Ontario

Ministry of the Environment
Ministère de l'Environnement

RENEWABLE ENERGY APPROVAL

NUMBER 6457-9L6QLC
Issue Date: October 15, 2014

Grand Valley Wind Farms Inc., as general partner for and on behalf of Grand Valley 2 Limited Partnership
222 3rd Ave SW, Suite 900
Livingston Place, South Tower
Calgary, Alberta
T2P 0B4

Project Location: Grand Valley Wind Farm - Phase 3
Concession Road 8 & 9
Lot Part of 30, Concession 8
East Luther Grand Valley Township, County of Dufferin
L0N 1G0

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 Class 4 wind facility with a total name plate capacity of 40 megawatts (MW).

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 Grand Valley Wind Farms, Noise Assessment Report, dated June 4, 2014 prepared by Zephyr North and signed by J. Menendez P. Eng **.** ;
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 May 31, 2013 and signed by Hali Zigomanis, Environmental Manager, East, Veresen 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 Grand Valley Wind Farms Inc., as general partner for and on behalf of Grand Valley 2 Limited Partnership, a 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 and Climate Change 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 up to sixteen (16) wind turbine generators and one (1) 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 Leq 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 Leq;

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 (μPa);

38. "Sound Pressure Level" means twenty times the logarithm to the base 10 of the ratio of the effective pressure (μPa) of a sound to the reference pressure of 20 μPa;

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 (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.

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:

Wind Speed (m/s) at 10 m height	**4**	**5**	**6**	**7**	**8**	**9**	**10**
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 Assessment Report 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 two (2) separate occasions at two (2) different Points of Receptions;

(3) the Points of Reception shall be selected using the following criteria, subject to the documented constraints imposed by the location of the Points of Reception;

a) the selected Point(s) of Reception should represent the location of the greatest predicted noise impact, i.e., the highest predicted Sound Level; and

b) the Point(s) of Reception should be located in the direction of prevailing winds from the Facility;

(c) subject to clauses (a) and (b) above and a written agreement by the Director, a measurement location other than a Point of Reception may be selected if the Company provides clear and substantiated evidence to the Director and the District Manager that access to the Point(s) of Reception is not available.

E2. The Company shall submit to the Director and District Manager an Acoustic Audit Report - Immission, prepared by an Independent Acoustical Consultant, at the following points in time:

(1) no later than twelve (12) months, or such other date as agreed to in writing by the Director, after the commencement of the operation of the Facility for the first of the two (2) acoustic audit measurements at the two (2) Points of Reception; and

(2) no later than eighteen (18) months, or such other date as agreed to in writing by the Director, after the commencement of the operation of the Facility for the second of the two (2) acoustic audit measurements at the two (2) Points of Reception.

E3. The Company shall carry out an Acoustic Audit - Transformer Substation and shall submit to the Director and the District Manager an Acoustic Audit Report – Transformer Substation prepared by an Independent Acoustical Consultant, in accordance with Ministry Publication NPC-233 and no later than twelve (12) 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 CAN/CSA Standard IEC 61400-11:07;

(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) of the wind turbine generators; on one (1) of the wind turbine generators rated at 2.648 megawatts generating output capacity and another one (1) of the wind turbine generators rated at 2.483 megawatts generating output capacity used in the Facility. Should the Facility be comprised solely of 2.483 megawatt turbines, the Company shall perform measurements on two (2) 2.483 megawatt turbines.

F2. The Company shall submit to the Director and the District Manager an Acoustic Audit Report-Emission, prepared in accordance with Section 9 of the CAN/CSA Standard IEC 61400-11:07 by an

Independent Acoustical Consultant, no later than twelve (12) months, or such other date as agreed to in writing by the Director, after the commencement of the operation of the Facility.

F3. In addition to the requirements described in Condition F2, the Acoustic Audit Report-Emission must include a summary of the measurement results. The following items must be included in the summary:

(1) sound power levels (overall levels and frequency spectra in octave bands for each wind speed) of the wind turbine generators;

(2) tonal audibility values (for each wind speed) of the wind turbine generators;

(3) a statement that the wind turbine generators sound power levels, do not exceed the maximum sound power level specified in the Approval; and

(4) a statement that the wind turbine generators tonal audibility values, as per Condition F3(2), comply with the maximum tonal audibility value noted in the Acoustic Assessment Report.

G - STORMWATER MANAGEMENT

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

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 soil 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 Grand River 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 SUBSTATION SPILL CONTAINMENT FACILITY

I1. The Company shall design and construct a transformer substation oil 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.

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:

Effluent Parameters	**Maximum Concentration Objective**
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:

Effluent Parameters	**Measurement Frequency and Sample Points**	**Sample Type**
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.

5. 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 POST CONSTRUCTION MONITORING

GENERAL

J1. The Company shall implement the Environmental Effects Monitoring Plan for the Grand Valley Wind Farms - Phase 3 Wind Project, title *Grand Valley Wind Farms - Phase 3 Wind Project Environmental Effects Monitoring Plan,* dated May 2013, and the commitments made in the following reports and included in the Application, and which the Company submitted to the Ministry of Natural Resources and Forestry in order to comply with O. Reg. 359/09:

- *Grand Valley Wind Farms - Phase 3 Wind Project Natural Heritage Assessment and Environmental Impact Study,* dated May 2013 and prepared by Stantec Consulting Ltd.
- *NHA Addendum - Technical and Project Design Changes, Grand Valley Wind Farms - Phase 3,* dated June 20, 2014 and prepared by Stantec Consulting Ltd.

J2. If the Company determines that it must deviate from the Environmental Effects Monitoring Plan or the Environmental Impact Study or Addendum thereto, described in Condition J1, the Company shall contact the Director and the Ministry of Natural Resources and Forestry prior to making any changes to the Environmental Effects Monitoring Plan or the Environmental Impact Study or Addendum, and follow any directions provided.

POST-CONSTRUCTION MONITORING – SIGNIFICANT WILDLIFE HABITAT

J3. The Company shall implement the post-construction monitoring described in the Environmental Effects Monitoring Plan described in Condition J1, including the following:

(1) Disturbance Monitoring for Amphibian Breeding Habitat - Woodlands (ABWO13).

POST CONSTRUCTION MONITORING - BIRDS AND BATS

J4. 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 10 constructed turbines. Turbine T105 shall be included in the 30% selection for mortality monitoring.

THRESHOLDS AND MITIGATION

J5. The Company shall contact the Director and the Ministry of Natural Resources and Forestry if any of the following bird and bat mortality thresholds, as stated in the Environmental Effects Monitoring Plan for the Grand Valley Wind Farms - Phase 3 described in Condition J1, exceed:

(1) 10 bats per turbine per year;

(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 Facility;

(4) 0.1 raptors per turbine per year (provincially tracked raptors) across the Facility;

(5) 10 or more birds at any one turbine during a single monitoring survey; or

(6) 33 or more birds (including raptors) at multiple turbines during a single monitoring survey.

J6. If the bat mortality threshold described in Condition J5(1) is reached or exceeded, the Company shall:

(1) implement operational mitigation measures consistent with those described in the Ministry of Natural Resources and Forestry publication entitled "Bats and Bat Habitats: Guidelines for Wind Power Projects" dated July 2011, or in an amended version of the publication. Such measures shall include some or all of the following:

(i) 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; or

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

J7. If the bat mortality threshold described in Condition J5(1) is exceeded after operational mitigation is implemented in accordance with Condition J6, the Company shall prepare and implement a contingency plan, in consultation with the Director and the Ministry of Natural Resources and Forestry, to address mitigation actions which shall include additional mitigation and scoped monitoring requirements.

J8. If any of the bird mortality thresholds described in Conditions J5(2), J5(3) or J5(4) are exceeded for turbines located greater than 120 metres from 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, the Director and the Ministry of Natural Resources and Forestry, for the first three (3) years following the implementation of mitigation.

J9. If either of the bird mortality thresholds described in Conditions J5(5) or J5(6) are 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, the Director and the Ministry of Natural Resources and Forestry.

J10. If any of the bird mortality thresholds described in Conditions J5(2), J5(3) or J5(4) are exceeded while monitoring is being implemented in accordance with Conditions J8 or J9, or if either of the bird mortality thresholds described in Conditions J5(5) or J5(6) are exceeded after mitigation is implemented in accordance with Condition J10, the Company shall contact the Director and the Ministry of Natural Resources and Forestry 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, the Director and the Ministry of Natural Resources and Forestry.

REPORTING AND REVIEW OF RESULTS

J11. The Company shall report, in writing, the results of the post-construction disturbance monitoring described in Condition J3, to the Director and the Ministry of Natural Resources and Forestry for a minimum of one (1) year and up to three (3) years, determined in consultation with the Ministry of Natural Resources and Forestry, on an annual basis and within three (3) months of the end of each calendar year in which the monitoring took place.

J12. The Company shall report, in writing, bird and bat mortality levels to the Director and the Ministry of Natural Resources and Forestry 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 J5(5) or J5(6) are exceeded, the Company shall report the mortality event to the Director and the Ministry of Natural Resources and Forestry 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 and Forestry within 24 hours of observation or the next business day;

(3) if the bat mortality threshold described in Condition J5(1) is exceeded, the Company shall report mortality levels to the Director and the Ministry of Natural Resources and Forestry for the additional three (3) years of monitoring described in Condition J6, on an annual basis and within three (3) months of the conclusion of the October mortality monitoring for each year;

(4) if any of the bird mortality thresholds described in Conditions J5(2), J5(3) or J5(4) are exceeded for turbines located outside 120 m of bird significant wildlife habitat, the Company shall report mortality

levels to the Director and the Ministry of Natural Resources and Forestry for the additional two (2) years of cause and effects monitoring described in Condition J9, on an annual basis and within three (3) months of the conclusion of the November mortality monitoring for each year; and

(5) if the Company implements operational mitigation following cause and effects monitoring in accordance with Condition J9, the Company shall report mortality levels to the Director and the Ministry of Natural Resources and Forestry for the three (3) years of subsequent effectiveness monitoring described in Condition J9, on an annual basis and within three (3) months of the conclusion of the November mortality monitoring for each year.

J13. The Company shall publish the following documents on the Company's website:

(1) any modifications to the Environmental Effects Monitoring Plan as described in Condition J2 within ten (10) days of submitting the final plan to the Director and the Ministry of Natural Resources and Forestry;

(2) the results of the post-construction disturbance monitoring as described in Condition J11 within ten (10) days of submitting the final report(s) to the Director and the Ministry of Natural Resources and Forestry; and

(3) annual bird and bat mortality monitoring as described in Condition J12 with the exception of subsection J12(2), within ten (10) days of submitting the final report(s) to the Director and the Ministry of Natural Resources and Forestry.

K - TRAFFIC MANAGEMENT PLANNING

K1. Within three (3) months of receiving this Approval, the Company shall prepare an Emergency Response and Communications Plan and a Traffic Management Plan and provide it to the Town of Grand Valley, the Township of Amaranth and Dufferin County.

K2. Within three (3) months of having provided the Traffic Management Plan to the Town of Grand Valley, the Township of Amaranth and Dufferin County, the Company shall make reasonable efforts to enter into a Road Users Agreement with the Town of Grand Valley, the Township of Amaranth and Dufferin County.

K3. If a Road Users Agreement has not been signed with the Town of Grand Valley, the Township of Amaranth and Dufferin County within three (3) months of having provided the Traffic Management Plan to the Town of Grand Valley, the Township of Amaranth and Dufferin County, the Company shall provide a written explanation to the Director as to why this has not occurred.

K4. The Company shall make reasonable efforts to have ongoing discussions with the Town of Grand Valley, the Township of Amaranth and Dufferin County, and make reasonable efforts to ensure that all commitments made to the Town of Grand Valley, the Township of Amaranth and Dufferin County are met.

L - ARCHAEOLOGICAL RESOURCES

L1. 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.

L2. 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.

M - COMMUNITY LIAISON COMMITTEE

M1. 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.

M2. 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.

M3. The Community Liaison Committee shall consist of at least one Company representative who shall attend all meetings.

M4. 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.

M5. 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.

M6. 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.

M7. 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.

M8. The Company shall ensure that all Community Liaison Committee meetings are open to the general public.

M9. 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.

M10. 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.

N – ABORIGINAL CONSULTATION

N1. 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.

N2. 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.

N3. 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.

N4. 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.

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:

(a) up to sixteen (16) Siemens SWT 3.0-113 wind turbine generators. Two (2) wind turbines rated at a maximum of 2.648 MW and fourteen (14) wind turbines rated at a maximum of 2.483 MW, with a maximum total name plate capacity of 40 megawatts (MW), designated as source ID Nos. T101 through T120, each with a hub height of 99.5 metres above grade, and sited at the locations shown in Schedule B, in accordance with Condition C1(2)(b); and

(b) associated ancillary equipment, systems and technologies including one (1) 45 mega-volt-ampere (MVA) transformer substation, 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

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
T101	102.5	546,165	4,873,538	Siemens SWT-3.0-113, 2.648 MW
T102	102.5	546,188	4,872,997	Siemens SWT-3.0-113, 2.648 MW
T103	101.5	548,193	4,872,750	Siemens SWT-3.0-113, 2.483 MW
T104	101.5	548,297	4,872,271	Siemens SWT-3.0-113, 2.483 MW
T105	101.5	552,907	4,870,024	Siemens SWT-3.0-113, 2.483 MW
T106	101.5	554,074	4,870,311	Siemens SWT-3.0-113, 2.483 MW
T108	101.5	555,316	4,869,921	Siemens SWT-3.0-113, 2.483 MW
T109	101.5	552,688	4,864,238	Siemens SWT-3.0-113, 2.483 MW
T110	101.5	552,887	4,863,599	Siemens SWT-3.0-113, 2.483 MW
T112	101.5	551,622	4,863,426	Siemens SWT-3.0-113, 2.483 MW
T113	101.5	551,529	4,861,903	Siemens SWT-3.0-113, 2.483 MW
T114	101.5	550,852	4,861,687	Siemens SWT-3.0-113, 2.483 MW
T115	101.5	550,750	4,860,447	Siemens SWT-3.0-113, 2.483 MW
T117	101.5	550,194	4,860,468	Siemens SWT-3.0-113, 2.483 MW
T118	101.5	550,461	4,859,993	Siemens SWT-3.0-113, 2.483 MW
T120	101.5	554,159	4,869,801	Siemens SWT-3.0-113, 2.483 MW
Tr119	93.0	553,380	4,868,754	45 MVA transformer substation

Note: The transformer substation's Sound Power Level value in the above table 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 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 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 B is intended to limit the time period of the Approval.

6. 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.

7. 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.

8. 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.

9. Conditions G, H, I, J, and K 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.

10. Condition L is included to protect archaeological resources that may be found at the project location.

11. Condition M is included to ensure continued communication between the Company and the local residents.

12. Condition N is included to ensure continued communication between the Company and interested Aboriginal communities.

13. 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.

13. 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.

14. 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.

15. 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**

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 , 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 15th day of October, 2014

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

VS/
c: District Manager, MOE Guelph
Shawna Peddle, Stantec Consulting Ltd.