the manual described in Condition P1 available for review by the Ministry upon request.
- P3. The Company shall ensure that the Facility is operated and maintained in accordance with the Approval and the manual described in Condition P1.

#### **Q - RECORD CREATION AND RETENTION**

- Q1. 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.

Q2. A record described under Condition Q1 (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.

Q3. The Company shall retain, for a minimum of five (5) years from the date of their creation, all records described in Condition Q1, and make these records available for review by the Ministry upon request.

## **R - NOTIFICATION OF COMPLAINTS**

- R1. The Company shall notify the District Manager of each complaint within two (2) business days of the receipt of the complaint.
- R2. The Company shall provide the District Manager with the written records created under Condition Q2 within eight (8) business days of the receipt of the complaint.

## **S - CHANGE OF OWNERSHIP**

- S1. 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.

## **T – ABORIGINAL CONSULTATION**

- T1. During the construction, installation, operation, use and retiring of the Facility, the Company shall:
- (1) create and maintain written records of any communications with Aboriginal communities; and
  - (2) make the written records available for review by the Ministry upon request.
- T2. The Company shall provide the following to interested Aboriginal communities:
- (1) updated project information, including the results of monitoring activities undertaken and copies of additional archaeological assessment reports that may be prepared; and
  - (2) updates on key steps in the construction, installation, operation, use and retirement phases of the Facility, including notice of the commencement of construction activities at the project location.
- T3. If an Aboriginal community requests a meeting to obtain information relating to the construction, installation, operation, use and retiring of the Facility, the Company shall make reasonable efforts to arrange and participate in such a meeting.
- T4. If any archaeological resources of Aboriginal origin are found during the construction of the Facility, the Company shall:
- (1) notify any Aboriginal community considered likely to be interested or which has expressed an interest in such finds; and
  - (2) if a meeting is requested by an Aboriginal community to discuss the archaeological find(s), make reasonable efforts to arrange and participate in such a meeting.

## **SCHEDULE A**

### **Facility Description**

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

- (a) a total of 15 wind turbine generators with output capacity of 32.982 megawatts as specified in the Acoustic Assessment Report;
- (b) the 15 wind turbines are composed of:
  - three (3) wind turbine generator rated a at 2.3 megawatts generating output capacity with a total name plate capacity of up to approximately 6.9 megawatts, designated as source ID Nos T11, T12 and T15 , respectively each with a hub height of 99.5 metres above grade, and sited at the locations shown in Schedule B;
  - six (6) wind turbine generator rated a at 2.221 megawatts generating output capacity with a total name plate capacity of up to approximately 13.326 megawatts, designated as source ID Nos T1, T2, T3, T5, T13 and T14 , respectively each with a hub height of 99.5 metres above grade, and sited at the locations shown in Schedule B;
  - six (6) wind turbine generator rated a at 2.126 megawatts generating output capacity with a total name plate capacity of up to approximately 12.756 megawatts, designated as source ID Nos T4, T6, T7,T8,T9 and T10 , respectively each with a hub height of 99.5 metres above grade, and sited at the locations shown in Schedule B;
- (c) one transformer substation rated at 18 MVA and sited at the location shown in Schedule B; and
- (d) associated ancillary equipment, systems and technologies including on-site access roads, underground cabling and overhead distribution lines,

all in accordance with the Application.

## SCHEDULE B

### Coordinates of the Equipment and Noise Specifications

**Table B1:** Coordinates of the Equipment are listed below in UTM, Z17-NAD83 projection:

Source ID	Maximum Sound Power Level (dBA)	Easting (m)	Northing (m)	Source Description
Transformer Substation	83	487,630	4,854,885	See Table B2 below
T 1	104	475,688	4,819,174	See Table B3 below
T 2	104	475,982	4,819,564	See Table B3 below
T 3	104	476,068	4,820,809	See Table B3 below
T 4	103	476,439	4,821,386	See Table B4 below
T 5	104	477,290	4,822,643	See Table B3 below
T 6	103	474,695	4,824,004	See Table B4 below
T 7	103	475,642	4,823,294	See Table B4 below
T 8	103	476,421	4,822,936	See Table B4 below
T 9	103	476,794	4,824,480	See Table B4 below
T 10	103	476,464	4,824,699	See Table B4 below
T 11	105	473,668	4,819,851	See Table B5 below
T 12	105	473,905	4,820,309	See Table B5 below
T 13	104	474,447	4,820,173	See Table B3 below
T 14	104	474,574	4,819,899	See Table B3 below
T 15	105	478,016	4,820,440	See Table B5 below

## SCHEDULE B

### Coordinates of the Equipment and Noise Specifications (cont)

**Table B2:** Maximum Sound Power Spectrum (dB Lin) of Transformer Substation

Transformer Substation	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	63.9	77.6	83.1	81.3	77.7	75.6	67.1	56.2

**Table B3 :** Maximum Sound Power Spectrum Level (Lw) (dB Lin) of Wind Turbine Generators

Turbines : T1, T2, T3, T5, T13 & T 14	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	111.0	107.0	106.2	101.4	98.8	94.4	83.1	66.7

**Table B4:** Maximum Sound Power Spectrum Level (Lw) (dB Lin) of Wind Turbine Generators

Turbines : T4, T6, T7, T8, T9 & T10	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	110.8	106.7	105.6	99.9	97.4	93.8	83.0	67.4

**Table B5:** Maximum Sound Power Level (Lw) Spectrum (dB Lin) of Wind Turbine Generators

Turbines : T11, T12 & T15	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	110.8	108.5	106.2	102.6	100.3	94.7	85.1	69.1

Note: The transformer substation Sound Power Level values in all the above tables 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:*

## **REASONS**

1. Conditions A1 and A2 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, A6, and A7 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 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.
5. Condition A9 is included to ensure all necessary authorizations under the *Endangered Species Act* are obtained.
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, I, 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 M is included to protect archaeological resources that may be found at the project location.

12. Condition N is included to ensure continued communication between the Company and the local residents and Condition O is included to ensure continued communication between the Company and Environment Canada.
13. Condition P 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.
14. Condition Q 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.
15. Condition R 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.
16. Condition S 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.16.
17. Condition T is included to ensure continued communication between the Company and interested Aboriginal communities.

## **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 2nd day of July, 2013



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Vic Schroter, P.Eng.  
Director  
Section 47.5, *Environmental Protection Act*

DM/

c: District Manager, MOE Owen Sound  
Shawna Peddle, Stantec Consulting Ltd.