

RENEWABLE ENERGY APPROVALNUMBER 1845-98SRNS
Issue Date: September 25, 2013

Brantgate General Partner 1 Inc. and Brantgate General
Partner 2 Inc. operating as Brantgate Solar Farm
Partnership
620 Righters Ferry Rd
Bala Cynwyd, Pennsylvania
USA 19004

Project: 153 Bishopsgate Road
Location: Lot 1 and 2, Concession 11
Brant County,
N0E 1R0

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 3 solar facility consisting of the following:

-- the construction, installation, operation, use and retiring of a Class 3 solar facility with a total name plate capacity of up to approximately 8 megawatts (AC).

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 "Acoustic Assessment Report, Penn Energy-Brantgate Solar Plant, Burford Township, Brant County, Ontario", dated March 5, 2013, prepared by HGC Engineering and signed by Petr Chocensky, PhD (Civ. Eng) of HGC on March 5, 2013;
2. "Acoustic Audit" 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;
3. "Acoustic Audit Report" means a report presenting the results of an Acoustic Audit;
4. "Acoustic Audit Report - Transformers and Inverters" means a report presenting the results of the Acoustic Audit - Transformers and Inverters.

5. "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 solar facilities;
6. "Act" means the *Environmental Protection Act*, R.S.O 1990, c.E.19, as amended;
7. "Adverse Effect" has the same meaning as in the Act;
8. "Application" means the application for a Renewable Energy Approval dated October 23, 2012, and signed by Glen Tomkinson, Brantgate Solar Farm Partnership, and all supporting documentation submitted with the application, including amended documentation submitted up to the date this Approval is issued;
9. "Approval" means this Renewable Energy Approval issued in accordance with Section 47.4 of the Act, including any schedules to it;
10. "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";
11. "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";
12. "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";
13. "Class 2 Area" means an area with an acoustical environment that has qualities representative of both Class 1 and Class 3 Areas:
 - (a) sound levels characteristic of Class 1 during daytime (07:00 to 19:00 or to 23:00 hours);
 - (b) 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);
 - (c) no clearly audible sound from stationary sources other than from those under impact assessment.
14. "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:
 - (a) a small community with less than 1000 population;
 - (b) agricultural area;

- (c) a rural recreational area such as a cottage or a resort area; or
- (d) a wilderness area.
15. "Company" means Brantgate General Partner 1 Inc. and Brantgate General Partner 2 Inc. operating as Brantgate Solar Farm Partnership, the partnership under the laws of Ontario, and any successor partnership or firm carrying on the same business to which this approval relates;
16. "Decibel" means a dimensionless measure of Sound Level or Sound Pressure Level, denoted as dB;
17. "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;
18. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Facility is geographically located;
19. "Equipment" means the inverters, transformers, switchgear and associated ancillary equipment identified in this Approval and as further described in the Application, to the extent approved by this Approval;
20. "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);
21. "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;
22. "IEEE Standard C57.12.90" means the IEEE Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers, 2010.
23. "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;
24. "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;
25. "Noise Control Measures" means measures to reduce the noise emissions from the Facility and/or Equipment including, but not limited to, barriers, silencers, acoustical louvres, hoods and acoustical treatment, described in the Acoustic Assessment Report or the Acoustic Audit Report;
26. "Noise Receptor" has the same meaning as in O. Reg. 359/09;

27. "O. Reg. 359/09" means Ontario Regulation 359/09 "Renewable Energy Approvals under Part V.0.1 of the Act" made under the Act;
28. "Point of Reception" has the same meaning as in Publication NPC-205 or Publication NPC-232, as applicable, and is subject to the same qualifications described in those documents;
29. "Publication NPC-103" means the Ministry Publication NPC-103, "Procedures", August 1978;
30. "Publication NPC-104" means the Ministry Publication NPC-104, "Sound Level Adjustments", August 1978;
31. "Publication NPC-205" means the Ministry Publication NPC-205, "Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)", October 1995;
32. "Publication NPC-232" means the Ministry Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October 1995;
33. "Publication NPC-233" means the Ministry Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October 1995;
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 is 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 $20 \mu\text{Pa}$;
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:
- (a) Schedule A - Facility Description
 - (b) 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 Limit of 40 dBA as described in Publication NPC-232, subject to adjustment for tonality as described in Publication NPC-104;
 - (2) the Equipment is constructed and installed at either of the following locations:
 - (1) at the locations identified in Schedule B of this Approval; or
 - (1) 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; and
 - (4) all of the Noise Control Measures are fully implemented prior to the commencement of the operation of the Facility.
- 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 - ACOUSTIC AUDIT

- D1. The Company shall carry out an Acoustic Audit in accordance with the procedures set out in Publication NPC-103, and shall submit to the District Manager and the Director an Acoustic Audit Report prepared by an Independent Acoustical Consultant in accordance with the requirements of Publication NPC-233, no later than six (6) months after the commencement of the operation of the Facility.

E - GROUNDWATER MONITORING

- E1. Prior to the construction and installation of the Facility, the Company shall develop, and implement for a minimum period of two (2) years after it is developed, a pre- and post-construction ground water monitoring program, which shall include, as a minimum, the following information:
- (1) Identification of ground water monitoring wells to be established at appropriate up and down gradient boundary locations of the project location.
 - (2) Identification of ground water monitoring parameters, monitoring frequency, and trigger concentrations based on appropriate information as deemed necessary for the monitoring wells as described in Condition E1 (1).
- E2. The Company shall report the summary of the results of the pre- and post-construction ground water monitoring program on an annual basis to the District Manager.

F - STORMWATER MANAGEMENT

- F1. 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.

G - WATER TAKING ACTIVITIES

- G1. 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.

H - TRAFFIC MANAGEMENT PLANNING

- H1. Within three (3) months of receiving this Approval, the Company shall prepare a Traffic Management Plan and provide it to the County of Brant.
- H2. Within three (3) months of having provided the Traffic Management Plan to the County of Brant, the Company shall make reasonable efforts to enter into a Road Users Agreement with the County of Brant.

- H3. If a Road Users Agreement has not been signed with the County of Brant within three (3) months of having provided the Traffic Management Plan to the County of Brant, the Company shall provide a written explanation as to why this has not occurred.

I - ARCHAEOLOGICAL RESOURCES

- I1. 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 clause 22 (2) (b) of O. Reg. 359/09.
- I2. 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.

J - OPERATION AND MAINTENANCE

- J1. 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.
- J2. The Company shall;
- (1) update, as required, the manual described in Condition J1; and
 - (2) make the manual described in Condition J1 available for review by the Ministry upon request.

J3. The Company shall ensure that the Facility is operated and maintained in accordance with the Approval and the manual described in Condition J1.

K - RECORD CREATION AND RETENTION

K1. 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.

K2. A record described under Condition J1 (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.

K3. The Company shall retain, for a minimum of five (5) years from the date of their creation, all records described in Condition K1, and make these records available for review by the Ministry upon request.

L - NOTIFICATION OF COMPLAINTS

- L1. The Company shall notify the District Manager of each complaint within two (2) business days of the receipt of the complaint.
- L2. The Company shall provide the District Manager with the written records created under Condition K2 within eight (8) business days of the receipt of the complaint.
- L3. If the Company receives a complaint related to groundwater, the Company shall contact the District Manager within one (1) business day of the receipt of the complaint to discuss appropriate measures to manage any potential groundwater issues.

M - CHANGE OF OWNERSHIP

- M1. 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 eight (8) arrays of photovoltaic (PV) modules or panels with a total name plate capacity of up to approximately eight (8) megawatts (AC), together with up to eight (8) collection (Inverter) houses, each with one (1) 27.6 kV transformer; and
- (b) associated ancillary equipment, systems and technologies including, but not limited to, one (1) collector and isolation device, control and monitoring equipment, on-site access roads, below and above grade cabling, and below 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
NS-01	97	549700	4766470	Inverter Pair : See Table B2 below
NS-02	97	549734	4766489	Inverter Pair : See Table B2 below
NS-03	97	549876	4766527	Inverter Pair : See Table B2 below
NS-04	97	549730	4766351	Inverter Pair : See Table B2 below
NS-05	97	549763	4766370	Inverter Pair : See Table B2 below
NS-06	97	549915	4766371	Inverter Pair : See Table B2 below
NS-07	97	549759	4766233	Inverter Pair : See Table B2 below
NS-08	97	549793	4766251	Inverter Pair : See Table B2 below
NS-09	77	549705	4766470	Transformer : See Table B3 below
NS-10	77	549739	4766489	Transformer : See Table B3 below
NS-11	77	549881	4766527	Transformer : See Table B3 below
NS-12	77	549736	4766351	Transformer : See Table B3 below
NS-13	77	549769	4766369	Transformer : See Table B3 below
NS-14	77	549919	4766371	Transformer : See Table B3 below
NS-15	77	549765	4766233	Transformer : See Table B3 below
NS-16	77	549799	4766250	Transformer : See Table B3 below
NS-17	73	549702	4766474	Ventilating Fan: See Table B4 below
NS-18	73	549736	4766491	Ventilating Fan: See Table B4 below
NS-19	73	549878	4766530	Ventilating Fan: See Table B4 below
NS-20	73	549732	4766355	Ventilating Fan: See Table B4 below
NS-21	73	549765	4766373	Ventilating Fan: See Table B4 below
NS-22	73	549916	4766374	Ventilating Fan: See Table B4 below
NS-23	73	549762	4766235	Ventilating Fan: See Table B4 below
NS-24	73	549795	4766253	Ventilating Fan: See Table B4 below

Table B2: Maximum Sound Power Level Lw Spectrum (dB Lin) of Inverter Cluster

Inverter Cluster 1 - 8	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	87.2	94.1	94.6	90.2	91	86.8	81	93.1

Table B3 : Maximum Sound Power Level Lw Spectrum (dB Lin) of Transformer

Transformer 1 - 8	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	79.2	81.1	76.6	78.2	70	65.8	61	53.1

Table B4 : Maximum Sound Power Level Lw Spectrum (dB Lin) of Inverter Cluster Ventilating Fan

Ventilating Fan 1-8	Octave Band Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Lw (dB Lin)	73	72	78	69	63	66	58	52

Note: Each Sound Power Level value in all the above tables corresponds to the combined output of all the identified equipment in each cluster, and 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 Publication NPC-232.
7. Conditions C2 and C3 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. Condition D is 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, Publication NPC-232 and this Approval can be verified.
9. Conditions E, F, G and H 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 I is included to protect archaeological resources that may be found at the project location.
11. Condition J 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.
12. Condition K 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.
13. Condition L 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.
14. Condition M 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 25th day of September, 2013



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

SR/

c: District Manager, MOE Guelph
Max Frable, Penn Energy Renewables, Ltd.

