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ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998, S.O. 1998*, c. 15, Sch. B, as amended (the "**OEB Act**");

AND IN THE MATTER of an application by Summerhaven Wind LP for an order under section 92 and subsection 96(2) of the OEB Act granting leave to construct an electricity transmission line and related facilities.

APPLICATION FOR LEAVE TO CONSTRUCT

1. Summerhaven Wind, LP (the "**Applicant**") is a special purpose vehicle established for the development, construction and operation of the Summerhaven Wind Energy Centre ("**SWEC**"). The Applicant is a limited partnership constituted under the laws of Ontario, with one general partner, Strathroy Wind GP, Inc., a New Brunswick corporation and one limited partner, Bornish-Conestogo LP, Inc., also a New Brunswick corporation. Both the general partner and the limited partner are wholly-owned subsidiaries of NextEra Energy Canada, ULC, which in turn is a wholly-owned subsidiary of NextEra Energy Resources Inc. NextEra Energy Canada, ULC was incorporated as an Alberta corporation in 2006, with its head office in the City of Burlington, Ontario. NextEra Energy Canada, ULC and NextEra Energy Resources Inc., through their respective wholly-owned subsidiaries, both carry on the business of developing, owning, and operating energy generation facilities.

2. As the owner and operator of the SWEC, the Applicant is deemed to be a generator pursuant to section 56 of the OEB Act.

3. The Applicant is seeking the approval of the Ontario Energy Board (the "**Board**") to construct and operate a transmission interconnection facility (the "**Facility**", further described below) to connect the SWEC to the Independent Electricity System Operator ("**IESO**") -controlled grid. The SWEC is a proposed 124.4 MW wind energy generation facility, which was awarded a 20-year power purchase agreement under the Ontario Power Authority's ("**OPA**") Feed in Tariff program (the "**FIT Program**") in April 2010.

4. The SWEC and the Facility are being developed to further the provincial government's policy objective to increase the amount of renewable energy generation being added to the provincial grid. In particular, the government's policy regarding renewable energy is outlined in the *Green Energy and Green Economy Act, 2009, S.O. 2009, c. 12,* which act

amended key pieces of legislation to promote the use and generation of electricity from renewable energy sources, including the OEB Act.[1]

5. Both the SWEC and the Facility will be located in Haldimand County (the "**County**"). Construction of the Facility will be commensurate with construction of the SWEC. The Applicant intends to break ground on both the SWEC and the Facility in July 2011, with an expected in-service date of December 2011 and no later than January 2012.

6. The SWEC and the Facility are subject to the environmental screening process prescribed by *Ontario Regulation 359/09, Renewable Energy Approvals under Part V.0.1 of the Act* made pursuant to *Environmental Protection Act,* R.S.O. 1990, c. E.19 (the "**REA Regulation**"). Accordingly, the Applicant has conducted extensive consultation with interested stakeholders and the REA Application was submitted to the Ministry of the Environment ("**MOE**") on December 14, 2010. The Applicant expects to receive a decision from the MOE regarding its REA early in the third quarter of 2011. In addition to the environmental approvals, the Applicant has received the final interconnection reports issued by the IESO and Hydro One Networks Inc. ("**HONI**"), both of which conclude that the Facility, as proposed, is acceptable from a technical standpoint.

7. Accordingly, the Applicant hereby applies to the Board for:

   (i) an order granting leave to construct the Facility pursuant to Section 92 of the OEB Act; and

   (ii) approval of the form of easement agreement (the "**Transmission Easement**", attached hereto as Exhibit E, Tab 1, pursuant to Section 97 of the OEB Act.

8. Given its status as "generator" under the OEB Act, the Applicant also hereby submits notice of its proposal to own transmission pursuant to section 81 of the OEB Act, a copy of which notice, in the prescribed form, is attached hereto as Exhibit C.

9. The following Schedules consist of the Applicant's pre-filed evidence:

Tab 2, Schedule 2	Project Layout
Tab 2, Schedule 3	Single Line Diagram
Tab 3, Schedule 2	Project Location
Tab 4, Schedule 2	Pole Configuration Drawing
Tab 5, Schedule 2	Gantt Chart
Tab 6, Schedule 2	Option Agreement

[1] *Green Energy and Green Economy Act, 2009*, S.O. 2009, c. 12

Tab 6, Schedule 3	Transmission Easement
Tab 6, Schedule 4	Option to Purchase
Tab 6, Schedule 5	Substation Easement
Tab 6, Schedule 6	Damage Release Form
Tab 6, Schedule 7	Final Public Meeting Documentation
Tab 7, Schedule 2	REA Application
Tab 7, Schedule 3	Aboriginal Consultation Report (Excerpts)
Tab 8, Schedule 2	System Impact Assessment
Tab 8, Schedule 3	Customer Impact Assessment
Tab 8, Schedule 4	Letter from IESO

10. The individuals below are the authorized representatives of the Applicant for the purpose of serving documents throughout this proceeding:

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Fax: 905.335.5731
Email: Ben.greenhouse@nexteraenergy.com

Dated January 25, 2011 at Toronto, Ontario

Summerhaven Wind, LP
by its counsel McCarthy Tétrault LLP

Per:

_____
Kristyn Annis

DESCRIPTION OF SWEC, FACILITY

11. The Facility will consist of the following components:

    (a) a 230 kV transmission line (the "**Transmission Line**"), comprising a single circuit overhead line extending from the transforming substation (described below) to the point of interconnection at a proposed switchyard (described below), approximately 9 km in length;

    (b) a newly constructed transforming substation (the "**Substation**") which will step-up the voltage from 34.5 kV to 230 kV, comprising a single 84/112/140 MVA, Yg-D step up transformer; and

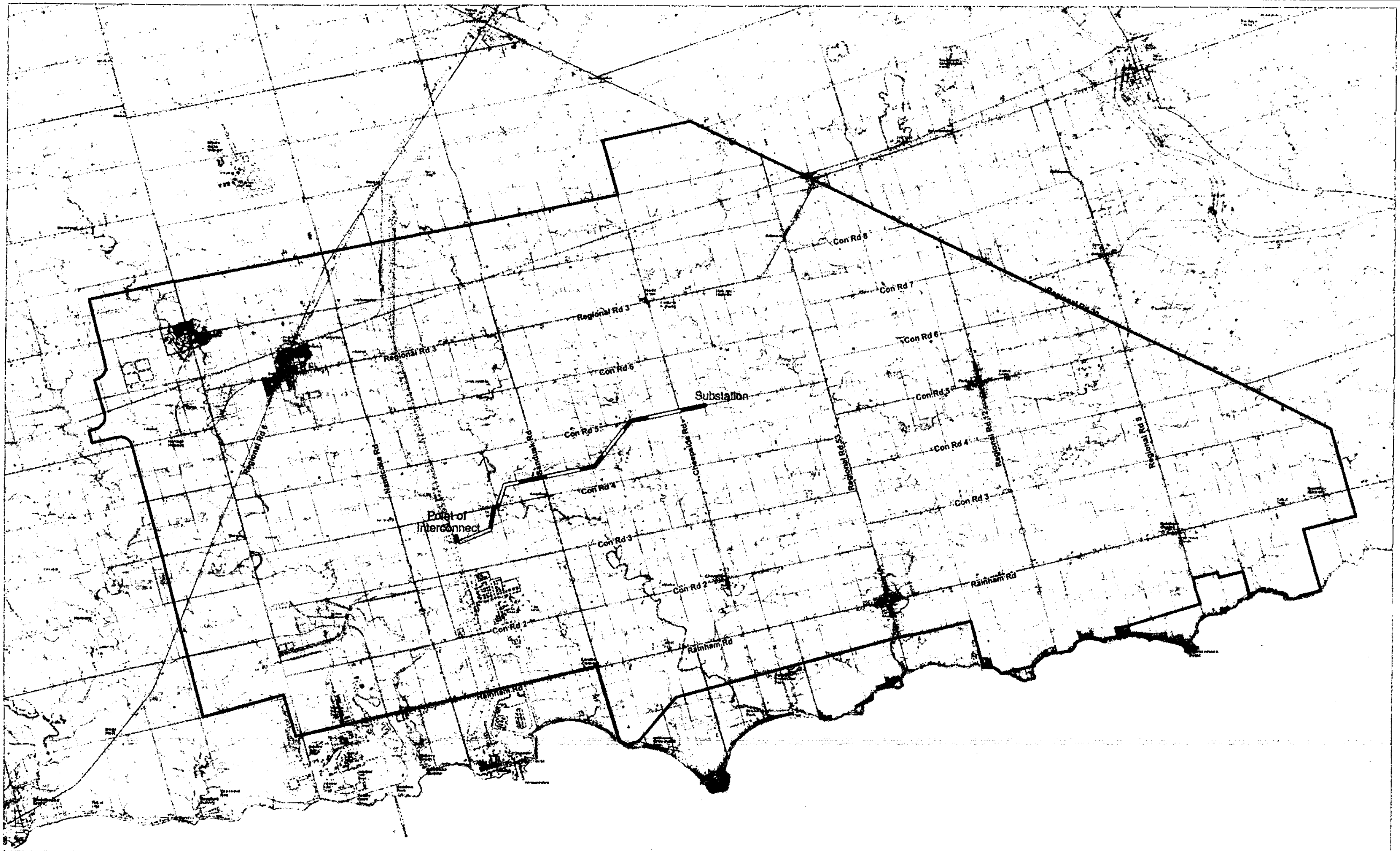
    (c) a newly constructed switchyard (the "**Switchyard**"), to be constructed and owned by HONI, in a three breaker ring-bus configuration, connecting to HONI's N1M 230kV circuit.

    The layout of the Facility is described in Schedule 2. A single line diagram of the proposed Facility is included at Schedule 3.

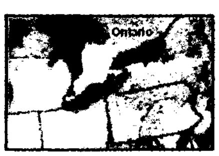
12. Fifty six (56) Siemens 2.21 MW turbine towers will be constructed on a gravity reinforced concrete foundation. Underground and overhead cables will interconnect individual turbines and eventually connect to the Substation. The operation of the wind turbines will be monitored remotely from an operations building located near the Substation.

13. The Site encompasses approximately 22,583 acres of privately owned land parcels, of which only 303 acres will have SWEC and Facility components on them. Land use is predominantly cash-crop agriculture, although some areas are pasture and there are pockets of wooded areas. The Haldimand County Official Plan recognizes the benefits of renewable energy systems, such as wind power, both in terms of environmental and economic benefits for the County and its residents. The location of the Facility was predicated by interest expressed by local landowners. The County is also attractive for wind development due to its proximity to Lake Erie, which results in favourable wind conditions for power production.

PROJECT LAYOUT



ENERGY



Summerhaven Proposed Transmission

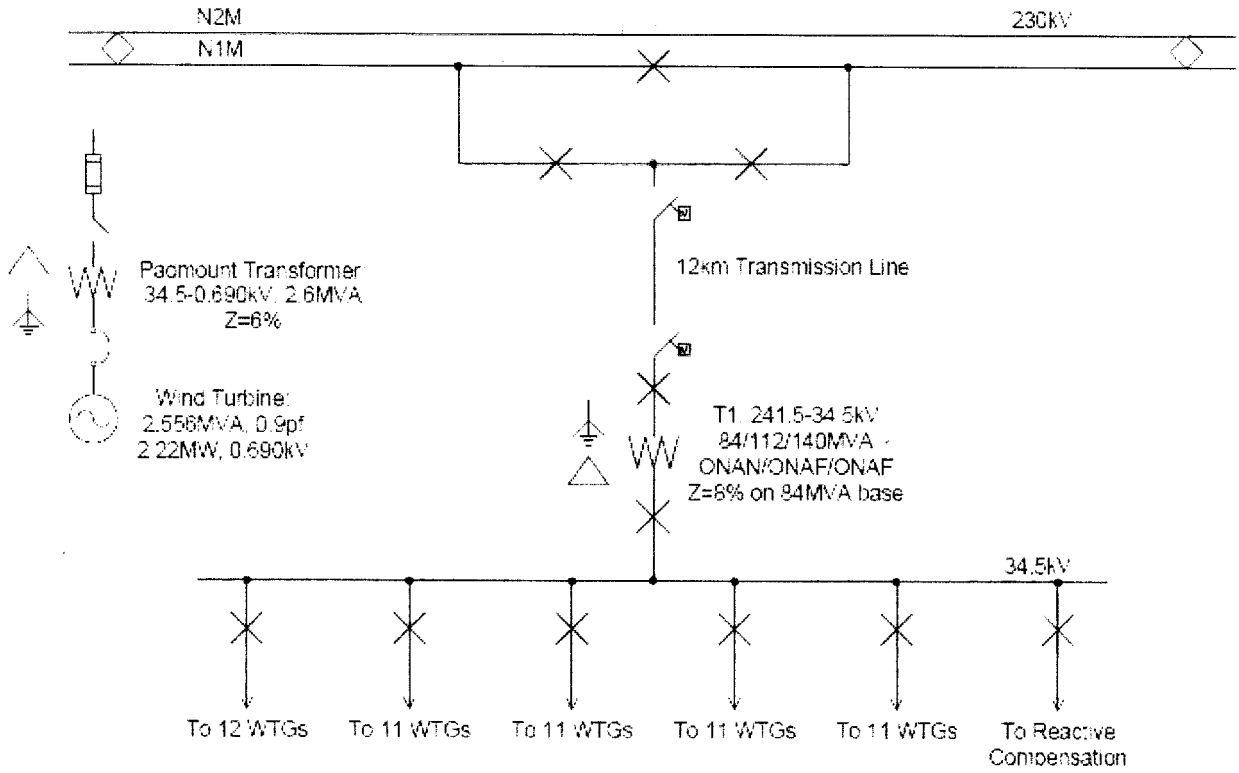
Haldimand-Norfolk Regional Municipality
Ontario, Canada

LEGEND

Project Boundary
Proposed Project Transm

SINGLE LINE DIAGRAM

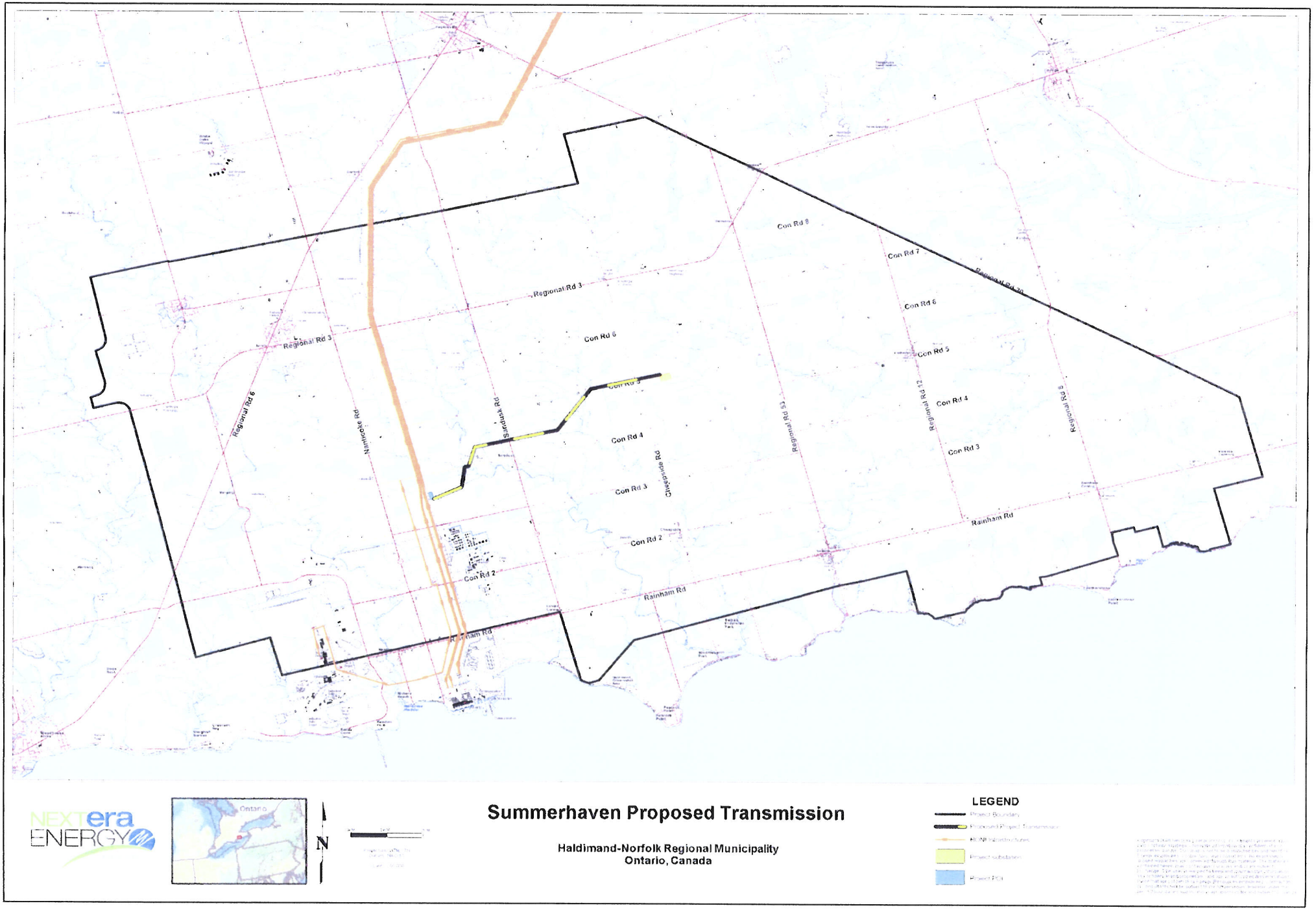
Single-Line Diagram of Proposed Connection Facilities



PROJECT LOCATION

14. The SWEC is to be located in Haldimand County, Nanticoke, Ontario along the shore of Lake Erie from the town of Jarvis to Nelles Corners, south of provincial Highway 3. The Facility will connect the SWEC to HONI's N1M transmission line, all within the County. A map showing the boundaries of the SWEC site (the "**Site**") proposed layout for the Facility, including the route of the Transmission Line and the respective locations of the Substation and Switchyard, is included in Schedule 2.

PROJECT LOCATION


Regional Rd 3
Regional Rd 3
Regional Rd 6
Nanticoke Rd
Con Rd 6
Con Rd 5
Con Rd 4
Con Rd 3
Con Rd 2
Con Rd 2
Rainham Rd
Rainham Rd
Rainham Rd
Regional Rd 53
Con Rd 8
Con Rd 7
Regional Rd 20
Con Rd 6
Con Rd 5
Regional Rd 12
Con Rd 4
Con Rd 3
Regional Rd 8
Rainham Rd
Ontario
N
Summerhaven Proposed Transmission
Haldimand-Norfolk Regional Municipality
Ontario, Canada
LEGEND

DESIGN SPECIFICATIONS AND OPERATIONAL DETAILS

15. The proposed SWEC will interconnect to HONI's electrical system via the Facility which is comprised of the Transmission Line, the Substation and the Switchyard. A copy of the single line diagram of the Facility can be found in Exhibit B, Tab A, Schedule 3. In particular, the Transmission Line will originate at the Substation and terminate at the new HONI Switchyard, to be built adjacent to the existing HONI N1M transmission line. It is possible that certain sections of the Transmission Line will be constructed within County road right-of-way, and the remaining sections will be built on easements acquired from private land owners.

16. In order to minimize the physical and visual impact of the Facility, a mono-pole configuration has been chosen for the Transmission Line. All poles will be either laminated or round wood, designed per all Applicable Codes (defined below), typically 25-27 meters in height above ground. These poles will be framed triangularly (Delta configuration), with braced polymer post insulators. There will be one 954 ACSR conductor per phase, as well as an optical ground wire (OPGW) installed for both line communications and fault/ shielding purposes. Please see Schedule 2 for a typical pole configuration drawing.

17. Visual Transmission Line inspections will be scheduled on a regular basis throughout the year to ensure continued compliance with all applicable codes and standards. Detailed thermography scans will be conducted on critical connection points immediately after energization as well as periodically during the SWEC's operational life.

18. The SWEC will include the erection of a permanent operations and maintenance (O&M) facility within the Site, which O&M facility will deal with operational issues related to the SWEC and the Facility. The O&M facility will be manned, or have someone on-call, at all times.

19. The Facility will include installation of, maintenance, protection and control systems capable of minimizing the severity and extent of disturbances to the Transmission Line. Facilities will be monitored from the O&M building as well as remotely from an operations center owned by the Applicant's parent company, NextEra Energy Resources Inc., in Juno Beach, Florida.

20. The Facility will be designed to meet technical and safety specifications and standards outlined in the Transmission System Code, National Electric Safety Code (NESC 2007), the Ontario Electric Safety Code (2009), the IESO Market Rules (collectively, the "**Applicable Codes**").[2] The Facility will be designed to exceed the more stringent of the Applicable Code requirements in each of the areas listed below:

    (i) Cable tension criteria

    (ii) Cable and conductor sagging criteria

[2] The Applicant will also meet the ANSI Standards for all components of the Facility for which it is responsible for (i.e SWEC, Transmission Line and Substation).

(iii) Structure loading criteria

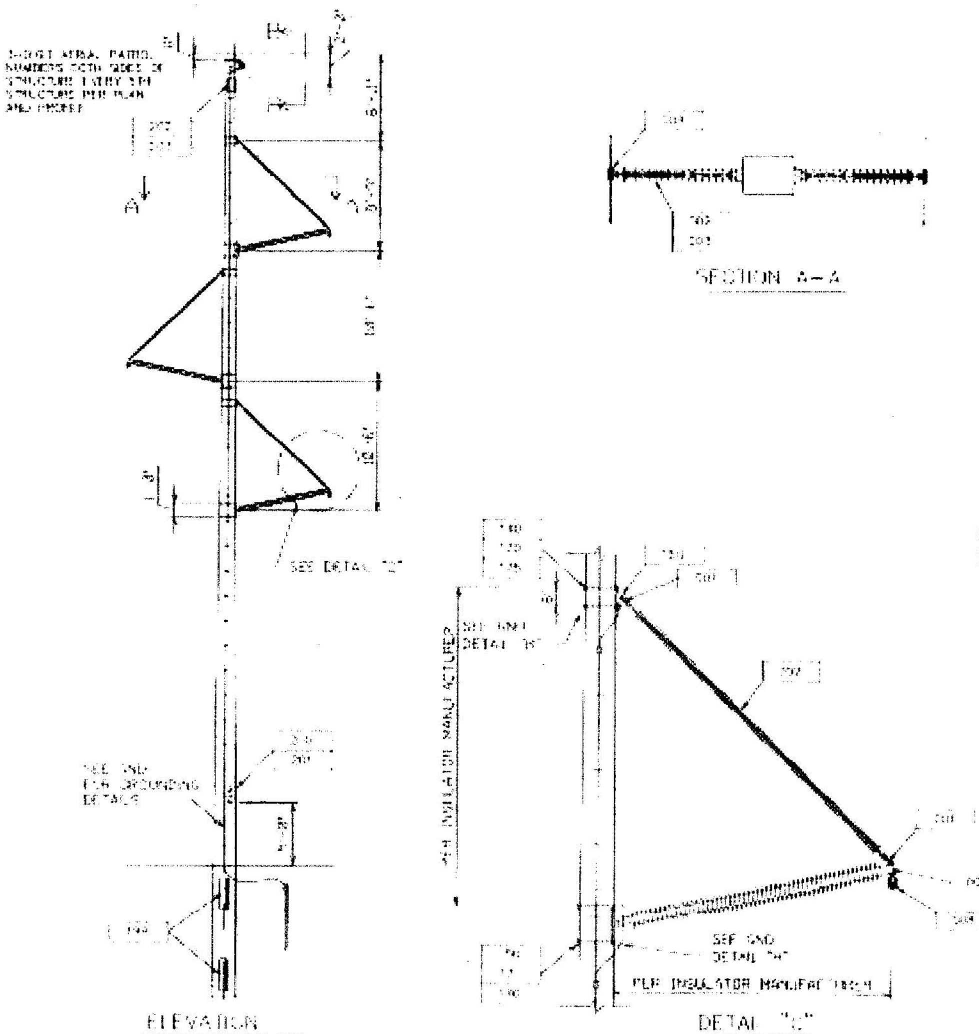
(iv) Load and strength factors

(v) Vertical clearance requirements

(vi) Horizontal clearance requirements

(vii) Galloping recommendations.

POLE CONFIGURATION DRAWING

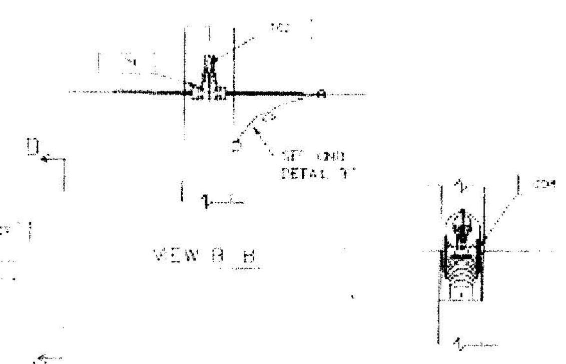


ELEVATION

SECTION A–A

DETAIL "C"

BRACED POST ASSEMBLY



VIEW B–B

VIEW D–D

ITEM	QTY	MATERIAL DESCRIPTION
001*	3	SHACKLE, ANCHOR, 30K
002	3	BRACED POST INSULATOR, SUSPENSION AND LINE POST ASSEMBLY W/ CORONA RING, PC 4HFB (BY OWNER)
007	3	Y-CLEVIS EYE, 90, 30K
008	3	CLAMP, SUSPENSION, 25K, CUSHION GRIP, FOR 954 ACSR 54/7 (BY OWNER)
011	[illegible]	CLAMP, SUSPENSION, 0-30 DEG W/ ARMOR ROD [illegible] (BY OWNER)
140*	6	BOLT, W/ NUT, 3/4" x REQ'D LENGTH (BY POLE SUPPLIER)
150*	6	BOLT, W/ NUT, 7/8" x REQ'D LENGTH (BY POLE SUPPLIER)
160*	5	TEE, DEADEND, 6 IN SPACING (BY POLE SUPPLIER)
162*	1	BRACKET, SHIELD WIRE SUPPORT W/ CHAINLINK (BY POLE SUPPLIER)
170*	6	NUT, LOCK, MF, 3/4 IN (BY POLE SUPPLIER)
171*	6	NUT, LOCK, MF, 7/8 IN (BY POLE SUPPLIER)
175*	6	WASHER, SQ, 3/4 IN, 3 IN X 3 IN (BY POLE SUPPLIER)
176*	6	WASHER, SQ, 7/8 IN, 4 IN X 4 IN (BY POLE SUPPLIER)
199*	[illegible]	5" FOUNDATION PLATES W/ MOUNTING HARDWARE (BY POLE SUPPLIER)
201	3	3" ALUMINUM NUMBERS
202	4	NO. 7 GALVANIZED NAILS
202	1	6" AERIAL PATROL NUMBERS W/ HOLDER (WHEN REQ'D)
203	4	LAG SCREW, 3/8" X 3" GALVANIZED STEEL (WHEN REQ'D)

GENERAL NOTES

* SUPPLIED BY POLE SUPPLIER

AERIAL PATROL NUMBERS ONLY AS INDICATED ON P&P

DRAWING REFERENCE:

[illegible]	POLE CAMBER DETAIL UNLESS OTHERWISE SPECIFIED ON P&P
GND	GROUNDING DETAILS

era ENERGY

CONSTRUCTION SCHEDULE

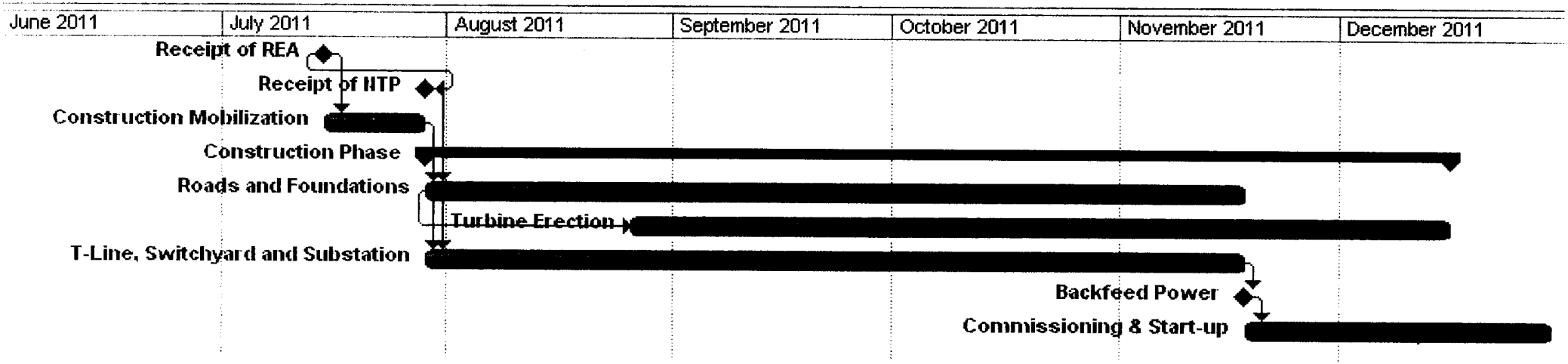
21. Construction of the Facility will be commensurate with the construction of the SWEC, beginning in summer 2011, with a proposed in-service date in the last quarter of 2011 and no later than January 2012. The following is a list of milestone dates that are key components of our detailed construction schedule, as described in attached Gantt Chart, attached as Schedule 2:

Receipt of REA	July 2011
Receipt of Notice to Proceed from OPA	July 2011
Construction Mobilization[3]	July 29th, 2011
Construction of roads and foundations begins	August 2011
Construction Phase	August 2011 – December 2011
Erection of poles and transmission line	September 2011
Back-feed Power	November 2011
Commissioning & Start-Up	December 2011/January 2012

22. This schedule is based on the Applicant's understanding of current timelines prescribed by the MOE relating to the new REA process outlined in REA Regulation and is dependent on the Applicant's receipt of regulatory approvals required for construction and operation of the SWEC and Facility in a timely manner.

[3] Construction office established, laydown yard prepared, labourers on-site.

GANTT CHART


June 2011
July 2011
August 2011
September 2011
October 2011
November 2011
December 2011
Receipt of REA
Receipt of NTP
Construction Mobilization
Construction Phase
Roads and Foundations
Turbine Erection
T-Line, Switchyard and Substation
Backfeed Power
Commissioning & Start-up

LAND MATTERS

Description of Land, Land Rights

23. The land (the "**Corridor**", further described below) and the land rights that are proposed to be acquired for the construction of the Facility consist of permanent easements and, in the case of temporary construction access, temporary easements or rights of way.

24. With the exception of the easternmost kilometre and one small portion on Concession 4 and Concession 5 (collectively, the "**County Lands**"), which are both located on County right-of-ways, all of the land within the Corridor is freehold, privately held land. For the reasons outlined in paragraph 38 and 39 below, the Applicant is exploring whether it is possible and more economically efficient to place the Transmission Line entirely on private lands, thereby circumventing the County Lands. Circumventing the County Lands would not involve acquiring any additional property rights or changing the proposed route of the Transmission Line, but rather would involve moving one to two poles 20 metres to one side, all within the proposed Corridor.

25. The Applicant has already acquired rights to substantively all of the land needed for the Transmission Line via a standard form license and option agreement (each an "**Option Agreement**") with various landowners. The Option Agreements were entered into for the purpose of developing SWEC and, in addition to the right to develop SWEC, contain permissive language regarding rights to develop ancillary infrastructure, including the Facility. The form of Option Agreement is attached at Schedule 2.

26. In addition to the Option Agreement, Applicant has determined that a form of transmission easement (the "**Transmission Easement**"), a copy of which is attached as Schedule 3, will be entered into along the Corridor, with landowners (the "**Corridor Landowners**") that will be directly affected by the Facility. The Corridor will have a typical width of 25 meters. Typical easement cross sections, not bordering County road right-of-ways, will have the Transmission Line at the center of the easement, with 12.5 meters of Corridor on either side of the pole centerline. If poles are placed within the road right-of-way, an additional aerial overhang easement may be acquired from the adjacent private landowners under certain circumstances.

27. Some of the Corridor Landowners have been approached by the Applicant regarding the Transmission Easement and all have indicated interest in the Facility. Two of the Corridor Landowners have not yet entered into an Option Agreement with the Applicant. Each has been approached by the Applicant and has indicated an interest in executing an Option Agreement and a Transmission Easement.

28. Most construction activities (including road, river crossings, etc) will take place within the Corridor. Some activities, such as conductor pulls, will require additional rigging outside of the Corridor. Temporary pull sites (typically 30 m x 30 m) will be established at major inflection points along the Transmission Line route to set up tensioning and wire reel equipment during the conductor pull process.

29. The Applicant will also enter into an option to purchase ("**Option to Purchase**") with one of the Corridor Landowners for the land required for the point of interconnection and the Switchyard. An easement (the "**Substation Easement**") will also be entered into with one of the Corridor Landowners for the land required for the Substation. The form of Option to Purchase and form of Substation Easement are attached hereto as Schedule 4 and Schedule 5 respectively.

30. Care will be taken during detailed design to place poles in the most accessible, upland areas available. Construction crews will utilize existing roads and bridges wherever possible to avoid excessive land disturbance.

31. The table below lists publicly available information that identifies the parcels of land that, as a whole, are required for the proposed Facility. The table includes possible crossings known to the Applicant derived from PIN searches. The Applicant is in the process of surveying the Corridor to discern whether any additional crossings will be necessary.

PIN	Location	Possible Crossings
382000079	PT LT 9-10 CON 4 WALPOLE PT 1 & 2 18R578 & PT 1 18R732; S/T HC274190; HALDIMAND COUNTY	Possible Crossing with Imperial Gas Lease Registered on title
382000078	PT LT 10 CON 4 WALPOLE AS IN HC168106, PT 1 18R2296 & PT 1 18R1650; HALDIMAND COUNTY	No other easements on title
382000086	PT LT 11 CON 5 WALPOLE AS IN HC150330 EXCEPT HC86879; HALDIMAND COUNTY	No other easements on title
382000088	PT LT 12 CON 5 WALPOLE AS IN HC274910; HALDIMAND COUNTY	Possible Crossing with Glenfield Gas Lease Registered on Title
381970055	S 1/2 LT 13 CON 5 WALPOLE EXCEPT PT 5, HC78086; HALDIMAND COUNTY	No other easements on title
381970058	SW 1/4 LT 14 CON 5 WALPOLE EXCEPT PT 1, 18R1720; S/T INTEREST IN HC137908; HALDIMAND COUNTY	No other easements on title
381970060	SE 1/4 LT 14 CON 5 WALPOLE; HALDIMAND COUNTY	No other easements on title
381970064	S 1/2 LT 15 CON 5 WALPOLE S/T INTEREST IN HC208204; HALDIMAND COUNTY	No other easements on title
381970063	LT 16 CON 5 WALPOLE; SW 1/4 LT 17 CON 5 WALPOLE; PT LT 15 CON 5 WALPOLE AS IN HC116672; HALDIMAND COUNTY	No other easements on title

381970065	PT LT 17-18 CON 5 WALPOLE AS IN HC126370 & HC131932; HALDIMAND COUNTY	No other easements on title
381960051	PT LT 19-20 CON 5 WALPOLE PT 1 18R6107, PT 1 18R5813; HALDIMAND COUNTY	No other easements on title
38197-0061	NW ¼ LT 15 CON 5 WALPOLE; HALDIMAND COUNTY	No other easements on title

32. Where requested, the Applicant is also wiling to execute a damage release form with the Landowners. The form of damage release is attached at Schedule 6.

Corridor land acquisition process

33. The Corridor falls within the boundaries of the Site. The land acquisition process for the Corridor was therefore integral to the land acquisition process for the Site generally. With respect to the Site land acquisition process, land agents representing the SWEC have been working in the County since 2007, and have optioned over 23,000 acres of land for the development of the SWEC pursuant to the form of Option Agreement.

34. When optioning the land for the Site, the Applicant targeted contiguous parcels of land in areas that were projected to have a combination of good wind potential, and available area for construction after taking various setbacks and restrictions into consideration. Owners of these parcels were identified from title, and were subsequently approached by an agent of the Applicant. As part of the land acquisition process, the Applicant agreed to compensate the landowners up to $1,000 towards the cost of an independent legal review of the Option Agreement.

35. With respect to notification, as part of the permitting process for Summerhaven Project (i.e. the SWEC and the Facility) prescribed by the REA Regulation, landowners in the area were first notified of the proposed Summerhaven Project Facility (i.e. the SWEC and the Facility) in late 2009 by a mass mailing and notices in local papers, and invited to attend the initial public meeting. Corridor Landowners were contacted directly by the Applicant's land agents. The general public were again notified in October 2010 of a final public meeting and the location of documents detailing the Summerhaven Project, including the proposed Facility that is the subject of this application. Final public meetings were held on December 7, 2010 and January 10, 2011 and included maps and descriptions of the proposed Facility, copies of which meeting documents are attached hereto at Schedule 7.

36. As discussed in paragraph 25 of this Application, section 5.1(b) of the Option Agreement gives the Applicant the right to construct ancillary infrastructure on the signatory landowner's land, including any required transmission facilities. As noted in paragraph 25, the Applicant has approached the Corridor Landowners, all of whom (with the exception of two) have entered into Option Agreements and many of whom have already

agreed to host wind turbines, to enter into the form of Transmission Easement. At the time of this application, none of the Corridor Landowners had executed the Transmission Easement; however there is no indication that the Corridor Landowners are unwilling to do so.

37. With respect to the Corridor, the Applicant has received some questions from Corridor Landowners regarding the feasibility of agricultural activities once the Transmission Easement is in place. The Applicant has no objection to Corridor Landowners continuing current agricultural activities within the Corridor, provided that the Applicant continues to have access to the Facility if required throughout the term of the Transmission Easement. Corridor Landowners also raised questions concerning the width of the Corridor (approximately 25 meters), and the rate of compensation provided to Corridor Landowners under the Transmission Easement. The Applicant has, to its knowledge, answered these questions satisfactorily.

38. The Applicant has consulted with the County and Haldimand County Hydro (the "**LDC**", which is wholly owned by the County) regarding the placement of a portion of the Transmission Line along the County Lands. Parts of the County Lands are greenfield, with no infrastructure currently in place. In a letter to the Applicant dated December 8, 2010, the LDC indicated that it is, generally speaking, opposed to the installation of transmission lines within and along road right-of-ways within the County (other than approximately perpendicular crossing of roadways) and invited the Applicant to meet to discuss the issue. The Applicant and the LDC are continuing discussions.

39. Although the Applicant has a statutory right[4] to construct transmission facilities along municipal right-of-ways, the Applicant believes that a well-designed facility can address any valid concerns raised by the County or the LDC. However, in an attempt to respect the concerns of the LDC and County, the Applicant is examining whether it is feasible to build the Transmission Line in such a way that it will not require use of the Municipal Lands.

40. The Applicant continues to engage with Corridor Landowners, other landowners, the County and the LDC to finalize the land use rights.

[4] Pursuant to section 41 of the *Electricity Act,* 1998, S.O. 1998, Chapter 15, Sched. A the Applicant has the right to construct the transmission lines over, under or on any public street or highway. The consent of the owner (or any other person having interest) of the public street or highway is not required in order to erect the transmission line.

OPTION AGREEMENT

LICENSE AND OPTION AGREEMENT

THIS LICENSE AND OPTION AGREEMENT is made as of the day of _____, 2011 (the "Effective Date")

BETWEEN: •

(the "**Grantor**"),

-and-

SUMMERHAVEN WIND, LP

(the "**Grantee**"),
which term shall include its contractors, workmen, servants, employees, authorized agents and all other Persons authorized by the Grantee)

RECITALS:

1. The Grantor is the registered and beneficial owner of the Licensed Lands.

2. The Grantee wishes to conduct a wind resources assessment study to assess whether the Licensed Lands are suitable for wind energy conversion and the transmission of electric power and related activities.

3. The Grantor has agreed to grant a license to the Grantee in respect of the Licensed Lands and an option to lease the Licensed Lands, subject to terms and conditions in this Agreement.

NOW THEREFORE in consideration of the Basic Rent paid by the Grantee to the Grantor, the mutual covenants and agreements herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the parties hereto, the parties hereto covenant and agree as follows;

1. DEFINITIONS

In this Agreement, the terms defined in this Section 1 shall have the following meanings, unless the context otherwise requires:

(a) "Agreement" means this License and Option Agreement;

(b) "Basic Rent" has the meaning ascribed to it in Section 4.1 hereof;

(c) "Claims" has the meaning ascribed to it in Section 7.9 hereof;

(e) **"REDACTED"**

(f) "Confidential Information" has the meaning ascribed to it in Section 6.3 hereof;

(g) "Contaminants" has the meaning ascribed to it in Section 13.1 hereof;

(h) "Data" has the meaning ascribed to it in Section 6.1 hereof;

(i) "Encumbrance" has the meaning ascribed to it in Section 8.1 hereof;

(j) "Encumbrancer" has the meaning ascribed to it in Section 8.1 hereof;

(k) "Equipment" has the meaning ascribed to it in Section 2.1 hereof;

(l) "Exercise Date" has the same meaning ascribed to it in Section 5.1(b) hereof;

(m) "Exercise Notice" has the meaning ascribed to it in Section 5.1(b) hereof;

(n) "Lease" means a lease in substantially the same form and having substantially the same terms and conditions as are contained in Schedule "C" attached hereto, pursuant to which a portion of the License Lands is leased by the Grantor to the Grantee;

(o) "Lease Execution Date" has the meaning ascribed thereto in Section 5.2 hereof;

(p) "Licensed Lands" means the lands described in Schedule "A" annexed hereto;

(q) "Option" has the meaning ascribed thereto in Section 5.1(a);

(r) "Person" includes an individual, corporation, partnership, or other entity, whether incorporated or not;

(s) "Power Supply Agreement" means an agreement between the Lessee under the Lease attached hereto as Schedule C and the Ontario Power Authority for the sale by the said Lessee of electricity pursuant to Wind Power Facilities located on the Leased Lands and other Wind Turbines electrically connected to the Collector System;

(t) "Project" means the Wind Power Facilities, including Wind Turbines, for the purposes of the conversion of wind power and the production, collection, storage and transmission and sale of electric power under a Power Supply Agreement pursuant to the Wind Power

Facilities located on lands that are leased pursuant to the Lease attached hereto as Schedule C and other Wind Turbines located on other property but electrically connected thereto and any related activities on the Project Lands;

(u) Project Lands" means the land, including the Leased Lands set out in the Lease attached hereto as Schedule C, as shown outlined in heavy black on the sketch annexed to the said Lease as Schedule "B", as same may be reduced or increased at the discretion of the Lessee from time to time;

(v) "Schedules" includes Schedules A, B, C and D to this agreement, which Schedules form an integral part of this Agreement;

(w) "Site" has the meaning ascribed to it in Section 5.1(b) hereof;

(x) "Term" has the meaning ascribed to it in Section 3.1 hereof;

(y) "Wind Turbine" means a wind turbine electrical generating facility;

(z) "Wind Power Facilities" means wind power facilities, including Wind Turbines, for the purposes of the conversion of wind power and the production, collection, storage, transmission and sale of electric power.

2. GRANT OF LICENSE

2.1 License

The Grantor hereby grants to the Grantee (including its contractors, workmen, servants, employees, authorized agents and all other Persons authorized by the Grantee), an irrevocable and exclusive license (the "License") to enter upon and use the Licensed Lands during the Term for the purposes of: (i) assessing whether the Licensed Lands are suitable for wind energy conversion and the production, storage and transmission of electric power and related activities; (ii) undertaking studies and tests relating to the production of wind power on the Licensed Lands, including to conduct a wind resources assessment; (iii) conducting wildlife and environmental impact studies as well as archeological surveys; (iv) constructing, erecting, operating, repairing, maintaining and replacing scientific equipment for the purposes in (i) and (ii) above, including meteorological towers together with such wires, cables, conduits and other ancillary structures and such wind and atmospheric monitoring devices as may be deemed appropriate by the Grantee (the "Equipment"); (v) undertaking studies and tests relating to the soil, including

technical and geotechnical work; (vi) access and egress to and from the Licensed Lands; and (vii) selecting the portions of the Licensed Lands to be subject to Leases.

2.2 Access to Licensed Lands

The License granted pursuant to Section 2.1 includes the right in favour of the Grantee and all Persons authorized by it to: (i) enter upon the Licensed Lands at all reasonable times with vehicles, machinery and equipment for the purpose of installing, constructing, erecting, operating, maintaining, repairing and replacing the Equipment, and for all other purposes permitted under this Agreement and (ii) use in common with the Grantor all roads located on the Licensed Lands. The Grantor will co-operate with the Grantee and agrees to make the Licensed Lands accessible for all purposes permitted under this Agreement.

3. TERM

3.1 Term of the Agreement

Subject to the renewal specified herein, the Option is granted solely for the benefit of the Grantee for a period of — (the 'Term') commencing on the Effective Date and terminating on the — anniversary at 6:00 o'clock PM.

The Grantee shall have the option to renew the said exclusive Option upon the same conditions for an additional period of — years upon the mutual written agreement of the parties, which agreement shall not be unreasonably withheld. As a condition of any potential extension, the Grantee must, if requested by the Grantor, demonstrate to the satisfaction of the Grantor that it has made reasonable efforts to develop 'Wind Power Facilities' in the vicinity of the Licensed Lands (for the avoidance of doubt the investment of more than $_____ in developing a Wind Power Facility in the vicinity of the Licensed Lands, demonstrated by provision of properly rendered third party invoices, shall constitute reasonable efforts). No extension will take place if the Grantee sends the Grantor a notice indicating that the Option will expire on the initial expiry date.

4. RENT

4.1 Annual Basic Rent - REDACTED

5. OPTION

5.1 Option to Lease and Exercise of Option

(a) In consideration of the payment of the Basic Rent referred to above, the Grantor grants to the Grantee a continuing, exclusive and irrevocable option (the "Option") to lease all or part of the Licensed Lands, or such portions of the Licensed Lands as determined by the Grantee from time to time.

(b) The Option may be exercised by the Grantee at any time and from time to time during the Term, by delivering to the Grantor a written notice substantially in the form annexed hereto as Schedule "D" (an "Exercise Notice") advising that the Grantee exercises the Option and identifying those parts or portions of the Licensed Lands to be leased by the Grantee pursuant to a Lease. The Exercise Notice shall include a copy of a plan or sketch that outlines the approximate location, configuration and area of the portion of the Licensed Lands (the "Site") to be granted pursuant to a Lease and the approximate location of the Wind Turbines, roads, transmission lines or other facilities that are proposed to be constructed on the Site and access road to the Site. The date upon which the Exercise Notice is delivered, or deemed delivered to the Grantor shall be the effective date of the exercise of the option provided herein with respect to such Site (the "Exercise Date"). Subject to Section 5.3, the Grantee shall have the exclusive right to select and determine the location, configuration and area of each Site and the Wind Turbines, transmission lines, roads and other facilities to be situate thereon and access roads to the Site. The Exercise Date shall be the effective date of the Lease for such Site.

(c) For greater certainty the Grantor acknowledges that the Option is a continuing right, which may be exercised by the Grantee on more than one occasion resulting in the Grantee leasing more than one Site and entering into more than one Lease.

(d) Upon the expiration of the Term or the earlier termination of this Agreement, the Option shall terminate with respect to any then remaining Licensed Lands for which the Grantee has not delivered an Exercise Notice.

5.2 Lease

Upon the Grantee exercising the Option in the manner provided for in Section 5.1 for a Site, the Grantee shall prepare and deliver to the Grantor a Lease leasing the Site to the Grantee. The Grantee shall deliver triplicate copies of the Lease to the Grantor, who shall promptly execute all copies and return two fully executed copies to the Grantee.

Both parties agree to complete, execute, and deliver the Lease for a Site within 30 days of the Grantor's receipt of same (the "Lease Execution Date").

The Grantor acknowledges that it has reviewed the form of lease attached hereto as Schedule "C" and has carefully reviewed and understands all of the legal and financial implications thereof and has had the full opportunity to obtain its own legal advice and explanations required in order to understand same.

5.3 Consultation of Wind Turbine Location

Prior to the selection of any Sites, the Grantee shall consult with the Grantor regarding the Grantee's proposed location of any Site and the Wind Turbines, or roads the Grantee proposed to construct on the Site and access roads to the Site. In determining the location of a Site and any Wind Turbines situate thereon and access roads thereto, the primary considerations shall be: (i) a clear understanding and agreement between the parties that the Grantee can not locate any Wind Power Facilities, including Wind Turbines and access roads, on the lands set forth in Schedule B – Excluded Lands attached hereto; (ii) maximization of utilization of wind resources; (iii) construction costs; and (iv) compliance with legal and safety requirements regarding setbacks and other matters pertaining to the location of Wind Turbines. The Grantee shall strive to minimize any adverse effects on the Grantor's agricultural or forestry operations at the Licensed Lands resulting from the location of access roads and transmission lines.

5.4 Preferable Provisions - REDACTED

6. OWNERSHIP OF DATA/EQUIPMENT/CONFIDENTIALITY

6.1 Ownership of Data

The Grantee shall own all information, and data and all reports prepared in connection therewith (the "Data") from tests, studies and assessments conducted at the Licensed Lands pursuant to this Agreement, including those conducted on or by the Equipment.

6.2 Ownership of Equipment

It is expressly agreed between the parties hereto that all Equipment installed or placed, in, on, over, upon or under the Licensed Lands during the Term remains the sole property of the Grantee and the Grantor shall not have any interest therein nor shall the Grantor have any liability in relation thereto.

6.3 Confidentiality

The Grantor covenants and agrees that: (i) the terms and conditions of this Agreement and any information which it has access to or which comes into its possession relating to the Grantee's activities, including any Data (the "Confidential Information") shall be held in the strictest confidence by the Grantor, and that the Grantor shall not disclose any Confidential Information to any third party except as may be required by law, or on the same confidential basis as provided herein and then only to the legal and financial advisors of the Grantor who have a bona fide and actual need to know same; (ii) it will not use any such Confidential Information, other than as may be required or permitted to perform any of its obligations under this Agreement; and (iii) it will not exploit (whether for commercial or other purposes) or otherwise use any such Confidential Information. The Grantor acknowledges that a breach of any of the provisions contained herein would cause the Grantee to suffer loss which could not be adequately compensated for by damages and that the Grantee may, in addition to any other remedy or relief, enforce the performance of the provisions of this Section 6.3 by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage.

Upon the expiration or earlier termination of this Agreement, all Confidential Information will continue to be kept confidential by the Grantor.

6.4 Publicity Clause

The Grantor shall not use the Grantee's name nor that of the Grantee's affiliates or the names of the Grantee's employees in any announcements, advertising, promotional material or in any publication without the prior written consent of the Grantee, except as provided in this Agreement. The Grantee shall not use the Grantor's name nor that of the Grantor's family members, affiliates or the names of the Grantor's employees in any announcements, advertising, promotional material or in any publication without the prior written consent of the Grantor, except as provided in this Agreement. For clarity, either party may republish or otherwise publicly refer to any information contained in any press release issued jointly by the parties.

7. GRANTEE'S COVENANTS

7.1 Equipment

The Grantee covenants that the Equipment shall be constructed, installed and operated in accordance with all municipal, provincial and federal laws and regulations. The Grantee shall strive to minimize any adverse effects on the Grantor's agricultural or forestry operations at the Licensed Lands resulting from the location of such Equipment.

7.2 Approval

The Grantee covenants to obtain all necessary permits, authorizations, approvals and consents (including, without limitation, any zoning consents) as may be necessary to allow for the installation, construction and operation of the Equipment.

7.3 Location of Towers

The location of any meteorological tower shall be selected and determined by the Grantee acting reasonably.

7.4 Entering Licensed Lands

The Grantee will conduct all operations on the Licensed Lands in a diligent, careful and workmanlike manner. Gates will be left in the condition they were found (closed or opened).

7.5 Insurance

The Grantee shall, as of the Effective Date and throughout the currency of this Agreement, obtain and maintain comprehensive general liability insurance in an amount of not less than XXX ($X) Dollars with a licensed insurance company authorized to carry on business in Ontario. A valid certificate of insurance will be produced to the Grantor by the Grantee at the request of the Grantor.

Further, the Grantee shall, prior to commencing any construction on the Licensed Lands, obtain and maintain comprehensive general liability insurance in an amount of not less than XX ($XX) Dollars with a licensed insurance company authorized to carry on business in Ontario. A valid certificate of insurance will be produced to the Grantor by the Grantee at the request of the Grantor.

7.6 Fencing

During the Term and any extension thereof, the Grantee shall replace all fences on the Licensed Lands which the Grantee removes and shall repair all fences which it damages. All repairs and replacement of fences shall be done by the Grantee at its sole cost and to a standard satisfactory to the Grantor acting reasonably. The Grantee may, with the consent of the Grantor, acting reasonably construct fences to prevent any hazards to the Equipment or trespass to the Licensed Lands.

7.7 Repairs and Compensation for Damages

The Grantee shall compensate the Grantor for any physical damage done to any crops, structures, roads, timber, livestock, or other improvements of the Grantor upon the Licensed Lands belonging to the Grantor, which damage is the result of the Grantee's exercise of the rights herein granted to the Grantee.

The Grantee shall be liable for and shall compensate the Grantor for any physical and tangible damage done to any of the Grantor's tile drains, fences or crops, livestock, merchantable timber, shelter belts, windbreaks, ornamental or special trees which may be installed, growing, running

upon the Licensed Lands, by reason of the exercise by the Grantee of any or all rights granted to it pursuant to this Agreement (excepting damage caused to the property of the Grantor by his own act or that of his servants, agents or contractors) and, in the event that the parties can not agree at any time on the amount of damage payable to the Grantor hereunder, the Grantor shall provide written notice to the Grantee outlining the basis for the Grantor's assertion of damage to the Grantor's property, the exact nature of the damage, the source of the assertion that the alleged damage is the result of the exercise by the Grantee of the rights granted by this Agreement and evidence of such damage including documentation showing the extent of the damage and the financial impact of such damage.

Within (X) days of such documentation and evidence being provided to the Grantee, the Grantee and the Grantor hereby agree to meet to discuss the nature and extent of the damage, and whether the damage occurred as a result of the Grantee's exercise of its rights pursuant to this Agreement. The Grantee and the Grantor hereby agree to use good faith efforts and act reasonably, to come to a determination as to whether and to what extent any compensation shall be paid by the Grantee to the Grantor for the alleged damage. The Grantee shall provide payment to the Grantor of the said compensation within (X) days of such agreement. If the parties are not able to come to any agreement within (X) days of their first meeting on the issue, either party may, by giving notice to the other party, refer the matter to arbitration and the matter shall be determined in accordance with Section 12 hereof.

7.8 Taxes Payable by Grantee

The Grantee covenants to pay all taxes, rates and assessments that may be assessed or levied in respect of any and all Equipment, structures and works placed by the Grantee in, on, over or under the Licensed Lands. In the event that there is a separate assessment as regards such works, the same shall be paid by the Grantee on or before the due date and the Grantee shall provide the Grantor with proof of payment forthwith. In the event that the property of the Grantee situate on the Licensed Lands has not been separately assessed, then the Grantor shall notify the Grantee in writing forthwith and the parties, acting reasonably, and equitably shall apportion the total taxes between the Grantee's works on the Licensed Lands and the Grantor's interest in the Licensed Lands, and the Grantee shall pay the Grantor its proportion of such taxes within (X) days from the date in which the Grantor and Grantee determine the apportionment of such taxes.

7.9 Indemnification

The Grantee shall indemnify and save harmless the Grantor from and against all actions, suits, claims, liabilities and damages (hereinafter collectively referred to as the "Claims") caused or resulting from the acts, omissions, willful acts, default or negligence of the Grantee, its employees, agents, contractors, invitees, or licenses on the Licensed Lands on the exercise of the rights granted herein other than to the extent such Claims result from the acts, omissions, willful acts, default, or negligence of the Grantor, its employees, agents, contractors, invitees or licenses (other than the Grantee).

7.10 Damage to Equipment

Except to the extent caused by or resulting from the negligence, default or willful acts of the Grantor, its employees, agents, contractors, invitees or licenses (other than the Grantee), the Grantee acknowledges and agrees that the Grantor shall not be responsible, either directly or indirectly, for any damage occurring to the Equipment during its installation, maintenance, operation or removal by the Grantee, nor shall the Grantor be liable to the Grantee for any Claims whatsoever suffered by the Grantee in connection with the Equipment, including claims for loss of revenue or loss of profit, on account of the actions or omissions of the Grantor, its employees, agents, contractors, invitees or licenses.

7.11 Best Efforts to Develop

The Grantee agrees to use reasonable endeavors to develop the Licensed Land for the purposes of deploying Wind Power Facilities and not to terminate this Agreement for any reason other than those justified in clause 10.1.

7.12 Grantee's Corporate Status

The Grantee hereby represents and warrants that it is a corporation, duly organized, validly existing and in good standing under the laws of the Province of Ontario and that it has the rights, powers and privileges to execute and deliver this Agreement and to perform its obligations hereunder.

8. COVENANTS OF GRANTOR

8.1 Quiet Enjoyment/Title

The Grantor covenants that: (i) it has good and marketable title to the Licensed Lands, subject only to such encumbrances shown by the registered title thereto and such unregistered encumbrances of which the Grantor has no knowledge; (ii) it has good, right and full power to grant the licenses, leases, options, rights and privileges herein provided in the manner aforesaid; (iii) it has not granted any lease, license, option or other right in or to the Licensed Lands that would be incompatible with the licenses, options and rights granted pursuant to this Agreement; (iv) it is not aware of any charge, mortgage, agreement, covenant, restriction or other encumbrance (collectively "Encumbrances") affecting the Licensed Lands that would prohibit or materially impair the Grantee's proposed uses of the Licensed Lands;(v) all Encumbrances affecting the Licensed Lands have been fully complied with and satisfied in all materials respects to the Effective Date; and (vi) it shall not further mortgage, charge or otherwise encumber (an "Encumbrance") the Licensed Lands unless the holder of such Encumbrance (the "Encumbrancer") acknowledges in writing to the Grantee the priority of the Grantee's rights, licenses and options in the Licensed Lands established by this Agreement; and (vii) the Grantee upon observing and performing the covenants and conditions on the Grantee's part herein contained, shall and may peaceably possess and enjoy the Licensed Lands to the extent provided herein and the rights and privileges hereby granted during the Term without any interruption or disturbance from or by the Grantor or any other person whomsoever.

8.2 Family Law Act - Owner represents and warrants that, as of the Effective Date, Owner is:

(a) at least eighteen (18) years of age and either not a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended; or

(b) at least eighteen (18) years of age and if a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended, then this Agreement has been executed by both spouses together comprising Owner or consented to in writing by Owner's spouse as is evidenced by the signature of the spouse on the Consent as provided attached hereto as **Schedule "E"**; or

(c) if a corporation, then no building(s) located on the Property has been ordinarily occupied by any officer, director or shareholder of the corporation or by any of their spouses as a family residence or matrimonial home within the meaning of the *Family Law Act*, R.S.O. 1990, c.F-3, as amended.

8.3 Restrictive Covenants

(a) The Grantor covenants and agrees that it will not, and will not suffer or permit any Person to, without the express written consent of the Grantee, such consent not to be unreasonably withheld, place, construct or erect during the Term any above ground structure on the Licensed Lands, except as provided for in Schedule B – Excluded Lands. Notwithstanding the foregoing: (i) the Grantor shall be entitled to replace buildings or structures situate on the Licensed Lands as of the Effective Date provided the replacements are in the same location and are of no greater height than the structures they replace. Without limiting the generality of the foregoing, the Grantor will not place or cause or suffer or allow to be placed any structure or other thing upon the Licensed Lands, which would interfere with or influence the Grantee's testing of wind conditions over the Licensed Lands.

(b) The Grantor covenants and agrees that the Grantor will not, during the Term, place, construct or erect, or allow any other Person (other than the Grantee) to place, construct or erect any structures or equipment on the Licensed Lands for the purposes of wind energy conversion. The Grantor covenants and agrees that the licenses, options and rights herein granted are exclusive to the Grantee and that during the Term no other Person will be permitted to use or occupy the Licensed Lands, or any part thereof, for the purposes of wind energy conversion and transmission of electric power and related activities or for any other purpose for which they are licensed under this Agreement.

(c) The Grantor acknowledges and agrees that the duration and area within which the restrictions set forth in subsections 8.2(a) and (b) shall apply have been considered by the Grantor and the restraints and restrictions of and on the future activities of the Grantor are reasonable in the circumstances. All defences to the strict enforcement thereof by the Grantee are hereby waived by the Grantor. The Grantor acknowledges that a breach of any of the

provisions contained herein would cause the Grantee to suffer loss which could not be adequately compensated for by damages and that the Grantee may, in addition to any other remedy or relief, enforce the performance of the provisions of this Section 8.2 by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage.

8.4 Interest in Licensed Lands

In the event the Grantor is not the absolute owner of the Licensed Lands, this Agreement shall nevertheless bind the Grantor to the full extent of his interest therein, and shall also extend to any after acquired interest, but all monies payable hereunder shall be paid to the Grantor only in the proportion that his interest in the Licensed Lands bears to the entire interest therein.

8.5 Taxes Paid by the Grantor

The Grantor shall promptly pay and satisfy all taxes, rates and assessments that may be assessed or levied against the Licensed Lands during the continuance of this Agreement, save where such are to be paid by the Grantee. In the event of non-payment of the taxes, rates and assessments by the Grantor, the Grantee shall have the right to pay same and recover the payment from any of the payments made pursuant to this Agreement.

8.6 Notice of Assessment

The Grantor shall promptly provide to the Grantee copies of all tax assessments, re-assessments and all other notices or correspondence received by the Grantor in respect of any taxes, rates or assessments that are payable by the Grantee pursuant to the terms of this Agreement.

8.7 Co-operation

If requested by the Grantee, and at the cost of the Grantee, the Grantor shall cooperate with and provide such support and assistance to the Grantee, as the Grantee reasonably requires, in respect of any regulatory or legal proceedings, including those pertaining to zoning matters, relating to the purposes for which the Licensed Lands are licensed and optioned to the Grantee.

8.8 H.S.T.

If the Grantor is registered for HST purposes and produces verification of such registration, then, subject to any relieving provision in the applicable legislation, the Basic Rent shall be increased by an amount equal to the HST percentage rate multiplied by such Basic Rent and the Grantor shall remit such taxes to the proper governmental authorities as and when required. For purposes of this paragraph, HST means the Goods and Services Tax or any similar tax imposed by the governments of Canada and/or the Province of Ontario.

8.9 Non-Residence

Should the Grantor be a non-resident of Canada, the Grantor acknowledges and agrees that the Grantee may, in the absence of the Grantor providing the Grantee with suitable documented evidence that all tax liabilities pertaining to the Grantee are adequately settled, deduct income, withholding or other taxes from any payment to the Grantor in compliance or intended compliance with the provisions of the *Income Tax Act*, tax agreements or treaties or other statutes of Canada or its Provinces as are from time to time enacted and amended, whereupon the timely remittance by the Grantee of the balance of the payment to the Grantor shall be deemed to constitute full performance by the Grantee in respect of such payment.

9. DEFAULT

9.1 Default and Remedies

(a) If the Grantee is in default of any of its covenants, conditions or obligations contained in this Agreement, the Grantor shall deliver to the Grantee a written notice setting out the nature of the default with reasonable detail and providing the Grantee with thirty (30) days to remedy or cure such default. In the event the Grantee fails to remedy or cure such default within the said thirty (30) day period (or such longer period of time as is reasonable in the circumstances to cure such default, provided that the Grantee has commenced to cure such default within the aforesaid thirty (30) day period and proceeds diligently thereafter to effect such cure), then at the option of the Grantor this Agreement may be terminated.

(b) If the Grantee fails to pay when the same is due and payable any amount required to be paid under this Agreement, such amount shall bear interest from the due date thereof calculated monthly to the date of payment at a rate per annum of X percent in excess of the prime interest rate for Canadian Dollar demand loans announced from time to time by the Bank of Nova Scotia.

(c) Notwithstanding any termination of the Agreement by the Grantor pursuant to this Section 9.1, any obligations of the Grantee then outstanding shall not merge but in fact survive the termination date and continue to bind the Grantee. The Grantor shall be entitled to all of its reasonable costs, including its reasonable legal costs relating to any default on the part of the Grantee, and the exercise of its rights and remedies as provided for in this Section 9.1.

(d) Notwithstanding any other provision of this Agreement, the Grantor shall be entitled to make full recourse of any amounts owed to it pursuant to this Agreement against any account or fund made available by the Grantee and or its Trustee, Receiver, Manager and the like as appointed pursuant to the *Bankruptcy and Insolvency Act*, as amended, to the Grantor prior to exercising any other remedies hereunder or at law.

9.2 Discharge of Taxes and Encumbrances

In the event that any power of sale or foreclosure proceedings have been commenced against the Grantor that in any way affect the Licensed Lands, or a court order has been issued for a sale that in any way affects the Licensed Lands, than the Grantee may, after giving not less then ten (10) days written notice thereof to the Grantor, at the Grantee's option pay or discharge the whole or any portion of any Encumbrance or lien payable, incurred or created by the Grantor which in any way affect the Licensed Lands. In the event the Grantee exercises its option to pay or discharge as aforesaid, then the Grantee shall be subrogated to the rights of the holder or holders thereof and, at the Grantee's option, may reimburse itself by applying the amount so paid by the Grantee against the Basic Rent payable hereunder, or other sums accrued or accruing to the Grantor under the terms if this Agreement, and any sums so applied shall, for all purposes of this Agreement, be

deemed to have been paid to and received by the Grantor in payment of the consideration payable hereunder, or other sums accrued or accruing to the Grantor under the terms of this Agreement, as the case may be. Notwithstanding the foregoing, the Grantee may at the Grantee's option pay or discharge the whole or any portion of any withholding or other tax payable, incurred or created by the Grantor which in any way affects the Licensed Lands, and which remains in default for a period of thirty (30) days after written notice thereof to the Grantor, and the provisions of this Section 9.2 shall apply subject to all necessary revisions having been made.

10. TERMINATION AND EQUIPMENT REMOVAL

10.1 Termination

The Grantee shall, in the event of being in possession of information (in the form of collected site data related to: wind speed, ecology, habitats, presence of birds and/or bats, geotechnical investigations, presence of contaminants, lack of grid availability, conflict with aviation etc) which, in the reasonable opinion of the Grantee, would represent an impediment to the development of a commercially viable wind farm on the Licensed Land, have the right to terminate this Agreement as to the whole or any part of the Licensed Lands. Should the Grantee seek to terminate this Agreement pursuant to this paragraph 10.1, the Grantee shall provide with Grantor with sixty (60) days written notice of such termination together with documentation satisfactory to the Grantor, acting reasonably, establishing that the Licensed Land is not suitable for the development of a commercially viable wind farm. Should the Grantee provide the required notice of termination and supporting documentation, this Agreement shall be terminated as to the whole or any part thereof so terminated and the Basic Rent shall no longer be payable with respect to such portion of the Licensed Lands, but there shall be no refund to the Grantee of any portion of the Basic Rent that may have been paid in advance.

10.2 Restoration Upon Termination

Upon the termination of the whole or any part of this Agreement, or upon the expiry or earlier termination of the Term, as the case may be, the Grantee shall, within the period of six (6) months after the date of termination or expiry, cause all excavations made by the Grantee or on its behalf on the Licensed Lands to be filled in, all in compliance with regulations of the

government of the Province of Ontario in that regard, and shall restore the surface thereof to the same condition, so far as practicable, as existed before the entry thereon and the use thereof by the Grantee, including the removal of all structures, fixtures, material and Equipment of whatsoever nature or kind placed or constructed thereon by or on behalf of the Grantee, save and except for any foundation or concrete base located at a depth of one (1) metre or more below the surface of the Licensed Lands.

10.3 Conditions

If one or more of the conditions specified in this Agreement are not met by the Grantor before the Lease Execution Date, or if one or more of the Grantor's representations and warranties set forth in this Agreement are not satisfactory to the Grantee, acting reasonably, or if any such representation or warranty is, or has by the Lease Execution Date become, untrue or inaccurate, then the Grantee may terminate this Agreement and cancel this Agreement or the exercise of an option, by ordinary notice in writing sent to the Grantor by registered mail, without any further formality being required, and neither party shall have any remedy against the other and in such event Basic Rent shall be apportioned between the parties to the date of termination.

10.4 Removal of Equipment

Provided that the Grantee is not in material default hereunder, the Grantee shall have the right at all times during the continuance of this Agreement and within the period of six (6) months after the date of the termination or expiry of this Agreement, to remove or cause to be removed from the Licensed Lands all structures, fixtures, material and Equipment of whatsoever nature or kind, which it may have placed or constructed on or in the Licensed Lands. Should the Grantee not remove or caused to be removed all structures, fixtures, material and Equipment of whatsoever nature or kind, which it may have placed or constructed on or in the Licensed Lands within the six month period prescribed herein, the Grantee shall be obligated to continue to pay to the Grantor the Rent due and owing pursuant to this Agreement, with such Rent to be prorated and paid on a monthly basis, until such time as the said removal is completed by the Grantee.

11. NOTICES

11.1 Demand, Notice or Communication

Any demand, notice or communication to be provided hereunder shall be in writing and may be given by personal delivery, by prepaid first class mail or by fax transmission, addressed to the respective parties as follows:

To the Grantor:

To the Grantee: Summerhaven Wind, LP
c/o NextEra Energy Canada, ULC
ATTN: Ben Greenhouse, Project Director, Development
5500 North Service Road, Suite 205
Burlington, Ontario L7L 6W6
Phone: (905) 335-4904, x13

Copy to: _____
_____
_____
_____

or to such other address or fax number as any party may from time to time notify the other. Any demand, notice or other communication given by personal delivery shall be conclusively deemed to have been received by the party to which it is addressed on the day of actual delivery thereof. If given by fax transmission, on the same day as the date of faxing provided that a fax transmission report is generated and retained. In the case of a demand, notice or communication addressed to more then one party, on the day upon which actual delivery thereof has been completed to all such parties. Any notice sent by prepaid first class mail as aforesaid shall be deemed to have been delivered on the fifth (5^{th}) business day (excluding Saturdays, Sundays and statutory holidays) following the date of mailing thereof provided that postal services have not been interrupted, in which case notice shall only be given by personal delivery or fax transmission as aforesaid.

12. ARBITRATION

12.1 Arbitration

In the event that either party provides the other party with written notice of a dispute arising under this Agreement (the "**Dispute**") then both Parties shall use their best efforts to settle the Dispute by consulting and negotiating with each other, in good faith and understanding of their mutual interests, to reach a just and equitable solution satisfactory to all Parties. However, if the Parties do not reach a solution for the Dispute within thirty (30) days following notice thereof, then where provided for in this Lease, either Party may provide written notice to the other Party (the "**Arbitration Notice**") requiring resolution by arbitration and thereafter the Dispute shall be referred to arbitration for final settlement, to be binding on the Parties in accordance with the provisions of the *Arbitration Act, 1991* (Ontario), including any amendments or replacements thereto, as follows:

(a) the arbitration tribunal shall consist of one (1) arbitrator appointed by mutual agreement of the Parties or, in the event of failure to agree within ten (10) days after receipt of the Arbitration Notice, then either party may apply to a judge of the Superior Court of Justice to appoint an arbitrator. The arbitrator shall be qualified by education and training to pass upon the particular matter to be decided;

(b) the arbitrator shall be instructed that time is of the essence in proceeding with the determination of the Dispute;

(c) the arbitration shall be conducted in English and shall take place in Haldimand County, Ontario or in any other place and location mutually agreed upon by the Parties hereto; and

(d) the arbitration award shall be given in writing and shall be final and binding on the Parties, including the question of cost of the arbitration and all matters related thereto, and the arbitration award shall not be subject to any appeal.

13. MISCELLANEOUS MATTERS

13.1 Pre-Existing Contaminants

To the best of the Grantor's knowledge and belief, the Licensed Lands do not contain any pollutant, contaminant, hazardous materials, dangerous or toxic substances (hereinafter collectively referred to as "Contaminants"). The Grantee shall promptly notify the Grantor of the discovery of any Contaminants during any excavation or assessment work done by the Grantee on the Licensed Lands. Unless the Contaminants are sourced from the Grantee's structures, fixtures, materials or Equipment or the exercise of any of the Grantee's rights hereunder, the Grantee shall not be liable for same, and the Grantor hereby releases, discharges and indemnifies the Grantee from and against any Claims or costs that may arise as a consequence of the discovery of any Pre-Existing Contaminants, being contaminants which existed on the Licensed Lands as of the Effective Date or arose thereafter but not as a consequence of any action, oversight or error of the Grantee its agents, employees or contractors, in, on, or under the Licensed Lands during the Grantee's exercise of any of its rights under this Agreement.

13.2 Registration of Notice of Rights

This Agreement shall not be registered in the Land Registry Office for the area in which the Licensed Lands are situated, although a notice of this Agreement and the licenses, options, and other rights and privileges herein granted may be registered as aforesaid against the Licensed Lands. The Grantee shall withdraw or discharge any such registered notice within one hundred and eighty (180) days after termination of this Agreement. In addition, if required by the Grantee, the terms of the restrictive covenants provided in Section 8.2 shall be restated in a separate document and, that document may be registered against the Licensed Lands, provided that the Grantee shall withdraw or discharge such registration within one hundred and eighty (180) days after the termination of this Agreement. The Grantor shall execute such documents, and take such other actions, at the cost of the Grantee, as reasonably required by the Grantee to permit the registration of the document restating the restrictive covenants.

13.3 Restrictive Covenants Run With Lands

The parties acknowledge and agree that it is their intention that the restrictive covenants provided in Section 8.2 run with and bind the Licensed Lands in favour of any Site, and any other lands leased, licensed or owned by the Grantee and are binding on all heirs, executors, administrators, successors and assignees of the Grantor, provided that such covenant shall expire upon termination of the rights of the Grantee in the Licensed Lands.

13.4 Environmental Impact Studies and Public Consultations

During the term of this Agreement, Grantee may conduct, at its sole expense, such environmental impact studies and public consultations to obtain required approvals and permits for a wind project at the Licensed Lands. Such consents, permits and approvals as required under, but not limited to, the *Ontario Environmental Assessment Act* and the *Canadian Environmental Assessment Act* and any government grants or subsidies, such as the ecoEnergy Renewable Power Programme, as it deems necessary or desirable.

13.5 Support

The Grantor will support the Grantee's proposed Wind Power Facilities for the Licensed Lands in any public consultation and communication processes relating to this Agreement.

13.6 Time to be of the Essence

Time shall be deemed to be of the essence with respect to all time limits mentioned in this Agreement.

13.7 Severability

If any provision of this Agreement or the application thereof to any circumstances shall be held to be invalid or unenforceable by a court of competent jurisdiction, then the remaining provisions of this Agreement or the application thereof to other circumstances shall not be affected thereby and shall valid and enforceable to the fullest extent permitted by law.

13.8 No Agency, Partnership, or Joint Venture

Nothing contained in this Agreement shall be deemed or constructed by the parties as creating a relationship of principal and agent or of partnership or joint venture between the parties.

13.9 Governing Laws

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

13.10 Assignment of Agreement

The Grantee agrees to inform the Grantor regarding assignment but shall have the absolute and unfettered right at any time from time to time to delegate, assign, transfer, charge or convey to other Persons, all or any of the powers, rights and interests obtained by or conferred upon the Grantee hereunder, including the Option and shall not be found to give notice thereof to any party or obtain any consent thereto and may enter into all agreements, contracts, and writings and do all necessary acts and things to give effect to the provisions of this Section.

13.11 Modification/Amendment of Agreement

This Agreement, including any schedules attached hereto, shall constitute the entire agreement between the parties. This Agreement shall not be modified or amended except by written agreement executed and dated by both parties.

13.12 Planning Act

This Agreement is entered into on the express condition that it is subject to compliance with the severance control provisions of the *Planning Act* (Ontario), as amended, from time to time; provided that pending any such compliance, the aggregate of the Initial Term together with all Renewal Terms shall be deemed to be for a total period of one (1) day less than the maximum term permitted by law without such compliance. If compliance with the provisions of the *Planning Act* should be required, in the sole discretion of the Grantee, then the Grantor hereby appoints the Grantee or its authorized agents or servants to execute such consents or authorizations as may be necessary for the Grantee to obtain any required consents from the local

Land Division Committee or Committee of Adjustment and agrees to cooperate in any such applications for consent.

13.13 Family Law Act – Spousal Consent

We, ... and ....., being spouses within the meaning of Section 1 (1) of the *Family Law Act,* R.S.O. 1990, c.F.3., together with any amendments thereto, do hereby consent to the transaction evidenced by this instrument and the registration of a notice of this Agreement on the title to the Licensed Lands hereinbefore described.

13.14 Further Assurances

The Grantor and the Grantee hereby agree that they will each do and perform all such acts and things and execute all such deeds, documents and writings and give all such assurances as may be necessary to give effect to this Agreement.

13.15 Successors

All rights and liabilities herein granted to or imposed on the respective parties hereto extend to and bind the heirs, executors, successors and assigns of the Grantor and the successors, affiliates, subsidiaries and assigns of the Grantee, as the case may be.

In the event of the sale by the Grantor of the Licensed Lands or any part thereof or any interest therein, the Grantor shall include as a condition of such agreement of purchase and sale, a provision, the effect of which requires the purchaser to be bound by the terms and conditions of this Agreement, and to execute an assumption of license/option agreement with the Grantee to this effect.

13.16 Obligations as Covenants

Each obligation or agreement of the Grantor or of the Grantee contained in this Agreement, even though not expressed as a covenant, is considered for all purposes to be a covenant.

13.17 Currency

Unless otherwise provided for herein, all monetary amounts referred to herein shall refer to the lawful money of Canada.

13.18 Headings for Convenience Only

The division of this Agreement into articles and sections is for convenience only and shall not affect the interpretation or construction of this Agreement.

[Signatures follow on next page]

[Balance of the page intentionally left blank]

THE PARTIES have executed this Agreement as of the Effective Date.

GRANTOR:

_____ _____

Witness

GRANTEE:

Strathroy Wind GP, Inc.
as general partner for and on behalf of
Summerhaven Wind, LP

_____ Per: _____

Witness

Name:
Title:
"I have authority to bind the corporation"

Schedule "A" to License & Option Agreement

(Legal Description of Licensed Lands)

If included, this map accurately depicts the subject lands.

Please initial below:

Grantor: _____

Dean R. Gosselin: _____ **Grantor:** _____

Schedule "B" - Excluded Lands to License & Option Agreement

LEASE

THIS LEASE is made as of the ..... day of ....., 20.....
(the "Effective Date")

BETWEEN: .....
.....
.....
.....,
(the "Lessor")

-and-

Summerhaven Wind, LP
(the "Lessee")
which term shall include its contractors, workmen, servants, employees, authorized agents and all other Persons authorized by the Lessee)

RECITALS:

1. The Lessor is the registered and beneficial owner of the Lands.

2. The Lessor has agreed to grant a lease to the Lessee in respect of the Leased Lands, subject to the terms and conditions in this Lease.

NOW THEREFORE in consideration of the Rent paid by the Lessee to the Lessor, the mutual covenants and agreements herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each of the parties hereto, the parties hereto covenant and agree as follows;

1. DEFINITIONS

In this Lease, the terms defined in this Section 1 shall have the following meanings, unless the context otherwise requires:

(a) "Capacity Factor" has the following meaning, ratio of the actual output of a single wind turbine over a period of time and its output if it had operated a full capacity of that time period. This is calculated by totaling the energy the wind turbine produced and dividing it by the energy it would have produced at full capacity. The full capacity of the wind turbine shall be established based on the manufacturer's warranted power curve.

(b) "Claims" has the meaning ascribed to it in Section 6.11 hereof;

(c) "Collector System" means the electrical cables, belonging to the Lessee, connecting the wind turbines to the Lessee's switchyard prior to the point of electrical metering for the sale of electricity under the Power Supply Agreement.

(d) **"REDACTED"**

(e) "Confidential Information" has the meaning ascribed to it in Section 5.3 hereof;

(f) "Contaminants" has the meaning ascribed to it in Section 15.1 hereof;

(g) "CPI" means the Consumer Price Index for "All-items", for the Province of Ontario as published by Statistics Canada (or by a successor or governmental agency, including a provincial agency), or if such index is no longer published, an index published in substitution therefore as designated by the Lessee. If the base year for the index (or substituted or replacement index) is changed, the Lessee will make the necessary conversion;

(h) "Data" has the meaning ascribed to it in Section 5.1 hereof;

(i) "Effective Date" has the meaning ascribed to it at the beginning of this Lease;

(j) "Encumbrance" has the meaning ascribed to it in Section 7.2 hereof;

(k) "Extension Term" has the meaning ascribed to it in Section 3.1 hereof;

(l) "Force Majeure" means any cause beyond either party's reasonable control and, without limitation, includes and act of God, strike, lockout, labour or other industrial disturbance, act of any public enemy or terrorist, war, blockade, riot, lightning, fire, storm, flood, explosion, unusually severe weather conditions, government restraints, including road bans and any other cause whether of the kind herein enumerated or otherwise not reasonably within the control of the party, but shall not include lack of finances; provided that the settlement of strikes, lockouts, labour or other industrial disturbances shall be settled in the sole discretion of the Lessee; has the meaning ascribed to it in Section 1.1 hereof;

(m) "Generation Date" has the meaning as defined in clause 4.1 (2)

(n) "Initial Plan" has the meaning ascribed to it in Section 6.3 hereof;

(o) "Initial Term" has the meaning ascribed to it in Section 2.1 hereof;

(p) "Lands" means the lands described in Schedule "A" annexed hereto;

(q) "Lease" means this Lease;

(r) "Leased Lands" means that portion of the Lands described in Schedule "A-1" annexed hereto;

(s) "Lessor Default" has the meaning ascribed to it in Section 9.1 (e) hereof;

(t) "Operational Date" means the date that the Wind Power Facilities at the Project are commercially operational and delivering energy, as determined by the Lessee;

(u) "Percentage Share" has the meaning ascribed in clause 4.1 2)(ii) and adjusted annually during the Term of this Agreement in accordance with 4.1 but excluding qualifications made in clause 6.13.

(v) "Person" includes an individual, corporation, partnership, or other entity, whether incorporated or not;

(w) "Power Supply Agreement" means an agreement between the Lessee and the Ontario Power Authority for the sale by the Lessee of electricity pursuant to Wind Power Facilities located on the Leased Lands and other Wind Turbines electrically connected to the Collector System;

(x) "Project" means the Wind Power Facilities, including Wind Turbines, for the purposes of the conversion of wind power and the production, collection, storage and transmission and sale of electric power under a Power Supply Agreement pursuant to the Wind Power Facilities located on the leased lands and other Wind Turbines located on other property but electrically connected thereto and any related activities on the Project Lands;

(y) Project Lands" means the land, including the Leased Lands as shown outlined in heavy black on the sketch annexed hereto as Schedule "A-1", as same may be reduced or increased at the discretion of the Lessee from time to time;

(z) "Project Lease" means a lease entered into by the Lessee, as lessee of a portion of the Projects Lands in connection with the Project;

(aa) "Term" means the Initial Term together with all Extension Terms, as provided for in Section 3.1;

(bb) "Rent" means the annual payment from the Lessee to the Lessor as determined in accordance with clause 4.

(cc) "Termination Notice" has the meaning ascribed to it in Section 10.1 hereof;

(dd) "Wind Power Facilities" has the meaning ascribed to it in Section 2.1 hereof; and

(ee) "Wind Turbine" means a wind turbine electrical generating facility.

2. GRANT OF LEASE

2.1 Lease

The Lessor, for the purposes and at the rental hereinafter set forth, does hereby lease unto the Lessee and the Lessee leases from the Lessor the Leased Lands to be held by the Lessee as tenant for the term of X years less one (1) day from the Effective Date (the "Initial Term") or as the term may be extended as provided in this Lease for the purposed of wind energy conversion, the production, collection, storage and transmission of electric power (whether generated on or off the Leased Lands) and related activities including, without limitation:

(a) determining the feasibility of wind energy conversion and other power generation on the Leased Lands, including studies and tests of wind speed, wind direction and other meteorological data, and extracting soil samples;

(b) surveying, laying, constructing, erecting, inspecting, repairing, altering, maintaining, operating, using, relocating and replacing one or more Wind Turbines, overhead and underground electrical transmission, instrument services, utility and communication towers, lines, wires, cables and conduits, electric transformers, energy storage facilities, telecommunications equipment and facilities, power generation equipment and facilities to be operated in conjunction with Wind Turbine installations, electrical substations, converter stations

and switching facilities, roads, meteorological towers and wind measurement equipment, control buildings, maintenance yards, and related facilities, structures, equipment and works including foundations, poles, stays, traverse supports and anchors (collectively referred to as the "Wind Power Facilities") in, on, under, above, along and across the Leased Lands; and;

(c) undertaking any other activities, whether accomplished by the Lessee or a Person authorized by the Lessee, that the Lessee reasonably determines are necessary, useful or appropriate to accomplish any of the foregoing.

The Lessee, in its use of the Leased Lands shall be entitled to: (i) construct, use, repair, service, inspect and maintain one or more drainage ditches, trenches and culverts; (ii) cut, trim, remove and destroy in any way and at any time any trees, bushes, branches, shrubs and roots located thereon and to remove from the Leased Lands any objects, construction or structure situated on the Leased Lands, and (iii) prohibit any person from erecting any construction or structure on, above, under, along or across the Leased Lands or to alter the present elevation of the Leased Lands.

2.2 Preferable Provisions - REDACTED

3. EXTENSION

3.1 Extension of Lease Term

The Lessor hereby grants to Lessee the right to extend the Term of this Lease for X further and consecutive periods of X years. Each extension shall take effect automatically and without further

notice unless Lessee gives notice to the Lessor at least X days prior to the end of the Term or any extensions thereof, that it shall not exercise such right of extension. On each succeeding annual anniversary of the Effective Date during the Term and any extensions thereof, the rent shall be increased by an amount equal to percent over the immediately preceding Rent. Each extension term will be subject to the same terms and conditions as apply during the Term. Notwithstanding the foregoing, this Lease is entered into upon the express condition that it is to be effective only if the provisions of the Planning Act (Ontario) and any amendments, if applicable, are complied with. If any renewals or extension of the Term should require an approval pursuant to said Act then the within clause shall not be considered in breach or in contravention of the Act but rather conditional upon appropriate permission being granted pursuant to the Act at the expense of Lessee. In the event that any required consent or approval from the authorities administering the Planning Act is not obtained, the term of this Lease, including renewals and extension, shall be limited to X Years less a day.

4. RENT

4.1 Rent - REDACTED

4.2 Rent for Use of Temporary Work Areas - REDACTED

4.3 Rent for Collection Line Only - REDACTED

4.4 Rent for Roadway Only - REDACTED

4.5 Permanent Crop Damage - REDACTED

4.6 Adjustment of Rent - REDACTED

4.7 Payment of Rent - REDACTED

5. OWNERSHIP OF DATA/EQUIPMENT/CONFIDENTIALITY

5.1 Ownership of Data

The Lessee shall own all information and data and all reports prepared in connection therewith (the "Data") from tests, studies and assessments conducted at the Leased Lands pursuant to this Lease, including those conducted on or by the Wind Power Facilities.

5.2 Ownership of Wind Power Facilities

It is expressly agreed between the parties hereto that all Wind Power Facilities installed or placed upon the Leased Lands during the Term remains the sole property of the Lessee and the Lessor shall not have any interest therein. The Lessor hereby waives any statutory or common-law right of distraint in connection with the Wind Power Facilities.

5.3 Confidentiality

The Lessor covenants and agrees that: (i) any information which it has access to or which comes into its possession relating to the Lessee's activities, including any Data (the "Confidential Information") shall be held in the strictest confidence by the Lessor, and that the Lessor shall not disclose any Confidential Information to any third party except as may be required by law, or on the same confidential basis as provided herein and then only to the legal and financial advisors of the Lessor who have a bona fide and actual need to know same; (ii) it will not use any such

Confidential Information, other than as may be required or permitted to perform any of its obligations under this Lease; and (iii) it will not exploit (whether for commercial or other purposes) or otherwise use any such Confidential Information. The Lessor acknowledges that a breach of any of the provisions contained herein would cause the Lessee to suffer loss which could not be adequately compensated for by damages and that the Lessee may, in addition to any other remedy or relief, enforce the performance of the provisions this Section 5.3 by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage.

Upon the expiration or earlier termination of this Lease, all Confidential Information will continue to be kept confidential by the Lessor.

5.4 Publicity Clause

The Lessor shall not use the Lessee's name nor that of its affiliates or the names of the Lessee's employees in any announcements, advertising, promotional material or in any publication without the prior written consent of the Lessee except as provided in this Lease. The Grantee shall not use the Grantor's name nor that of the Grantor's family members, affiliates or the names of the Grantor's employees in any announcements, advertising, promotional material or in any publication without the prior written consent of the Grantor, except as provided in this Agreement. For clarity, either party may republish or otherwise publicly refer to any information contained in any press release issued jointly by the parties.

6. LESSEE'S COVENANTS

6.1 Wind Power Facilities

The Lessee covenants that the Wind Power Facilities on the Leased Lands shall be constructed, installed and operated in accordance with all municipal, provincial and federal laws and regulations.

6.2 Approval

The Lessee covenants to obtain all necessary permits, authorizations, approvals and consents (including without limitation, any zoning consents) as may be necessary to allow for the installation, construction and operation of the Wind Power Facilities on the Leased Lands.

6.3 Location of Wind Power Facilities

The location or relocation of any meteorological towers, Wind Turbines or other Wind Power Facilities on the Leased Lands shall be selected and determined by the Lessee acting reasonably. Notwithstanding the foregoing, the Lessee acknowledges and agrees that no Wind Turbines or other Wind Power Facilities or the access roads thereof shall be sited on the lands identified by cross-hatching on the attached Schedule "B" – Excluded Lands. In addition, unless agreed otherwise in writing between the Lessee and Lessor, any Collector System installed on the Leased Lands by the Lessee shall be underground to a minimum depth of 900mm. The Lessor acknowledges that the Lessee has consulted the Lessor regarding the initial plan for the development of the Leased Lands (the "Initial Plan") prior to execution of this Lease and has advised the Lessor of the initial locations chosen for the Wind Power Facilities to be located on the Leased Lands and the Lessor declares that he is satisfied therewith.

In relocating any Wind Power Facilities and in determining the location of any additional Wind Power Facilities not shown on the Initial Plan, the primary consideration for the Lessee shall be: (i) the fact that no Wind Power Facilities shall be located on the lands set forth in Schedule B – Excluded Lands attached hereto; (ii) maximization of utilization of wind resources, (iii) construction costs; and (iv) compliance with legal and safety requirements regarding setbacks and other matters pertaining to the location of Wind Power Facilities. In relocating any Wind Power Facilities and in determining the location of any additional Wind Power Facilities not shown on the Initial Plan the Lessee shall strive to minimize any material adverse effects on the Lessor's agricultural and forestry operations resulting from the location of access roads and transmission lines.

6.4 Entering Leased Lands

The Lessee will conduct all operations on the Leased Lands in a diligent and careful manner. Gates on the Leased Lands will be left in the condition they were found (closed or opened).

6.5 Insurance

The Lessee shall, as of the Effective Date, obtain and maintain comprehensive general liability insurance in an amount of not less than ($X) Dollars with a licensed insurance company authorized to carry on business in Ontario. A valid certificate of insurance will be produced to the Lessor by the Lessee at the request of the Lessor.

Further, the Lessee shall, prior to commencing any construction on the Leased Lands, obtain and maintain comprehensive general liability insurance in an amount of not less than ($X) Dollars

with a licensed insurance company authorized to carry on business in Ontario. A valid certificate of insurance will be produced to the Lessor by the Lessee at the request of the Lessor.

6.6 Weeds

The Lessee shall remove weeds from those portions of the Leased Lands that are enclosed by fencing constructed by the Lessee, which removal is the sole responsibility of the Lessee.

6.7 Shallow Ditches

Roadways constructed by the Lessee shall have shallow ditches where required, or if necessary, an adequate number of approaches so that the Lessor can cross the roadway with farm machinery in moving from one field in the Lands to another field which lies across the said roadway.

6.8 Fencing of Site – Roadway and Excavations

The Lessee shall erect and put upon the boundaries between any Wind Turbine and a roadway, a fence if so required by the Lessor, and the Lessee will, if required by the Lessor for the safety of livestock, enclose and keep enclosed all openings or excavations made by the Lessee in connection with or for the purposes of carrying on its operations with fences sufficient to prevent livestock falling thereinto.

The Lessee may, with the consent of the Lessor, acting reasonably construct fences to prevent any hazards to the Wind Power Facilities or trespass to the Leased Lands.

6.9 Repairs and Compensation for Damages

In addition and supplemental to the provisions of section 4.3, above, the Lessee shall be liable and shall compensate (in an amount equal to the replacement cost thereof, unless the amount of the compensation is otherwise set forth in this Lease) the Lessor for physical and tangible damage done to any of the Lessor's Property, tile drains, fences or crops, livestock, merchantable timber, shelter belts, windbreaks, ornamental or special trees which may be installed, growing, running upon the Leased Lands or other lands owned by the Lessor, by reason of the exercise by the Lessee of any or all rights granted to it by the Lease (excepting damage caused to the property of the Lessor by his own act or that of his servants, agents or contractors and excepting damage caused to the Leased Lands directly upon or beneath the footprint of the Turbine(s) and/or access routes/roads, for which separate compensation is paid by the Lessee to the Lessor pursuant to the consideration payments contemplated in this Lease) and, in the event that the parties can not agree at any time on the amount of damage payable to the Lessor hereunder, the Lessor shall provide written notice to the Lessee outlining the basis for the Lessor's assertion of damage to the Lessor's property, the exact nature of the damage, the source of the assertion that the alleged damage is the result of the exercise by the Lessee of the rights granted by this Lease and evidence of such damage including documentation showing the extent of the damage and the financial impact of such damage.

Within thirty (30) days of such documentation and evidence being provided to the Lessee, the Lessee and the Lessor hereby agree to meet to discuss the nature and extent of the damage, and whether the damage occurred as a result of the Lessee's exercise of its rights pursuant to this Lease. The Lessee and the Lessor hereby agree to use good faith efforts and act reasonably, to

come to a determination as to whether and to what extent any compensation shall be paid by the Lessee to the Lessor for the alleged damage. The Lessee shall pay the said compensation to the Lessor within thirty (30) days of such agreement. If the parties are not able to come to any agreement within thirty (30) days of their first meeting on the issue, either party may, by giving notice to the other party, refer the matter to arbitration and the matter shall be determined in accordance with Article 12 hereof.

6.10 Taxes Payable by Lessee

The Lessee covenants to pay all taxes, rates and assessments that may be assessed or levied in respect of any and all Wind Power Facilities placed by the Lessee in, on, over and under the Leased Lands. In the event that there is a separate assessment as regards such Wind Power Facilities, the same shall be paid by the Lessee on or before the due date and the Lessee shall provide the Lessor with proof of payment forthwith. In the event that the Wind Power Facilities of the Lessee situate on the Leased Lands has not been separately assessed, then the Lessor shall notify the Lessee in writing forthwith and the parties, acting reasonably, and equitably shall apportion the total taxes between the Lessee's Wind Power Facilities on the Leased Lands and the Lessor's interest in the Leased Lands, and the Lessee shall pay the Lessor its proportion of such taxes within thirty (30) days from the date in which the Lessor and Lessee determine the apportionment of such taxes.

6.11 Indemnification

The Lessee shall indemnify and save harmless the Lessor from and against all actions, suits, claims, liabilities and damages (hereinafter collectively referred to as the "Claims") caused by or resulting from the acts, omissions, willful acts, default or negligence of the Lessee, its

employees, agents, contractors, invitees, or licensees on the Leased Lands or the exercise by the Lessee of the rights granted herein other than to the extent such Claims result from the acts, omissions, willful acts, default, or negligence of the Lessor, its employees, agents, contractors, invitees or licensees (other than the Lessee). Notwithstanding the foregoing, the Lessee shall not be responsible for any consequential or indirect losses or damages.

6.12 Damage to Wind Power Facilities

Except to the extent caused by or resulting from the negligence, default or willful acts of the Lessor, its employees, agents, contractors, invitees or licensees (other than the Lessee), the Lessee acknowledges and agrees that the Lessor shall not be responsible for any damage occurring to the Wind Power Facilities during its installation, maintenance, operation or removal by the Lessee, nor shall the Lessor be liable to the Lessee for any Claims whatsoever suffered by the Lessee in connection with the Wind Power Facilities unless resulting from the negligence, default or willful acts of the Lessor, its employees, agents, contractors, invitees or licensees.

6.13 Records of Production

Within sixty (60) days after the anniversary date of each Operational Date during the Term, the Lessee shall provide to the Lessor a statement as to the gross revenues obtained from electricity generated by the Wind Turbines located within the Project and sold pursuant to a Power Supply Agreement during the prior year and the calculation of the Collective Payment payable to the Lessor pursuant to Section 4.1(1). The Lessee shall make available, to the Lessor, on thirty (30) days' prior written notice during normal business hours, at the Lessee's address hereinafter mentioned, the Lessee's records relative to gross revenue obtained from electricity generated by

the Wind Turbines located within the Project and sold pursuant to a Power Supply Agreement for the previous year. All such information shall remain confidential in accordance with Section 5.3 of this Lease.

The Lessor acknowledges that it shall not be entitled to any rent with respect to any of the energy produced from the Project that may be required and used with respect to the operations at the Project, or unavoidably lost. The Lessor also acknowledges that government credits, such as the ecoEnergy Renewable Power Programme, and any revenue from the sale of emission credits carbon credits etc, from the sale of electricity generated by the Wind Power Facilities at the Project remain the property of the Lessee and the Lessor is not entitled to any share thereof.

6.14 Maintenance of the Wind Power Facilities

The Lessee will exercise its rights hereunder in a proper and workmanlike manner so as to do as little injury as reasonably possible to the Leased Lands and the Lands and will keep and maintain the Wind Power Facilities in good repair. Without limiting the generality of the foregoing, the Lessee will conduct inspections of the Wind Power Facilities, including the Turbines, on a semi-annual basis and complete any maintenance which the Lessee, in its reasonable opinion, determines is required in order to ensure that the Wind Power Facilities, including the Turbines, maintain a clean and uncluttered appearance and are, at all times, operating in a safe manner. The Lessor may provide notice to the Lessee with respect to a maintenance issue respecting the Wind Power Facilities sited on the Leased Lands and request that the Lessee conduct maintenance or repair and the Lessee shall respond to such request with reasonable dispatch and determine, in the Lessee's reasonable opinion, whether any maintenance is required and the

nature and scope of such required maintenance. If the Lessee determines that maintenance is required, the Lessee shall, at its sole cost, complete such maintenance with reasonable dispatch and in a workmanlike manner.

7. COVENANTS OF LESSOR

7.1 Quiet Enjoyment

The Lessor covenants that the Lessee upon observing and performing in all material respects the covenants and conditions on the Lessee's part herein contained, shall and may peaceably possess and enjoy the Leased Lands to the extent provided herein and the rights and privileges hereby granted during the Term without any interruption or disturbance from or by the Lessor or any other Person whosoever.

7.2 Title

The Lessor covenants that: (i) it has good and marketable title to the Leased Lands, subject only to such encumbrances shown by the registered title thereto and such unregistered encumbrances of which the Grantor has no knowledge; (ii) it has good, right and full power to grant and demise the Leased Premises and the rights and privileges herein provided in the manner aforesaid; (iii) it has not granted any lease, license, option or other right in or to the Leased Lands that would be incompatible with the grant and demise of the Leased Premises and the rights and privileges herein granted; and (iv) it is not aware of any charge, mortgage, agreement, covenant, restriction or other encumbrance (individually an "Encumbrance") affecting the Leased Lands that would prohibit or materially impair the Lessee's proposed uses of the Leased Lands; (v) all Encumbrances affecting the Leased Lands have been fully complied with and satisfied in all

material respects to the Effective Date; and (vi) it shall not further mortgage, charge or otherwise encumber the Leased Lands unless the holder of such encumbrance (the "Encumbrancer") acknowledges in writing to the Lessee the priority of the Lessee's rights and privileges in the Leased Lands established by this Lease and agrees that for so long as the Encumbrancer shall be in ownership, possession or control of the Lessor's interest in the Leased Lands (whether directly or by way of an agent or a receiver or receiver and manager), the Encumbrancer shall, from and after the date of its ownership, possession or control, perform and observe all of the covenants and obligations of the Lessor under this Lease.

7.3 Family Law Act - Owner represents and warrants that, as of the Effective Date, Owner is:

(a) at least eighteen (18) years of age and either not a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended; or

(b) at least eighteen (18) years of age and if a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended, then this Agreement has been executed by both spouses together comprising Owner or consented to in writing by Owner's spouse as is evidenced by the signature of the spouse on the Consent as attached hereto as **Schedule "C"**; or

(c) if a corporation, then no building(s) located on the Property has been ordinarily occupied by any officer, director or shareholder of the corporation or by any of their spouses as a family residence or matrimonial home within the meaning of the *Family Law Act*, R.S.O. 1990, c.F-3, as amended.

7.4 Restrictive Covenants

(a) The Lessor shall not and will not suffer or permit any person to disturb or interfere with: (i) the construction, installation, maintenance, repair, inspection, use or operation of the Wind

Power Facilities, whether located on the Leased Lands or elsewhere; (ii) access over the Lands to the Wind Power Facilities; (iii) any development activities; or (iv) the undertaking of any other activities permitted hereunder. Further, the Lessor agrees that it shall not undertake any action including, without limitation, hunting, blasting, excavation or construction, that may have the effect of constituting a danger to the Wind Power Facilities or increasing the Lessee's maintenance, repair or operation costs with respect to the Wind Power Facilities. Without limiting the generality of the foregoing, the Lessor shall not interfere with the wind speed or wind direction over the Lands or the Leased Lands, whether by placing Wind Turbines, planting trees or constructing buildings or other structures, or by engaging in any other activity on the Lands or elsewhere that might cause a decrease in the output or efficiency of the Wind Power Facilities. The Lessor expressly reserves the right to use any portion of the Leased Lands, other than those portions of the Leased Lands over which Wind Power Facilities are located, constructed or installed from time to time as designated by the Lessee, for agricultural, residential and other purposes that do not and will not interfere with the Lessee's operations hereunder or enjoyment of the rights hereby granted to the Lessee. In the event that any of the Lessor's activities negatively impacts on the construction, installation, maintenance, repair, inspection, use or operation of the Wind Power Facilities, the Lessor agrees to cease and desist such activities immediately upon notice from the Lessee. For greater certainty, the Lessor covenants and agrees that, it will not, and will not suffer or permit any Person to, place, construct and erect on the Lands any above ground structure during the Term, without the express written consent of Lessee, except as may be specified in Schedule B – Excluded Lands attached hereto.

Notwithstanding the foregoing the Lessor shall be entitled to replace buildings or structures situated on the Lands as of the Effective Date provided the replacements are in the same location and are of no greater height than the structures they replace. The Lessor will not place or cause or suffer or allow to be placed any structure or other thing upon the Lands which would interfere with or influence the Lessee's testing of wind conditions over the Lands.

(b) The Lessor covenants and agrees that the Lessor will not, during the Term, place, construct or erect, or allow any other Person (other than the Lessee) to place, construct or erect any structures or equipment on the Lands for the purposes of wind energy conversion. The Lessee shall have the exclusive right to collect, convert and transmit all the wind resources on the Lands, and the Lessor agrees that it will not interfere with the Lessee's operations hereunder or the enjoyment of the rights hereby granted. The Lessor covenants and agrees that the licenses, options and rights herein granted are exclusive to the Lessee and that during the Term no other Person will be permitted to use or occupy the Lands, or any part thereof, for the purposes of wind energy conversion or the transmission of electric power and related activities or for any other purpose for which the Leased Lands are demised under this Lease.

(c) The Lessor acknowledges and agrees that the duration and area within which the restrictions set forth in subsections 7.3(a) and (b) shall apply have been considered by the Lessor and the restraints and restrictions of and on the future activities of the Lessor are reasonable in the circumstances. All defences to the strict enforcement thereof by the Lessee are hereby waived by the Lessor. The Lessor acknowledges that a breach of any of the provisions contained herein would cause the Lessee to suffer loss which could not be adequately compensated for by

damages and that the Lessee may, in addition to any other remedy or relief, enforce the performance of the provisions of this Section 7.3 by injunction or specific performance upon application to a court of competent jurisdiction without proof of actual damage.

7.5 Taxes Paid by the Lessor

The Lessor shall promptly pay and satisfy all taxes, rates and assessments that may be assessed or levied against the Lands during the continuance of this Lease, save where such are expressly herein stated to be paid by the Lessee. The Lessor shall provide to the Lessee annually evidence that the Lessor has paid all such taxes, rates and assessments. In the event of non-payment of the taxes, rates and assessments by the Lessor, the Lessee shall have the right to pay same, including interest and penalties, if any, to the applicable taxing authority and recover the payment from any of the payments made pursuant to this Lease.

7.6 Notice of Assessment

The Lessor shall promptly provide to the Lessee copies of all tax assessments, re-assessments and all other notices or correspondence received by the Lessor in respect of any taxes, rates or assessments that are payable by the Lessee pursuant to the terms of this Lease.

7.7 Co-operation

If requested by the Lessee, and at the cost of the Lessee, the Lessor shall fully cooperate with and provide such support and assistance to the Lessee, as the Lessee reasonably requires, in respect of any regulatory or legal proceedings, including complying with or obtaining any land use

permits and approvals, site plan approvals, building permits, environmental impact reviews or any other approvals required for the financing, construction, installation, maintenance, operation, use or removal of the Wind Power Facilities, including the execution of applications for such approvals and execution of site plans if required by any municipality.

7.8 Rights in Connection with Transmission Lines

If requested by the Lessee, and at the cost of the Lessee, the Lessee, acting reasonably and in consultation with the Lessor, shall have the right for itself or may grant any public or private utility the right to install, construct, use, operate, maintain, repair, and replace electrical transmissions interconnections and/or switching facilities, including, wiring, cabling and conduits on the Leased Lands pursuant to any standard form of easement, leasehold, or any other agreement used for or proposed by the utility. The Lessor agrees to sign any documents required for this purpose.

7.9 Requirements of Financing Institutions

If requested by the Lessee, and at the cost of the Lessee, the Lessor shall assist and shall not unreasonably withhold its consent to the amendment of the terms of this Lease to satisfy the reasonable requirements of any Person providing financing for the construction, installation or ownership of the Wind Power Facilities.

7.10 H.S.T.

If the Lessor is registered for HST purposes and produces verification of such registration, then, subject to any relieving provision in the applicable legislation, the rent shall be increased by an amount equal to the HST percentage rate multiplied by such rent and the Lessor shall remit such taxes to the proper governmental authorities as and when required. For purposes of this paragraph, HST means the Goods and Services Tax or any similar tax imposed by the governments of Canada and/or the Province of Ontario.

7.11 Non-Residence

Should the Lessor be a non-resident of Canada, the Lessor acknowledges and agrees that in the absence of the Grantor providing the Grantee with suitable documented evidence that all tax liabilities pertaining to the Grantee are adequately settled, that Lessee may deduct income withholding or other taxes from any payment to the Lessor in compliance or intended compliance with the provisions of the *Income Tax Act*, tax agreements or treaties or other statutes of Canada or its Provinces as are from time to time enacted and amended, whereupon the timely remittance by the Lessee of the balance of the payment to the Lessor shall be deemed to constitute full performance by the Lessee in respect of such payment.

7.12 No Requirement to Build or Operate Wind Turbines

Notwithstanding anything in this Lease to the contrary and for as long as the Lessee can demonstrate justifiable grounds (i.e. lack of technically suitable and commercially viable wind turbines, inability to secure adequate equity or debt financing or other commercial, technical, legal or practical constraint), the Lessor acknowledges that the Lessee shall be under no obligation to construct, install, use and/or operate any Wind Turbines or other Wind Power Facilities at the Leased Lands or the Project Lands nor to proceed with the Project. If

construction of the Wind Power Facilities at the Project has not commenced within three (3) years from the Effective Date, the Lessor shall be entitled to terminate this Lease on ninety (90) days' prior written notice to the Lessee. If the Lessee within such ninety (90) days notice period: (i) commences construction of the Wind Power Facilities at the Project or (ii) advises the Lessor by written notice that the Wind Power Facilities at the Project shall be commissioned within twenty-four (24) months of the end of such ninety (90) day notice period this Lease shall not be terminated. In the event of termination as aforesaid, all payments under this Lease shall be adjusted between the parties to the date of termination and the parties shall have no further obligations under this Lease. The Grantee agrees to use reasonable endeavors to develop the Licensed Land for the purposes of deploying Wind Power Facilities.

8. MUTUAL COVENANTS

8.1 Access and Transmission

The Lessor hereby grants to the Lessee the right of ingress to and egress from the Wind Power Facilities whether located on the Leased Lands or the Lands by means of roads and lanes thereon if existing or such route or routes as the Lessee may construct on the Lands from time to time. For greater certainty, in the event that no road exists to the Wind Power Facilities as of the date of this Lease, the parties agree that the Lessee shall have the right to construct a road to the Wind Power Facilities. The Lessee agrees to construct a road in the least obtrusive manner possible and in consultation with the Lessor. The Lessee agrees to be responsible for all costs associated with construction of a road pursuant to this Subsection. The parties agree that the Lessor is not obligated to maintain the existing roads on the Lands in any condition other than as required for the Lessor's own activities. The Lessee agrees that any damage caused to any road on the Lands

belonging to the Lessor by the Lessee, its contractors, servants, agents and workmen shall be the responsibility of the Lessee. The Lessee shall also have the right to use as a temporary work space a portion or portions of the Lands for the purpose of storing material or carrying out work related to the construction, operation, maintenance, repair, replacement or dismantlement of any Wind Power Facilities at the Leased Lands. The Lessee shall carry out any such construction work as quickly as commercially reasonable and shall restore the work space to the extent possible, (other than reforestation) within a reasonable time from the completion of the work.

If, upon the expiration or earlier termination of this Lease, the Lessee wishes to preserve access to the Wind Power Facilities on other property or to maintain facilities for the transmission of energy or communications, the Lessor agrees to grant such rights to the Lessee at the fair market value of the fair market rental (reasonably determined by the Lessor) of the relevant portion of the Leased Lands for that use. The said amount shall be payable within thirty (30) days following the date as of which the parties agree on the fair market value or fair rental value (or as of which the appraiser determines such value) (and in the case of the fair rental value, annually thereafter for so long as the access over the Leased Lands to the Wind Power Facilities on another property or the facilities for transmission of energy or communications is required by the Lessee). If, despite their good faith reasonable efforts, the parties cannot agree upon a fair market value or rental, it shall be determined by an impartial appraiser experienced in real estate transactions chosen by mutual agreement of the parties, who is a member of a national appraisal organization and whose decision shall be final and binding on the parties hereto. If the parties are unable to agree upon an appraiser, then upon application by either party a judge of competent

jurisdiction for the district in which the Lands are located shall choose an appraiser who meets the aforementioned criteria.

8.2 Non-Disturbance

If the Lands are subject to a financial Encumbrance granted by the Lessor as of the Effective Date, the Lessor agrees to co-operate with and provide support to the Lessee's efforts to obtain a non-disturbance agreement from the holder of such Encumbrance in favour of the Lessee.

8.3 Waste

For the purpose of preparing the Leased Lands for the installation and construction of the Wind Power Facilities and for the purpose of maintaining, repairing and replacing the same, the Lessee shall have the rights to:

(a) store excavated material upon the Leased Lands to the extent necessary, disposing onsite where agreement with the Grantor has been obtained;

(b) excavate, construct and erect the Wind Power Facilities and excavate, erect, alter, maintain, repair, rebuild, redecorate and demolish any temporary structure of any kind necessitated by the operations of the Lessee on the Leased Lands; and

(c) delete, demolish (to the extent required under this Agreement clause 10.1 and renovate the Wind Power Facilities and improvements constructed on the Leased Lands.

8.4 Advertising on the Wind Power Facilities

Neither the Lessor nor the Lessee shall be permitted to post any advertising, notice, poster, message or other publication of any kind whatsoever, using any medium either directly upon the Wind Power Facilities or as an attachment or addition to the Wind Power Facilities at any time during the Term of this Lease. Notwithstanding this general prohibition, any manufacture or retailer advertising associated with the Wind Power Facilities, which appear upon the Wind Power Facilities at the time such Wind Power Facilities are purchased by the Lessee. Further, the Lessee shall be permitted to maintain or update such advertising in accordance with any requirements in any agreement between the Lessee and the vendor, supplier or manufacturer of the Wind Power Facilities.

8.5 Mutual Indemnities

(a) The Lessee shall indemnify and hold harmless the Lessor against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with or as a result of:

(i) the negligence or wilful misconduct of the Lessee;

(ii) any breach by the Lessee of the terms and conditions of this Lease; or

(iii) the Wind Power Facilities,

provided that the Lessee shall not be liable under this section to the extent to which such loss, damage or injury is caused or contributed to by the negligence or default of the Lessor, their agents or servants. For greater certainty, the Lessee shall not be liable for the action of the Lessor, its agents, employees, representatives or any other person who enters upon the Lands by the express invitation of the Lessor.

(b) The Lessor shall indemnify and hold harmless the Lessee against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with or as a result of:

(iv) the negligence or wilful misconduct of the Lessor; or

(v) any breach by the Lessee of the terms and conditions of this Lease,

provided that the Lessor shall not be liable under this section to the extent to which such loss, damage or injury is caused or contributed to by the negligence or default of the Lessee, their agents or servants. For greater certainty, the Lessor shall not be liable for the action of the Lessee, its agents, employees, representatives or any other person who enters upon the Lands by the express invitation of the Lessee.

(c) All accrued and undischarged obligations under this section shall survive the expiration or termination of this Lease.

9. DEFAULT

9.1 Default and Remedies

(a) If the Lessee is in default of any of its covenants, conditions or obligations contained in this Lease, the Lessor shall deliver to the Lessee a written notice setting out the nature of the default with reasonable detail and providing the Lessee with thirty (30) days to remedy or cure such default. In the event the Lessee fails to remedy or cure such default within the said thirty (30) day period (or such longer period of time as is reasonable in the circumstances to cure such default, provided that the Lessee has commenced to cure such default within the aforesaid thirty (30) day period and proceeds diligently thereafter to effect such cure), then at the option of the

Lessor this Lease may be determined, provided that this Lease shall not terminate nor be subject to forfeiture or cancellation if there is located on the Project Lands any Wind Power Facilities, and in that event the Lessor's remedy for any default hereunder shall be for damages only.

(b) If the Lessee fails to pay when the same is due and payable any amount required to be paid under this Lease, such amount shall bear interest from the due date thereof calculated monthly to the date of payment at a rate per annum of two percent (2%) in excess of the prime interest rate for Canadian Dollar demand loans announced from time to time by the Bank of Nova Scotia.

(c) Notwithstanding any termination of the Lease by the Lessor pursuant to this Section 9.1, any obligations of the Lessee then outstanding shall not merge but in fact survive the termination date and continue to bind the Lessee. The Lessor shall be entitled to all of its reasonable costs, including its reasonable legal costs relating to any default on the part of the Lessee, and the exercise of its rights and remedies as provided for in this Section 9.1.

(d) Notwithstanding any other provision of this Lease, the Lessor shall make full recourse against any account or fund made available by the Lessee to the Lessor prior to exercising any other remedies hereunder or at law.

(e) If the Lessor fails to observe or perform any of its covenants, obligations, warranties, representations or undertaking contained in this Lease, and the non-observance or non-performance continues for thirty (30) days after the Lessee gives the Lessor written notice

thereof, the Lessor shall be in default (the "Lessor Default") under this Lease. In the event of a Lessor Default, the Lessee may perform or satisfy the obligation, covenant, undertaking, warranty or representation on behalf of and at the expense of the Lessor, and the Lessor will reimburse the Lessee for all costs incurred by the Lessee in curing the Lessor Default, within thirty (30) days of receipt of any request for payment. If the Lessor fails to reimburse the Lessee within such time period, the Lessee may deduct such sums from rent or any other amounts payable to the Lessor under this Lease until the Lessee has been fully reimbursed. In the event of a Lessor Default the Lessee may, to the extent necessary to rectify such Lessor Default, enter upon the Lands without same being deemed an act of trespass.

9.2 Discharge of Taxes and Encumbrances

In the event that any power of sale or foreclosure proceedings have been commenced against the Lessor that in any way affect the Leased Lands, or a court order has been issued for a sale that in any way affects the Leased Lands, then the Lessee may, after giving not less then ten (10) days written notice thereof to the Lessor, at the Lessee's option pay or discharge the whole or any portion of any Encumbrance or lien payable, incurred or created by the Lessor which in any way affect the Leased Lands. In the event the Lessee exercises its option to pay or discharge as aforesaid, then the Lessee shall be subrogated to the rights of the holder or holders thereof and, at the Lessee's option, may reimburse itself by applying the amount so paid by the Lessee against the rent payable hereunder, or other sums accrued or accruing to the Lessor under the terms of this Lease, and any sums so applied shall, for all purposes of this Lease, be deemed to have been paid to and received by the Lessor in payment of the consideration payable hereunder, or other sums accrued or accruing to the Lessor under the terms of this Lease, as the case may be.

Notwithstanding the foregoing, the Lessee may at the Lessee's option pay or discharge the whole or any portion of any withholding or other tax payable, incurred or created by the Lessor which in any way affects the Leased Lands, and which remains in default for a period of thirty (30) days after written notice thereof to the Lessor, and the provisions of this Section 9.2 shall apply with all necessary revisions having been made.

9.3 Force Majeure

Neither party shall be considered in default in the performance of its obligations under this Lease to the extent that the performance of such obligations or any of them is delayed by Force Majeure and the time for fulfillment of such obligations shall be extended during the period in which Force Majeure operates to delay the fulfillment of such obligations; provided that any event of Force Majeure shall not relieve any party from any obligation to make any monetary payments required under this Lease.

10. EQUIPMENT REMOVAL

10.1 Right of Termination by Lessee

The Lessor agrees that the Lessee shall have the right, at any time, upon not less than three (3) months' notice (the "Termination Notice") to that effect to the Lessor, to terminate this Lease upon the occurrence of any of the following:

(a) the Lessee is unable for any reason whatsoever to obtain any permits, licenses or approvals as may be necessary for the construction, installation, use, operation, maintenance or repair of the Project, any portion thereof or of the Wind Power Facilities or otherwise to permit

the Lessee to occupy the Project Lands or any portion thereof, including the Leased Lands and conduct its activities thereon, as required by applicable laws;

(b) the Lessee, in its sole and absolute discretion, deems the Wind Power Facilities on the Project, or any portion thereof, including the Leased Premises to be economically unfeasible; or

(c) the construction, installation, use, operation, maintenance or repair of the Project or any portion thereof, including the Wind Power Facilities, is prevented or significantly impeded for any reason whatsoever, including but not limited to, legal or regulatory requirements;

(d) the Lessee does not conclude an agreement for the sale of electrical energy from the Project to a utility or other purchaser or purchasers on terms satisfactory to the Lessee in its sole and absolute discretion; or

(e) the Lessee wishes to terminate the Lease for any other reason, in its sole discretion;

and in such event, this Lease shall terminate on the date set out for termination in the Termination Notice and all payments under this Lease shall be adjusted between the parties to the date set out for termination. Provided there is no continuing Lessor Default, either on the date of delivery of the Termination Notice or on the date set out for termination, the obligation of the Lessee to pay to the Lessor the Collective Payment pursuant to and in accordance with Section 4.1(b) herein shall survive any such termination and shall be payable by the Lessee until

such time as the Lessee abandons the project (as evidenced by written notice to the Lessor from the Lessee of such abandonment).

10.2 Restoration Upon Termination/Surrender

Upon the surrender of the whole or any part of this Lease, or upon the expiry or earlier termination of the Term, as the case may be, the Lessee shall cause all excavations made by the Lessee or on its behalf on the Leased Lands to be filled in, all in compliance with regulations of the government of the Province of Ontario in that regard, and shall restore the surface thereof to the same condition, so far as practicable (other than re-forestation), as existed before the entry thereon and the use thereof by the Lessee, including the removal of all Wind Power Facilities and all other structures, fixtures and material of whatsoever nature or kind placed or constructed thereon by or on behalf of the Lessee, save and except for any foundation, concrete base or underground cables or wires located at a depth of one (1) metre or more below the surface of the Leased Lands.

10.3 Removal of Wind Power Facilities

Provided that the Lessee is not in material default hereunder, the Lessee shall have the right at any time during the continuance of this Lease and within a period of six (6) months after the surrender, termination or expiry of this Lease, to remove or cause to be removed from the Leased Lands, all or any part of the Wind Power Facilities and all structures, fixtures and material of whatsoever nature or kind, which it may have placed on, above or in the Leased Lands, including any Wind Turbines and in the event any Wind Turbine or other Wind Power Facilities are

removed from the Leased Lands all payments under this Lease shall be adjusted accordingly to reflect such removal.

10.4 Dismantling Security

The Lessee shall, as of the expiry or termination date of the Power Supply Agreement, and the resultant release of the security required thereunder, put in place a dismantling security (naming the Lessor as the beneficiary) to cover the net cost of dismantlement and restoration in accordance with the lease terms in the event of either i) failure by the Lessee to dismantle the Wind Power Facilities at the end of Term or ii) in the event of bankruptcy of the Lessee. The value of the security will be assessed, six (6) months prior to the termination of the Power Supply Agreement, by a mutually acceptable third party to be the net cost of dismantling the wind farm and restoring the land in accordance with the lease provisions.

In the event that the Power Supply Agreement pursuant to which the power produced by the Wind Power Facilities is sold does not contain a provision requiring the Lessee to put in place security providing for the dismantling of the Wind Power Facilities or the equivalent thereof, the Lessee shall, as of the Effective Date, put in place a dismantling security (naming the Lessor as the beneficiary) to cover the net cost of dismantlement and restoration in accordance with the lease terms in the event of either i) failure by the Lessee to dismantle the Wind Power Facilities at the end of Term or ii) in the event of bankruptcy of the Lessee. The value of the security will be assessed, within six (6) months of commencement of the Term, by a mutually acceptable third

party to be the net cost of dismantling the wind farm and restoring the land in accordance with the lease provisions.

11. NOTICES

11.1 Demand, Notice or Communication

Any demand, notice or communication to be provided hereunder shall be in writing and may be given by personal delivery, by prepaid first class mail or by fax transmission, addressed to the respective parties as follows:

To the Lessor: .....
.....
.....
Attention: .....
Tel: .....

To the Lessee: Summerhaven Wind, LP
c/o NextEra Energy Canada, ULC
ATTN: Ben Greenhouse, Project Director, Development
5500 North Service Road, Suite 205
Burlington, Ontario L7L 6W6
Phone: (905) 335-4904, x13

Copy to: _____
_____
_____
_____

or to such address or fax number as any party may from time to time notify the other. Any demand, notice, or other communication given by personal delivery shall be conclusively deemed to have been received by the party to which it is addressed on the day of actual delivery thereof. If given by fax transmission, on the same day as the date of faxing provided that a fax

transmission report is generated and retained. In the case of a demand, notice or communication addressed to more than one party, on the day upon which actual delivery thereof has been completed to all such parties. Any notice sent by prepaid first class mail as aforesaid shall be deemed to have been delivered on the fifth (5^{th}) business day (excluding Saturdays, Sundays and statutory holidays) following the date of mailing thereof provided that postal services have not been interrupted, in which case notice shall only be given by personal delivery or fax transmission as aforesaid.

12. ARBITRATION

12.1 Arbitration

All matters in dispute between the Parties pursuant to this Lease shall be determined by arbitration in accordance with this Section.

In the event that either party provides the other party with written notice of a dispute arising under this Agreement (the "**Dispute**") then both Parties shall use their best efforts to settle the Dispute by consulting and negotiating with each other, in good faith and understanding of their mutual interests, to reach a just and equitable solution satisfactory to all Parties. However, if the Parties do not reach a solution for the Dispute within thirty (30) days following notice thereof, then where provided for in this Lease, either Party may provide written notice to the other Party (the "**Arbitration Notice**") requiring resolution by arbitration and thereafter the Dispute shall be referred to arbitration for final settlement, to be binding on the Parties in accordance with the provisions of the *Arbitration Act, 1991* (Ontario), including any amendments or replacements thereto, as follows:

(e) the arbitration tribunal shall consist of one (1) arbitrator appointed by mutual agreement of the Parties or, in the event of failure to agree within ten (10) days after receipt of the Arbitration Notice, then either party may apply to a judge of the Superior Court of Justice to appoint an arbitrator. The arbitrator shall be qualified by education and training to pass upon the particular matter to be decided;

(f) the arbitrator shall be instructed that time is of the essence in proceeding with the determination of the Dispute;

(g) the arbitration shall be conducted in English and shall take place in Haldimand County, Ontario or in any other place and location mutually agreed upon by the Parties hereto; and

the arbitration award shall be given in writing and shall be final and binding on the Parties, including the question of cost of the arbitration and all matters related thereto, and the arbitration award shall not be subject to any appeal

13. Financing and Assignment

13.1 Right to Mortgage and Assign

(a) Lessee may, upon notice to Lessor, but without Lessor's consent or approval, mortgage, charge, pledge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Lease, the Leased Lands, or the Wind Power Facilities (collectively, its "Wind Farm Assets"). These various security interests in all or a part of the Wind Farm Assets are collectively referred to as "Mortgages" and the holders of the Mortgages, their designees and assigns are referred to as "Mortgagees." Lessee shall also have the right without Lessor's consent to sell, convey, lease, or assign all or any portion of its Wind Farm Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements, co-easements, separate easements, leases, licenses or similar rights, however denominated (collectively, "Assignments"), to one or more persons or entities (collectively, "Assignees"). Assignees and Mortgagees shall use the Wind Farm Assets only for the uses permitted under this Lease. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Lessee, provided that **under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of Lessor's Property than the rights granted to** Lessee **in this Lease.** Whenever Lessee has mortgaged, charged, pledged or assigned an interest under this Section, or has conveyed a subeasement or other interest, it will give notice of the mortgage, assignment or conveyance

(including the address of the Mortgagee or Assignee for notice purposes) to Lessor, provided that failure to give this notice shall not constitute a default under this Lease but rather shall only have the effect of not binding Lessor with respect to such mortgage, charge, pledge, assignment or conveyance until notice is given.

(b) Lessor shall have the right to assign any payments Lessee is required to make upon written notice to Lessee no later than sixty (60) days before any payment is due. The notice shall include the name and address of where any such payment shall be made. In the event of such assignment, no pro-ration of payments shall be permitted and the parties agree that any assignment must be by agreement of Lessor and this right is not subject to attachment or election by any third party or court action. Unless the assignment provides otherwise, Lessor may terminate this right of assignability by written notice verified by all Lessors at any time.

13.2 Lessor Obligations

Lessor agrees to consent in writing to financing documents (including, without limitation, lender acknowledgements) as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Lessee under this Lease, Lessor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Lessee, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Lessee's entire interest or its partial interest in the Wind Farm Assets as is given to Lessee and the same right to cure any default as Lessee or to remove any property of Lessee, Mortgagees or Assignees located on the Leased Lands. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Lessee in this agreement, but in no case shall the cure period for any Mortgagee or Assignee be less than thirty (30) days after receipt of the default notice. Failure by Lessor to give a Mortgagee or Assignee notice of default shall not diminish Lessor's rights against Lessee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Lessee, the Mortgagee or Assignee located on the Leased Lands.

13.3 Mortgagee/Assignee Obligations

Any Mortgagee or Assignee that does not directly hold an interest in the Wind Farm Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Lease prior to the time the Mortgagee or Assignee directly holds an interest in this Lease, or succeeds to absolute title to Lessee's interest. A Mortgagee or Assignee shall be liable to perform obligations (except the Removal Obligations contained in Section (10) under this Lease only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Lease shall release Lessee or other assignor from obligations accruing after the date that liability is assumed by the Assignee provided that Assignee demonstrates to Lessor that it is financially capable of satisfying any obligations of this Lease.

13.4 Right to Cure Defaults/Notice of Defaults/Right to New Easement

13.4(a) To prevent termination of this Lease, or any partial interest in this Lease, Lessee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default, including paying all past due amounts, and to prevent the termination of this Lease or any interest in the Wind Farm Assets.

13.4(b) In the event of an uncured default by the holder of Lessee's entire interest in this Lease, or in the event of a termination of this Lease by agreement, by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Wind Farm Assets that is not in default of its obligations, shall have the right to have Lessor either recognize the Mortgagee's or Assignee's interest or grant a new lease substantially identical to the Lease. Under the new lease, the Mortgagee or Assignee shall be entitled to, and Lessor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term, or such shorter term as an Assignee may otherwise be entitled pursuant to its Assignment.

13.5 Extended Cure Period

If any default by Lessee under this Lease cannot be cured without obtaining possession of all or part of the Wind Farm Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within sixty (60) days after receiving notice from Lessor as set forth in Section 13.2, acquires possession of all or part of the Wind Farm Assets, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to

completion; and (c) after gaining possession of all or part of the Wind Farm Assets performs all other obligations as and when the same are due in accordance with the terms of this agreement. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the sixty (60) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

13.6 Certificates, etc.

Lessor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this agreement, if such be the case), consents to assignment and non-disturbance agreements as Lessee or any Mortgagee or Assignee may reasonably request from time to time.

14. Mortgagee Protection

Any Mortgagee, upon delivery to Lessor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Lease:

14.1 Mortgagee's Right to Possession, Right to Acquire and Right to Assign

A Mortgagee shall have the absolute right: (a) to assign its Mortgage; (b) to enforce its lien and acquire or transfer title to all or any portion of the Wind Farm Assets by any lawful means, including by way of private or statutory power of sale proceedings; (c) to take possession of and operate all or any portion of the Wind Farm Assets and to perform all obligations to be performed by Lessee under this Lease, or to cause a receiver, receiver-manager or a trustee to be appointed to do so; and (d) to acquire all or any portion of the Wind Farm Assets by foreclosure or by an assignment in lieu of foreclosure and thereafter without Lessor's consent to assign or transfer all or any portion of the Wind farm Assets to a third party.

14.2 Opportunity to Cure

14.2(a) During any period of possession of the Leased Lands by a Mortgagee (or a receiver, receiver-manger or a trustee requested by a Mortgagee) and/or while any foreclosure proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges payable by Lessee under this Lease which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Wind Farm Assets by the Mortgagee as a result of either foreclosure or acceptance of an assignment in lieu of foreclosure, or by a purchaser under a private or statutory power of sale, this Lease shall continue in full force and effect and the Mortgagee or party acquiring title to the Lessee's Lease rights shall, as promptly as reasonably possible, commence the cure of all defaults under this Lease and thereafter diligently process such cure to completion.

14.2(b) Any Mortgagee or other party who acquires Lessee's interest in the Wind Farm Assets pursuant to foreclosure, assignment in lieu of foreclosure or under a private or statutory power of sale shall not be liable to perform the obligations imposed on Lessee by this Lease incurred or accruing after the party no longer has ownership or possession of the Wind Farm Assets.

14.2(c) Neither the bankruptcy nor the insolvency of Lessee shall be grounds for terminating this Lease as long as all Annual Installment Payments and all other monetary charges payable by Lessee under this Lease are paid by the Mortgagee in accordance with the terms of this Lease.

14.3 New Lease

14.3(a) If this Lease terminates because of Lessee's default, if this Lease is foreclosed, or if this Lease is rejected, resiliated, disclaimed or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights by Lessee and, within ninety (90) days after such event, Lessee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Lessor for the payment of all fees or other charges due and payable by Lessee as of the date of such event, then Lessor shall execute and deliver to Lessee or such Mortgagee or Assignee or to a

designee of one of these parties, as the case may be, a new lease to the Leased Lands which (i) shall be for a term equal to the remainder of the Term before giving effect to such rejection, resiliation, disclaimer or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Lease (except for any requirements that have been fulfilled by Lessee or any Mortgagee or Assignee prior to rejection, resiliation, disclaimer or termination of this Lease); and, (iii) shall include that portion of the Wind Farm Assets in which Lessee or such other Mortgagee or Assignee had an interest on the date of rejection, resiliation, disclaimer or termination.

14.3(b) After the termination, rejection, resiliation, disclaimer or disaffirmation of this Lease and during the period thereafter during which any Mortgagee shall be entitled to enter into new lease for the Leased Lands, Lessor will not terminate the rights of any Assignee unless in default under its Assignment.

14.3(c) If more than one Mortgagee makes a written request for new lease pursuant to this provision, the new lease shall be delivered to the Mortgagee requesting such new lease after the Mortgagee provides Lessor with evidence that its Mortgage is prior in lien.

14.3(d) The provisions of this Section 14 shall survive the termination, rejection, resiliation, disclaimer or disaffirmation of this Lease and shall continue in full force and effect thereafter to the same extent as if this Section 14 were a separate and independent contract made by Lessor, Lessee and each Mortgagee, and, from the effective date of such termination, rejection, resiliation, disclaimer or disaffirmation of this Lease to the date of execution and delivery of such new easements, such Mortgagee may use and enjoy the Leased Lands without hindrance by Lessor or any person claiming by, through or under Lessor; provided that all of the conditions for the new lease as set forth above are complied with including the payment of all past due amounts due to Lessor.

14.4 Mortgagee's Consent to Amendment, Termination or Surrender

Notwithstanding any provision of this Lease to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Lease shall not be modified or amended, and Lessor shall not accept a surrender, cancellation or release of all or any part of the Wind Farm Assets from Lessee without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Lease.

14.5 No Merger

There shall be no merger of this Lease with the fee simple estate in the Leased Lands by reason of the fact that this Lease or any interest in the Lease may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee simple estate. No merger shall occur unless and until all persons at the time having an interest in the fee simple estate in the Leased Lands and all persons (including each Mortgagee) having an interest in this Lease or in the estate of Lessor and Lessee shall sign and register a written instrument effecting such merger.

14.6 Liens

On the commencement of the Term, the Leased Lands shall be free and clear of all monetary and financial liens other than those expressly approved by Lessee, which approval shall not be unreasonably withheld. Thereafter, any assignment of this Lease, mortgage, charge, debenture, deed of trust or other monetary or financial lien placed on the Leased Lands by Lessor, or permitted by Lessor to be placed or to remain on the Leased Lands, shall be subject to this Lease, to any Assignment or Mortgage then in existence on the Wind Farm Assets as permitted by this Lease, to Lessee 's right to encumber the Wind Farm Assets, and to any and all documents executed or to be executed by Lessor in connection with Lessee 's development of all or any part of the Leased Lands. Lessor agrees to cause any monetary or financial liens placed on the Leased Lands by Lessor in the future to incorporate the conditions of this Section 14.6.

15. MISCELLANEOUS

15.1(a) Pre-Existing Contaminants

To the best of the Lessor's knowledge and belief, the Leased Lands do not contain any pollutant, contaminant, hazardous materials, dangerous or toxic substances (hereinafter collectively referred to as "Contaminants"). The Lessor shall not contravene any law, order, regulation, or by-law in regard to the creation, manufacture, production, use, storage, discharge, disposal, transportation, or presence of any Contaminants. The Lessee shall promptly notify the Lessor of the discovery of Contaminants during any excavation or assessment work done by the Lessee on the Leased Lands. Unless the Contaminants are sourced from the Lessee's structures, fixtures, materials or Wind Power Facilities or the exercise of any of the Lessee's rights hereunder, the Lessee shall not be liable for and the Lessor hereby releases, discharges and indemnifies the Lessee from and against any Claims or costs that may arise as a consequence of the discovery of any Pre-Existing Contaminants, being contaminants which existed on the Leased Lands as of the Effective Date, in, on, or under the Leased Lands during the Lessee's exercise of any of its rights under this Lease.

15.1(b) General Environmental Responsibility

The Lessee shall be responsible for and save harmless the Lessor, their directors, officers, employees, agents, consultants, contractors, heirs, executors and assigns from any and all costs, actions, suits, claims, demands and expenses, including legal (on a solicitor and his own client basis), investigative and consulting fees and disbursements, which at any time, or from time to time, may be asserted against, imposed upon or incurred by the Lessor or any of them in connection with environmental contamination of any kind in contravention of applicable laws directly caused in, on, under or upon the Leased Lands as a result of the construction and operations conducted by or on behalf of the Lessee under this Lease and for all remedial action that may be required to be taken to comply with applicable laws.

The Lessor shall be responsible for and save harmless the Lessee, its directors, officers, employees, agents, consultants, contractors, and assigns from any and all costs, actions, suits, claims, demands and expenses, including legal (on a solicitor and his own client basis), investigative and consulting fees and disbursements, which at any time, or from time to time, may be asserted against, imposed upon or incurred by the Lessee or any of them in connection with environmental contamination of any kind in contravention of applicable laws directly

caused in, on, under or upon the Leased Lands as a result of a cause other than the constructions and operations conducted by or on behalf of the Lessee under this Lease.

All accrued and undischarged obligations under this section 15.1 shall survive the expiration and termination of this Lease.

15.2 Registration of Notice of Rights

This Lease shall not be registered in the Land Registry Office for the area in which the Leased Lands are situated, although a notice of this Lease and the rights and privileges herein granted may be registered as aforesaid. The Lessee shall withdraw or discharge any such registered notice within a reasonable time after termination of this Lease. In addition, the terms of the restrictive covenants provided in Section 7.3 shall be restated in a separate document and, that document may be registered against both the Leased Lands and the Lands, provided that the Lessee shall withdraw or discharge such registration within a reasonable time after termination of this Lease. The Lessor shall execute such documents, and take such other actions, at the cost of the Lessee, as reasonably required by the Lessee to permit the registration of the document restating the restrictive covenants.

15.3 Restrictive Covenants Run with Said Leased Lands

The parties acknowledge and agree that it is their intention that the restrictive covenants provided in Section 7.3 run with the Lands in favour of the Leased Lands and any other lands leased, owned or licensed by the Lessee, and are binding on all heirs, executors, administrators, successors and assignees of the Lessor, provided that such covenant shall expire upon termination of the rights of the Lessee in the Leased Lands.

15.4 Environment Impact Studies and Public Consultations

During the term of this Lease, Lessee may conduct, at its sole expense, such environmental impact studies and public consultations to obtain required approvals and permits for a wind farm at the Leased Lands, such as under the *Ontario Environmental Assessment Act* and the *Canadian*

Environmental Assessment Act and any government grants or subsidies, such as the ecoEnergy Renewable Power Programme, as it deems necessary or desirable. Such environmental observations and studies may be required to be undertaken during construction and after the Generation Date for the duration of the Term.

15.5 Support

The Lessor will support the Lessee's Project and the proposed Wind Power Facilities for the Project and the Leased Lands in any public consultation and communication processes relating to this Lease.

15.6 Time to be of the Essence

Time shall be deemed to be of the essence with respect to all time limits mentioned in this Lease.

15.7 Severability

If any provision of this Lease or the application thereof to any circumstances shall be held to be invalid or unenforceable by a court of competent jurisdiction, then the remaining provisions of this Lease or the application thereof to other circumstances shall not be affected thereby and shall remain valid and enforceable to the fullest extent permitted by law.

15.8 No Agency, Partnership or Joint Venture

Nothing contained in this Lease shall be deemed or constructed by the parties as creating a relationship of principal and agent or of partnership or joint venture between the parties.

15.9 Governing Laws

This Lease shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

15.10 Assignment of Lease

The Lessee agrees to inform the Lessor of any sale or sublease as detailed below.

However the Lessee and any assignee of the Lessee shall have the right, without the need for the Lessor's consent, to do any of the following, conditionally or unconditionally, with respect to the Leased Lands: (i) finance the Wind Power Facilities; (ii) grant co-leases, subleases, easements, licenses or similar rights within the scope of the Lease to one or more assignees; (iii) sell, convey, lease, assign, mortgage, encumber or transfer to one or more assignees the Lease, or any or all right or interest in the Lease, or any or all right or interest of the Lessee in the Leased Lands, or in any or all of the Wind Power Facilities that the Lessee or any other Person may now or hereafter install on the Leased Lands.

15.11 Modification/Amendment of Lease

This Lease, including any schedules attached hereto, shall constitute the entire agreement between the parties. This Lease shall not be modified or amended except by written agreement executed and dated by both parties.

15.12 Planning Act

This Lease is entered into on the express condition that it is subject to compliance with the severance control provisions of the *Planning Act* (Ontario), as amended, from time to time; provided that pending any such compliance, the aggregate of the Initial Term together with all Extension Terms shall be deemed to be for a total period of one (1) day less than the maximum lease term permitted by law without such compliance. If compliance with the provisions of the *Planning Act* should be required, in the sole discretion of the Lessee, then the Lessor hereby appoints the Lessee or its authorized agents or servants to execute such consents or authorizations as may be necessary for the Lessee to obtain any required consents from the local Land Division Committee or Committee of Adjustment and agrees to cooperate in any such applications for consent.

15.13 Independent Legal Representation

The Lessor acknowledges that the Lessor has had the full opportunity to obtain independent legal representation or advice in connection with this Lease.

15.14 Family Law Act – Spousal Consent

We, ... and .....
being spouses within the meaning of Section 1 (1) of the *Family Law Act,* R.S.O. 1990, c.F.3., together with any amendments thereto, do hereby consent to the transaction evidenced by this instrument and the registration of a notice of this Lease and the restrictive covenants on the title to the Leased Lands and Lands, respectively, hereinbefore described.

15.15 Further Assurances

The Lessor and the Lessee hereby agree that they will each do and perform all such acts and things and execute all such deeds, documents, and writings and give all such assurances as may be necessary to give effect to this Lease.

15.16 Successors

All rights and liabilities herein granted to or imposed on the respective parties hereto extend to and bind the heirs, executors, successors and assigns of the Lessor and the successors and assigns of the Lessee, as the case may be.

In the event of the sale by the Lessor of the Leased Lands or any part thereof or any interest therein, the Lessor shall include as a condition of such agreement of purchase and sale, a provision, the effect of which requires the purchaser to be bound by the terms and conditions of this Lease, and to execute an assumption of license/option agreement with the Lessee to this effect.

15.17 Currency

Unless otherwise provided for herein, all monetary amounts referred to herein shall refer to the lawful money of Canada.

15.18 Headings for Convenience Only

The division of this Lease into articles and sections is for convenience only and shall not affect the interpretation or construction of this Lease.

15.19 Relationship of Parties

The relationship of the parties is that of independent contractors and nothing contained in this Lease shall be construed to constitute the parties as partners, joint venturers, co-owners, or otherwise as participants in a joint or common undertaking, nor is either party authorized to make any commitment or representation, express or implied, on the other's behalf unless authorized in writing.

15.20 Excavated Material

Unless expressly agreed otherwise between the parties;
i) the Lessee is to remove all excess topsoil arising from the construction activities to a stockpile located at a mutually agreed location within 1500m of the point of excavation within the boundary defined in Schedule A attached hereto; ii) All other excavated material shall be disposed of off site by the Lessee, it's agents or contractors.

15.21 Grant of Effects License

Lessor grants and transfers to Lessee a non-exclusive License for audio, visual, view, light, flicker, noise, shadow, vibration, air turbulence, wake, electromagnetic, electrical and radio frequency interference, and any other effects attributable to the Wind Power Facilities or activity located on the Leased Lands or on adjacent properties ("**Effects License**"). The burden of the Effects License shall run with and bind the Lands and every part thereof and benefit the Lessee's interest in the Leased Lands and such other lands that the Lessee may have a real property interest in from time to time and which form part of the Project. If requested by the Lessee, the Lessor shall execute and deliver to the Lessee such separate and registerable transfer of easements which reproduce the terms of the Effects License.

15.22 Setback Waiver.

To the extent that (a) Lessor now or in the future owns or leases any land adjacent to the Leased Lands, or (b) Lessee leases or holds an easement/license or a lease over land adjacent to Leased Lands and has installed or constructed or desires to install or construct any Power Facilities on said land at and/or near the common boundary between the Leased Lands and said land, Lessor hereby waives any and all setbacks and setback requirements,

whether imposed by law or by any person or entity, including, without limitation, any setback requirements described in the zoning by-laws of the County and/or Province or in any governmental entitlement or permit heretofore or hereafter issued to Lessee. If so requested by Lessee, Lessor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Lessee deems necessary or convenient to the obtaining of any entitlement or permit.

THE PARTIES have executed this Lease as of the Effective Date.

LESSOR:

_____

_____

_____

_____

LESSEE:

Strathroy Wind GP, Inc.
as general partner for and on behalf of
Summerhaven Wind, LP

Per:_____
Name:
Title:
"I have authority to bind the corporation"

Schedule A to Lease

(Legal Description of Lands)

Schedule A-1 to Lease

(Location of Leased Lands, including sketch/reference plan)

Schedule "B" to Lease- Excluded Lands

Schedule "C" of Lease – Consent of Spouse

Consent of Spouse

I, _____, being married to _____, hereby give my consent to the demise and lease of the lands made in the Lease dated _____, 20___ in respect of the following property:

DATED this day of _____, 20___.

WITNESS:

_____
Name:

Address:

SPOUSE OF GRANTOR:

_____
Name:

Address:

Schedule "D" to License & Option Agreement

Attached to a License and Option Agreement dated the ..... day of ....., 20.....

EXERCISE NOTICE

To:

TAKE NOTICE:

1. This Notice is delivered pursuant to Section 4.1 of the License and Option Agreement dated ..... between ....., as Lessor and SUMMERHAVEN WIND, LP, as Lessee.

2. Terms used herein and not otherwise defined have the meaning given them in the License and Option Agreement.

3. The Lessee hereby exercises its option to acquire a Lease for those portions of the Licensed Lands outlined on the copy of the sketch or survey attached to this Notice as Schedule "A".

4. The location of the Wind Turbines, roads, transmission lines and other facilities that are proposed as of the date of this Notice to be constructed on the Site are outlined on the sketch or survey attached to this Notice as Schedule "A".

DATED the ..... day of ....., 20.....

LESSEE:

Strathroy Wind GP, Inc.
as general partner for and on behalf of
Summerhaven Wind, LP

Per:_____
Name:
Title:
"I have authority to bind the corporation"

Schedule "E" to License & Option Agreement

Consent of Spouse

I, _____, being married to _____, hereby give my consent to the grant of license and option made in the License and Option Agreement dated _____, 20___ in respect of the following property:

See Schedule "A" attached to the License & Option Agreement.

DATED this day of _____, 20___.

WITNESS:

_____
Name:

Address:

SPOUSE OF GRANTOR:

_____
Name:

Address:

TRANSMISSION EASEMENT

TRANSMISSION EASEMENT
(in Gross)

THIS TRANSMISSION EASEMENT (IN GROSS) ("**Grant**"), is executed and made effective this _____ day of _____, 2011, ("**Effective Date**") by and between • ("**Grantor**") and **Strathroy Wind GP, Inc.**, as general partner for and behalf of Summerhaven Wind, LP ("**Grantee**").

PREMISES

A. Grantor is the registered owner of an estate in fee simple composed of certain parcels or tracts of land and premises more particularly described on **Exhibit A** attached hereto and made a part hereof ("**Property**"); and

B. Grantor desires to grant, convey and transfer to Grantee an exclusive easement and right-of-way in perpetuity for the erection, installation and maintenance of certain facilities for the transmission of electric power over and across a certain portion of the Property.

IN CONSIDERATION of the foregoing and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. **Grant**. Grantor does hereby grant, convey and transfer to Grantee, an exclusive easement and right-of-way in perpetuity (the "**Transmission Easement**") comprising one hundred (100) feet in width (more or less) in, on, over, across, along and under that portion of the Property more particularly described on **Exhibit B** ("**Easement Area**") attached hereto with such persons, vehicles and equipment necessary for the purposes of erecting, constructing, replacing, relocating, improving, enlarging, removing, maintaining, operating and utilizing, from time to time, a line or lines of towers and/or poles, with such wires, guy wires, and/or cables (whether above ground or buried), for the transmission of electrical energy, and all necessary and proper foundations, footings, cross arms and other appliances, facilities and fixtures for use in connection therewith (collectively, the "**Transmission Facilities**") in, on, over, across, along and under the Easement Area; together with (i) the right of ingress to and egress from the Transmission Facilities over and along the Property; and (ii) a temporary non exclusive easement and right-of-way in, over, across, along and under that portion of the Property comprising the fifty (50) feet adjacent to and along the entire boundary of the Easement Area during the initial construction and installation of the Transmission Facilities.

2. **No Interference**. Grantor covenants and agrees that it shall not construct, install, or permit to be constructed or installed, any improvements, fences, structures, buildings, foliage or vegetation, utility lines or other improvements of any type whatsoever upon or near the Easement Area which would inhibit or impair any of Grantee's rights or benefits as set forth in this Grant. Grantee shall have the right, without compensation to Grantor, to cut, prune and remove or otherwise dispose of any foliage or vegetation on or near the Easement Area that Grantee deems a threat or potential threat to Grantee's Transmission Facilities or its rights hereunder. Grantor shall not grant or permit any person or person(s) claiming through Grantor, other than Grantee, any right-of-way, encumbrance, easement or other right or interest in, to or affecting the Easement Area, without the prior written consent of Grantee in each instance,

which consent Grantee may grant, withhold or deny in its sole, absolute and subjective discretion.

3. **Term**. The term of this Grant shall commence on the Effective Date and continue in perpetuity (the "**Term**").

4. **Authority**. Grantor hereby represents and warrants to Grantee that it is the sole registered owner of the Property in fee simple, subject to no liens or encumbrances registered in priority to this Transmission Easement, except as may be disclosed by registered title to the Property on or before the Effective Date, and is fully authorized and empowered to grant the rights, privileges and benefits granted to Grantee in this Grant.

5. **Crop Compensation**. Crop damage that can be reasonably demonstrated to have been caused by Grantee as a result of performing the activities authorized in this Grant, shall be paid for by Grantee according to the established yield per acre as documented in crop insurance documentation for the Property and using the price provided by the local grain elevator. Each time Grantee exercises its rights under the Transmission Easement, Grantee shall compensate Grantor for all crops lost or damaged by reason of the use. If the use of the Transmission Easement causes significant compaction of all or a part of the Easement Area, the compensation paid by Grantee to Grantor for that use shall be the damages for the crops lost or destroyed in the area compacted. Grantee shall be responsible for weed control on those portions of the Transmission Easement not actively farmed by Grantor.

6. **Indemnification and Insurance**. Grantee shall maintain general liability insurance insuring Grantee and Grantor against loss caused by Grantee's use of the Property. The amount of insurance shall be not less than $XX of combined single limit liability coverage. Grantee shall indemnify and at its expense defend Grantor against liability for injuries and claims for direct damage to the extent that they are caused by Grantee's exercise of rights granted in this Grant. This indemnity does not cover losses of rent, business opportunities, crop production, and profits that may result from Grantor's loss of use of the Property and for greater certainty, Grantee shall only be liable for reasonably anticipated and foreseeable damages. Grantee shall name Grantor as an additional insured on the policy of liability insurance and the liability policy shall contain a "contractual liability" endorsement.

7. **Grantee's Property**. Notwithstanding that in constructing, maintaining and operating the Transmission Facilities, Grantee may install equipment and appurtenances in, on, over, along, under or across the Easement Area in such a manner that it or they become affixed to the Easement Area, the title to such equipment and appurtenances shall at all times remain the personal property of Grantee.

8. **Assignment by Grantor**. It will be a condition to any transfer or conveyance of the whole or any part of the Property by Grantor that Grantor shall cause the purchaser of any portion of the Property to execute an agreement in favour of Grantee agreeing to be bound by the terms hereof to the same extent as if such purchaser had been an original party hereto. The purchaser shall also agree to extract a similar covenant from any future purchaser of any portion of the Property.

9. **Assignment by Grantee; Mortgage Rights**.

(a) Right to Mortgage & Assign. Grantee, upon notice to Grantor, but without Grantor's consent or approval shall have the right to mortgage, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in this Transmission Easement or the Easement Area, or the Transmission Facilities (collectively, its "**Facilities Assets**"). These various security interests in all or a part of the Facilities Assets are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees, successors and assigns are referred to as "**Mortgagees.**" Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee. Grantee shall also have the right without Grantor's consent to sell, convey, lease, sublease, grant or assign all or any portion of its Facilities Assets on either an exclusive or a non-exclusive basis, or to grant sub-easements co-easements, separate easements, leases, licenses or similar rights, however denominated (collectively, "**Assignment**"), to one or more persons or entities (collectively, "**Assignees**"). Assignees and Mortgagees shall use the Facilities Assets only for the uses permitted under this Grant. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Property than the rights granted to Grantee in this Grant.

(b) Grantor Obligations: Grantor agrees to consent in writing to and to execute financing documents, including customary three party lender agreements, as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Grant, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Facilities Assets as is given to Grantee and the same right to cure any default as Grantee or to remove any property of Grantee, Mortgagees or Assignees located on the Easement Area. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in this Grant, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Grantee, the Mortgagee or Assignee located on the Easement Area.

(c) Mortgagee/Assignee Obligations. Any Mortgagee or Assignee that does not directly hold an interest in the Facilities Assets, or whose interest is held solely for security purposes, shall have no obligation or liability under this Grant prior to the time the Mortgagee or Assignee directly holds an interest in this Grant, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Grant only for and during the period it directly holds such interest or absolute title. Any Assignment permitted under this Grant shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

(d) Right to Cure Defaults/Notice of Defaults/Right to New Transmission Easement.

(1) To prevent Grantor's exercise of any remedies available to it in respect of a default by Grantee under this Grant, the Transmission Easement, or any partial interest in this Grant and the Transmission Easement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the exercise of Grantor's remedies in respect of a default by Grantee under this Grant or any interest in the Facilities Assets.

(2) In the event of an uncured default by the holder of Grantee's entire interest in this Grant, or in the event of a termination of this Grant by agreement, by operation of law or otherwise, each Mortgagee or Assignee of a partial interest in the Facilities Assets shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or, in the event of a termination, grant new easements substantially identical to this Grant and the Transmission Easement. Under the new easements, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term.

(e) Extended Cure Period. If any default by Grantee under this Grant cannot be cured without obtaining possession of all or part of the Facilities Assets, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor as set forth in Section 9(b), acquires possession of all or part of the Facilities Assets, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Facilities Assets cures defects that are reasonably capable of being cured and not otherwise personal to Grantor and performs all other obligations as and when the same are due in accordance with the terms of this Grant. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

(f) Certificates. Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Grant, if such be the case), consents to assignment, direct lender agreements and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time. Grantor and Grantee shall cooperate in amending this Grant from time to time to include any provision that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Grant or to preserve a Mortgagee's security interest in the Facilities Assets.

10. **Mortgagee Protection**. Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Grant:

(a) Mortgagee's Right to Possession, Right to Acquire and Right to Assign. A Mortgagee shall have the absolute right without Grantor's consent: (a) to assign its Mortgage; (b) to enforce its lien, including, to acquire title to all or any portion of the Facilities Assets by any lawful means; (c) to take possession of and operate all or any portion of the Facilities Assets and to perform all obligations to be performed by Grantee under this Grant, or to cause a receiver or

a receiver and manager to be appointed to do so; and (d) to acquire all or any portion of the Facilities Assets by foreclosure, by an assignment in lieu of foreclosure or by quit claim and thereafter without Grantor's consent to assign or transfer all or any portion of the Facilities Assets to a third party. A Mortgagee which assigns or transfers the Facilities Assets to a third party shall notify Grantor of the name and address of the Assignee or transferee.

(b) Opportunity to Cure.

(1) During any period of possession of the Easement Area by a Mortgagee (or a receiver or receiver and manager requested by a Mortgagee) and/or while any foreclosure, power of sale or other enforcement proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges, if any, payable by Grantee under this Grant which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Facilities Assets by the Mortgagee as a result of either foreclosure, acceptance of an assignment in lieu of foreclosure, quit claim or by a purchaser under a power of sale or judicial sale, this Grant shall continue in full force and effect and the Mortgagee or party acquiring title to the Facilities Assets shall, as promptly as reasonably possible, commence the cure of all defaults under this Grant and thereafter diligently process such cure to completion, whereupon Grantor's rights relating to such default shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to the Facilities Assets shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or acquisition of Grantee's interest in this Grant under a power of sale or judicial sale.

(2) Any Mortgagee or other party who acquires Grantee's interest in the Facilities Assets pursuant to foreclosure, assignment in lieu of foreclosure, quit claim, under a power of sale or judicial sale or otherwise shall not be liable to perform the obligations imposed on Grantee by this Grant incurred or accruing after the party no longer has ownership or possession of the Facilities Assets.

(c) New Easement.

(1) If this Grant is terminated for any reason, if the Facilities Assets are foreclosed, or if this Grant is rejected, repudiated, resiliated or disaffirmed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new easement to the Easement Area which (i) shall be for a term equal to the remainder of the Term before giving effect to such rejection, repudiation, resiliation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Grant (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection, repudiation, resiliation or termination of this Grant); and, (iii) shall include that portion of the Easement Area

in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, repudiation, resiliation or termination.

(2) After the termination, repudiation, resiliation, rejection or disaffirmation of this Grant and during the period thereafter during which any Mortgagee shall be entitled to enter into new easements for the Easement Area, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(3) If more than one Mortgagee makes a written request for a new easement pursuant to this provision, the new easements shall be delivered to the Mortgagee requesting such new easement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(4) The provisions of this Section shall survive the termination, rejection, repudiation, resiliation or disaffirmation of this Grant and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, repudiation, resiliation or disaffirmation of this Grant to the date of execution and delivery of such new easements, such Mortgagee may use and enjoy the Easement Area without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new easements as set forth above are complied with.

(d) Mortgagee's Consent to Amendment, Termination or Surrender. Notwithstanding any provision of this Grant to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Grant shall not be modified or amended, and Grantor shall not accept a surrender, abandonment, cancellation or release of all or any part of the Easement Area from Grantee, prior to expiration of the Term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Grant.

(e) No Merger. There shall be no merger of this Grant or of the Transmission Easement with the fee estate in the Easement Area by reason of the fact that this Grant or any interest in the Transmission Easement may be held, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Easement Area and all persons (including each Mortgagee) having an interest in this Grant or in the estate of Grantor and Grantee shall sign and record a written instrument effecting such merger.

(f) Liens. On the commencement of the Term, title to the Easement Area shall be free and clear of all monetary liens other than those expressly approved by Grantee. With respect to any such liens approved by Grantee, Grantor shall nevertheless obtain either non-disturbance agreements or postponements from the holders of such liens in favour of Grantee and this Transmission Easement, such agreements or postponements, as the case may be, to be reasonably satisfactory to Grantee. Thereafter, any assignment of this Grant, mortgage, deed of trust or other monetary lien placed on the Easement Area by Grantor, or permitted by Grantor to be placed or to remain on the Easement Area, shall be subject to and subordinate to this Grant, to any Assignment or Mortgage then in existence on the Facilities Assets as permitted by this Grant, to

Grantee's right to encumber the Facilities Assets, and to any and all documents executed or to be executed by Grantor in connection with Grantee's development of all or any part of the Easement Area. Grantor agrees to cause any monetary liens placed on the Easement Area by Grantor in the future to incorporate the conditions of this Section.

(g) Further Amendments. At Grantee's request, Grantor shall amend this Grant to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Grant or increase the burdens or obligations of Grantor under this Grant. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Grant.

11. **Legal Fees**. In the event of any controversy, claim or dispute arising out of or relating to the Transmission Easement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and legal fees.

12. **Binding Effect; Governing Law**. This Grant shall be binding upon and shall inure to the benefit of both Grantor and Grantee, and their respective heirs, successors and assigns, and shall be deemed a covenant running with the land for all purposes. The provisions hereof shall be governed by and construed in accordance with the laws of the Province of Ontario. Grantee agrees that this Transmission Easement and the rights, privileges and easements granted pursuant thereto shall be declared to be: (i) for the purposes of electricity transmission lines or electricity distribution lines within the meaning of Part VI of the *Ontario Energy Board Act*, 1998, and (ii) an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution within the meaning of Section 42.1 of the *Electricity Act*, 1998.

13. **Termination**. Upon full or partial termination of the Transmission Easement, Grantee shall remove all physical material pertaining to the Transmission Facilities and restore the area formerly occupied by the Transmission Easement to substantially the same physical condition that existed immediately before the installation of the Transmission Facilities. In the event of termination, Grantee has no right to recover any amounts previously paid to Grantor as consideration for this Grant.

14. **Severability**. If any term or provision of this Transmission Easement, or the application thereof to any person or circumstances shall, to any extent, be determined by judicial order or decision to be invalid or unenforceable, the remainder of this Transmission Easement or the application of such term or provision to persons or circumstances other than those as to which it is held to be invalid, shall be enforced to the fullest extent permitted by law.

15. **Counterparts**. This Transmission Easement may be executed in two or more counterparts, each of which will be deemed an original, but all of which together shall constitute one and the same instrument.

16. **Family Law Act**. Grantor represents and warrants to Grantee that if Grantor is an individual, Grantor is either not married, or if married, his or her spouse either comprises a

Grantor hereunder or such spouse has consented to the grant of the Transmission Easement to Grantee pursuant to the terms herein by executing a copy of this Transmission Easement, and if Grantor is a corporation, the Easement Area has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Easement Area does not comprise a family residence within the meaning of the *Family Law Act*.

17. **Grantee's Statutory Rights**. This Transmission Easement shall not affect or prejudice Grantee's statutory rights to acquire the Easement Area under any laws, including, without limitation, Grantee's statutory rights under the *Ontario Energy Board Act*, 1998, which rights may be exercised at Grantee's discretion, in the event, Grantor being unable or unwilling for any reason to perform this Transmission Easement, or, give to Grantee a clear and unencumbered title to the easement and right-of-way herein granted.

18. **Planning Act**. This Transmission Easement and the provisions hereof which create, or, are intended to create an interest in the Easement Area shall be effective to create such an interest only if the subdivision control provisions of *The Planning Act*, R.S.O. 1990 c. P. 13, as amended are complied with.

19. **Registration**. Grantee shall be entitled, at its cost and expense, to register this Transmission Easement or a notice in respect thereof, and any required reference plans in the applicable Land Registry Office, and, Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

20. **Setback Waiver**. To the extent that (a) Grantor now or in the future owns or leases any land adjacent to the Easement Area, or (b) Grantee leases or holds an easement/license or a lease over land adjacent to Easement Area, and has installed or constructed or desires to install or construct any Transmission Facilities on said land at and/or near the common boundary between the Easement Area and said land, Grantor hereby waives any and all setbacks and setback requirements, whether imposed by law or by any person or entity, including, without limitation, any setback requirements described in the zoning by-laws of the County and/or Province or in any governmental entitlement or permit heretofore or hereafter issued to Lessee. If so requested by Grantee, Grantor shall promptly, without demanding additional consideration therefore, execute, and if appropriate cause to be acknowledged, any setback waiver, setback elimination or other document or instrument required by any governmental authority or that Grantee deems necessary or convenient to the obtaining of any entitlement or permit.

[Remainder of page intentionally left blank, signature page follows]

EXECUTED effective the day and year first hereinabove written.

Grantor:

Witness _____ *{PRINT GRANTOR'S NAME}*

Witness _____ *{PRINT GRANTOR'S NAME}*

[Spouse of Grantor:]

Witness _____ *{PRINT SPOUSE OF GRANTOR'S NAME}*

[Grantee:]

Strathroy Wind GP, Inc. as general partner for and behalf of Summerhaven Wind, LP

Per: _____
Name:
Title:

EXHIBIT A

TO TRANSMISSION EASEMENT

Legal Description of Property

{INSERT LEGAL DESCRIPTION OF PROPERTY}.

EXHIBIT B

TO TRANSMISSION EASEMENT

Depiction of Easement Area

EXHIBIT C

TO TRANSMISSION EASEMENT

COMPENSATION

(REDACTED)

Payment shall be distributed as follows:

X% to *{INSERT NAME OF PAYEE}*

_____

_____

Phone: _____

Signature required for each payee:

_____

{PRINT GRANTOR'S NAME} Date: •

_____

{PRINT GRANTOR'S NAME} Date: •

OPTION TO PURCHASE

OPTION TO PURCHASE AGREEMENT

THIS OPTION TO PURCHASE AGREEMENT (this "**Option Agreement**") is made as of _____, 2011 by and between • (hereinafter referred to as "**Grantor**" or "**Seller**") and Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP ("**Grantee**" or "**Buyer**"). Grantee and Grantor are sometimes referred to herein individually as a "**Party**" or collectively as the "**Parties.**"

RECITALS

A. Grantor is the registered and beneficial owner of an estate in fee simple of and in that certain parcel or tract of land situate, lying and being in the Province of Ontario as more particularly described in the attached Exhibit "A" ("**Property**");

B. Grantee desires to obtain an option to purchase a portion of the Property, together with the right to obtain certain permanent easement rights over a portion of the Property for ingress and egress in order to construct and operate Interconnection Facilities, as defined herein, on a portion of the Property to serve a wind energy project, such project to be located on the Property and/or within the vicinity of the Property ("**Wind Energy Project**"). For the purposes of this Option Agreement, "**Interconnection Facilities**" shall mean any and all buildings, switchyard facilities, circuit breakers (all fenced in), control and protective devices, and metering facilities or any other devices, buildings, electrical transmission cables (above ground or below ground), required to connect the Wind Energy Project from the Interconnection Facilities, to and with the applicable transmission system, up to and on the delivery point.

C. Grantor desires to grant and convey to Grantee an option for the exclusive right to purchase a portion of the Property comprising approximately X acres ("**Interconnection Facilities Parcel**"), together with the exclusive right to acquire a permanent easement over, across and along a portion of the Property for purposes of ingress and egress to and from the public highway known as the road allowance between Concessions X and X (Township of X), and which easement will benefit the Interconnection Facilities Parcel ("**Access Easement**"), all as more particularly described and depicted in the preliminary plan attached hereto as Exhibit "A-1" (the "**Draft Plan**"). The Interconnection Parcel is identified as Part X on the Draft Plan and the Access Easement is identified as Part X on the Draft Plan (the "**Access Easement Lands**"). The Access Easement will be created in the transfer/deed for the Interconnection Facilities Parcel and it shall permit Grantee, *inter alia*, to construct, replace and use an access road for vehicular and pedestrian purposes.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Grantee and Grantor hereby agree as follows:

1. **Grant of Option.** Grantor hereby grants to Grantee and its successors and assigns, subject to the terms and conditions set forth in this Option Agreement, an exclusive, irrevocable option to purchase and acquire from Grantor, the Interconnection Facilities Parcel and the Access Easement, together with such additional rights as are more fully described herein (the "**Option**"), for the payments and on the terms and conditions hereinafter set forth.

2. **Grant of License.** Grantor hereby grants and conveys to Grantee an irrevocable license on over, and across the Property to come upon the Property and to install, operate, and maintain such equipment as may be necessary to conduct studies of wind energy, wind profiles, transmission interconnection, soils, and other meteorological and geotechnical data (including measurement devices, controls, and instrumentation) (the "**License**"). This License shall be effective throughout the entire Option Term (as defined below). The License also includes the right to construct, use, repair, replace, relocate, transport and remove said equipment and appropriate vehicles over existing roads and pathways on the Property and the right to carry out, at Grantee's expense and without liability to Grantor, such tests, including but not limited to environmental audits, surveys and inspections of the Property as Grantee may deem necessary. Grantee agrees to repair any damage caused by any such tests at Grantee's expense in a good and workmanlike manner. The License may be exercised by Grantee and by Grantee's employees, agents, contractors, permittees and invitees. Grantee will consult with Grantor to schedule and coordinate Grantee's activities on the Property. The location of any equipment to be installed on the Property shall be agreed to by the parties acting reasonably and without undue delay taking into consideration the purpose of the studies to be conducted and the need for certain studies to be conducted in specific locations. Once determined, the location of the equipment shall not be changed save by the agreement of the parties who shall act reasonably and without undue delay.

3. **Term.** This Option will become effective when all Parties have signed this Option Agreement (the "**Effective Date**") and will end — years after the Effective Date unless earlier terminated in accordance with the provisions herein (the "**Option Term**").

4. **Option Payment. (REDACTED)**

5. **Access Easement Payment. (REDACTED)**

6. **Grantor's Authority.** Grantor represents and warrants to Grantee that Grantor is the sole legal and beneficial owner in fee simple of the Property with a good and marketable title thereto and has the unrestricted right, power, privilege and authority to execute and deliver this Option; to grant Grantee the rights granted in this Option; and, to complete the transactions contemplated by the Purchase Agreement (as defined below) if Grantee exercises this Option.

7. **Status of Grantor.**

7.1 Grantor hereby represents and warrants that it is a corporation, duly organized, validly existing and in good standing under the laws of the Province of Ontario and the Property has never been occupied by any of the directors, officers or shareholders of Grantor or the spouses of such directors, officers or shareholders and there are no shares in existence entitling the holders of such shares to occupation of the buildings. Accordingly, the Property does not comprise a family residence within the meaning of the *Family Law Act*.

7.2 Grantor acknowledges that Grantor has had the full opportunity to obtain independent legal representation or advice in connection with this Option Agreement and the Purchase Agreement and has arranged for the completion and execution of the Certificate included as Exhibit "B".

8. **Exercise of Option.** At any time during the Option Term, Grantee may exercise this Option by delivering to Grantor a notice of exercise of the Option ("**Exercise Notice**"). The Exercise Notice shall reference this Option and shall state that Grantee is exercising its right to purchase the Interconnection Facilities Parcel and to acquire the Access Easement in accordance with the terms and conditions contained in the agreement of purchase and sale attached hereto as Exhibit "C" (the "**Purchase Agreement**") and accompanying such Exercise Notice shall be a copy of the deposited Draft Plan, to the extent the same has been deposited on title. Upon the delivery of the Exercise Notice to Grantor, a binding agreement of purchase and sale pursuant to which Grantor shall sell and Grantee shall purchase the Interconnection Facilities Parcel and acquire the Access Easement, shall be created without the necessity of any further action on behalf of Grantor or Grantee, subject however to the terms and conditions contained in the Purchase Agreement.

9. **Effect of Option Agreement; Interest in Real Property.** The Parties intend that this Option Agreement create a valid and present interest in the Interconnection Facilities Parcel in favour of Grantee. Therefore, the Option shall be deemed an interest in and encumbrance upon the Interconnection Facilities Parcel which shall run with the land and shall be binding upon the Interconnection Facilities Parcel and Grantor and its successors and assigns and shall inure to the benefit of each of the Parties hereto and their respective successors and assigns. Grantor covenants and agrees that during the Option Term, Grantor shall not, except as otherwise provided herein, convey the Interconnection Facilities Parcel (including, the Property) or any interest therein or permit any lien or encumbrance to attach to the Interconnection Facilities Parcel (including, the Property).

10. **Grantee's Right to Assign.** Grantee may, without the consent of Grantor, sell, assign or transfer all or any portion of its interest in the Option and/or this Option Agreement ("**Assignment**"). Upon an Assignment, Grantee shall have no further liability to Grantor. Any such transfer shall be subject to the terms and requirements of this Option Agreement.

11. **Early Termination.** Grantee shall have the right, at any time during the Option Term, and on written notice to Grantor, to terminate this Option and surrender to Grantor all of Grantee's right, title and interest in and to the Interconnection Facilities Parcel by executing and delivering to Grantor, or registering against title to the Property, a quitclaim deed, surrender or release respecting the Interconnection Facilities Parcel. This Option shall terminate on delivery of any such notice of termination, and Grantee shall have no further obligation for any Option Payments hereunder.

12. **Notice**

12.1 Writing. All notices given or permitted to be given hereunder shall be in writing; provided, however, that no writing other than the cheque or other instrument representing the Option payment itself need accompany such payment.

12.2 Delivery. Where this Option Agreement or the Purchase Agreement requires notice to be delivered by one Party to the other, such notice shall be given in writing and delivered either personally or by prepaid registered post, or by printed electronic transmission by the Party wishing to give such notice, or by the solicitor acting for such

Party, to the other Party or to the solicitor acting for the other Party at the addresses noted below. Such notice shall be deemed to have been given, in the case of personal delivery, on the date of delivery, where given by post, on the third business day following the posting thereof and, where given on a business day by printed electronic transmission prior to 5:00 p.m., on the date of transmission and after 5:00 p.m. on the first business day following such transmission. It is understood that in the event of a threatened or actual postal disruption in the postal service in the postal area through which such notice must be sent, notice must be given, on a business day, personally as aforesaid or by means of printed electronic or printed telephonic communication in which case notice shall be deemed to have been given on the date of transmission thereof:

Notice to Grantor:

_____
_____
_____

Notice to Grantee:

Summerhaven Wind, LP
5500 North Service Road, 2nd Floor
Burlington, ON L7L 6W6
Attention: Business Management
Telephone: (905) 335-4904
Facsimile: (905) 335-5731

With a copy to:

_____
_____
_____

13. **Further Assurances.** Each Party agrees to cooperate with the other Party and to execute any additional documents reasonably necessary or proper to carry out the provisions and spirit of this Option Agreement. Without limiting the generality of the foregoing, Grantor hereby agrees and covenants that subsequent to the execution and delivery of this Option Agreement and, without any additional consideration, it shall execute and deliver or cause to be executed and delivered any further legal instruments, including, without limitation, any required consents (including, without limitation, those required under Section 25 below), acknowledgements or lender agreements in favour of Grantee's lenders, and perform any acts which are or may become necessary to effectuate the purposes of this Option Agreement and to complete the transactions contemplated hereunder and if applicable, under the Purchase Agreement. Grantee agrees to reimburse Grantor its actual, reasonable costs incurred in the consideration of, or response to, a request by Grantee to execute any additional documents (as described above) reasonably necessary or proper to carry out the provisions and spirit of this Option Agreement. Grantee will obtain all governmental permits, licenses, certificates, approvals, variances and

other entitlements for use ("**Permits**") necessary for the construction, installation and operation of the Interconnection Facilities. Grantor hereby gives its consent to any action taken by Grantee in applying for any and all Permits Grantee finds necessary or desirable for the construction, installation or operation of the Interconnection Facilities. Grantor agrees to assist and reasonably cooperate with Grantee in obtaining the Permits, and Grantor hereby appoints Grantee its agent for applying for such Permits. Grantee will carry out the activities set forth in this Section 13 in accordance with all applicable laws, rules, codes and ordinances.

14. **Construction of Agreement**

14.1 Governing Law. The laws of the Province of Ontario and the federal laws of Canada applicable therein shall govern the interpretation and enforcement of this Option Agreement and the rights and covenants granted hereunder. The venue for any application to interpret or enforce the provisions of this Option Agreement shall be Toronto, Ontario, Canada.

14.2 Interpretation. The Parties agree that the terms and provisions of this Option Agreement embody their mutual intent and that such terms and conditions are not to be construed more liberally in favour, nor more strictly against, either Party.

14.3 Partial Invalidity. If any term or provision of this Option Agreement, or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, a provision shall be added to this Option Agreement as similar in terms to such invalid or unenforceable provision as may be possible, and be legal, valid and enforceable, and the remainder of this Option Agreement or the application of such term or provision to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby.

15. **Solicitors' Fees.** In the event of a dispute arising out of or relating to this Option Agreement and resulting in litigation or arbitration between or affecting the Parties hereto, the prevailing Party shall be entitled to recover reasonable solicitors' fees and costs.

16. **Registration of Option Agreement.** Grantee shall be entitled, at its cost and expense, to register this Option Agreement or a notice thereof and any required reference plans, in the applicable Land Registry Office having jurisdiction over the Property, and Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

17. **Counterparts.** This Option Agreement may be executed and recorded in counterparts, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same instrument.

18. **Time of the Essence.** Time shall be of the essence of this Option Agreement.

19. **Currency.** Any monies to be paid pursuant to this Option Agreement shall be in Canadian funds.

20. ***Planning Act.*** This Option Agreement shall be effective to create an interest in the Property only if the subdivision control provisions of the *Planning Act* (Ontario) are complied with.

21. **Additional Requirements of Grantor.** Within thirty (30) days following the execution of this Option Agreement by both Parties, Grantor will deliver to Grantee, to the extent in Grantor's possession or control, the following:

21.1 all current surveys, easement plans, servicing plans, grading plans and other plans (collectively the "**Plans**") relating to the Property and any buildings located thereon (the "**Buildings**");

21.2 copies of all contracts, leases or other obligations, (including, without limitation, maintenance, servicing, management and equipment contracts) deed restrictions, subdivision agreements and site plan agreements, development agreements and any other agreements with any governmental authorities, if any, relating to the Property and the Buildings other than those registered on title to the Property;

21.3 copies of all tests, inspections, studies and reports thereof relating to the Property and the Buildings, if any, including, without limitation, environmental, geotechnical, soil quality and bore hole reports as well as any and all studies;

21.4 any current governmental notices relating to the Property and the Buildings, including, without limitation, tax bills and assessments, work order or deficiency notices, stop work orders and any notices relating to the zoning of the Property for the last 3 years, and any expropriation notices, any notices or decisions pertaining to any development charges, special assessments, levies or fees from the Corporation of Haldimand County (formerly Township of Walpole) relating to the Property and the Buildings; and

21.5 any and all historical information, not covered above, relating to the Property and Buildings, including, but not limited to, all annual maintenance requirements of the Property and Buildings, all capital upgrades, renovations and investments made in the Property and Buildings over the last 3 years.

22. **Additional Representations of Grantor.** Grantor represents and warrants to Grantee that as of the Effective Date hereof:

22.1 there are no outstanding work orders, directions or notices relating to any defects in the state of the Property or the Buildings or any notice or direction requiring or recommending any alteration, repair, improvement or other work to be done with respect to the Property or the Buildings or relating to any non-compliance with any building permit, building restriction, by-law, regulation or municipal agreement or any threatened or pending expropriation, save as disclosed in writing by Grantor to Grantee prior to the Effective Date;

22.2 that (1) Grantor, previous to the time of execution of this Option Agreement, has not leased the Property, or any part thereof, under any lease or other instrument that is

currently effective except for any lease that is registered against title to the Property as of the date of this Option Agreement; (2) this Option Agreement and the Purchase Agreement created hereby with respect to the Interconnection Facilities Parcel is free from encumbrances done, made, or suffered by Grantor, or any person claiming under Grantor, except for such encumbrances that are registered against title to the Interconnection Facilities Parcel as of the date of this Option Agreement; and (3) all persons having any ownership interest in the Property and Buildings (including spouses) have consented to the execution of this Option Agreement and Purchase Agreement;

22.3 to the best of the knowledge of Grantor, Grantor knows of no physical conditions of the Property which would prevent or significantly restrict Grantee's development of the Interconnection Facilities Parcel for the purposes of connecting the Wind Energy Project from the proposed Interconnection Facilities or which could, with the passage of time, or the giving of notice, constitute a violation of any governmental law, ordinance, order, rule or regulation;

22.4 to the best of the knowledge of Grantor, the Property and Buildings complies with the provisions of the *Environmental Protection Act* and, except for the portion of the Property (excluding the Interconnection Facilities Parcel) that has been used for pig waste disposal, has never been used as a landfill or waste disposal site or for underground fuel storage;

22.5 Grantor has the power and authority to enter into this Option Agreement and to carry out the transaction contemplated herein;

22.6 Grantor is not aware of any litigation, expropriation, change in zoning or other judicial or administrative proceeding existing, pending or threatened relating to the Property or the Buildings;

22.7 Grantor has not withheld any material document or information in its possession or control relating to the Property or the Buildings;

22.8 the Interconnection Facilities Parcel contains an area of approximately five (5) acres; and

22.9 no person has an option or right of first refusal to purchase the Property or any part thereof or the Buildings.

23. **Insurance.** At all times during which Grantee or any of its consultants are conducting any activities on the Property, Grantee or such consultants shall, at their own cost and expense, obtain and maintain in effect commercial general liability insurance, including bodily injury coverage with minimum limits of — Dollars ($) per occurrence.

24. **Indemnification.** Grantee shall save Grantor harmless from any expense arising as a result of any damage to the Property; where such damage is caused by Grantee or any of its representatives or consultants.

25. **Severance of Interconnection Facilities Parcel**. Grantor covenants and agrees with Grantee as follows:

25.1 at any time following the Effective Date, Grantee shall have the right to make an application to the local land division committee or Committee of Adjustment for the Corporation of Haldimand County (formerly Township of Walpole) (the "**Committee**") to have the Interconnection Facilities Parcel severed from the Property and to create the Access Easement, together with any necessary minor variance applications associated with the creation of the Interconnection Facilities Parcel, all at Grantee's sole cost and expense (the "**Severance/Minor Variance Applications**"). Notwithstanding the foregoing, Grantee shall not be required to appeal the decision of the Committee in the event that the Severance/Minor Variance Applications are not successful, nor shall Grantee be required to proceed with the transactions contemplated by this Option Agreement and the Purchase Agreement if the decisions provide for conditions that are not satisfactory to Grantee, in its sole, absolute and subjective discretion. In the event the Committee does not approve the Severance/Minor Variance Applications during the Option Term and Grantee does not wish to appeal the decisions or in the event the decisions are successful but Grantee is not satisfied with the conditions relating to the severance and/or the minor variances, then this Option Agreement shall be at end and it is agreed that neither Party shall have any further rights or obligations hereunder.

25.2 Grantor agrees, at Grantee's sole cost and expense, to assist with the satisfaction of all reasonable conditions imposed by the Committee, if any, as a pre-condition to the issuance of the severance consent and/or minor variances and Grantor hereby agrees to authorize and appoint and does hereby authorize and appoint Grantee as its agent in connection with any Severance/Minor Variance Applications and Grantor further agrees that it shall execute any and all documentation required in order to confirm the appointment of Grantee as aforesaid and shall further cooperate with Grantee in connection with the Severance/Minor Variance Applications and delivery of any required information reasonably required by the Committee in connection with the consideration of the severance and minor variances and satisfying any conditions related thereto. Notwithstanding anything to the contrary contained in this Option Agreement or the Purchase Agreement, in the event that the consent and decision in a final, binding and unappealable form is not obtained by **DATE**, then save as the Parties may otherwise agree in writing, this Option Agreement and any Purchase Agreement resulting from the exercise of the Option shall be null and void and of no further force and effect.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF, the Parties have executed this Option Agreement as of the Effective Date.

"GRANTOR"

•

_____

Name:

Date:

"GRANTEE"

STRATHROY WIND GP, INC.,
as general partner for and on
behalf of SUMMERHAVEN WIND, LP

Per: _____

Name:
Title:
"I have authority to bind the Corporation"

EXHIBIT "A" TO OPTION AGREEMENT

LEGAL DESCRIPTION OF THE PROPERTY

EXHIBIT "A-1" TO OPTION AGREEMENT

PRELIMINARY PLAN AND LEGAL DESCRIPTION OF THE INTERCONNECTION FACILITIES PARCEL AND ACCESS EASEMENT

(See attached)

EXHIBIT "B" TO OPTION AGREEMENT

GRANTOR'S CERTIFICATE OF INDEPENDENT LEGAL ADVICE

I, _____, of the **[City] [Town]** of •, in the Province of Ontario, Barrister and Solicitor, do hereby certify that I was consulted in my professional capacity by — named in the Option Agreement and the associated Exhibits, dated _____, 2011 with Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP, as to its obligations and rights under the said agreement, that I acted solely for and explained fully to the Corporation the nature and effect of the said agreement and the Corporation did acknowledge and declare that the Corporation fully understood the nature and effect thereof and did execute the said documents in my presence and did acknowledge and declare and it appeared to me that the Corporation was executing the said documents of its own violation and without fear, threats, compulsion or influence by Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP or any other person.

DATED at •, Ontario this • day of •, 2011.

_____

Name of Solicitor: •

EXHIBIT "C" TO OPTION AGREEMENT
PURCHASE AGREEMENT

All

10. **TITLE:** Provided that the title to the property is good and free from all registered restrictions, charges, liens, and encumbrances except as otherwise specifically provided in this Agreement and save and except for (a) any registered restrictions or covenants that run with the land providing that such are complied with; (b) any registered municipal agreements and registered agreements with publicly regulated utilities providing such have been complied with, or security has been posted to ensure compliance and completion, as evidenced by a letter from the relevant municipality or regulated utility; (c) any minor easements for the supply of domestic utility or telephone services to the property or adjacent properties; and (d) any easements for drainage, storm or sanitary sewers, public utility lines, telephone lines, cable television lines or other services which do not materially affect the present use of the property. If within the specified times referred to in paragraph 8 any valid objection to title or to any outstanding work order or deficiency notice, or to the fact the said present use may not lawfully be continued, or that the principal building may not be insured against risk of fire is made in writing to Seller and which Seller is unable or unwilling to remove, remedy or satisfy or obtain insurance save and except against risk of fire in favour of the Buyer and any mortgagee, (with all related costs at the expense of the Seller), and which Buyer will not waive, this Agreement notwithstanding any intermediate acts or negotiations in respect of such objections, shall be at an end and all monies paid shall be returned without interest or deduction and Seller, Listing Broker and Co-operating Broker shall not be liable for any costs or damages. Save as to any valid objection so made by such day and except for any objection going to the root of the title, Buyer shall be conclusively deemed to have accepted Seller's title to the property.

11. **CLOSING ARRANGEMENTS:** Where each of the Seller and Buyer retain a lawyer to complete the Agreement of Purchase and Sale of the Property, and where the transaction will be completed by electronic registration pursuant to Part III of the Land Registration Reform Act, R.S.O. 1990, Chapter L4 and the Electronic Registration Act, S.O. 1991, Chapter 44, and any amendments thereto, the Seller and Buyer acknowledge and agree that the exchange of closing funds, non-registrable documents and other items (the "Requisite Deliveries") and the release thereof to the Seller and Buyer will (a) not occur at the same time as the registration of the transfer/deed (and any other documents intended to be registered in connection with the completion of this transaction) and (b) be subject to conditions whereby the lawyer(s) receiving any of the Requisite Deliveries will be required to hold same in trust and not release same except in accordance with the terms of a document registration agreement between the said lawyers, the form of which is as recommended from time to time by the Law Society of Upper Canada. Unless otherwise agreed to by the lawyers, such exchange of the Requisite Deliveries will occur in the applicable Land Titles Office or such other location agreeable to both lawyers.

12. **DOCUMENTS AND DISCHARGE:** Buyer shall not call for the production of any title deed, abstract, survey or other evidence of title to the property except such as are in the possession or control of Seller. If requested by Buyer, Seller will deliver any sketch or survey of the property within Seller's control to Buyer as soon as possible and prior to the Requisition Date. If a discharge of any Charge/Mortgage held by a corporation incorporated pursuant to the Trust And Loan Companies Act (Canada), Chartered Bank, Trust Company, Credit Union, Caisse Populaire or Insurance Company and which is not to be assumed by Buyer on completion, is not available in registrable form on completion, Buyer agrees to accept Seller's lawyer's personal undertaking to obtain, out of the closing funds, a discharge in registrable form and to register same, or cause same to be registered, on title within a reasonable period of time after completion, provided that on or before completion Seller shall provide to Buyer a mortgage statement prepared by the mortgagee setting out the balance required to obtain the discharge, and, where a real-time electronic cleared funds transfer system is not being used

27. **SUCCESSORS AND ASSIGNS:** The heirs, executors, administrators, successors and assigns of the undersigned are bound by the terms herein.

DATED at.....this.....day of....., 20.....

SIGNED, SEALED AND DELIVERED in the presence of: IN WITNESS whereof I have hereunto set my hand and seal:

.....

(Witness) (Buyer/Authorized Signing Officer) (Seal) DATE.....

(Witness) (Buyer/Authorized Signing Officer) (Seal) DATE.....

I, the Undersigned Seller, agree to the above Offer. I hereby irrevocably instruct my lawyer to pay directly to the Listing Broker the unpaid balance of the commission together with applicable Goods and Services Tax (and any other taxes as may hereafter be applicable), from the proceeds of the sale prior to any payment to the undersigned on completion, as advised by the Listing Broker to my lawyer.

DATED at:.....this.....day of....., 20.....

SIGNED, SEALED AND DELIVERED in the presence of: IN WITNESS whereof I have hereunto set my hand and seal:

.....

(Witness) (Seller/Authorized Signing Officer) (Seal) DATE.....

(Witness) (Seller/Authorized Signing Officer) (Seal) DATE.....

SPOUSAL CONSENT: The Undersigned Spouse of the Seller hereby consents to the disposition evidenced herein pursuant to the provisions of the Family Law Act, R.S.O.1990, and hereby agrees with the Buyer that he/she will execute all necessary or incidental documents to give full force and effect to the sale evidenced herein.

(Witness) (Spouse) (Seal) DATE.....

CONFIRMATION OF EXECUTION: Notwithstanding anything contained herein to the contrary, I confirm this Agreement with all changes both typed and written was finally executed by all parties at.....a.m./p.m. this.....day of....., 20..... (Signature of Seller or Buyer)

CONFIRMATION OF REPRESENTATION

Listing Broker..... Tel.No..... Represents:.....

Co-op/Buyer Broker..... Tel.No..... Represents.....

ACKNOWLEDGEMENT

I acknowledge receipt of my signed copy of this accepted Agreement of Purchase and Sale and I authorize the Agent to forward a copy to my lawyer.

(Seller) DATE.....

(Seller) DATE.....

Address for Service.....

.....Tel.No.....

Seller's Lawyer.....

Address.....

....

Tel.No. FAX No.

I acknowledge receipt of my signed copy of this accepted Agreement of Purchase and Sale and I authorize the Agent to forward a copy to my lawyer.

(Buyer) DATE.....

(Buyer) DATE.....

Address for Service.....

.....Tel.No.....

Buyer's Lawyer.....

Address.....

....

Tel.No. FAX No.

FOR OFFICE USE ONLY

COMMISSION TRUST AGREEMENT

To: Co-operating Broker shown on the foregoing Agreement of Purchase and Sale:
In consideration for the Co-operating Broker procuring the foregoing Agreement of Purchase and Sale, I hereby declare that all moneys received or receivable by me in connection with the Transaction as contemplated in the MLS Rules and Regulations of my Real Estate Board shall be receivable and held in trust. This agreement shall constitute a Commission Trust Agreement as defined in the MLS Rules and shall be subject to and governed by the MLS Rules pertaining to Commission Trust.

DATED as of the date and time of the acceptance of the foregoing Agreement of Purchase and Sale. Acknowledged by:

....

Signature of Listing Broker or authorized representative Signature of Co-operating Broker or authorized representative

This Schedule is attached to and forms part of the Agreement of Purchase and Sale between:

BUYER, the property legally described in Schedule "C" hereto., and

SELLER,

for the purchase and sale of

(I) The deposit shall be invested by the Deposit Holder in an interest bearing account or term deposit with interest to accrue to the benefit of the Buyer. If the transaction contemplated by this Agreement is not completed for any reason (other than the direct default of the Buyer), all deposits and interest accrued thereon shall be returned to the Buyer forthwith without further direction from the Seller or Buyer and the Deposit Holder is hereby authorized to do so.

Buyer agrees to pay the balance as follows:

(II) Buyer agrees to pay the balance of the Purchase Price by certified cheque, bank draft or wire transfer on Closing subject to the adjustments set forth herein.

SCHEDULE "B" TO PURCHASE AGREEMENT

forming part of an agreement of purchase and sale between Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP, as Buyer, and •, as Seller, for the lands legally described in Schedule "C" (the "property")

ARTICLE 1 – INSPECTION PERIOD

1.01 Within five (5) days following the date of delivery of the Exercise Notice by the Buyer to the Seller, the Seller will deliver to the Buyer, to the extent in the Seller's possession or control and to the extent not previously provided to the Buyer, the following:

(a) all current surveys, easement plans, servicing plans, grading plans and other plans (collectively the "**Plans**") relating to the property and the Buildings;

(b) copies of all contracts, leases or other obligations, (including, without limitation, maintenance, servicing, management and equipment contracts) deed restrictions, subdivision agreements and site plan agreements, development agreements and any other agreements with any governmental authorities, if any, relating to the property and the Buildings other than those registered on title to the property;

(c) copies of all tests, inspections, studies and reports thereof relating to the property and the Buildings, if any, including, without limitation, environmental, geotechnical, soil quality and bore hole reports as well as any and all studies;

(d) any current governmental notices relating to the property and the Buildings, including, without limitation, tax bills and assessments, work order or deficiency notices, stop work orders and any notices relating to the zoning of the property for the last 3 years, and any expropriation notices, any notices or decisions pertaining to any development charges, special assessments, levies or fees from the Corporation of Haldimand County (formerly Township of Walpole) relating to the property and the Buildings; and

(e) any and all historical information, not covered above, relating to the property and Buildings, including, but not limited to, all annual maintenance requirements of the property and Buildings, all capital upgrades, renovations and investments made in the property and Buildings over the last 3 years.

1.02 The Buyer's obligations in this Agreement are conditional upon the following conditions being satisfied or waived, which conditions (the "**Buyer's Conditions**") are for the sole benefit of the Buyer and which Buyer's Conditions or any one of them may, at any time up to and including the Condition Date (as hereinafter defined), by notice in writing to the Seller, be waived or declared satisfactory in whole or in part by the Buyer, namely that:

(a) all the items provided to the Buyer pursuant to Section 1.01 of this Schedule "B" are satisfactory to the Buyer, in its sole, absolute and subjective discretion;

(b) the Buyer is satisfied in its sole, absolute and subjective discretion as to the physical and environmental condition and state of repair of the property, the Buildings and the location and nature of all easements and rights-of-way which affect the property. The Seller shall permit the Buyer access to the property and Buildings at all reasonable times up to and including the date of Closing for the purpose of examining, testing and inspecting the property and Buildings, provided that the Buyer covenants to restore the property and Buildings to its present state and condition following such examinations, tests and inspections in the event that the Buyer does not complete this transaction;

(c) the Buyer is satisfied in its sole, absolute and subjective discretion that the property and Buildings comply with all the provisions of all environmental laws and contains no polychlorinated biphenyls, hazardous substances or toxic wastes;

(d) the Buyer is satisfied in its sole, absolute and subjective discretion, with the economic viability or feasibility of purchasing the property and the Buildings; and

(e) the Buyer is satisfied in its sole, absolute and subjective discretion that the zoning of the property will permit the Buyer's intended use thereof.

If the Buyer's Conditions or any of them are not satisfied or waived by notice on or before that date which is thirty (30) days following the date of delivery of the Exercise Notice by the Buyer to the Seller (the "**Condition Date**" or "**Requisition Date**"), the Buyer may in its discretion, by notice in writing at any time up to and including the Condition Date, declare this Agreement null and void in which event, the deposit shall be returned to the Buyer with interest and without deduction and the Seller hereby irrevocably instructs the Deposit Holder holding the deposit to release same as herein provided. If no notice of waiver or satisfaction of the Buyer's Conditions is given by the Buyer, the Buyer's Conditions shall, notwithstanding any intermediate negotiations, be deemed to have not been satisfied, this Agreement shall be declared null and void and the deposit shall be returned to the Buyer as described in this paragraph.

ARTICLE 2 – REPRESENTATIONS

2.01 Closing: The Seller represents and warrants to the Buyer that as of the date hereof and as of

(a) there are no outstanding work orders, directions or notices relating to any defects in the state of the property or the Buildings or any notice or direction requiring or recommending any alteration, repair, improvement or other work to be done with respect to the property or the Buildings or relating to any non-compliance with any building permit, building restriction, by-law, regulation or municipal agreement or any threatened or pending expropriation, save as disclosed in writing by the Seller to the Buyer prior to the expiry of the Condition Date;

(b) to the best of the knowledge of the Seller, Seller knows of no physical conditions of the property which would prevent or significantly restrict Buyer's development of the property for the purposes of constructing and operating the Interconnection Facilities or which could, with the passage of time, or the giving of notice,

constitute a violation of any governmental law, ordinance, order, rule or regulation;

(c) to the best of the knowledge of the Seller, the property and Buildings complies with the provisions of the *Environmental Protection Act* and has never been used as a landfill or waste disposal site or for underground fuel storage;

(d) the Seller has the power and authority to enter into this Agreement and to carry out the transaction contemplated herein;

(e) the Seller is not aware of any litigation, expropriation, change in zoning or other judicial or administrative proceeding existing, pending or threatened relating to the property or the Buildings;

(f) the Seller has not withheld any material document or information in its possession or control relating to the property or the Buildings;

(g) the property contains an area of approximately five (5) acres;

(h) vacant possession to the property and the Buildings shall be given to the Buyer on Closing free from any claims of any person; and

(i) no person has an option or right of first refusal to purchase the property or any part thereof or the Buildings.

ARTICLE 3 – SELLER'S COVENANTS

3.01 The Seller covenants and agrees with the Buyer that:

(a) on Closing, there will be no contracts, written or oral, granted in connection with the operation, management or maintenance of the property or the Buildings. The Buyer will not be responsible for any of the Seller's staff relating to the property or the Buildings as of and from Closing and the Seller will terminate all staff in respect of the property or the Buildings on or before Closing;

(b) all amounts for labour and/or materials in respect of construction or improvements supplied to or in connection with the property and the Buildings prior to Closing will be fully paid on Closing and no one shall have the right to claim a construction lien in respect of the property or the Buildings;

(c) from and after the date of the Option Agreement, the Seller shall not enter into any contract or agreement or lease in any way relating to the property or the Buildings without the written consent of the Buyer;

(d) it will discharge at its own expense, on or prior to Closing, all construction liens, charges, mortgages and encumbrances affecting the property and will cause any mortgage or charge affecting the lands subject to the Access Easement to be postponed in favour of the Access Easement;

(e) it will ensure that its use of the property and Buildings is not altered from the use as of the Effective Date of the Option Agreement;

(f) it will ensure that all of its belongings are removed from the Buildings on or prior to Closing and that the property and Buildings are cleaned of any of the Seller's scrap, garbage, fuel storage tanks;

(g) during the Option Term and at all times prior to Closing, a reasonable level of insurance was maintained for the house on the property covering common insurable events; and

(h) during the Option Term and at all times prior to Closing, it will permit the Buyer to make site plan, building permit and other development applications to the Corporation of Haldimand County (formerly Township of Walpole) and will consent to, and if necessary, execute same provided all costs related thereto are borne by the Buyer.

ARTICLE 4 – CLOSING DOCUMENTS

4.01 On or before Closing, the Seller shall deliver to the Buyer the following;

(a) a transfer in registerable form in favour of the Buyer, or as the Buyer may direct, for the property, which transfer will also include the grant of the Access Easement and shall include provisions relating to the Annual Access Easement Compensation as set out in Section 5 of the Option Agreement.

(b) a statement of adjustments which, notwithstanding anything contained to the contrary, shall be delivered at least five (5) days prior to Closing;

(c) a mutual undertaking to re-adjust items of adjustment after Closing;

(d) a certificate of the Seller confirming that the covenants of the Seller have been performed and that the representation and warranties of the Seller set forth in this Agreement are true and accurate on Closing and do not merge but survive Closing for a period of one (1) year from Closing;

(e) a general conveyance of all right, title and interest in and to all reports, studies, drawings and specifications prepared by or for the Seller to date relating to the property and Buildings;

(f) an indemnity in respect of liens under the *Construction Lien Act*, as amended arising after Closing relating to services or materials supplied to the property or Buildings prior to Closing; and

(g) such other documents as may be usual for transactions of this nature, including, without limitation, a statutory declaration of possession in respect of the property.

(h)

ARTICLE 5 – GENERAL PROVISIONS

5.01 CLOSING

This Agreement shall be completed on the thirtieth (30th) day following the later of: (a) the Condition Date; and (b) Buyer obtaining: (i) the consent of the Committee to the severance of the property from the balance of the Seller's lands and to the creation of the Access Easement, and (ii) approval from the Committee with respect to the required minor variances, with all applicable appeal periods having lapsed with no appeals having been filed, provided that if such date falls on a date that is not a business day, it shall take place on the next business day thereafter (herein referred to as the "**Closing Date**" or "**Closing**" or "**Date of Closing**" or "**Completion Date**"). Notwithstanding anything to the contrary contained in this Agreement, if such consent and decision with respect to the minor variances, in a final, binding and unappealable form, have not been obtained in accordance with Section 24 of the Option Agreement by —, then save as the parties may otherwise agree in writing, this Agreement shall be null and void and of no further force and effect and the Deposit shall be forthwith returned to the Buyer and neither party shall have any further obligations to the other.

5.02 ADJUSTMENTS

There shall be adjusted on Closing all usual items of income and expense in transactions of this nature including realty taxes, utility charges, local improvement charges and other similar allowances. Where applicable, each of the adjustments shall be apportioned and allowed up to the date of Closing (it being understood that the date of Closing itself is to be apportioned to the Buyer who shall bear the responsibility for and receive the benefit of that date).

5.03 NOTICES

Where this Agreement requires notice to be delivered by one party to the other, such notice shall be given in writing and delivered either personally or by prepaid registered post, or by printed electronic transmission by the party wishing to give such notice, or by the solicitor acting for such party, to the other party or to the solicitor acting for the other party at the addresses noted below. Such notice shall be deemed to have been given, in the case of personal delivery, on the date of delivery, where given by post, on the third business day following the posting thereof and, where given on a business day by printed electronic transmission prior to 5:00 p.m., on the date of transmission and after 5:00 p.m. on the first business day following such transmission. It is understood that in the event of a threatened or actual postal disruption in the postal service in the postal area through which such notice must be sent, notice must be given, on a business day, personally as aforesaid or by means of printed electronic or printed telephonic communication in which case notice shall be deemed to have been given on the date of transmission thereof:

To the Buyer: Summerhaven Wind, LP
5500 North Service Road, 2nd Floor
Burlington, ON L7L 6W6

Attention: Business Management
Telephone: (905) 335-4904
Facsimile: (905) 335-5731

With a copy to:

_____
_____
_____
_____

To the Seller:

5.04 LAWS OF ONTARIO

This Agreement shall be construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein and shall be treated in all respects as an Ontario contract.

5.05 DATE OF EXECUTION

For the purpose of this Agreement, the "**date of execution**" or "**date of the Agreement**" as may herein be referred to shall be deemed to mean the date of the delivery of the Exercise Notice from the Buyer to the Seller pursuant to the Option Agreement. The Seller and the Buyer agree that this Agreement may be executed by facsimile transmission.

5.06 ASSIGNMENT

The Buyer shall be entitled to assign its rights and obligations under this Agreement to one or more persons or entities without the consent of the Seller. Upon effecting such assignment, the Buyer shall be released from its covenants and obligations set forth herein. The Buyer shall deliver notice of any such assignment to the Seller.

5.07 COMMISSIONS

Each of the Buyer and the Seller represent and warrant to the other (which representation and warranty shall survive Closing) that it has not dealt with any agent or broker in connection with the purchase of the property or Buildings.

5.08 DEFINED TERMS

Capitalized terms used in this Agreement and not otherwise defined shall have the meanings assigned to them in the Option Agreement made as of _____, 2011 by and between • and Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP (the "**Option Agreement**"), to which this Agreement is attached.

SCHEDULE "C" TO PURCHASE AGREEMENT

LEGAL DESCRIPTION OF THE PROPERTY

(See attached)

SUBSTATION EASEMENT

TRANSFER AND GRANT OF SUBSTATION EASEMENT

THIS TRANSFER AND GRANT OF SUBSTATION EASEMENT (IN GROSS) ("**Agreement**") made as of the _____ day of _____, 2010 ("**Effective Date**"), between • ("**Grantor**") and **STRATHROY WIND GP, INC.**, as general partner for and on behalf of **SUMMERHAVEN WIND, LP**, whose mailing address is 5500 North Service Road 2nd Floor, Burlington, Ontario, L7L 6W6, Canada ("**Grantee**").

RECITALS

A. Grantor is the registered and beneficial owner of an estate in fee simple of and in that certain parcel or tract of land situate, lying and being in the Province of Ontario as more particularly described in the attached **Schedule "A"** ("**Grantor's Property**"), and Grantee desires to construct and operate a substation and appurtenant facilities on the portion of Grantor's Property hereinafter described to serve a wind energy project, all or a portion of which will be located on Grantor's Property and/or within the vicinity of Grantor's Property ("**Wind Energy Center**").

B. Grantor desires to grant and transfer to Grantee an exclusive easement and right-of-way for the construction, operation and maintenance of a substation on a portion of Grantor's Property as more particularly described and depicted in the preliminary plan attached hereto as **Schedule "A-1"** ("**Substation Parcel**") which Substation Parcel shall serve the Wind Energy Center.

IN CONSIDERATION of XXX Dollars and No Cents ($XX) and other good and valuable consideration as well as the mutual benefits derived herefrom, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. **Grant.** Grantor does hereby grant and transfer to Grantee, its licensees, sublessees, successors and assigns, the unobstructed and exclusive right, liberty and privilege of an easement and right-of-way upon, above, under, over and across the Substation Parcel for the purposes set out herein. Notwithstanding the foregoing provisions of this paragraph, it is Grantee's intention that once it has finalized the plans for location of the Facilities (as hereinafter defined), which shall occur no later than One Hundred Fifty (150) days from the Effective Date, Grantee shall have the right at any time thereafter to amend the legal description of the Substation Parcel from what is currently identified in Schedule "A-1". For greater certainty, Grantee shall have the right, at any time during the Term, and in its sole discretion, to amend the legal description of the Substation Parcel by providing Grantor a reference plan, survey or sketch (each, a "**Final Substation Parcel Plan**") which identifies the amended legal description of the Substation Parcel that is the subject of the rights granted under this Agreement. If Grantee elects to prepare a Final Substation Parcel Plan identifying the amended legal description of the Substation Parcel, Grantor hereby irrevocably authorizes and directs Grantee to deposit such plan on title to Grantor's Property. Upon the delivery by Grantee to Grantor of the Final Substation Parcel Plan, the description of the Substation Parcel as set out in Schedule "A-1" shall automatically be replaced by the amended legal description of the Substation Parcel as set out in

the Final Substation Parcel Plan without the requirement of any further action on behalf of either Grantor or Grantee, provided that Grantor agrees that it shall, at the request of Grantee, execute an amendment to this Agreement which specifically sets out the amended legal description of the Substation Parcel in accordance with the Final Substation Parcel Plan and which reconfirms and ratifies the grant and transfer in favour of Grantee of the exclusive easement and right-of-way of the Substation Parcel, as hereby amended.

Grantor does hereby further grant and transfer to Grantee, its licensees, sublessees, successors and assigns a non-exclusive right, liberty and privilege of an easement and right-of-way for vehicular and pedestrian ingress and egress over, across and along the Grantor's Property to and from the Substation Parcel ("**Roadway Easement**"), including, by means of any existing roads or lanes on the Grantor's Property, or otherwise by such route or routes as Grantee or Grantor may construct from time to time, which Roadway Easement shall include the right of Grantee to construct, maintain and repair any new and existing temporary and permanent roadways and other means of ingress and egress over, across and along the Grantor's Property and to provide access to and egress from the Substation Parcel, including paving or surfacing of the roadways with asphalt, gravel or other roadway materials, and the construction and installation of culverts, bridges, drainage ditches, gates, cattle guards and similar structures and facilities (the "**Roadway Improvements**").

Grantee agrees to maintain and repair all Roadway Improvements located on the Grantor's Property for the joint use thereof by Grantor and Grantee for ingress and egress over, across, and along the Grantor's Property; provided, however, Grantor shall reimburse Grantee for any costs and expenses incurred by Grantee to repair any damage or perform any special maintenance of the roadway(s) caused by any person using the roadway with Grantor's permission.

2. Term.

2.1 Further to the Declaration attached hereto as **Schedule "C,"** the term of this Agreement shall commence on _____, 2011 ("**Commencement Date**") and shall expire on the day immediately preceding the — anniversary of the Commencement Date ("**Term**"), unless Grantee shall have notified Grantor in writing prior to the expiration of the Term that it is electing to terminate the Term pursuant to Section 23 of this Agreement.

3. Use.

3.1 Grantee shall have the exclusive right and privilege to use the Substation Parcel for the purposes of, *inter alia*, erection, installation, construction, operation, inspection, repair, replacement, patrol and maintenance of an electric substation, an operations and maintenance building, one or more electric transmission and distribution lines (either below or above ground) and equipment and vehicles associated therewith, attachments and appurtenant equipment and other buildings required for an electric substation and any and all other uses consistent with the operation of an electric substation (all of the foregoing hereinafter collectively referred to as "**Facilities**"), together with the right and privilege from time to time to reconstruct, inspect, alter, improve, change the voltage, as well as the nature or physical characteristics of, replace, remove

or relocate such Facilities or any part of them upon, across, over or under the Substation Parcel with all rights and privileges necessary or convenient for the full enjoyment or the use thereof for the herein described purposes and solely for the use, transmission and delivery of electrical energy produced by the Wind Energy Center; and in the event Grantee shall require the use of a Laydown Area (as hereinafter defined), the grant shall include the right, by way of an irrevocable license, to temporarily use certain additional lands comprising Grantor's Property, but not comprising the Substation Parcel (the "**Laydown Area**"), for the purposes of storing vehicles, equipment and materials in connection with the operation, construction, maintenance, modification or removal of the Facilities, such Laydown Area being more fully depicted on Schedule "A-2". Should Grantee require the temporary use of the Laydown Area, the use thereof shall expire on the date that is — after the Commercial Operations Date (the "**Laydown Area Expiry Date**"). As used herein, the "**Commercial Operation Date**" shall mean the date when all the Facilities shall have been constructed and installed and the entire Wind Energy Center has achieved the status of a commercially operable wind-powered electrical generation and transmission facility, provided that for greater certainty, the Laydown Area Expiry Date shall not be later than — years, less — day from the Effective Date.

3.2 The use of the Substation Parcel by Grantee shall be at the sole risk and expense of Grantee. Grantee agrees to warn its employees, agents, contractors and invitees of the fact that the electrical Facilities and appurtenances installed or to be installed within the Substation Parcel are of high voltage electricity and agrees to use, or cause to be used, reasonable safety and precautionary measures when working under or near the Facilities.

3.3 The rights and privileges hereby granted shall include, without limiting the generality of the foregoing, the right to erect, install, construct, operate, maintain, inspect, patrol, remove, replace, reconstruct, relocate, alter and repair on the Substation Parcel the Facilities as Grantee may deem necessary for the full enjoyment of any or all of the rights and privileges herein granted

3.4 Grantee, its tenants, officers, agents, servants, employees, contractors and licensees, with or without vehicles, tools, equipment, apparatus and materials of whatsoever nature and kind, shall have the full, free and uninterrupted right to enter upon, use and occupy the Substation Parcel for all purposes connected with, or incidental to, the rights and privileges herein granted including, without limitation, the right to make and keep the Substation Parcel free from brush, trees, damaging growths, water in dangerous quantities and other obstructions. Where Grantee reasonably considers it necessary by reason of the nature or condition of Grantor's Property or the circumstances then existing, Grantee shall have the right to go on or across any part of Grantor's Property for the purpose of gaining access to the Substation Parcel.

3.5 Grantee will erect, install and construct the Facilities within, upon or over the Substation Parcel in a proper and workmanlike manner so as to do as little injury as possible to Grantor's Property and will keep and maintain the same in good repair and will at the termination of this Agreement take down, dismantle and remove from the Substation Parcel the Facilities and will fill up all holes caused by such removal and restore the surface of the Substation Parcel as far as may be reasonable and possible.

4. Indemnification.

4.1 Grantee shall indemnify and hold harmless Grantor against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with or as a result of:

(a) the negligence or wilful misconduct of Grantee;

(b) any breach by Grantee of the terms and conditions of this Agreement; or

(c) the property of Grantee or the operation of the property of Grantee,

provided that Grantee shall not be liable under this Section to the extent to which such loss, damage or injury is caused by the negligence or default of Grantor or Grantor's servants or agents. For greater certainty, Grantee shall not be liable to Grantor for the actions of (i) Grantor, its agents, employees, or representatives who enter upon Grantor's Property, or (ii) any trespasser or unauthorized person who enters upon Grantor's Property.

4.2 Grantor shall indemnify and hold harmless Grantee against all actions, suits, claims, demands and expenses made or suffered by any person or persons, in respect of loss, injury, damage or obligation to compensate, arising out of or in connection with, or as a result of the negligence or wilful misconduct of Grantor, as well as in respect of any loss, injury or damage arising out of or in connection with, any breach by Grantor of the terms and conditions of this Agreement; provided that Grantor shall not be liable under this Section to the extent to which such loss, damage or injury is caused by the negligence or default of Grantee, its servants or agents. For greater certainty, Grantor shall not be liable to Grantee for the actions of (i) Grantee, its agents, employees, or representatives who enter upon Grantor's Property, or (ii) any trespasser or unauthorized person who enters upon Grantor's Property.

4.3 All accrued and undischarged obligations under this Section shall survive the expiration or termination of this Agreement for the applicable statute of limitations period.

4.4 Notwithstanding the foregoing, the Parties hereto shall only be liable for reasonably anticipated and foreseeable damages.

5. Environmental Representations. Grantor represents and warrants that, to the best of Grantor's knowledge, Grantor's Property is not and has not been in violation of any Environmental Laws, and Grantor has not received any notice or other communication from any governmental authorities alleging that Grantor's Property is in violation of any Environmental Laws. "**Environmental Laws**" shall mean and refer to any statute, law, decree, ordinance or regulation which relates to or deals with human health or the environment, including, without limitation, all regulations promulgated by a regulatory body pursuant to any statute, law, ordinance or regulation. "**Hazardous Materials**" shall mean any asbestos containing materials, petroleum, explosives, toxic materials, or substances regulated as hazardous wastes, hazardous materials, hazardous substances, or toxic substances under any federal, provincial, or local law or regulation. Grantor represents and warrants that, except as disclosed to Grantee in writing, to the best of Grantor's knowledge, no underground storage tanks and no Hazardous Materials are or were located on Grantor's Property during or prior to Grantor's ownership of Grantor's Property.

Grantor shall not violate in a material way any Environmental Law relating to Grantor's Property. All accrued and undischarged obligations under this clause shall survive the expiration or termination of this Agreement.

6. **Roads.** Grantor agrees that Grantee may construct or improve roads from time to time on the Grantor's Property (as provided for in Section 1 above) for the purposes of access, ingress and egress to the Substation Parcel.

7. **Taxes.** Grantee shall pay any increase in the real property taxes on the Substation Parcel that is directly attributable to the installation of Facilities or to a reclassification of the Substation Parcel because of the rights and privileges created under this Agreement. If the Facilities are subject to real property taxes, Grantee shall request that the Facilities be separately assessed and that taxing authorities bill Grantee directly for taxes attributable to the Facilities. Grantee shall not be liable for taxes attributable to any other facilities or other installations of any kind installed by Grantor or others on the Substation Parcel or for any increase due to any other cause. Grantee agrees to reimburse Grantor for any taxes paid by Grantor that are properly payable by Grantee under the terms of this Agreement. To receive reimbursement, Grantor must submit the real property tax bill payable by Grantor to Grantee for reimbursement within a reasonable time after Grantor receives the bill from a taxing authority. The parties agree to fully cooperate to obtain any available tax refunds or tax abatements.

8. **Warranties and Representations.** Grantor represents and warrants to Grantee that he/she has sufficient right, title and interest in and to the Substation Parcel to convey the rights and interests transferred and granted herein. Grantor represents and warrants that, as of the Effective Date, Grantor is:

(a) at least eighteen (18) years of age and either not a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended; or

(b) at least eighteen (18) years of age and if a spouse within the meaning of the *Family Law Act*, R.S.O. 1990, c.F.3, as amended, then this Agreement has been executed by both spouses together comprising Grantor or consented to in writing by Grantor's spouse as is evidenced by the signature of the spouse on the Consent attached hereto as **Schedule "B"**; or

(c) if a corporation, then no building(s) located on Grantor's Property has been ordinarily occupied by any officer, director or shareholder of the corporation or by any of their spouses as a family residence or matrimonial home within the meaning of the *Family Law Act*, R.S.O. 1990, c.F-3, as amended.

Grantee hereby represents and warrants that it is a limited partnership, duly organized, validly existing and in good standing under the laws of Ontario and has the right, power and privilege to execute and deliver this Agreement and to perform its obligations hereunder.

9. **Assignment; Mortgage Rights.**

9.1 Grantee, upon notice to Grantor, but without Grantor's consent or approval, may mortgage, charge, collaterally assign, or otherwise encumber and grant security interests in all or any part of its interest in the Agreement and the Substation Parcel. These various security interests in all or a part of this Agreement and the Substation Parcel are collectively referred to as "**Mortgages**" and the holders of the Mortgages, their designees and assigns are referred to as "**Mortgagees.**" Grantee's notice to Grantor shall include the name and address of each Mortgagee and/or Assignee (as hereinafter defined). Grantee shall also have the right without Grantor's consent to sell, convey, sub-lease, or assign all or any of Grantee's interests in this Agreement and in the Substation Parcel, or to grant sub-easements co-easements, separate easements, licenses or similar rights, however denominated (collectively, "**Assignment**"), to one or more persons or entities (collectively, "**Assignees**"). Assignees and Mortgagees shall use the Substation Parcel only for the uses permitted under the Agreement. Assignees and Mortgagees shall have all rights and remedies allowed them under then existing laws except as limited by their individual agreements with Grantee, provided that under no circumstances shall any Mortgagee or Assignee have any greater rights of ownership or use of the Substation Parcel than the rights granted to Grantee in the Agreement.

9.2 Grantor agrees to consent in writing to financing documents as may reasonably be required by Mortgagees. As a precondition to exercising any rights or remedies related to any alleged default by Grantee under this Agreement, Grantor shall give written notice of the default to each Mortgagee and Assignee at the same time it delivers notice of default to Grantee, specifying in detail the alleged event of default and the required remedy. Each Mortgagee and Assignee shall have the same amount of time to cure the default as to Grantee's entire interest or its partial interest in the Substation Parcel as is given to Grantee and the same right to cure any default as Grantee or to remove any property of Grantee, Mortgagees or Assignees located on the Substation Parcel. The cure period for each Mortgagee and Assignee shall begin to run at the end of the cure period given to Grantee in the Agreement, but in no case shall the cure period for any Mortgagee or Assignee be less than ninety (90) days after receipt of the default notice. Failure by Grantor to give a Mortgagee or Assignee notice of default shall not diminish Grantor's rights against Grantee, but shall preserve all rights of the Mortgagee or Assignee to cure any default and to remove any property of Grantee, the Mortgagee or Assignee located on the Substation Parcel.

9.3 Any Mortgagee or Assignee that does not directly hold an interest in the Substation Parcel, or whose interest is held solely for security purposes, shall have no obligation or liability under this Agreement prior to the time the Mortgagee or Assignee directly holds an interest in this Agreement, or succeeds to absolute title to Grantee's interest. A Mortgagee or Assignee shall be liable to perform obligations under this Agreement only for and during the period it directly holds such interest or absolute title. Any Assignment provided for under this Agreement shall release Grantee or other assignor from obligations accruing after the date that liability is assumed by the Assignee.

9.4 To prevent termination of this Agreement, or any partial interest in this Agreement, Grantee, any Mortgagee or Assignee shall have the right, but not the obligation, at any time to perform any act necessary to cure any default and to prevent the termination of this

Agreement or any interest in the Agreement and Grantor agrees to accept the rectification of any default by any Mortgagee or Assignee as if it was rectified by Grantee.

9.5 In the event of an uncured default by the holder of Grantee's entire interest in this Agreement, or in the event of a termination of this Agreement by agreement, by operation of law or otherwise, each Mortgagee or Assignee of an interest in the Agreement that is not in default of its obligations, shall have the right to have Grantor either recognize the Mortgagee's or Assignee's interest or grant a new agreement substantially identical to this Agreement. Under the new easement, the Mortgagee or Assignee shall be entitled to, and Grantor shall not disturb, Mortgagee's or Assignee's continued use and enjoyment for the remainder of the Term and any renewal period, or such shorter term as an Assignee may otherwise be entitled pursuant to its Assignment.

9.6 If any default by Grantee under this Agreement cannot be cured without obtaining possession of all or part of the Substation Parcel, then any such default shall be deemed remedied if a Mortgagee or Assignee: (a) within ninety (90) days after receiving notice from Grantor acquires possession of all or part of the Substation Parcel, or begins appropriate judicial or nonjudicial proceedings to obtain the same; (b) diligently prosecutes any such proceedings to completion; and (c) after gaining possession of all or part of the Substation Parcel cures defects that are capable of being remedied and performs all other obligations as and when the same are due in accordance with the terms of this Agreement. If a Mortgagee or Assignee is prohibited by any court or by operation of any bankruptcy or insolvency laws from commencing or prosecuting the proceedings described above, the ninety (90) day period specified above for commencing proceedings shall be extended for the period of such prohibition.

9.7 Grantor shall execute estoppel certificates (certifying as to truthful matters, including without limitation that no default then exists under this Agreement, if such be the case), consents to assignment and non-disturbance agreements as Grantee or any Mortgagee or Assignee may reasonably request from time to time, which may incorporate the provisions contained in this Section 8. Grantor and Grantee shall cooperate in amending this Agreement from time to time to include any provision that may be reasonably requested by Grantee or any Mortgagee or Assignee to implement the provisions contained in this Agreement or to preserve a Mortgagee's security interest in the Substation Parcel.

9.8 Any Mortgagee, upon delivery to Grantor of notice of its name and address, for so long as its Mortgage is in existence shall be entitled to the following protections which shall be in addition to those granted elsewhere in this Agreement:

(a) A Mortgagee shall have the absolute right: (a) to assign its Mortgage; (b) to amend, renew, extend, restate or supplement its Mortgage; (c) to enforce its lien and acquire title to all or any portion of the Substation Parcel by any lawful means; (d) to take possession of and operate all or any portion of the Substation Parcel and to perform all obligations to be performed by Grantee under this Agreement, or to cause a receiver to be appointed to do so; and (e) to acquire all or any portion of the Substation Parcel by foreclosure or a quit claim in lieu of foreclosure and thereafter without Grantor's consent to assign or transfer all or any portion of the Substation Parcel to a third party. A Mortgagee which assigns or transfers Substation Parcel to a third party shall notify Grantor of the name and address of the Assignee or Transferee.

(b) During any period of possession of the Substation Parcel by a Mortgagee (or a receiver requested by a Mortgagee) and/or while any foreclosure proceedings instituted by a Mortgagee are pending, the Mortgagee shall pay or cause to be paid the fees and all other monetary charges payable by Grantee under this Agreement which have accrued and are unpaid at the commencement of the period and those which accrue thereafter during the period. Following acquisition of all or a portion of the Substation Parcel by the Mortgagee as a result of either foreclosure or a quit claim in lieu of foreclosure, or by a purchaser under a private or judicial power of sale, this Agreement shall continue in full force and effect and the Mortgagee or party acquiring title to the Substation Parcel shall, as promptly as reasonably possible, commence the cure of all defaults under this Agreement and thereafter diligently process such cure to completion, whereupon Grantor's right to terminate this Agreement based upon such defaults shall be deemed waived; provided, however, that the Mortgagee or party acquiring title to Grantee's interests shall not be required to cure those defaults which are not reasonably susceptible of being cured or performed by such party ("**non-curable defaults**"). Non-curable defaults shall be deemed waived by Grantor upon completion of foreclosure proceedings or a quit claim in lieu of foreclosure or acquisition of Grantee's interest in this Agreement by such party.

(c) Any Mortgagee or other party who acquires Grantee's interest in the Substation Parcel pursuant to foreclosure or a quit claim in lieu of foreclosure shall not be liable to perform the obligations imposed on Grantee by this Agreement incurred or accruing after the party no longer has ownership or possession of the Substation Parcel.

(d) If this Agreement terminates because of Grantee's default, as a result of a foreclosure, or if this Agreement is rejected, disaffirmed, resiliated, repudiated or disclaimed pursuant to bankruptcy law or other law affecting creditor's rights and, within ninety (90) days after such event, Grantee or any Mortgagee or Assignee shall have arranged to the reasonable satisfaction of Grantor for the payment of all fees or other charges due and payable by Grantee as of the date of such event, then Grantor shall execute and deliver to Grantee or such Mortgagee or Assignee or to a designee of one of these parties, as the case may be, a new agreement to the Substation Parcel which (i) shall be for a term equal to the remainder of the Term, including any renewal period before giving effect to such rejection, resiliation, disclaimer, repudiation or termination; (ii) shall contain the same covenants, agreements, terms, provisions and limitations as this Agreement (except for any requirements that have been fulfilled by Grantee or any Mortgagee or Assignee prior to rejection, resiliation, disclaimer, repudiation or termination of this Agreement); and, (iii) shall include that portion of the Substation Parcel in which Grantee or such other Mortgagee or Assignee had an interest on the date of rejection, resiliation, disclaimer, repudiation or termination.

(e) After the termination, resiliation, repudiation, rejection, disclaimer or disaffirmation of this Agreement and during the period thereafter during which any Mortgagee shall be entitled to enter into a new agreement for the Substation Parcel, Grantor will not terminate the rights of any Assignee unless in default under its Assignment.

(f) If more than one Mortgagee makes a written request for a new agreement pursuant to this provision, the new agreement shall be delivered to the Mortgagee requesting

such new agreement whose Mortgage is prior in lien, and the written request of any other Mortgagee whose lien is subordinate shall be void and of no further force or effect.

(g) The provisions of this Section shall survive the termination, rejection, disclaimer, resiliation, repudiation or disaffirmation of this Agreement and shall continue in full force and effect thereafter to the same extent as if this Section were a separate and independent contract made by Grantor, Grantee and each Mortgagee, and, from the effective date of such termination, rejection, disclaimer, resiliation, repudiation or disaffirmation of this Agreement to the date of execution and delivery of such new agreement, such Mortgagee may use and enjoy the Substation Parcel without hindrance by Grantor or any person claiming by, through or under Grantor; provided that all of the conditions for the new agreement as set forth above are complied with.

(h) Notwithstanding any provision of this Agreement to the contrary, the parties agree that so long as there exists an unpaid Mortgagee, this Agreement shall not be modified or amended, and Grantor shall not accept a surrender, cancellation or release and abandonment of all or any part of this Agreement or the Substation Parcel from Grantee, prior to expiration of the Term without the prior written consent of the Mortgagee. This provision is for the express benefit of and shall be enforceable by each Mortgagee as if it were a party named in this Agreement.

(i) There shall be no merger of this Agreement with the fee estate in the Substation Parcel by reason of the fact that this Agreement, directly or indirectly, by or for the account of any person or persons who shall own any interest in the fee estate. No merger shall occur unless and until all persons at the time having an interest in the fee estate in the Substation Parcel and all persons (including each Mortgagee) having an interest in this Agreement or in the estate of Grantor and Grantee shall sign and register a written instrument effecting such merger.

(j) On the commencement of the Term, the Substation Parcel shall be free and clear of all monetary liens other than those expressly approved by Grantee. Thereafter, any assignment of this Agreement, mortgage, charge, deed of trust or other monetary lien placed on the Substation Parcel by Grantor, or permitted by Grantor to be placed or to remain on the Substation Parcel, shall be subject to this Agreement, to any Assignment or Mortgage then in existence on the Substation Parcel, to Grantee's right to encumber the Substation Parcel, and to any and all documents executed or to be executed by Grantor in connection with Grantee's development of all or any part of the Substation Parcel. Grantor agrees to cause any monetary liens placed on the Substation Parcel by Grantor in the future to incorporate the conditions of this Section.

(k) At Grantee's request, Grantor shall amend this Agreement to include any provision which may reasonably be requested by a proposed Mortgagee; provided, however, that such amendment shall not impair any of Grantor's rights under this Agreement or increase the burdens or obligations of Grantor under this Agreement. Upon the request of any Mortgagee, Grantor shall execute any additional instruments reasonably required to evidence such Mortgagee's rights under this Agreement.

10. **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario, Canada, without reference to the conflict of laws principles thereof. The parties hereto agree that any rule of construction to the effect that ambiguities are to be resolved in favor of any particular party shall not be employed in the interpretation hereof, and is hereby waived. Any references herein to specific legislation shall be deemed a reference to amending or successor legislation thereto once same is enacted and in force.

11. **Registration.** Grantee shall be entitled, at its cost and expense, to register this Agreement or a notice in respect thereof, any amendments to this Agreement or any notice in respect thereof pursuant to Section 1 hereof, and any required reference plans, surveys or sketches in the applicable Land Registry Office having jurisdiction over the Grantor's Property, and Grantor agrees to execute, at no cost to Grantee, all necessary instruments, plans and documentation for that purpose.

12. **Income Tax Act.** Prior to the Commencement Date, Grantor shall deliver to Grantee a certificate issued under the provisions of Section 116 of the Income Tax Act (Canada) or satisfactory evidence by way of statutory declaration that Grantor is not then a non-resident of Canada within the meaning of the *Income Tax Act* (Canada). In the event that Grantor's residency status changes at any time during the Term, Grantor shall provide prompt written notice of same to Grantee.

13. **Default.** Notwithstanding anything herein contained to the contrary, Grantee shall not be in default in the performance of any of its covenants or obligations under this Agreement, including the payment of compensation or rental, unless and until Grantor has notified Grantee of such default in writing and Grantee has failed to commence action to remedy the same within forty-five (45) days of receipt of such notice and thereafter fails to diligently continue to complete such remedial action.

14. **Notice.** All notices, communications, payments and deliveries (collectively called the "Notices") to be given hereunder shall be given in writing. All such Notices and all payments to be tendered hereunder may be given personally or by registered letter addressed to the party to whom the Notice is to be given. When delivered personally, such Notice shall be deemed received on the day of delivery, and when mailed, such Notice shall be deemed to be given to, and received by, the addressee four (4) days after the mailing thereof, postage prepaid, provided however that if a Notice is mailed and a disruption of postal services occurs before the date of deemed receipt of such Notice, such Notice shall not be deemed to be received until the expiration of four (4) days following the resumption of postal service.

15. **Addresses.** Unless changed by written notice the addresses of the parties hereto shall be:

In the case of Notice to Grantee, to:

Summerhaven Wind, LP
5500 North Service Road, 2nd Floor
Burlington, ON L7L 6W6 Canada
Attention: Business Management
Telephone: (905) 335-4904
Facsimile: (905) 335-5731

With a copy to:

_____
_____
_____
_____

In the case of Grantor, to:

_____
_____
_____
_____

16. **Severability**. If, and to the extent that, any court of competent jurisdiction determines that it is impossible to construe any provision of this Agreement and as a consequence holds that provision to be invalid, such holding shall not affect the validity of the other provisions of this Agreement, which shall remain in full force and effect.

17. **Enurement.** This Agreement and everything herein contained shall enure to the benefit of and be binding upon Grantor, his/her heirs, executors, administrators, successors and assigns and upon Grantee, its successors and assigns.

18. **Compensation**. Grantee shall pay Grantor the amounts set forth in **Schedule "D"** as the consideration for the Agreement.

19. **Discharge of Encumbrances**. Grantee may at its option pay or discharge all or part of any balance owing under any agreement for sale or mortgage, or of any withholding or other tax, charge, lien or encumbrance of any kind or nature whatsoever which may now or hereafter exist on or against or in any way affect the Substation Parcel, in which event Grantee shall be subrogated to the rights of the holder or holders thereof, and may in addition thereto, at its option, reimburse itself by applying on account of repayment of the amount so paid by it the rentals or other sums accrued or accruing to Grantor under the terms of this Agreement. Any sums so applied shall, for all purposes of this Agreement, be deemed to have been paid to and received by Grantor in payment of such rentals or other sums accrued or accruing to Grantor under the terms of this Agreement. Grantor also agrees to obtain from any prior mortgagee of Grantor's Property, either a postponement of such mortgage or charge to this Agreement or a non-disturbance agreement in favour of Grantee.

20. **Approvals**. Grantor covenants and agrees to execute all applications, consents, permissions, agreements, postponements, site plan control agreements, partial discharges and any other documents which Grantee may require in connection with obtaining any renewable energy approvals, rezoning, governmental approvals, consents, permits or variances (collectively, "**Approvals**") and in connection with entering into by Grantee of any agreements with such governmental and public authorities as may be necessary to give due force and effect to and in furtherance of Grantee's applications, and Grantor shall produce all other documents and

information which may be required in connection with such applications. All applications for Approvals shall be made by Grantee, at its sole cost and expense, and any costs to Grantor associated with such Approvals shall be borne by Grantee. Grantee agrees that the obligation of Grantor pursuant to this section shall be restricted to execution of documents and production of documents and information and shall not impose upon Grantor any financial obligation whatsoever.

21. **Fencing and Access.** Grantee shall have the full, free and exclusive right to fence the Substation Parcel or so much thereof as it, in its sole and absolute discretion, may deem necessary in the exercise of any of its rights and privileges herein granted. Grantor, and all persons claiming by, through or under Grantor, may be denied access to, and use of, the Substation Parcel or so much thereof as Grantee, in its sole and absolute discretion, may deem necessary from time to time for the safe and efficient use and operation of the Facilities.

22. **Equity.** Grantor covenants with Grantee that upon Grantee, its successors and assigns, performing and observing the covenants and conditions on its part to be performed and observed, Grantee, its successors and assigns, shall peaceably hold and enjoy the rights, liberties, privileges and easement hereby granted during the period as aforesaid. Notwithstanding any rule of law or equity, all property, improvements and equipment placed or operated on the Substation Parcel by or on behalf of Grantee shall, at all times, remain the personal property of Grantee even though attached to Grantor's Property.

23. **Termination.** In the event Grantee no longer requires the right to maintain Facilities on the Substation Parcel, it may remove the Facilities. Grantee may also, if it so chooses, elect to terminate all rights and obligations hereunder. Upon Grantee so electing to terminate the rights hereunder, Grantee shall remove all Facilities from the Substation Parcel and shall restore the Substation Parcel to the same condition, to the extent such restoration is practical, as the Substation Parcel was prior to entry thereon and use thereof by Grantee, and Grantee shall remove and discharge any instrument or encumbrance registered against title to the Substation Parcel and related to its interest in the Substation Parcel.

24. **Sale.** Grantor shall notify Grantee promptly and in writing of any change in ownership of Grantor's Property and Grantee shall be entitled to continue to make payments to the existing Grantor until satisfied of the status of the new Grantor. Grantor will obtain an assumption agreement in favour of Grantee from any transferee or purchaser of Grantor's interest in Grantor's Property, pursuant to which such transferee or purchaser agrees to be bound by the terms of this Agreement.

25. **Covenant.** This Agreement is and shall be the same force and effect, to all intents and purposes, as a covenant running with the Substation Parcel and these presents, including all of the covenants and conditions herein contained, shall extend, be binding upon and inure to the benefit of the parties hereto, their executors, administrators, successors and assigns, as the case may be. Grantee agrees that this Agreement and the rights, privileges and easements granted pursuant thereto is an easement in favour of a generator, transmitter or distributor for the purpose of generation, transmission or distribution in accordance with Section 42.1 of the *Electricity Act*, 1998 (Ontario). Grantee shall have the right from time to time, in its sole

discretion to grant franchises, licenses or assignments of its rights acquired hereunder, in whole or in part, to third parties, without further consideration becoming payable to Grantor herein.

26. **Miscellaneous.** The titles or headings inserted herein are for convenience of reference only and shall not affect the interpretation or construction of this Agreement. In the event of any conflict between a metric and imperial expression of measurement in this Agreement, the metric expression of measurement shall govern. IT IS UNDERSTOOD AND AGREED by and between the parties hereto that this Agreement and all of the covenants and conditions herein contained, shall extend to, be binding upon and enure to the benefit of, respectively, the executors, administrators, successors and assigns of Grantor, the owner or owners for the time being of Grantor's Property, and the successors and assigns of Grantee, and wherever the singular or masculine is used throughout this Agreement, the same shall be construed as meaning plural, or feminine, or a body corporate, where the context or the parties hereto so admit or require.

27. **No Affect on Statutory Rights.** Nothing in this Agreement shall adversely affect Grantee's ability to exercise any rights or powers authorized under any instrument issued by the Ontario Energy Board pursuant to the *Ontario Energy Board Act*, 1998 (and any other successor legislation).

28. **Planning Act.** This Agreement and the provisions hereof, which create or are intended to create an interest in Grantor's Property and the Substation Parcel, shall be effective to create such an interest only if the subdivision control provisions of the *Planning Act*, as amended, are complied with. Notwithstanding the foregoing, Grantee hereby declares that the interests in Grantor's Property and the Substation Parcel being acquired by Grantee pursuant to this Agreement are for the purposes of a renewable energy generation facility or renewable energy generation project in accordance with Section 50(3)(d.1) or 50(5)(c.1) of the *Planning Act*.

[Remainder of page intentionally left blank, signature page follows]

IN WITNESS WHEREOF Grantor has affixed his/her/their hand(s) and seal(s) and Grantee has affixed its corporate seal duly attested to by the hands of its proper officers, all as of the day and year first above written.

SIGNED, SEALED AND DELIVERED

in the presence of:

Witness	[insert name of Grantor]	(seal)
Witness	[insert name of Grantor]	(seal)

STRATHROY WIND GP, INC, as general partner for and on behalf of **SUMMERHAVEN WIND, LP**

Per: _____
Name:

"I have authority to bind the corporation."

SCHEDULE "A"

TO SUBSTATION EASEMENT

Legal Description of Grantor's Property

###

SCHEDULE "A-1"

TO SUBSTATION EASEMENT

Legal Description and Preliminary Plan of Substation Parcel

(See attached)

###

SCHEDULE "A-2"

TO SUBSTATION EASEMENT

Sketch of Laydown Area (if applicable)

(See attached)

###

SCHEDULE "B"

TO SUBSTATION EASEMENT

Consent of Spouse

I, _____, being the spouse of _____, do hereby give my consent to the transfer and grant of easement and right-of-way made in the Substation Easement dated _____, 2011 in respect of the following property:

DATED this _____ day of _____, 2011.

WITNESS:	SPOUSE OF GRANTOR
_____	_____
Name:	Name:
Address:	Address:

###

SCHEDULE "C"

TO SUBSTATION EASEMENT

DECLARATION REQUIRED UNDER SECTION 50 OF THE PLANNING ACT, R.S.O. 1990, as amended

I, **OFFICER NAME**, of the City of JUNO BEACH, in the State of FLORIDA,

DO SOLEMNLY DECLARE THAT

1. I am the **Title** of Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP, the Grantee in the attached Substation Easement and as such have knowledge of the matters herein deposed to.

2. The use of or right in the land described in the said Substation Easement is being acquired by Strathroy Wind GP, Inc., as general partner for and on behalf of Summerhaven Wind, LP, for a period of — or more years but not more than — years for the purpose of a renewable energy generation facility or renewable energy project in accordance with Section 50(3)(d.1) or 50(5)(c.1) of the *Planning Act* (Ontario) and I hereby make this declaration that it is being acquired for such purpose.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of *The Canada Evidence Act.*

Strathroy Wind GP, Inc., as general partner
for and on behalf of **Summerhaven Wind, LP**

_____
Per: Name
"I have authority to bind the corporation."

DECLARED before me at the Town of Juno Beach, in the State of Florida this ___ day of _____, 20__, by Name, as Title of Strathroy Wind GP, Inc. as general partner for and on behalf of Summerhaven Wind, LP. He/She is personally known to me or provided _____ as identification.

_____
A Notary Public in and for the State of Florida

###

SCHEDULE "D"

TO SUBSTATION EASEMENT

Compensation

(REDACTED)

###

DAMAGE RELEASE FORM

SUMMERHAVEN WIND, LP

AGREEMENT OF COMPENSATION AND RELEASE

This Agreement of Compensation and Release ("**Agreement**") relates to any damages, claims or losses to person or property that occurred on or to the Lands (as hereinafter defined) resulting from construction activities ("**Construction**") of the wind power project by or on behalf of SUMMERHAVEN WIND, LP, a limited partnership, formed pursuant to the laws of the Province of Ontario ("**Operator**"), which occurred on or between the periods of _____ and _____ (the "**Construction Period**") in _____ County, Ontario, Canada. All damages, claims or losses occurring on or during the Construction Period and related to the Lands must be received by Operator no later than ninety (90) days from the final day of investigation(s). The parties and Lands involved in this Agreement include:

OWNER INFORMATION

Owner Name:		("**Owner**")
Address:		
City:	Province:	Zip:
Telephone:		

OCCUPANT INFORMATION

Occupant Name:		("**Occupant**")
Address:		
City:	Province:	Zip:
Telephone:		

I/We_____(As Owner) and _____ _____(As Occupant) wish to acknowledge that Operator has fully satisfied all its obligations to me in respect of its Construction on or across the lands described as follows:

LEGAL DESCRIPTION OF THE LANDS:

(the "**Lands**")

SUMMERHAVEN WIND, LP

In consideration of the payment to me/us of the sum described in Schedule "A" (the receipt and sufficiency whereof is hereby acknowledged), I/we do hereby fully and finally release and forever discharge Operator, its officers, contractors, agents, servants, successors and assigns from any and all manner of damages, claims or losses arising from the Construction undertaken by Operator, its officers, contractors, agents and servants on the Lands, including, without limitation, any crop losses suffered by Owner or Occupant arising from such Construction, to the extent such losses were suffered during the Construction Period. Occupant agrees that Occupant's interest in and to the Lands shall be and is hereby made subject and subordinate to the Operator's and its present and future lender's interest in and to the Lands. An Operator Representative must sign and date this Agreement prior to payment of agreed upon compensation. Within sixty (60) days of the Effective Date, Operator will pay the agreed upon compensation as specified below.

I hereby certify that I am the Owner (or the Occupant entitled to possession of the said Lands) and properly entitled to the said sum.

IN WITNESS WHEREOF, I/We have executed the Agreement at/near _____ _____ in the Province of Ontario, this _____ day of _____, A.D. 20____ (the "**Effective Date**").

SIGNED AND DELIVERED
in the presence of:

_____
WITNESS

_____
OWNER

_____
WITNESS

_____
OWNER

_____
WITNESS

_____
OCCUPANT

OPERATOR:
Strathroy Wind GP, Inc., as General Partner
for and on behalf of Summerhaven Wind, LP.

_____
By: Dean R. Gosselin, Vice President

SUMMERHAVEN WIND, LP

Schedule A (SAMPLE FORM)

Price		Crop 1	Crop 2	Crop 3
Source	Per Bushel:			

Yield

Record Type	Year			
	Yield Average:			

Acres Damaged

Area 1:			
Area 2:			
Area 3:			
Area 4:			
Area 5:			
Total Area:			

Crop Payment

Price:			
Yield Average:			
Total Area:			
Crop Damage Payment:			

Initials

Total Payable to Owner: $_____ _____

Total Payable to Occupant: $_____ _____

FINAL PUBLIC MEETING DOCUMENTATION

APPENDIX D

Final Public Meeting – Handouts, Comment Forms and Panels

Summerhaven Wind Energy Centre

NEXTera ENERGY CANADA

OPEN HOUSE COMMENT FORM

• Jarvis Community Centre • 18 James Street • Jarvis, ON • December 7, 2010 •

Your comments will be considered. We are collecting this information to help us understand and address your concerns about the Project. Comments will become part of the public record with the exception of personal information.

1. Did the information presented tonight meet your expectations?
   - ❑ Yes
   - ❑ Somewhat
   - ❑ No

   Please explain: _____

   _____

2. If you asked questions during the Open House, did you get a satisfactory response?
   - ❑ Yes
   - ❑ Didn't speak to anyone
   - ❑ Somewhat
   - ❑ No

   Please explain: _____

   _____

3. After attending the Open House, how do you feel about the Project?
   - ❑ Support
   - ❑ Opposed
   - ❑ Neutral

   Please explain: _____

   _____

4. What topics would you like to learn more about? (check all that apply)
   - ❑ Aboriginal Interests
   - ❑ Socio-economic
   - ❑ Environment
   - ❑ Human Health
   - ❑ Project Details

   Other: _____

Summerhaven Wind Energy Centre

NEXTera ENERGY CANADA

5. Please provide your comments or questions in the space provided below:

If you would like to be kept informed about the status of the Summerhaven Wind Energy Project, please provide your contact information below.

Name: _____

Street Address: _____

City/Province: _____

Postal Code: _____ Email: _____

To learn more about the Project, or to send your completed comment form to us, please contact:

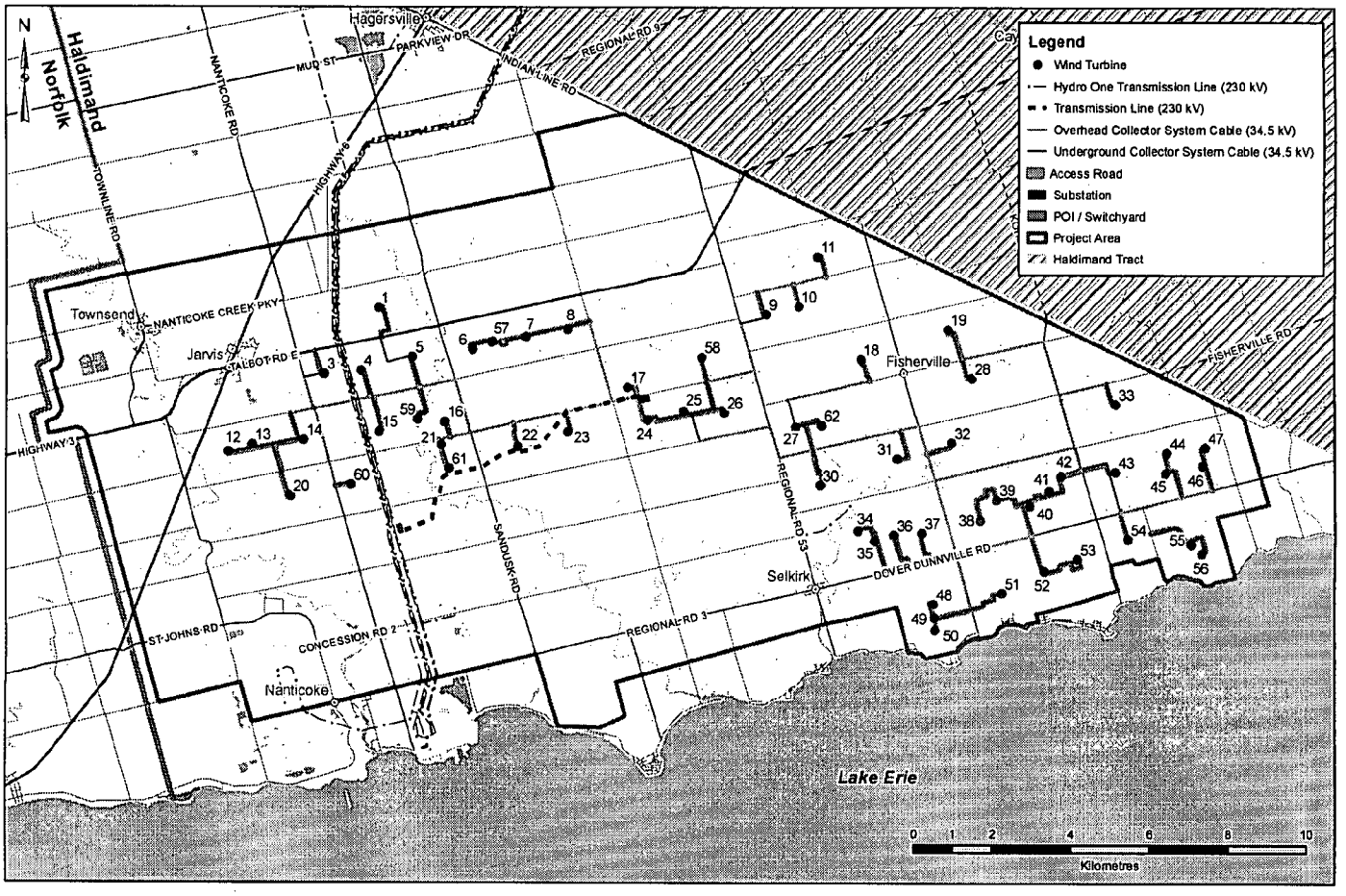
Thomas Bird
Environmental Services Project Manager
NextEra Energy Canada, ULC
5500 North Service Road, Suite 205
Burlington, Ontario L7L 6W6

Toll Free: 1-877-257-7330
Email: summerhaven.wind@nexteraenergy.com
Website: www.canadianwindproposals.com

Public Participation for this Project will be an ongoing process; however only comments received on or before December 9, 2010 can be included as part of our application.

NextEra Energy Canada

Summerhaven Wind
Project fact sheet



Project Infrastructure:

- Up to 61 wind turbines
- A Substation, which increases the electrical voltage
- Transmission lines which carry the electricity to the switchyard and Hydro One corridor
- Approximately 54 km of access roads that allow personnel and equipment to access turbines
- Underground and overhead cables will connect the turbines to each other
- Weather towers that monitor wind speeds for Project operations
- Operations building

The Summerhaven Wind Energy Centre is located in Haldimand County, Ontario. The Project Study Area encompasses approximately 22,583 hectares of private land and county road easements. The Project Study Area is primarily rural, agricultural land.

Under Ontario Regulation 359/09, the Project is a Class 4 Wind Facility that will generate up to 135.5 MW of electricity with up to 61 wind turbines. Each wind turbine has three 45 - 50 m long blades and stands 80 m high. The Project infrastructure will also include a switchyard area, access roads, a substation, electrical cabling, and overhead transmission lines.

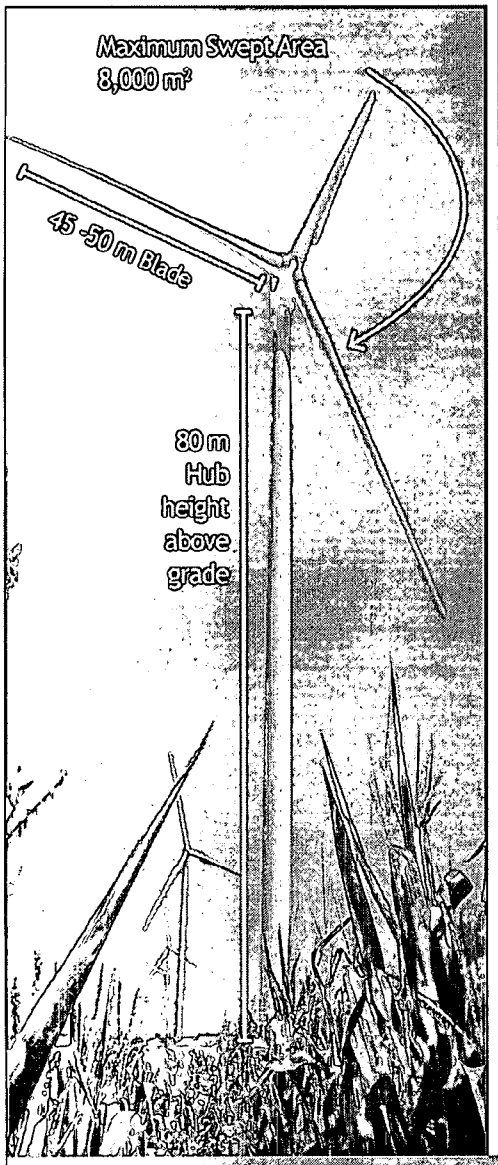
NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind Project fact sheet

The Summerhaven Wind Energy Centre will use Siemens 101 and Siemens 93 Wind Turbines (2.221 MW capacity). The turbines operate at wind speeds of 4 m/s to 25 m/s.



NextEra Energy Resources: A Leader in Clean Energy

The Summerhaven Wind Energy Centre is being proposed by NextEra Energy Canada. NextEra Energy Canada's parent company, NextEra Energy Resources is North America's largest wind energy owner and operator. NextEra Energy Resources has approximately 18,000 megawatts of generation capacity including over 7,600 megawatts of wind power facilities and over 9,000 wind turbines operating across North America.

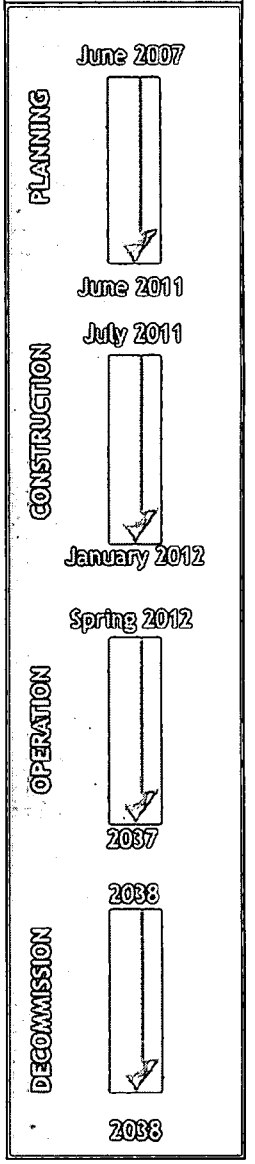
Benefits of Wind Power

ECONOMIC BENEFITS
- 25% capital cost spent within Ontario
- Full-time employment for 6-8 people
- Direct income to participating landowners
- Construction jobs for 200-300 people
- Increased property tax revenue for Haldimand County

CLEAN AND EFFICIENT
- Limited greenhouse gas emissions from electricity generation
- Efficient and mechanically reliable
- Easily coexists with agricultural land uses
- Does not need water as a cooling source
- Wind farms are low impact projects

PRICE STABILITY
- Help stabilize the cost of power
- Virtually zero fuel costs
- Can be produced domestically

Project Timeline



For more information, please contact:

Tom Bird, Environmental Services, Project Manager
NextEra Energy Canada, ULC
5500 North Service Road, Suite 205
Burlington, Ontario L7L 6W6
Phone: 1-877-257-7330
Email: Summerhaven.wind@NextEraEnergy.com

NEXTera™ ENERGY CANADA

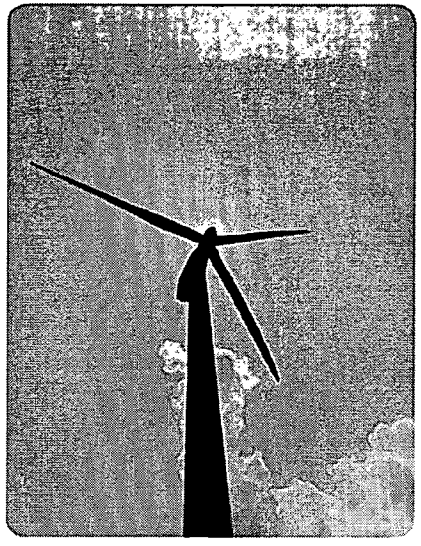
SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind

Welcome

Thank you for attending our Open House about the Summerhaven Wind Energy Centre.



We have invited you here today to:

- Answer your questions
- Get your input on the Project
- Summarize the Renewable Energy Approval (REA) Application
- Make documents available to you

Available information at this Open House includes:

- Our draft REA submission
- Results of Studies
- Subject matter experts available to answer your questions
- General information about wind energy

Please feel free to ask questions to any of the Project representatives in attendance at the Open House today.

We are happy to discuss the Project with you!

NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind

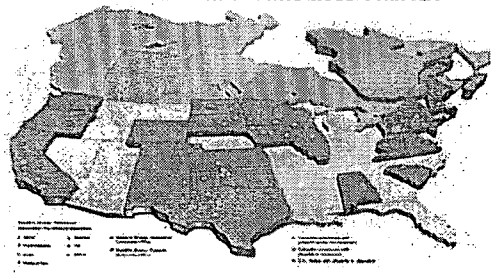
About Us

A Leader in Clean Energy

The Summerhaven Wind Energy Centre is being proposed by NextEra Energy Canada. NextEra Energy Canada's parent company, NextEra Energy Resources is North America's largest wind energy owner and operator. NextEra Energy Resources has approximately 18,000 megawatts of generation capacity including over 7,600 megawatts of wind power facilities and over 9,000 wind turbines operating across North America.

Canadian wind farms currently owned and operated by NextEra Energy Canada include Pubnico Point (30.6 MW) in Nova Scotia and Mount Copper (54 MW) in Quebec and one project, Ghost Pine (81 MW), currently under construction in Alberta. NextEra Energy Canada's headquarters are located in Burlington, Ontario.

NEXTERA ENERGY RESOURCES' NORTH AMERICAN PORTFOLIO



History of the Project

The Project was originally two separate projects

- Air Energy TCI Inc (AET) "Nanticoke Wind Farm"
- NextEra Energy Canada "Summerhaven Wind Farm"

Both former projects had published a Notice of Commencement under O.Reg 116/01 prior the Green Energy Act coming into effect in September 2009.

In November 2009, AET sold all rights to the Nanticoke Wind Farm to NextEra Energy Canada, effectively merging the two projects. The new combined project is called the "Summerhaven Wind Energy Centre".

NextEra Energy Resources facts at a glance

- Largest generator of wind power in North America
- Largest generator of solar power in North America
- Approximately 4,500 employees
- Nearly 90 facilities in operation in 26 states and two provinces in Canada
- Over 18,000 megawatts of generating capacity in North America

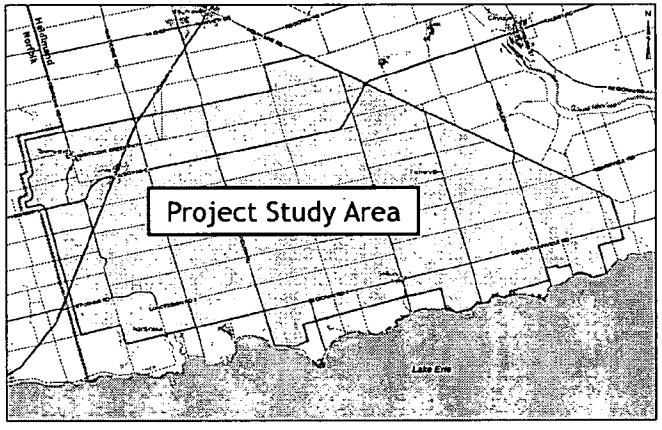
NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind
The Project

The Summerhaven Wind Energy Centre is located in Haldimand County, Ontario. The Project Study Area encompasses approximately 22,583 hectares of primarily rural, agricultural land. The Project is a Class 4 Wind facility consisting of up to 61 wind turbines with a nameplate capacity of up to 135.5 MW.



SCHEDULE *				
PRE-CONSTRUCTION	CONSTRUCTION	COMMISSIONING	OPERATIONS	ANTICIPATED DECOMMISSIONING / REPOWERING
June 2007 to June 2011	July 2011 to January 2012	January 2012	January 2012 to December 2037	January 2038

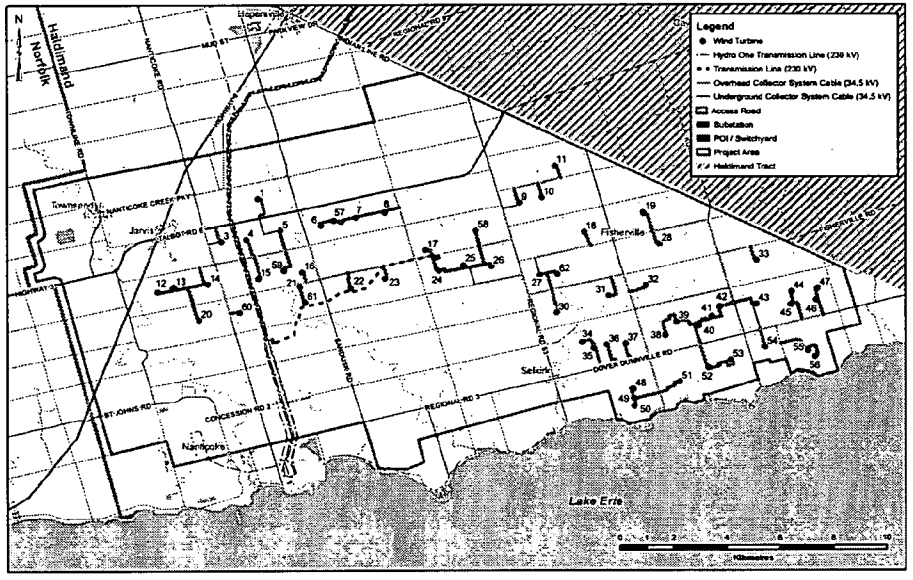
* Pending REA approval

NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

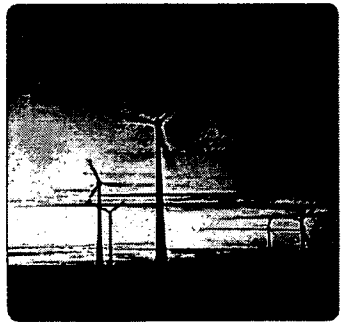
NextEra Energy Canada

Summerhaven Wind
Project Layout



Project Infrastructure:

- Up to 61 wind turbines
- 54 km of gravel roads
- 1 Substation
- 1 Switching station
- Transmission lines
- 3 weather towers
- An operations building



NEXTera ENERGY CANADA

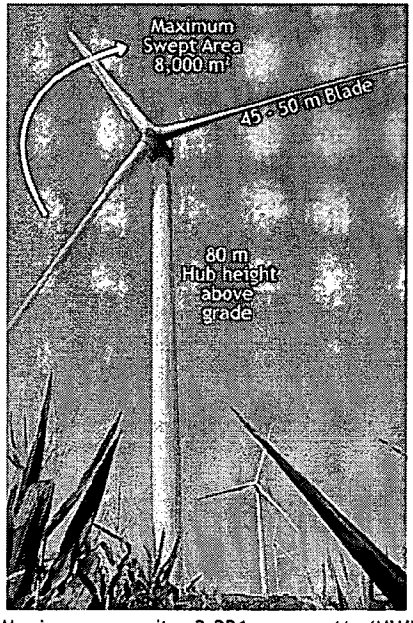
SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind
Turbine Specifications

WIND TURBINE MODELS

Siemens 101 2.221 MW and
Siemens 93 2.221 MW



Turbine Blades
- Rotor diameter of 101 and 93 m
- Swept area of 8,000 and 6,800 m²

Nacelle
- Houses the turbine and gearbox
- Made of steel and fibreglass

Tower
- 80 m tall
- Raises blades to optimum condition
- Equipped with lightning protection

Foundation
- Approximately 17 m x 17 m and 3 m deep
- Made of rebar and formwork
- Only a small portion is visible

Maximum capacity: 2.221 megawatts (MW)
Range of wind speeds: 4 to 25 m/s
Optimum wind speed: 12 - 13 m/s (about 45 km/hr)

NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind
Construction Plan

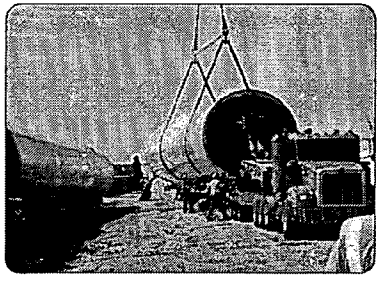
CONSTRUCTION PREPARATION
- Boundaries of turbine sites staked
- Underground pipes and lines marked
- Access roads built
- Laydown areas created

Construction equipment:
- Bulldozers
- Excavators
- Compactors
- Graders
- Concrete Pump/Elevator
- Dump Trucks
- Cranes

WIND TURBINE FOUNDATIONS
- Made of formwork, rebar and concrete
- Mostly underground
- Approximately 17 m x 17 m and 3 m deep
- Tower anchored to foundation by large bolts set in concrete

ELECTRICAL COLLECTOR SYSTEM
- Underground cables
- Overhead cables
- Switchyard and Point of Interconnect
- Substation

Ploughing, trenching and directional drilling will be used to install the underground cables. The cabling will be buried at a depth that will not interfere with normal agricultural practices.



OPERATIONS BUILDING
The operations building will be approximately 465 m² with a parking lot, and will include washrooms, mess facilities and a storage area.

SUBSTATION AND SWITCHYARD
- Isolation switch
- Circuit breaker
- Step-up power transformer
- Transmission switch gear
- Instrument transformers
- Grounding and metering equipment
- Metal fences

NEXTera ENERGY CANADA

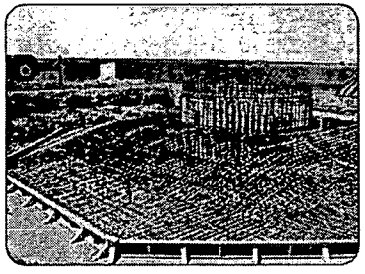
SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind Construction Plan

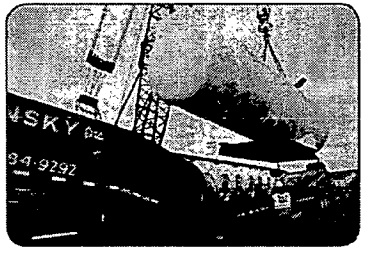
POTENTIAL IMPACTS

- Vegetation clearing during construction
- Soil compaction from traffic and heavy machinery
- Increased storm water run-off to local streams
- Increased traffic
- Use of heavy machinery
- Nuisance to humans and animals
- Dust and noise creation



MITIGATION MEASURES

- Soils will be ploughed and revegetated after construction
- Streams monitored for increased flow rates
- Streams monitored for increased sediments
- Soil stockpiles will be covered with plastic sheets
- Silt fencing will be used
- Dust Management Plan
- Dust suppressants
- Wind fences
- Construction activities will be in compliance with Haldimand County noise by-law



CONSTRUCTION CLEAN UP

- All vehicles and construction equipment will be removed
- Excavated soil will be replaced
- Disturbed areas will be re-seeded where possible

All systems will be tested and inspected before operations begin.

NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

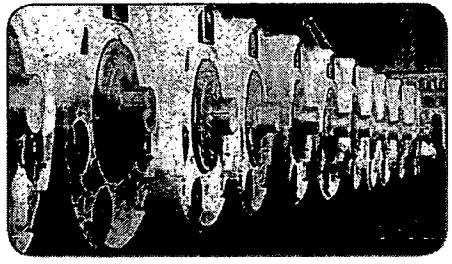
NextEra Energy Canada

Summerhaven Wind Design and Operations

The Project will produce electricity for at least 25 years beginning in 2012 and will include:

- Six to eight full-time workers
- Automated control systems
- Remote monitoring of weather conditions
- Storm and lightning protection
- Emergency Response Plan

Oil and lubricants in the gearboxes and hydraulic systems will be changed regularly.



POTENTIAL EFFECTS

- Wildlife disturbance
- Bird and bat mortality
- Potential noise disturbance

MITIGATION MEASURES

- Designed to avoid natural features
- Bird and bad migration patterns studied
- Monitoring of bird and bat mortality
- Turbines located at least 550 metres from non-participating receptors
- On-site Operations and Maintenance Centre staff available to answer questions during regular business hours

Turbine Siting Considerations:

1. Landowner input
2. Provincial government setbacks
3. Site access
4. Wind yield
5. Noise regulations
6. Existing land use
7. Environmental features and their significance
8. Minimizing watercourse crossings
9. Bird and bat migration and breeding surveys
10. Minimizing the length of collector lines and access roads
11. Archaeological Resources

NEXTera ENERGY CANADA

SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

Summerhaven Wind
Decommissioning Plan

NextEra Energy Canada has a FIT Contract with the Ontario Power Authority guaranteeing they will buy electricity produced by the Project.

After 25 years, the condition of the wind turbines will be assessed and turbines will be either:

- Refurbished;
- Taken down and sold for re-use; or
- Dismantled and disposed of.

Decommissioning will include removing:

- Transformer substation and operations building
- Gravelled parking areas
- Access roads (depending on landowner)
- Overhead power lines and transmission poles (unless shared with local utility)
- Switchyard

Substation electrical equipment will be sold or disposed of and underground power lines will be cut at connection points using a backhoe.

Reclamation activities will include:

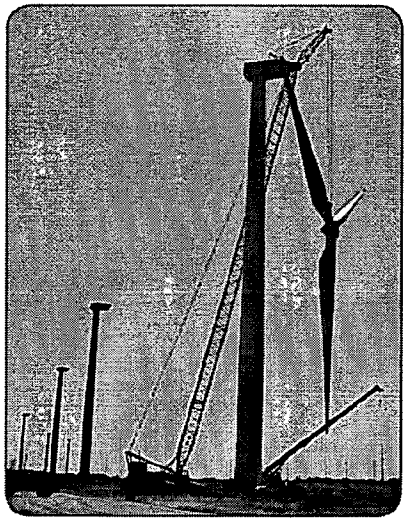
- Ploughing compacted soil
- Regrading
- Spreading new topsoil
- Reseeding
- Revegetation

If agreed upon, the meteorological towers built to monitor the weather may be left in place to be used by Haldimand County or local aviation groups.

Waste generated by the Project may include:

- Oils, fuels and lubricants
- Transmission poles
- Plastic, concrete, wood and metal building materials

These materials will be reused or recycled wherever possible.



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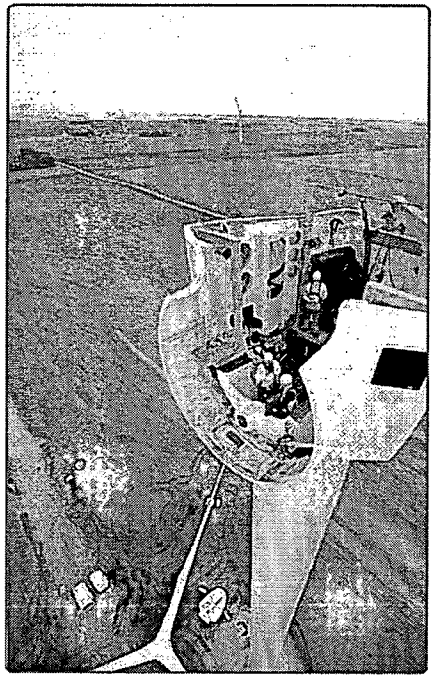
Summerhaven Wind
Noise Study



All regulations have been met by ensuring noise levels are at required levels and siting wind turbines a minimum of 550 metres from any non-participating Point of Reception.

NOISE RECEPTORS

Point of Reception: the centre of buildings or structures that contain one or more dwellings or those used as an educational facility, day nursery, or place of worship

Vacant Points of Reception: a property with no building or structure, whose owner is not participating in the Project

Participating Receptor: an existing building or structure that is participating in the Project, for example a home whose owner has project infrastructure on their property

Vacant Participating Receptor: a property whose owner is participating in the Project, and does not have a building or structure on it

CUMULATIVE NOISE IMPACTS

The Capital Power Corporation Port Dover and Nanticoke Wind Project are planned to be built within 10 km of the Project. Noise modelling included these projects operating at the same time. The results showed that predicted noise levels with both projects operating will be at or below the Ministry of Environment guidelines.

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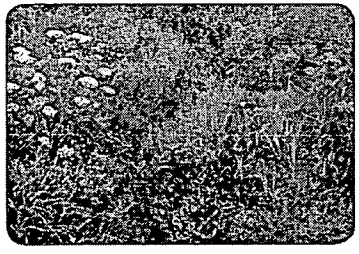
Natural Heritage



Careful construction planning and Best Management Practices will help to protect woodland, valleyland and wetland plants and animals, as well as connections between surface water and groundwater.

Natural features within 120 m of the Project Location were identified through a records review and site investigation. These included:

- 84 vegetation communities, of which 50 have been determined to be significant
- 38 valleyland locations, of which 16 were classified as potentially significant
- no Provincially Significant Wetlands are located within 120 m of the Project Location
- 1 non-provincially significant wetland has been evaluated by the Ministry of Natural Resources
- 6 additional wetlands were identified during site investigations
- 252 drainage features were assessed, 28 were determined to be water bodies by REA definition

The Project will require water crossings for access roads at selected locations. Complying with the Department of Fisheries and Oceans guidelines and operational statements will help avoid harming fish and fish habitat.

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Summerhaven Wind
Natural Heritage

BIRD STUDIES

Avian use surveys were conducted throughout the breeding season and migration period of 2008 and the spring migration period of 2009. Survey results identified:

- 149 different bird species present
- Eight different "species at risk" birds observed
- 72 % of all flying birds were below the rotor-sweep height

The most common birds observed were:

- Red-Winged Blackbird
- Common Grackle
- Common Merganser
- European Starling
- Canada Goose
- Snow Bunting
- Rock Pigeon

BAT STUDIES

Bat field surveys used a three step approach:

- Desktop community classification
- Daytime habitat assessment
- Bat use survey at sunset during June

Species identified included big brown\silver-haired, myotis, red bat and hoary bat.

Red-Winged Blackbird

POTENTIAL IMPACTS

- Sensory disturbance
- Bird and bat mortality
- Corridor habitat disturbance
- Turtle nesting/habitat disturbance
- Raptor breeding disturbance

Big Brown Bat

MITIGATION MEASURES

Potential impacts are expected to be minimal and will be mitigated by environmental compliance monitoring, scheduling construction to avoid breeding season and conducting nest surveys before construction.

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Water Assessment

Water features were identified by:

- Ministry of Natural Resources base data
- Geographic Information System mapping
- Long Point Region Conservation Authority mapping
- Field work (June to September 2010)

POTENTIAL IMPACTS

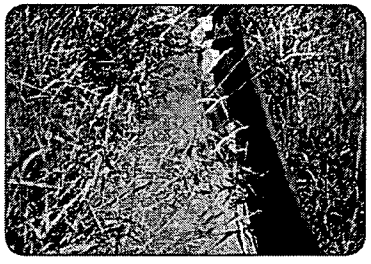
- Soil compaction
- Vegetation removal
- Contamination from accidental spills
- Disturbance from temporary or permanent watercourse crossings

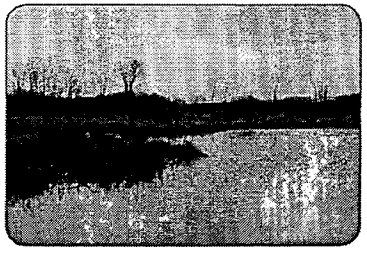
MITIGATION MEASURES

- Machine exclusion zones
- Silt fences
- Sediment traps
- Regular monitoring
- Following the Department of Fisheries and Oceans Operational Statements
- Proper materials identification
- Proper materials transport
- Proper materials disposal
- Environmental Compliance Monitoring
- Stopping work if environmental regulations are not met

No turbine or substation will be located within 30 m of a water body.

When infrastructure is placed within 120 m of a potential water body, a report has been prepared that assesses the significance of the water body, potential impacts, mitigation and monitoring.





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Summerhaven Wind
Archaeology

The Stage 1 Archaeological Assessment found 41 previously known archaeological sites in the Project Study Area:

- 32 pre-contact Aboriginal sites
- 5 historic Euro-Canadian sites
- 4 multi-component sites

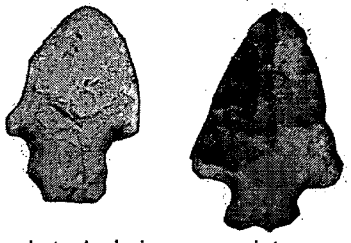
The Assessment determined that archaeological potential was moderate to high, and that Stage 2 field work was necessary. The Ministry of Tourism and Culture agrees with this conclusion and has provided a letter of acceptance.

A Stage 2 Archaeological Assessment has begun and is scheduled to be completed by the end of 2010. Stage 3 and 4 archaeology work is scheduled to be completed before construction.

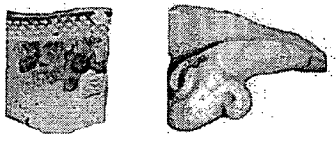
An archaeological site is our link to humans of the past. It could be a village, an ancient campsite or something as small as one piece of a stone tool.

The pre-contact Aboriginal sites found in the Project Study Area include artifacts from 3 different time periods:

- Paleo-Indian (9000 to 8000 B.C.)
- Archaic (8000 to 950 B.C.)
- Woodland (950 B.C. to 1650 A.D.)



Late Archaic spear points from Project Study Area



19th century ceramics from Project Study Area

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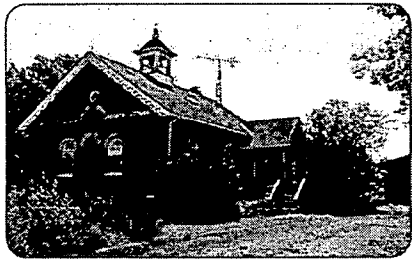
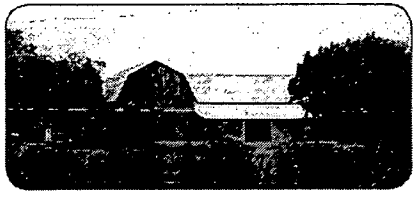
Heritage Assessment





Criteria for Determining Cultural Heritage Value or Interest:

- Recognized for artistic value
- A rare example of a design style
- Associated with an important person
- Associated with an important event
- Recognized as a landmark
- Define the character of an area

The Heritage Assessment evaluated the Project layout against known or potential heritage resources to identify any potential impacts. No direct impacts to heritage resources are anticipated.

The Heritage Assessment identified two types of cultural heritage landscapes:

- Rural or farming landscape
- Cottages along the Lake Erie shoreline

Early land surveys and land grants to United Empire Loyalists and Six Nations are still reflected in the road patterns and farmsteads in the area.

The earliest roads in the area include:

- Old Talbot Road
- Plank Road
- Rainham Road

Lakeshore Road may have originally been a path travelled by First Nations people. The route was used by the earliest European settlers to the County as they travelled from the Niagara Peninsula.

54 houses and 37 barns located on project lands are greater than 40 years old and were determined to have general historical significance. However, when evaluated against the Criteria for Determining Cultural Heritage Value or Interest none of these structures were determined to have cultural heritage value or interest.

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Summerhaven Wind
Public Consultation

Public involvement is integral to the Project!

We believe that working with the community is of paramount importance. We take our responsibilities seriously in providing accurate, detailed information about the Project.

Key issues and concerns raised during consultation to date:

- **Socio-economic**
  - Property values
  - Agriculture
  - Community infrastructure
- **Environment**
  - Animal habitat
  - Birds
  - Bats
- **Human Health**
  - Noise
  - Health concerns
  - Safety
- **Project Details**
  - Project schedule
  - Project location
  - Regulatory process
- **Aboriginal Interests**
  - Consultation
  - Aboriginal and Treaty rights
  - Culture
  - The environment

Key Consultation Milestones:

November 2009:

- Notice of Proposal to Engage in a Renewable Energy Project sent to key stakeholders, landowners, and Aboriginal Communities
- Notice of Public Meeting published in local newspapers
- Draft Project Description Report distributed for review by Municipality and Aboriginal Communities

December 2009:

- Public Meeting 1

October 2010:

- All Draft Project Reports distributed for public and municipal review
- Report Summaries and Draft Project Reports provided to Aboriginal Communities
- Mailed notice of Final Public Meeting to key stakeholders, landowners, and aboriginal communities
- Notice of Final Public Meeting published in local newspapers

December 2010:

- Final Public Meeting

Please submit your comments on or before December 9, 2010 in order for them to be included in the public consultation report to the Ministry of Environment. NextEra Canada remains committed to addressing your concerns at any time.

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Visual Resources
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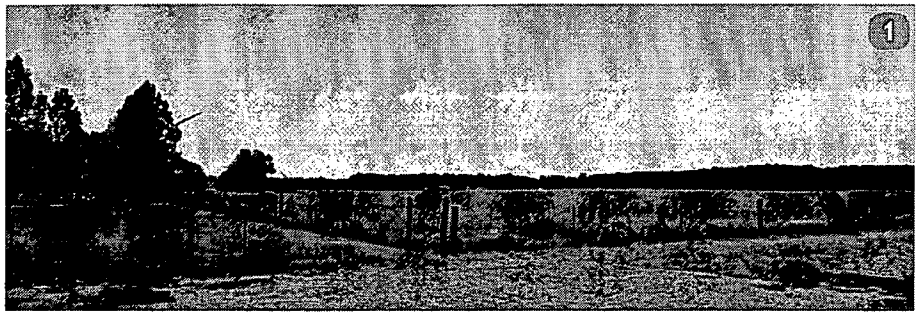

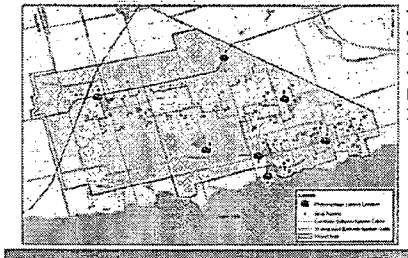

The images above provide a realistic impression of how the Summerhaven Wind Energy Centre will appear from selected viewpoints in the area. Photographs were taken from various locations and planned turbines were added to the viewscape using 3-D modelling software. Location 1 is from Rainham Central School in Fisherville, and Location 2 shows the view looking north from Dover-Dunnville Road.

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Visual Resources
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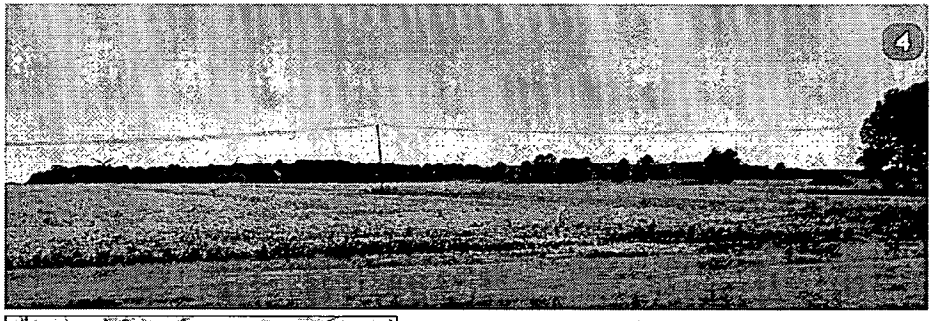

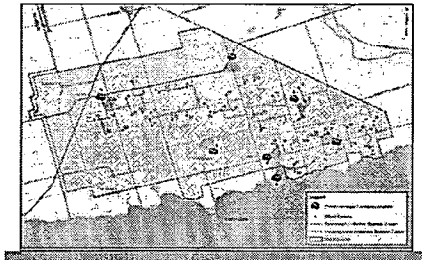

The images above provide a realistic impression of how the Summerhaven Wind Energy Centre will appear from selected viewpoints in the area. Photographs were taken from various locations and planned turbines were added to the viewscape using 3-D modelling software. Location 3 shows the view looking west from the Community of Selkirk, and Location 4 shows the view looking northeast from Lakeshore Road.

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Visual Resources
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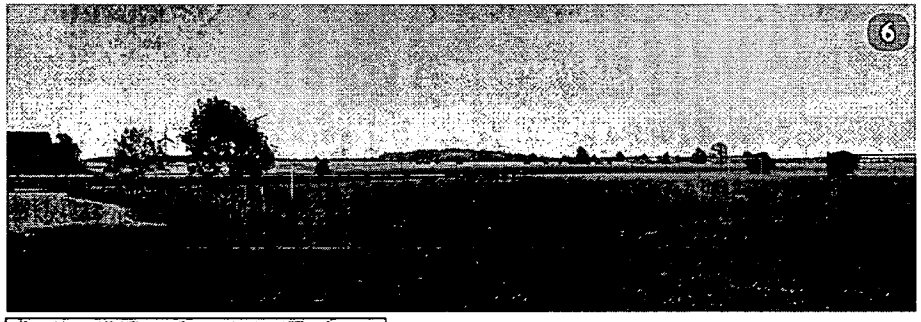

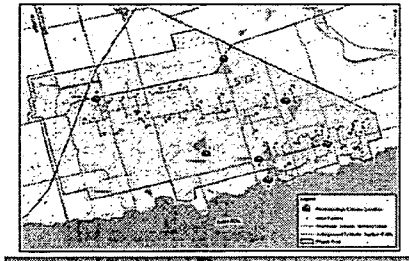

The images above provide a realistic impression of how the Summerhaven Wind Energy Centre will appear from selected viewpoints in the area. Photographs were taken from various locations and planned turbines were added to the viewscape using 3-D modelling software. Location 5 shows the view looking northwest from the Community of Cheapside, and Location 6 shows the view looking southeast from Jarvis District Christian School in the Community of Jarvis.

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SUMMERHAVEN WIND ENERGY CENTRE

Visual Resources
Summerhaven Wind

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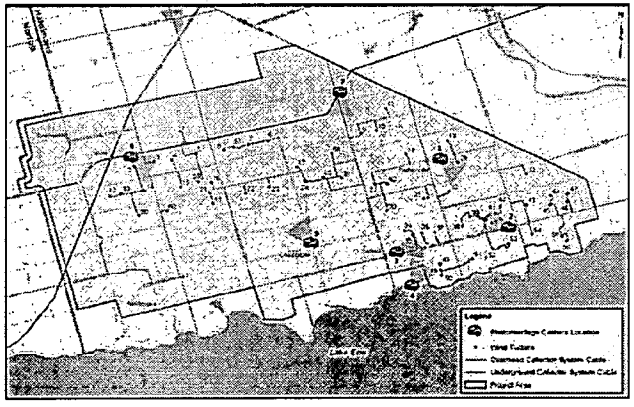

The image above and on the adjacent posters provide a realistic impression of how the Summerhaven Wind Energy Centre will appear from selected viewpoints in the area. Images are intended to be viewed from a distance of approximately 2 feet. Photographs were taken from various locations and planned turbines were added to the viewscape using 3-D modelling software. The photographs are numbered and correspond with the numbers on the index maps. The pink arrows indicate the direction of the vantage point. Location 7, pictured above, shows the view looking south from Talbot Road towards the Lake.

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SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada

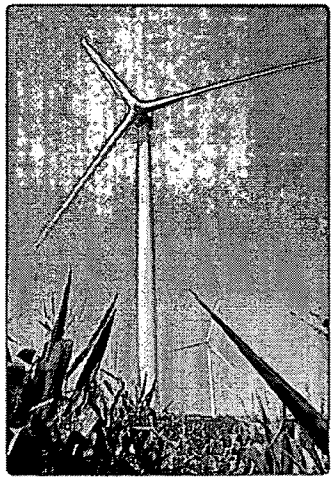
Summerhaven Wind

Wind Turbines and Human Health

NextEra Energy Canada designs its wind farms in accordance with provincial requirements. We use only the state-of-the-art technologies and construction techniques in building our world-class facilities. Each one of our facilities meets and adheres to international, national, provincial and local safety standards. Both the American National Standards Institute (ANSI) and the United Kingdom's Department for Environment, Food and Rural Affairs (DEFRA) standards have been met.

It is important to note, the turbines we use feature "quietness warranties", assuring that sound levels will not exceed pre-determined levels. The level and types of sound reaching neighbours must be determined on a case-by-case basis, depending upon the type of turbine involved, its characteristics, and how far a turbine is separated from a neighbouring residence.

We recognize that there have been many studies based on wind turbines. However, studies from other countries or other wind farms cannot be fairly applied to our wind turbines when analyzing health concerns or establishing setbacks. These studies largely focus on larger or different model types, or older designs of wind turbines (with the blades leeward of the nacelle), instead of the newer design type turbines, or the specific models and sizes used by NextEra Energy Canada. Only a fair comparison of the same turbine types and identical setbacks or arrays are appropriate.



- There is nothing unique about the sounds and vibrations emitted by wind turbines
- Vibrations produced by wind turbines do not pose a health risk
- Wind turbines do not pose a risk of hearing loss
- Sub-audible, low frequency sound and infrasound from wind turbines do not present a risk to human health

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NextEra Energy Canada

Summerhaven Wind

Stray Voltage

NextEra Energy Canada will use Industry Best Practices in the design of the Project to minimize the risk of stray voltage to consumers and ensure our projects are built and maintained within acceptable levels as prescribed by the local safety code.

Most cases of stray voltage occur when there is either:

- Improper grounding of on-site equipment (in which case it is an issue with on-site wiring)
- A change in current patterns on the distribution line, from generation or load, that exposes a pre-existing condition (in which case it is an issue with the distribution utility, not with the generator or load)

The turbines are therefore not the root of the problem, but if they are visible they may be mistaken as the reason that the problem occurs. All types of generation (wind generation using wind turbines included) must fully comply with utility requirements to ensure that the electricity they supply is compliant with grid standards.

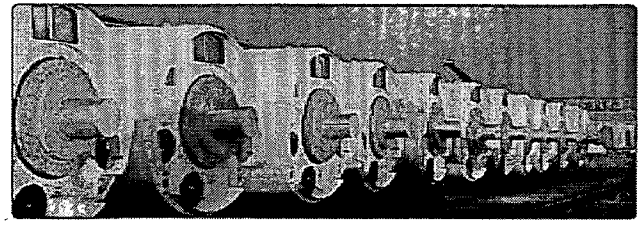
How we address these concerns:

Stray voltage problems require on-site inspection for grounding problems, or examination of power quality issues with the distribution utility, Hydro One.

If you think you have a stray voltage problem, please contact the Hydro One Customer Communications Centre at 1-888-664-9376 (Monday to Friday, 7:30 am to 8:00 pm).

For more information, go to www.HydroOneNetworks.com/strayvoltage

For additional information on the effects of stray voltage on livestock, see the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) website, www.omafra.gov.on.ca/english/livestock/dairy/facts/strayvol.htm



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SUMMERHAVEN WIND ENERGY CENTRE

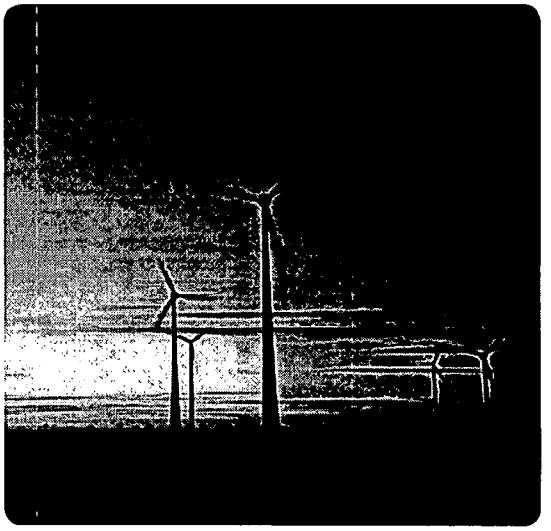
NextEra Energy Canada

Summerhaven Wind

Thank You!

Thank you very much for attending our Open House and providing your valuable input on the Summerhaven Wind Energy Centre Project.

Your input is very important to us. We will record your questions, comments and concerns today for consideration in the Renewable Energy Approval application. You can find copies of all of the draft reports online:
www.CanadianWindProposals.com



If you have any further questions or comments, please feel free to contact:

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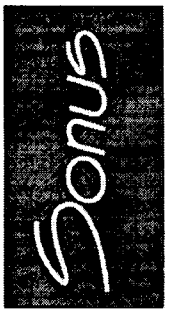

WIND FARMS TECHNICAL PAPER

Environmental Noise

Prepared for

CLEAN ENERGY COUNCIL
Suite 201, 18 Kavanagh Street
SOUTHBANK 3006

November 2010
S3387C6

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INTRODUCTION

Australian wind farms currently provide 1841MW of power or enough energy to power 772,286 homes (Clean Energy Council Renewable Energy Database, April 2010). With this level of generation comes a need to ensure their advantages are balanced against the amenity of the communities that live in their vicinity.

This Technical Paper has been prepared to provide the latest information to communities, developers, planning and enforcement authorities and other stakeholders on environmental noise from wind farms and includes:

- An explanation of the sources of noise from a wind farm and its characteristics;
- A summary of the various Australian wind farm noise standards and guidelines and a comparison of the local and International approaches;
- A description of the methodology associated with a detailed environmental noise assessment prepared for a wind farm in accordance with the relevant standards and guidelines;
- A description of the various terms used in those assessments including the ambient noise environment, background noise levels and characteristics such as modulation, tonality, infrasound and low frequency;
- A summary of the research conducted into a range of issues including:
    - Health impacts and annoyance;
    - Infrasound and low frequency;
    - Amplitude modulation; and
    - Sleep disturbance

EXECUTIVE SUMMARY

Virtually all processes generate noise, including wind farms. The response to noise by individuals can be wide and varied. Noise is often the most important factor in determining the separation distance between wind turbines and sensitive receivers. The assessment of noise therefore plays a significant role in determining the viability of and the size of wind farms.

Australian jurisdictions presently assess the noise from wind farms under a range of Standards and Guidelines applicable to each individual State or Territory.

The Standards and Guidelines used in Australia and New Zealand are stringent in comparison to other International approaches. They are also the most contemporary in the World, with recent updates and releases of the main assessment approaches occurring in both late 2009 and early 2010.

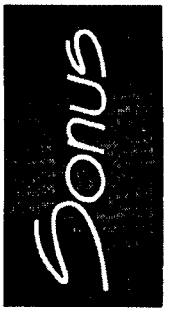
Notwithstanding the above, there are community concerns relating to both annoyance and health impacts associated with environmental noise from both planned and operating wind farms. As such, the Clean Energy Council has engaged Sonus to make an independent review of the available information relating to noise from wind farms.

The information in this Technical Paper results in the following key conclusions:

- The standards and guidelines used for the assessment of environmental noise from wind farms in Australia and New Zealand are amongst the most stringent and contemporary in the World;

- There are inherent discrepancies associated with a number of different approaches from jurisdiction to jurisdiction;

- The rate of complaints relating to environmental noise emissions from residents living in the vicinity of operating wind farms is very low;



- There are complaints relating to environmental noise emissions from residents living in the vicinity of operating wind farms. These complaints generally relate to concerns regarding low frequency noise and health related impacts; and

- There is detailed and extensive research and evidence that indicates that the noise from wind farms developed and operated in accordance with the current Standards and Guidelines will not have any direct adverse health effects.

THE NOISE FROM A WIND FARM

The acoustic energy generated by a wind turbine is of a similar order to that produced by a truck engine, a tractor, a large forklift or a range of typical earthmoving equipment. However, a wind turbine is a stationary source that operates in conjunction with other turbines in a generally windy environment, is located high above the ground and has different noise characteristics compared to these other noise sources.

This section provides information relating to the level and characteristics of noise from a wind farm.

Noise is inherently produced by moving elements. There are two main moving elements that generate the environmental noise from a wind turbine, being the external rotating blades and the internal mechanical components such as the gearbox and generator.

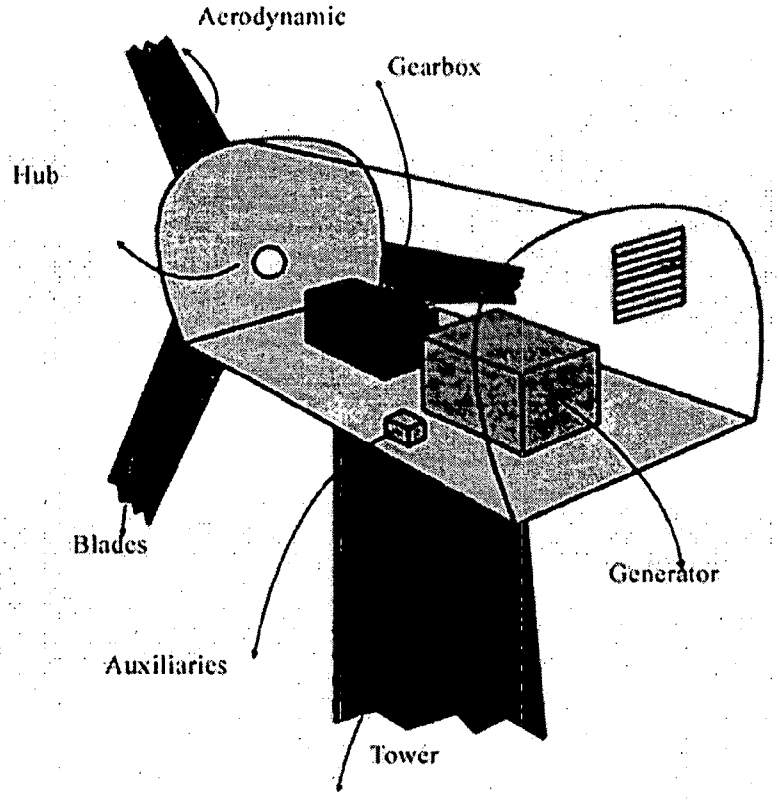


Figure 1 - (Modified from Wagner 1996)

The noise from the blades and the internal machinery are commonly categorised as aerodynamic and mechanical noise respectively.

Mechanical Noise

Mechanical noise sources are primarily associated with the electrical generation components of the turbine, typically emanating from the gear box and the generator. Mechanical noise was audible from early turbine designs. On modern designs, mechanical noise has been significantly reduced (Moorhouse et al., 2007), such that aerodynamic noise from the blades is generally the dominant noise emission from a wind turbine.

Aerodynamic Noise

Aerodynamic noise typically dominates the noise emission of a wind turbine and is produced by the rotation of the turbine blades through the air.

Turbine blades employ an airfoil shape to generate a turning force. The shape of an airfoil causes air to travel more rapidly over the top of the airfoil than below it, producing a lift force as air passes over it. The nature of this air interaction produces noise through a variety of mechanisms (Brooks et al., 1989).

In general terms, the noise we hear in any environment is a combination of energy at different frequencies. There are noise sources that have their dominant content of energy present in the higher frequencies, such as a whistle, and noise sources that have their dominant content in the low frequencies, such as a diesel locomotive engine. Most noise sources are "broadband" in nature; that is they possess energy in all frequencies. A typical broadband noise is music, where the bass content is in the low frequency region, and the voices and general melody are in the middle and higher frequencies.

Aerodynamic noise is broadband in nature and present at all frequencies. Weighting networks are applied to measured sound pressure levels to adjust for certain characteristics. The A-weighting network (dB(A)) is the most common, and it is applied to simulate the human response for sound in the most common frequency range. Therefore, the A-weighted network (dB(A)) is the network used in wind farm standards and guidelines.

Aerodynamic noise can be further separated into the following categories, generally termed "characteristics":

Amplitude Modulation

Amplitude modulation is most commonly described as a "swish" (Pedersen, 2005). "Swish" is a result of a rise and fall in the noise level from the moving blades. The noise level from a turbine rises during the downward motion of the blade. The effect of this is a rise in level of approximately once per second for a typical three-bladed turbine as each blade passes through its downward stroke.

It was previously thought that "swish" occurred as the blade passed the tower, travelling through disturbed airflow, however, a recent detailed study indicates it is related to the difference in wind speed over the swept area of a blade (Oerlemans and Schepers, 2009).

Other explanations for the rise in noise level that occurs on the downward stroke relate to the slight tilt of the rotor-plane on most modern wind turbines to ensure that the blades do not hit the tower. An effect of the tilt is that when the blades are moving downwards they are moving against the wind. Conversely, when moving upwards they are moving in the same direction as the wind. Therefore, with the effective wind speed being higher on the downward stroke, it is suggested that a higher noise level is produced (Sloth, 2010).

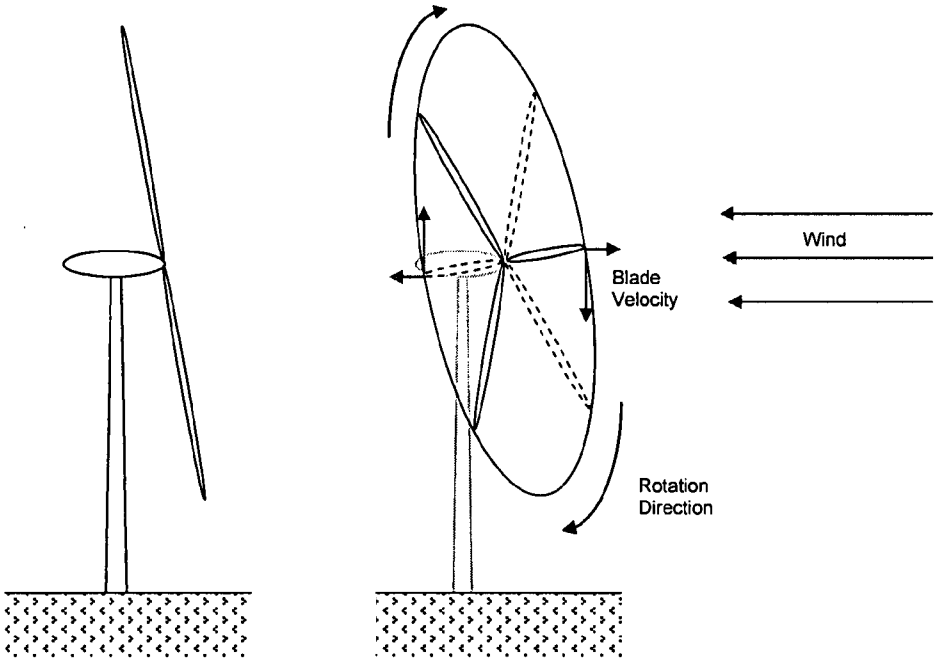
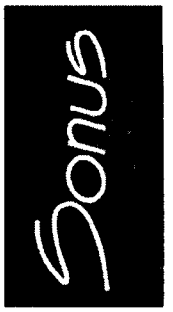


Figure 2 - Blade Velocity due to Tilt



Low Frequency Noise

Noise sources that produce low frequency content, such as a freight train locomotive or diesel engine; have dominant noise content in the frequency range between 20 and 200 Hz (O'Neal et al, 2009). Low frequency noise is often described as a "rumble".

Aerodynamic noise from a wind turbine is not dominant in the low frequency range. The main content of aerodynamic noise generated by a wind turbine is often in the area known generically as the mid-frequencies, being between 200 and 1000Hz.

Noise reduces over distance due to a range of factors including atmospheric absorption. The mid and high frequencies are subject to a greater rate of atmospheric absorption compared to the low frequencies and therefore over large distances, whilst the absolute level of noise in all frequencies reduces, the relative level of low frequency noise compared to the mid and high frequency content increases. For example, when standing alongside a road corridor, the mid and high frequency noise from the tyre and road interaction is dominant, particularly if the road surface is wet. However, at large distances from a road corridor in a rural environment, the remaining audible content is the low frequency noise of the engine and exhaust.

This effect is exacerbated in an environment that includes masking noise in the mid and high frequencies, such as that produced by wind in nearby trees.

A typical separation distance between wind farms and dwellings is of the order of 1000m. At similar distances, in an ambient environment where wind in the trees is present, it is possible that only low frequencies remain audible and detectable from a noise source that produces content across the full frequency range. This effect will be more prevalent for larger wind farms because the separation distances need to be greater in order to achieve the relevant noise standards. A greater separation distance changes the dominant frequency range from the mid frequencies at locations close to the wind farm to the low frequencies further away, due to the effects described above.

The low frequency content of noise from a wind farm is easily measured and can also be heard and compared against other noise sources in the environment. Low frequency sound produced by wind farms is not unique in overall level or content and it can be easily measured and heard at a range of locations well in excess of that in the vicinity of a wind farm. The C-weighting network (dB(C)) has been developed to determine the human perception and annoyance due to noise that lies within the low frequency range.

Infrasound

Infrasound is generally defined as noise at frequencies less than 20 Hz (O'Neal et al., 2009). The generation of infrasound was detected on early turbine designs, which incorporated the blades 'downwind' of the tower structure (Hubbard and Shepherd 2009). The mechanism for the generation was that the blade passed through the wake caused by the presence of the tower.

Audible levels of infrasound have been measured from downwind blade wind turbines (Jakobsen, J., 2005). Modern turbines locate the blades upwind of the tower and it is found that turbines of contemporary design produce much lower levels of infrasound (Jakobsen, J., 2005), (Hubbard and Shepherd 2009).

Infrasound is often described as inaudible, however, sound below 20 Hz remains audible provided that the sound level is sufficiently high (O'Neal et al, 2009). The thresholds of hearing for infrasound have been determined in a range of studies (Levanthall, 2003).

Non-audible perception of infrasound through felt vibrations in various parts of the body is not possible for levels of infrasound that are below the established threshold of hearing and only occurs at levels well above the threshold (Moeller and Pedersen, 2004).

Weighting networks are applied to measured sound pressure levels to adjust for certain characteristics. The A-weighting network (dB(A)) is the most common, and it is applied to simulate the human response for sound in the most common frequency range. The G-weighting has been standardised to determine the human perception and annoyance due to noise that lies within the infrasound frequency range (ISO 7196, 1995).

A common audibility threshold from the range of studies is an infrasound noise level of 85 dB(G) or greater. This is used by the Queensland Department of Environment and Resource Management's (DERM's) draft Guideline for the assessment of low frequency noise as the acceptable level of infrasound in the environment from a noise source to protect against the potential onset of annoyance and is consistent with other approaches, including the UK Department for Environment, Food and Rural Affairs (DEFRA., Leventhall, 2003).

Whilst the aerodynamic noise from a rotating turbine blade produces energy in the infrasound range, measurements of infrasound noise emissions from modern upwind turbines indicates that at distances of 200 metres, infrasound is in the order of 25 dB below the recognised perception threshold of 85 dB(G) and other similar recognised perception thresholds (Hayes Mckenzie Partnership Ltd, 2006). A 25 dB difference is significant and represents at least a 100 fold difference in energy content. Infrasound also reduces in level when moving away from the source, and separation distances between wind farms and dwellings are generally well in excess of 200m.

Notwithstanding the above, there are natural sources of infrasound including wind and breaking waves, and a wide range of man-made sources such as industrial processes, vehicles and air conditioning and ventilation systems that make infrasound prevalent in the natural and urban environment (Howe, 2006).

Future Designs

A wind turbine converts wind energy into rotational energy (which in turn becomes electricity) and acoustic energy. An efficient wind turbine converts more of the wind energy into rotational energy with all other factors, such as blade angles, being equal. Therefore, it is in the best interests of wind turbine manufacturers to research and make available quieter turbines, as this indicates an increase in the available electricity generating capacity as well as the benefits of lower noise levels:

> *The sound produced by wind turbines has diminished as the technology has improved. As blade airfoils have become more efficient, more of the wind energy is converted into rotational energy, and less into acoustic energy. Vibration damping and improved mechanical design have also significantly reduced noise from mechanical sources.*
> *(Rogers et al, 2006)*

STANDARDS AND GUIDELINES

Australia presently assesses the noise from wind farms under a range of Standards and Guidelines applicable to each individual State or Territory, shown below in Table 1

Table 1 – Summary of Australian State Standards and Guidelines for Wind Farms

State or Territory	Assessment Procedure	Comments
South Australia	SA EPA Wind Farms Environmental Noise Guidelines July 2009	The 2009 Guidelines is an updated version of the original 2003 Guidelines. The release follows a review process initiated in 2006
New South Wales	SA EPA Wind Farms Environmental Noise Guidelines February 2003	New South Wales has not automatically endorsed the 2009 version of the Guidelines, and at this stage retains the 2003 version as the primary assessment procedure.
Western Australia	SA EPA Wind Farms Environmental Noise Guidelines February 2003	The document EPA Guidance for the Assessment of Environmental Factors No. 8 – Environmental Noise Draft May 2007 refers to the 2003 version as the primary assessment procedure. The WA Government has not endorsed the 2009 version of the Guidelines at this stage.
Queensland	No formal assessment procedure	The New Zealand Standard and the South Australian 2003 Guidelines have been referenced by the Queensland Government in the past.
Victoria	New Zealand Standard NZS 6808:1998 *Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators*	The document Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria refers to the 1998 version of the New Zealand Standard as the primary assessment procedure. The 2010 version of the Standard has not been endorsed in the Guidelines at this stage.
Tasmania	Department of Primary Industries, Water and Environment (Tasmania) *Noise Measurement Procedures Manual 2004*	The document does not provide objective criteria and therefore the use of one of the assessment procedures noted for the States above will be required in conjunction with the 2004 Manual.
ACT and Northern Territory	No formal assessment procedure	To be assessed on a case by case basis.

In addition to the above, Australian Standard AS4959 – 2010 *Acoustics – Measurement, prediction and assessment of noise from wind turbine generators* has been released recently. The Standard does not provide any objective criteria, but rather it aims to provide a suitable framework to develop a method for the measurement, prediction and assessment of noise from wind farms.

Based on the above, a wind farm proposal could be subject to a range of assessment procedures depending on the jurisdiction. Whilst there are consistent elements in the different procedures, there are inherent and important discrepancies.

Objective Standards

In general terms, the noise from a wind farm increases with wind speed up until the rated power (electrical output capacity) of the particular turbine, when the noise then remains constant or even reduces at higher wind speeds. The increase in wind turbine noise as the wind speed increases normally plateaus, or even potentially diminishes, occurs in an environment where the background noise level continues to increase, the effect of which is to assist in masking the wind farm noise.

Therefore, wind farm standards and guidelines in Australia and New Zealand set a base noise limit that generally applies at lower wind speeds when the background noise is relatively low, and a background noise related limit that allows the wind farm to generate higher noise levels as the wind speed increases.

In circumstances where the background noise levels are sufficiently low, the base noise limit applies. This generally occurs at lower wind speeds and/or at dwellings that are not subject to a sufficiently high background noise environment, such as might occur at a dwelling deep in a valley with little to no surrounding vegetation.

In circumstances where the background noise levels increase sufficiently, the background noise related limit applies. This generally occurs at higher wind speeds and/or at dwellings that are subject to a high background noise environment, such as might occur at a dwelling on a ridge top surrounded by trees.

Where the wind farm is able to achieve the base line noise limit at higher wind speeds, the masking effect of the background noise environment does not need to be taken into account. This is because the base line noise limit is generally established to ensure there are no adverse noise impacts, even in a low background noise environment when the masking effects are limited.

The objective standards provided by the various assessment procedures is summarised in the table below:

Table 2 - Objective Standards

Assessment Procedure	Objective Standard	Comments
Government of South Australia Wind Farms Environmental Noise Guidelines February 2003	Base noise limit: 35 dB(A) Background noise limit margin: 5 dB(A). The greater of the above limits applies.	The limits are an equivalent (or effectively an average) noise level.
Government of South Australia Wind Farms Environmental Noise Guidelines July 2009	Base noise limit: 35 dB(A) (Rural living locality) Base noise limit: 40 dB(A) (in other localities including general farming and rural areas) Background noise limit margin: 5 dB(A). The greater of the above limits applies.	The base noise level limit has been increased to 40 dB(A) to ensure consistency with the assessment limits applied by the *South Australian Environment Protection (Noise) Policy 2007* to other noise sources in a general farming or rural locality.
New Zealand Standard NZS 6808:1998 *Acoustics – The Assessment and Measurement of Sound from Wind Turbine Generators*	Base noise limit: 40 dB(A) Background noise limit margin: 5 dB(A). The greater of the above limits applies.	Whilst there is conflicting information in the Standard, the limits are taken to be an equivalent noise level.

Assessment Procedure	Objective Standard	Comments
New Zealand Standard NZS 6808:2010 *Acoustics – Wind Farm Noise*	Base noise limit: 35 dB(A) (High amenity area) Base noise limit: 40 dB(A) (Other areas) Background noise limit margin: 5 dB(A). The greater of the above limits applies.	The limits are expressed explicitly in the Standard to be a 90th percentile level (L_{A90}). The L_{A90} is inherently less than the equivalent noise level and therefore the limits are higher (less stringent) than those in the South Australian Guidelines. A high amenity area is related to a review of the planning system and the specific requirement in the relevant plan to maintain a high degree of protection to the "sound environment". If the area is deemed to be of high amenity, then the L_{A90} 35 dB(A) base noise level limit applies only during the night period, and for wind speeds less than 6 m/s or other defined threshold for that specific proposal.
Australian Standard AS4959 – 2010 *Acoustics – Measurement, prediction and assessment of noise from wind turbine generators*	Deferred to the relevant jurisdiction.	Notes that the jurisdiction should have a base noise level limit and a background noise level limit.
Environment Protection Heritage Council (EPHC) prepared Draft National Guidelines October 2009 and July 2010	Deferred to the relevant jurisdiction.	Notes that the jurisdiction should have a base noise level limit and a background noise level limit.

Comparison of the objective standards with International approaches

The objective standards provided by a range of International assessment procedures is summarised in the table below (Reference 1 unless noted otherwise):

Table 3 – Summary of International Standards

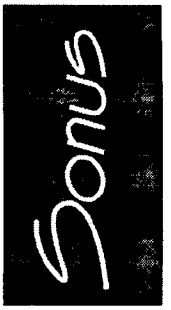
Assessment Procedure Country of Origin	**Objective Standard**	**Comments**
Sweden	Base noise limit: 40 dB(A) Low background areas: 35 dB(A)	The approach does not provide a definition for a low background area.
Denmark	Noise limit: 44 dB(A) @ 8m/s 42 dB(A) @ 6m/s For sensitive areas such as institutions, allotment gardens and recreation: Noise limit: 39 dB(A) @ 8m/s 37 dB(A) @ 6m/s	No background noise limit is applied. The noise limits are determined for wind speeds taken at 10m above the ground.
France	Background noise limit margin: 5 dB(A) – day time Background noise limit margin: 3 dB(A) – night time	Based on a background noise measurement made at a wind speed of 8m/s
The Netherlands	Noise limit: 40 dB(A) at night increasing incrementally up to 50 dB(A) at 12m/s	

Assessment Procedure Country of Origin	Objective Standard	Comments
United Kingdom	Base noise limit: 40 dB(A) (day time) Base noise limit: 43 dB(A) (night time) Background noise limit margin: 5 dB(A). The greater of the above limits applies.	The limits are a 90th percentile level (L_{A90}). The L_{A90} is inherently less than the equivalent noise level. The UK assessment procedure indicates the L_{Aeq} from a wind farm is typically of the order of 2 dB(A) greater than the L_{A90} The procedure notes that the recommended noise levels take into account "swish".
USA (Illinois) (Reference TD178-01F06)	Base noise limit: 55 dB(A) (day time) Base noise limit: 51 dB(A) (night time)	The noise limits are determined for an 8 m/s wind speed taken at 10m above the ground. There are no uniform noise standards in the USA, with local counties establishing their own approaches which vary considerably.

In broad terms, the Standards and Guidelines used in Australian jurisdictions include the following common elements:

- Objective standards that provide a base noise limit and a background noise related limit, with the exception of the EPHC draft Guidelines and the Australian Standard;
- A background noise and wind speed measurement procedure to determine the applicable background noise related limits at each dwelling;
- A noise level prediction methodology to enable a comparison of the predicted noise level from the wind farm against the noise limits at each dwelling;
- The required adjustments to the predicted noise levels to account for any special audible characteristics of the wind farm noise;
- A compliance checking procedure to confirm the operational wind farm achieves the predicted noise levels at each dwelling.

In addition, Australian jurisdictions are amongst the most stringent and the most contemporary in the World.



Noise Levels

A common issue for people considering the environmental noise from wind farms is the ability to place the wind farm's noise levels and characteristics in context compared to the ambient environment.

A site visit to an operating wind farm at different times and at typical separation distances between a wind farm and a dwelling, starting from the order of 700m from the nearest turbine, greatly assists in providing this context.

To assist in providing context for typical noise levels from a wind farm, Chart 1 (below) provides the order of noise level in the vicinity of a modern wind turbine. It should be noted that the noise levels presented in the chart will vary according to a range of variables discussed in further detail in the noise propagation section of this Paper.

The base noise level requirement of 35 or 40 dB(A) provided in the main assessment tool in Australia, the South Australian EPA Wind Farm Guidelines, represents a low (stringent) noise level in an environmental noise context. It is significantly more stringent than the World Health Organisation's recommended guideline value of 45 dB(A) for sleep disturbance effects and than the recommended noise levels for road or rail infrastructure development that might occur in a rural environment, where levels of the order of 55 and 60 dB(A) respectively are typically recommended.

The base noise level requirements also need to be considered in the context of the ambient environment. Wind farms are generally located in a rural environment, where the associated planning system often envisages and promotes activity associated with primary industry.

A wind farm is also inherently located in areas where wind is present and therefore background noise levels from wind in the trees and around structures such as houses and sheds can be elevated. The effect of elevated background noise levels is to provide masking of other noise sources in the environment.

Regardless of the stringency of the base noise level or the available masking effect of the ambient environment, wind farm standards and guidelines are not established to ensure inaudibility. The ability to hear a wind farm designed and operated in accordance with the standards and guidelines in Australia will vary according to a range of variables such as the influence of the ambient environment, the local topography, the distances involved and the weather conditions at the time.

All noise, from any noise source including wind farms, which is audible, will result in complaints from some people. In addition, recent research indicates the potential for complaints, annoyance and its associated stress and health impacts may be exacerbated by rhetoric, fears and negative publicity (Colby et al, 2009). There is a significant amount of mis-information and negative publicity about the impacts of wind farms available in the broader community.

Only a few field studies on noise annoyance among people living close to wind turbines have been conducted and further investigations have been recommended by these studies. The European studies (Pedersen, 2005) indicate correlation between the noise level and annoyance, but stronger correlation with factors such as overall sensitivity to noise, attitude towards the noise source, attitude towards the area as a pristine place or a place for economic development, influence over the proposal, daily hassles, visual intrusion and the age of the turbine site.

Tickle (2006) compared the incidence of complaints in Australia and New Zealand, about noise from wind farms and complaints about noise in general and found that once wind farms are built the rates of complaints are very low in Australia and New Zealand.

Notwithstanding the above reasons or information, if a noise source can be heard, then annoyance can result for some people, regardless of the noise level or the standard or guideline that applies.

Figure 3 below provides some relative noise level information and compares wind turbines against common community noise levels:

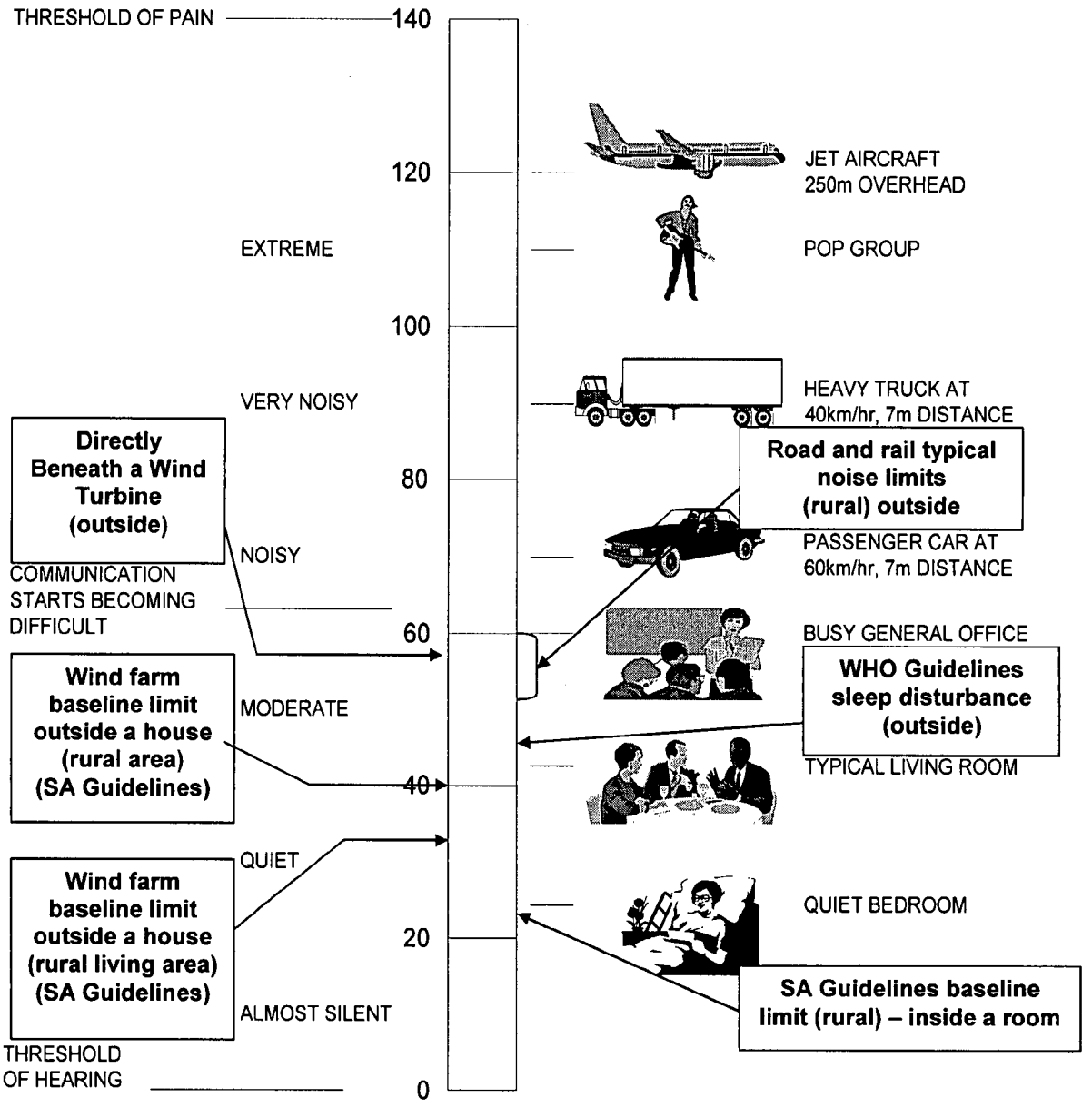


Figure 3 – Subjective Comparison of Noise Levels

ASSESSMENT METHODOLOGY

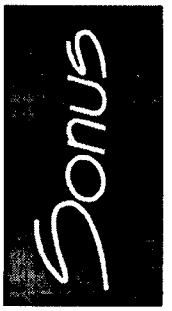
Whilst each Australian jurisdiction is subject to its own Standards and Guidelines and associated detailed requirements, the broad methodology for an environmental noise assessment of a wind farm proposal is similar amongst jurisdictions.

This section of the Technical Paper provides the background to the assessment process to assist in interpretation and understanding of the technical information that will generally be provided as part of a wind farm proposal and assessment.

Environmental Noise Assessment

Noise is often the most important factor in determining the separation distance between wind turbines and sensitive receivers. The assessment of noise therefore plays a significant role in determining the viability of and the size of wind farms.

The developer of a wind farm makes an assessment of the environmental noise from the proposed layout and to determine any necessary modifications to ensure compliance with the relevant Standard and Guidelines. The modifications during the planning and design phase of the project might comprise the removal or relocation of some turbines or the operation of certain turbines at reduced speeds or "modes" that correspond to lower noise levels. The assessment is generally made by an independent acoustic engineer specialising in the prediction and assessment of noise and vibration impacts across a broad range of sectors, including wind farms.



Methodology

The broad methodology associated with an environmental noise assessment of a wind farm proposal is as follows:

1. Review the proposed layout to identify dwellings where the relevant criteria might be exceeded;

   The purpose of the identification is to determine the locations at which background noise monitoring will be conducted.

   The background noise monitoring is a measurement method used to establish the existing ambient noise environment at a dwelling. The technical definition of the background noise is the noise level that is exceeded for 90% or 95% of the measurement period. In subjective terms, it represents the "lulls" that occur in the environment, in between intermittent events such as the overhead passage of an aircraft, a dog barking, wind gusts in trees, or the occasional passing of a vehicle on a nearby road. This is because the background noise excludes all noise level data that is not present for at least 90% (or 95% depending on the Standard or Guideline used) of the time. A common term used in the assessment is the "ambient" noise. The ambient noise is generally taken to include all the intermittent events, whilst the background noise effectively removes these events and represents the noise environment in their absence.

   The background noise at a dwelling is important because it can mask the noise of a wind farm, and the level of that masking can be an important factor in the assessment. The most general source of background noise level masking, particularly at higher wind speeds, is wind in nearby trees.

   The land owners who have a turbine on their land are also identified during this process, as the assessment criteria applied to them are relaxed by most Standards and Guidelines in comparison to dwellings without an association with the proposed wind farm.

Land holdings where a development approval exists to construct a dwelling are also generally identified as most Standards and Guidelines define these as locations where the relevant criteria need to be met.

Once those dwellings and land holdings are identified, the locations that best represent the range of dwellings in the locality are selected. These are generally defined as dwellings that are closest to the wind farm. The Standards and Guidelines generally allow a single dwelling to represent a range of dwellings that are either in the near vicinity or expected to be subject to a similar background noise environment.

A term that is commonly used in the Standards and Guidelines is "relevant receiver location". These locations are generally:

- Where someone resides or has development approval to build a dwelling; and
- Where the predicted noise level exceeds the base noise level for wind speeds up to the rated power of the wind turbine; and
- Representative of the worst case location when considering the range of dwellings, such as a dwelling that is located amongst a similar group in the near vicinity and is the closest to the wind farm.

2. Conduct a background noise monitoring regime at the relevant receiver locations;

The measurement of background noise levels is a critical aspect of the environmental noise assessment as it is the method by which criteria are determined.

The exception to the need to conduct a background noise monitoring regime is in circumstances where the wind farm is able to achieve the base noise level limit (or a prescribed noise level that is less than the base noise level) at wind speeds where the noise output of the particular turbine is at its maximum. This is because the base noise level limit is generally established to ensure there are no adverse impacts even in a low background noise environment where the masking effect is limited or negligible.

Notwithstanding compliance with the base noise level limit, a background noise monitoring regime may still be conducted as it the means by which compliance checking procedures are generally based upon. The compliance checking procedure is discussed in further detail in a dedicated section below.

Where conducted, the background noise monitoring can be over a range of the order of 10 days to 4 weeks, depending on the particular requirements of the relevant Standard or Guideline. The period of monitoring can also be extended where excessive wind or rain adversely affect the data. The apparatus used to continually measure and record the background noise levels over this period is known as a "logger".

The location of the logger is typically at least 5m from the building facade to remove the effects of large reflecting surfaces. The location is also required to be representative of background noise levels and this is generally achieved by placing the logger at an equivalent distance to tall trees as the facade of the house. The logger is also generally placed on the windfarm side of the dwelling to enable any future compliance checking measurements at dwellings to be taken at the same point.

Photographs and a GPS grid reference are typically used to identify each noise logging location. A typical installation is shown in Figure 4 below. The noise logger, comprising a sound level meter and batteries within a weatherproof container connected to a pole mounted microphone, is located in the centre of the photograph.

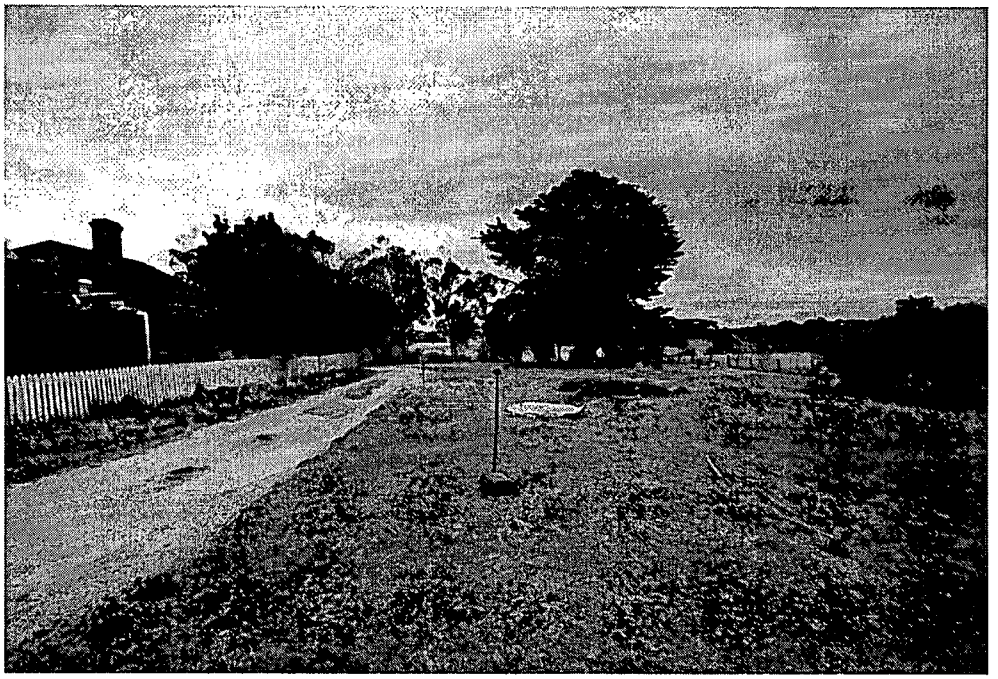


Figure 4 – Typical Noise Monitoring Installation

Some Standards and Guidelines explicitly require the removal of adverse data and data outside of the wind speed operating range of the turbines and it is considered good practice to do so. The 2003 and 2009 SA Guidelines require data points where rain has occurred and when wind on the microphone has had an impact on the measured noise levels to be removed. A way of measuring the occurrence of these factors is to place a weather logger adjacent to one of the background noise loggers to record rainfall, wind speed and wind direction. If in close proximity, a local Bureau of Meteorology weather station can also be used to identify adverse weather periods.

An acoustic engineer would take of the order of one hour to set up the noise logging equipment at each location. Access is normally organised directly with the land holder or dwelling occupier in accordance with established project protocols. Clearly, a land holder or occupier does not need to grant access to their property, however, an advantage of doing so is the ability to confirm compliance, or otherwise, of the operational wind farm against the relevant Standards or Guidelines at a point in the future.

3. Analyse the background noise monitoring data to determine the noise level criteria;

Following the removal of data adversely affected by local weather conditions, the remaining data points are correlated against the wind speed collected at the same time and for the same period as the background noise levels. The background noise level is determined for every ten minute period throughout the 2 to 4 week monitoring regime.

The wind speed is measured by the developer or another independent expert at a representative location within the wind farm by erecting a wind mast with anemometers, sometimes at a number of different heights. There may be more than one wind mast depending on the size of a wind farm.

Earlier Standards and Guidelines required the wind speed to be measured at 10m above the ground, however, recent requirements relate to measurements at or near the proposed hub height of the wind turbine, which may be of the order of 80m above the ground. The reason for the 10m measurement height was to provide correlation with the way the sound power level of a wind turbine is measured in accordance with IEC 61400 – 11 (IEC, 2002)[1], whereas the increase to at or near hub height has been introduced to better represent actual operating scenarios.

The purpose of the correlation of the two sets of data, being the wind speed measured at the wind farm site (data set one) and the background noise levels measured at a relevant receiver (data set two), is to establish the relationship between the operating wind farm and the average background noise level at dwellings in the vicinity, and in turn, to determine the applicable criteria at those dwellings. That is, the correlated data will determine whether the wind farm will be operational during periods when the background noise levels are on average low, providing limited masking, or when the background noise levels are on average high, providing a greater level of masking.

A best fit regression analysis is conducted on the two sets of data. An example plot produced from background noise measurements is given in Figure 5 below.

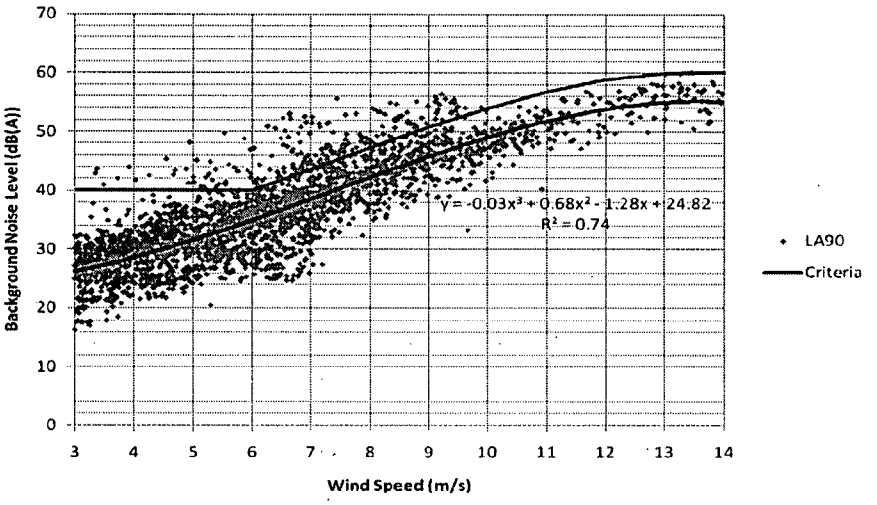


Figure 5 – Example Regression Analysis Plot

[1] An expected revision of the IEC standard will include reference to a hub height measurement position

Whilst most regression analyses will show the trend of the background noise level increasing with an increasing wind speed at the wind farm, the analyses will vary for each individual dwelling. Figure 5 shows a strong relationship between the background noise level and the wind speed at the wind farm, but this will not be the case in all circumstances. Some dwellings may be located such that they are shielded from the effects of the wind at the wind farm site.

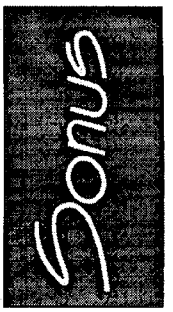
The red line in the figure shows how the correlated data is used to determine the applicable noise level criteria at a dwelling. In this example, the base noise level limit is 40 dB(A), and this is not increased until the average background noise level increases sufficiently to provide a suitable level of masking. In this example, the background noise level becomes suitably high at wind speeds at the wind farm site that are at and above 6 m/s.

An important feature of the regression analysis is that it represents a line of best fit or effectively an "averaging" of the data. Therefore, there will be times when the environment provides more masking than indicated by the line of best fit, and other times when the environment provides less masking.

4. Predict the noise level from the proposed wind farm;

The prediction of noise from a wind farm can be made at any location from a range of available models, and the various Standards and Guidelines provide flexibility with respect to the selection of that model and the assumptions that are made.

In broad terms, the most basic noise models determine the noise level at a location based on the acoustic energy of the noise source, in this case the wind turbine, and the attenuation of noise over distance. These types of noise models do not account for other attenuation factors such as ground absorption, meteorological effects and screening due to ground contours and as such are considered to be inherently conservative (predicting higher noise levels than expected in situ). Basic models are often used by developers to establish a preliminary layout of a wind farm. The more complex and refined models include attenuation due to the factors noted above.



Wind Turbine Sound Power Levels for input to the noise model

The acoustic energy of the noise source is commonly termed the "sound power level", and for wind turbines it is determined in accordance with the International Standard IEC 61400-11 "Wind turbine generator systems – Part 11: Acoustic noise measurement techniques". The sound power level is generally provided for each integer wind speed ranging from the speed that the turbine "cuts in" for operation through to the speed at which it approaches its rated power. The sound power level increases with wind speed and then remains constant or even reduces in higher wind speeds. The sound power level is a constant that does not alter with location for a given wind speed.

The final selection of the wind turbine to be used at a site is typically subject to a competitive tendering process. The tendering process generally occurs in the design and development phase of the project after project approval is granted. This is consistent with a range of other industries and sectors, where plant and equipment contracts are not finalised until after project approval is granted, when all conditions of that approval are known and commitments to outlay significant capital cost can be made.

In addition, lead times between the project approval and procurement stage of a major project can be over a period of years, in which time there may be changes in the turbine models, their available technology and their noise levels. Therefore, it is common practice that noise assessments conducted for the purposes of project approval are made based on representative turbines, rather than a final selection.

The selection of the representative turbines is often made by the proponent or by the proponent in conjunction with an acoustic engineer, to ensure the turbines used are representative of the final turbine selection.

It is in the best interest of a proponent in any major wind farm project to select representative turbines for noise assessment purposes during the project approval stage, as any approval granted is likely to result in conditions and site constraints based on that selection and subsequent assessment. These constraints need to provide sufficient flexibility to invite a range of suppliers to tender for the project as part of a competitive process during the design development and documentation stage of a project.

It is a common arrangement for the wind turbine manufacturer to guarantee a sound power level of a particular make and model of a turbine to a wind farm developer. This guarantee is then confirmed in situ repeating the methodology provided by the International Standard (IEC, 2002).

Attenuation factors for input to the noise model

The attenuation factors are generally chosen to represent the "worst case" situation, such as assuming that the wind is blowing from the turbine to the dwellings or "downwind", however, there is flexibility in the Standards and Guidelines with respect to the factors used for inputs to the models, provided the rationale for these inputs is included in the assessment. Ultimately, the selection of the model and its input factors must be conservative enough to ensure compliance of the operational wind farm. A requirement to conduct a "compliance checking" procedure is included in the Standards and Guidelines used in Australia.

A typical approach to the modeling process is to conduct initial predictions with a simple model that provides a preliminary estimate of the noise. This assists in confirming the proposed background noise logger locations and the preliminary wind farm layouts. These initial predictions are then refined after the background noise monitoring has been completed with a more complex model. In Australia, this is typically either the CONCAWE or ISO-9613 noise propagation model using conservative assumptions.

Joule (*Reference*) has conducted a study of the accuracy of the ISO-9613 model as it relates to wind farms and found that:

> *The accuracy of output from the ISO model is impressive. Agreement with sound pressure levels measured under conditions of an 8 m/s positive vector wind speed has been measured to within 1.5dB(A) on flat, rolling and complex terrain sites.*

As with any model, the accuracy is subject to its inputs which are summarised in the Joule Paper (Bass et al, 1998*)* and in other summary works (Bowdler et al, 2009). These include the temperature and humidity to be used, how hard or soft the ground should be taken to be, the relative height of the receiver and the amount of "barrier" attenuation that should be applied to the ground contours.

Provided these inputs are applied to the ISO 9613 model, the Joule study found that the calculated sound pressure levels are validated to agree to within 2dB(A) of noise levels measured under practical 'worst case' conditions at distances of up to 1000m from a noise source, and that due to the

> *observed scatter of measured sound pressure levels under these same conditions, ... an 85% level of confidence can be placed on the noise levels measured in practice not exceeding the calculated level by more than 1dB(A).*

A 1 dB(A) difference is negligible in terms of perception.

The ISO 9613 model assumes that a receiver is downwind from all wind turbines. In some circumstances such as where the turbines are on opposite sides of a dwelling but at similar distances this will provide a conservative outcome (a predicted noise level higher than that expected in situ). The Standards and Guidelines used in Australia therefore provide the flexibility to use other models that account for an upwind scenario.

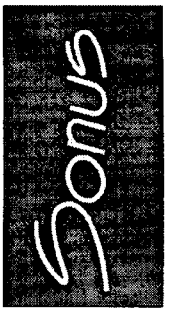
5. Compare the predicted noise levels with the criteria;

A comparison is made between the predicted noise levels and the noise level criteria established by the background noise monitoring regime. This comparison is made for each integer wind speed, generally within the operating range of the wind turbine.

Where the predicted noise levels achieve the criteria, then the process and results are summarised in a report suitable for submission to the relevant authority. The extent of information provided in the reports is summarised in Step 6 below.

Where the predicted noise levels do not achieve the criteria, then mitigation options are considered. The options considered will depend on the number of locations the criteria are exceeded at, the difference between the predicted noise level and the criteria, and the number of integer wind speeds at which the predicted noise level exceeds the criteria. The mitigation options include:

- The operation of wind turbines under reduced noise level modes for particular conditions;
- The consideration of alternative turbines with lower sound power levels;
- The adjustment of the wind turbine layout;
- The consideration of removing turbines from the layout.



An example is provided for a dwelling in a low background noise environment:

- *Due to the background noise levels being low on average at the closest dwelling to the proposed wind farm over the required monitoring period, the baseline noise limit applies at all operating wind speeds. In this example, the dwelling is located in a general farming area and the baseline limit is 40 dB(A);*
- *The highest sound power level from the representative turbine selection occurs at a hub height wind speed of 10m/s;*
- *The predicted noise level at wind speeds of 10m/s or greater is 43 dB(A) at the closest dwelling and therefore exceeds the noise level criterion of 40 dB(A);*
- *The options available to reduce the predicted noise level by 3 dB(A) include:*
    1. *Adjusting the layout of the closest turbines to the dwelling;*
    2. *Operating the closest 4 turbines to the dwelling in a low noise mode at wind speeds of 10m/s or greater. This is only required to occur under downwind conditions (wind from the turbines to the dwelling), as the model shows that under upwind conditions (wind from the dwelling to the turbines) the wind farm complies with the baseline limit, even at full mode operation;*
    3. *Selecting an alternative wind turbine with a lower sound power level.*
    4. *Removing the closest turbine to the dwelling.*
- *Of the above, Option 2 is selected, due to the flexibility it provides in the future competitive tendering process for the final wind turbine selection, and the ability of contemporary turbine control systems to implement an operating strategy where certain turbines can be operated in certain "modes" under specific operating conditions like wind speed and/or wind direction.*

Once the predicted noise levels achieve the environmental noise criteria at each relevant receiver and for each operational wind speed, a summary report is prepared that is suitable for submission to the relevant regulatory authority.

6. Prepare a report suitable for submission to the relevant regulatory authority;

A report is prepared by the developer that summarises the above five steps. In general terms, the report would typically provide the following information, subject to the particular requirements of the regulatory authority assessing the development proposal:

- Background noise measurement locations;
- Time and duration of the background noise monitoring regime;
- Wind speed monitoring locations and heights above ground;
- Graphical correlation plot of the wind speed versus background noise level data;
- A summary of the environmental noise criteria for the project at each integer wind speed based on the correlation;
- The make and model of the representative wind turbine/s;
- The positions of the wind turbines;
- The model used to predict the wind farm noise levels;
- The input assumptions and factors used in the model;
- The predicted noise levels at the closest dwellings to the wind farm at each integer wind speed;
- A comparison of the predicted noise levels against the criterion at each integer wind speed for the closest dwellings to the wind farm;
- The modifications or operating strategy required to ensure compliance with all noise criteria for all wind speeds and at all locations;
- A comparison of the predicted noise levels against the criteria at each integer wind speed for the closest dwellings to the wind farm, showing compliance with the proposed modification or operating strategy in place.

The above six steps provide an overview of the typical assessment methodology. The following information provides frequently asked questions during the preparation and finalisation of such an assessment.

Separation Distances

A common request from the surrounding community is to provide a set separation distance between the wind farm and the nearest dwelling.

Where an objective assessment method is used as outlined above, there is no set distance that could be applied with equity to every wind farm. This is because of the range of factors that affect the predicted and the resultant operational wind farm noise level. These factors include the number of turbines, their locations relative to the dwelling, the sound power level of the turbine, the topography between the turbines and the dwelling, the existing background noise environment at the dwelling and the resultant criteria applied by the relevant Standards and Guidelines.

Separation distances between wind farms and dwellings can be of the order of 800 to 1200m. These separation distances will change according the above factors. The separation distances are related to the stringency of the assessment criteria within the relevant Standards and Guidelines.

Assessment Process

An environmental noise assessment for a wind farm needs to contain significant detail to show compliance with Australian jurisdiction's Standards and Guidelines.

As with all assessments, there might be areas that are contended to be at variance with the requirements of those Standards and Guidelines.

Each State Jurisdiction will have its own specific rules with respect to the ability to appeal in situations where the parties do not agree that the assessment provides the necessary information or where a decision of the relevant regulatory authority is in dispute.

A number of wind farms have been considered in the environmental courts in their relevant jurisdictions, including:

- Taralga Landscape Guardians Inc vs Minister for Planning and RES Southern Cross Pty Ltd, NSW Land and Environment Court Proceedings No. 10196 of 2006;
- RES Southern Cross Pty Ltd v Minister for Planning (DOP) and Taralga Landscape Guardians Incorporated (TLG) NSW Land and Environment Court Proceedings No. 11216 of 2007;
- Epuron Pty Ltd & Gullen Range Wind Farm Pty Ltd & Ors vs Parkesbourne / Mummel Landscape Guardians Incorporated (PMLG), NSW Land & Environment Court Proceedings No. 41288 of 2008.

Judgments made in matters such as these provide important clarification in interpretation of the Standards and Guidelines or their general application and scope. Relevant outcomes from the above judgments include:

- An additional 5 dB(A) penalty for excessive amplitude modulation is not necessary when using the SA 2003 Guidelines. However, the application of acoustic treatment to the facades of dwellings in the vicinity might be a precautionary approach for the established presence of such excessive modulation;

- The heightened sensitivity of an individual to noise should not be taken into account in the assessment of a wind farm, but rather the objective and empirical methods of the

relevant Standards and Guidelines adopted by consent authorities and regulators should be relied upon.

The judgment relating to the heightened sensitivity of an individual is important and can be found at Paragraph 154 of the Gullen Range judgment as follows:

> *Inserting subjectivity consent requirements based on an individual's or a group of individuals' reaction to the noise from the wind farm, based on their opposition to the development, is entirely alien to the planning system. Whilst, in some areas such as streetscape impact, individual aesthetic considerations may arise and judgments made upon them, we are unaware of any authority to support the proposition that, where there is a rationally scientifically measurable empirical standard against which any impact can be measured and determined to be acceptable at a particular empirically determined level, that there should be some allowance made for a subjective response to the particular impact.*

Compliance Checking

The assessment process occurs well before a wind farm is operational. Therefore, to confirm compliance with the assessment criteria, a measurement procedure is conducted once the wind farm is operational.

The Standards and Guidelines in Australian jurisdictions all provide a methodology for noise level measurements of an operational wind farm.

The term commonly applied to these measurements is "compliance checking".

It is common for a planning or relevant regulatory authority to impose a condition of approval for a wind farm development that requires "compliance checking" and reporting thereon within a certain timeframe of commissioning the wind farm.

In general terms, compliance checking can effectively be a repeat of the background noise monitoring regime. The variations that are applied to the compliance checking procedure might include collecting a minimum number of noise level data points under downwind conditions. A comparison is then made of the noise environment before the wind farm and after the establishment and operation of the wind farm.

As wind farm assessments account for the masking effect of the ambient environment, there will be inherent difficulties in identifying the wind farm noise amongst other noise, in particular and most commonly, the background noise generated by wind in the trees. Therefore, compliance checking procedures generally provide a level of flexibility in the methodology, which might include turning the turbines on and off to determine their influence amongst other noise in the environment, or measuring at a location much closer to the wind farm, where the noise from the wind farm is more dominant in comparison to other noise in the environment.

TOPICS OF INTEREST

A range of topics of interest exist for wind farms that are raised by the community, by acoustic engineers, by health professionals, by the industry and by regulatory authorities.

The key topics to be addressed are those that relate to the health of the surrounding community.

There has been extensive research conducted into the relationship between noise levels and characteristics of wind farms and the potential for adverse health impacts, and the research overwhelmingly concludes that wind farm noise does not adversely impact on a person's health.

Health Effects

In 2009 the American and Canadian Wind Energy Associations established a scientific advisory panel comprising medical doctors, audiologists and acoustic professionals from the United States, Canada, Denmark and the United Kingdom to produce "an authoritative reference document for legislators, regulators, and anyone who wants to make sense of the conflicting information about wind turbine sound". (Colby et al, 2009)

The Panel concluded:

> *there is no reason to believe, based on the levels and frequencies of the sounds and the panel's experiences with sound exposures in occupational settings, that the sound from wind turbines could plausibly have direct adverse health consequences.*

The Victorian Department of Health (DH) (WorkSafe, 2010) has examined both the peer-reviewed and validated scientific research and concluded that

> *the weight of evidence indicated that there are no direct health effects from noise (audible and inaudible) at the levels generated by modern wind turbines.*

The Australian Government's National Health and Medical Research Council (NHMRC, 2010) has examined the "evidence from current literature on the issue of wind turbines and potential impacts on human health" and concludes:

> *There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines (NHMRC, 2010).*

Notwithstanding the above, Dr Nina Pierpont (Pierpont, 2009) contends that adverse health outcomes are caused by wind farm noise and in particular, its low frequency content. Pierpont uses the term "wind farm syndrome" to describe the effects, which include headaches, sleeplessness and anxiety. The Pierpont report is not peer reviewed and the hypothesis is based on the assumption that infrasound levels near wind farms are higher than infrasound levels in the general environment.

The American and Canadian Wind Energy Association's panel reviewed the Pierpont report and the "wind farm syndrome" and concluded:

> *"Wind turbine syndrome," not a recognised medical diagnosis, is essentially reflective of symptoms associated with noise annoyance and is an unnecessary and confusing addition to the vocabulary on noise. This syndrome is not a recognised diagnosis in the medical community. There are no unique symptoms or combinations of symptoms that would lead to a specific pattern of this hypothesized disorder. The collective symptoms in some people are more likely associated with annoyance to low sound levels (Colby et al, 2009).*

To this end, the panel's report provides information on "the complex factors culminating in annoyance", which includes the nocebo effect (Spiegel, 1997).

The nocebo effect is "an adverse outcome, a worsening of mental or physical health, based on fear or belief in adverse effects. This is the opposite of the well known placebo effect, where belief in positive effects on an intervention may produce positive results" (Colby et al, 2009).

With respect to the nocebo effect, the panel concludes:

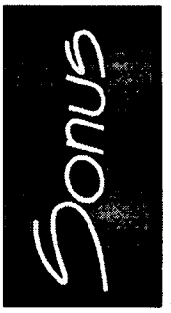
> *..the large volume of media coverage devoted to alleged adverse health effects of wind turbines understandably creates an anticipatory fear in some that they will experience adverse effects from wind turbines. ....The resulting stress, fear, and hyper vigilance may exacerbate or even create problems which would not otherwise exist. In this way, anti-wind farm activists may be creating with their publicity some of the problems they describe (Colby et al, 2009).*

There is a large amount of publicly available material that deals with alleged adverse health effects of wind turbines regardless of the overwhelming research to the contrary. A recent and relevant example includes an article as part of a series in the Sydney Morning Herald (SMH, 2010) on wind farms which included a quote that linked Hitler's torture methods to noise from a wind farm without any further information regarding the conclusions of recent health related research in the article.

The NHMRC review provides consistent conclusions to the panel with respect to health:

> *It has been suggested that if people are worried about their health they may become anxious, causing stress related illnesses. These are genuine health effects arising from their worry, which arises from the wind turbine, even though the turbine may not objectively be a risk to health (Chapman, 2009)*

Based on the above, it is essential that all stakeholders have access to a source of consolidated information that summarises the topics of interest that are commonly raised and the research that is available on these topics. A broad summary of health effects has been provided above, and the specific topics of interest commonly linked to adverse health effects are addressed in detail below, which include infrasound and low frequency content of a wind farm, amplitude modulation and sleep disturbance effects.



Infrasound and low frequency noise

The hypotheses regarding a link between infrasound from wind farms and the presence of adverse health effects including dizziness, headaches and nausea made by Pierpont (Pierpont, 2009) are not based on measured levels of infrasound from operational wind farms.

Specific International studies that have measured the levels of infrasound in the vicinity of operational wind farms indicate the following:

- The levels of infrasound are significantly below recognised perception thresholds and are therefore not detectable to humans (Hayes McKenzie Partnership Ltd, 2006); and
- The levels of infrasound are of the same order as those measured in residential areas due to general urban activity (Howe, 2006).

Similar studies are currently being conducted in Australia in order to provide an objective assessment and confirmation of the European research.

Notwithstanding the results of the objective assessments, Colby et al, 2009, have critiqued the Pierpont hypotheses and conclude:

> *No foundation has been demonstrated for the new hypothesis that exposure to sub-threshold, low levels of infrasound will lead to vibroacoustic disease. Indeed, human evolution has occurred in the presence of natural infrasound.*

Infrasound is a specific component of low frequency noise that requires a specific measurement methodology to identify it as it is readily affected by wind on the microphone. Wind is a source of natural infrasound.

Whilst the hypotheses regarding adverse health effects often refer to "low frequency noise", this is often a generic description which is taken to include infrasound.

The low frequency content of noise from a wind farm is easily measured and can also be heard and compared against other noise sources in the environment. Low frequency sound produced by wind farms is not unique in overall level or content and it can be easily measured and heard at a range of locations well in excess of that in the vicinity of a wind farm.

Colby et al (2009) notes with respect to low frequency noise:

> *The low frequency sound emitted by spinning wind turbines could possibly be annoying to some when winds are unusually turbulent, but there is no evidence that this level of sound could be harmful to health. If so, city dwelling would be impossible due to the similar levels of ambient sound levels normally present in urban environments.*

Amplitude Modulation

Amplitude modulation is an inherent noise character associated with wind farms. It should be noted that the ambient environment modulates in noise level by a significantly greater margin and over a significantly greater time period than that which would be audible from a wind farm at a typical separation distance. Notwithstanding, the South Australian Guidelines (2003 & 2009) note that the objective standards include a 5 dB(A) penalty for this fundamental and inherent character of amplitude modulation.

A 5 dB(A) penalty is a significant acoustic impost. To reduce a noise source by 5 dB(A) requires either the distance between the source and the receiver to be approximately doubled, or the noise source to reduce its output by two thirds. In wind farm terms, this means the distance between the farm and the nearest dwellings might need to be doubled, or up to two thirds of the total turbine numbers would need to be removed, compared to a wind farm not subject to such a penalty.

The ability to hear the "swish" (amplitude modulation) depends on a range of factors. It will be most prevalent when there is a stable environment (temperature inversion) at the wind farm and the background noise level at the listening location is low. In addition, amplitude modulation is greater when located cross wind from a wind turbine (Olermans and Schepers, 2009). It is noted that whilst the amplitude modulation is greater at a cross wind location, the actual noise level from the wind farm will be lower than at a corresponding downwind location. These conditions are most likely to occur when wind speeds at the wind farm are low under a clear night sky.

The swish is at its greatest under the above conditions as the change in wind speed at increased heights above the ground is also at its greatest, and this results in an increased difference in wind speed as the blades move through the top of their arc and down past the tower. In addition, if there are several turbines subject to similar conditions, then it is possible this can have an amplifying effect on the modulation. The increase in swish under these specific conditions is termed the Van Den Berg Effect, and it is suggested higher levels of swish might result in higher levels of annoyance and potentially sleep disturbance.

The Van Den Berg effect was observed on a flat site in Europe under specific conditions and in the two matters before the NSW Land and Environment Court (Gullen Range wind farm NSW LEC 41288 of 2008 and Taralga wind farm NSW LEC 11216 of 2007), it has been determined by the relevant experts that the required meteorological conditions to trigger the effect were not a feature of the environment. In Gullen Range (NSW LEC 41288 of 2008), the meteorological analysis prepared by Dr Chris Purton concluded that suitable conditions for this effect are not a feature of the area because of the elevated ridgeline location of the wind farm (Purton, evidence NSW LEC 41288 of 2008).

If suitable conditions did exist to regularly generate high levels of swish, then there is no scientific research to indicate that the existing Standards and Guidelines do not adequately account for it. Indeed, given the conditions are more likely to occur at night, then sleep disturbance would be the main issue to address, and the noise standards applied to wind farms are significantly more stringent than limits established for the potential onset of sleep disturbance. This is discussed in further detail in the following section.

In the first draft of the National Wind Farm Development Guidelines (EPHC, 2009), excessive swish is referred to as one of the potential Special Audible Characteristics (or SACs) along with low frequency, infrasound and tonality. It recommends that:

> *With the exception of tonality, the assessment of SACs will not be carried out during the noise impact assessment phase, that is, pre-construction. This arrangement reflects two key issues:*
>
> *i. There are, at present, very few published and scientifically-validated cases of any SACs of wind farm noise emission being problematic at receivers. The extent of reliable published material does not, at this stage, warrant inclusion of SACs other than tonality into the noise impact assessment planning stage.*
>
> *ii. In the case that reliable evidence did demonstrate merit in assessing such factors during the pre-construction phase, there is a gap in currently available techniques for assessing SACs as part of the noise impact assessment. In part this is due to the causes of most SACs in wind turbine noise emission not yet being clearly understood.*

In summary:

- Swish is an inherent noise characteristic of a wind farm;
- Modulation in noise level is a feature of the ambient noise environment surrounding a wind farm;
- The level and depth of swish can vary with meteorological conditions, and under certain conditions, will be more prevalent;
- The conditions to consistently generate high levels of audible swish have not been established to be a typical feature of Australian wind farms;
- The level, depth, time and testing regime for excessive swish that would justify introducing a more stringent standard have not been established;
- Sleep disturbance is the key issue associated with excessive swish, if it is to occur.

Sleep Disturbance

The World Health Organisation (WHO) establish a recommendation of 30 dB(A) inside a bedroom to prevent the potential onset of sleep disturbance effects (WHO, 1995).

The WHO guidelines indicate a noise level of 30 dB(A) inside a typical bedroom correlates to an external noise level with the windows open of the order of 45 dB(A). The typical baseline limit criterion of 35 dB(A) to 40 dB(A) found in Australian wind farm Standards and Guidelines is therefore significantly more stringent than the WHO guidelines recommendation of 45 dB(A), by a margin of at least 5 dB(A) and up to 10 dB(A).

For comparison purposes, a wind farm that complies with a 40 dB(A) baseline limit could introduce twice as many turbines again onto the site, or move of the order of half as close to the nearest dwelling, and still achieve the WHO recommendations to prevent the potential onset of sleep disturbance.

It should also be noted that the WHO recommendations are considered conservative in that they consider all available research and then use the most stringent approach to indicate the "potential onset" of sleep disturbance effects, which is not defined as full awakening, but rather as a change in the stage of sleep.

The UK Department of Trade and Industry (ETSU, 1997) recognise the above effect and recommend increasing the allowable noise level for wind farms during the night period, based on sleep disturbance effects. The baseline limit for wind farms during the night time in the UK is therefore 45 dB(A).

Based on the above, the baseline limits of Standards and Guidelines in Australia are sufficiently stringent to ensure the potential onset of sleep disturbance effects from the operation of a compliant wind farm does not occur.

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WIND FARM PROXIMITY AND PROPERTY VALUES: A POOLED HEDONIC REGRESSION ANALYSIS OF PROPERTY VALUES IN CENTRAL ILLINOIS

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In partial fulfillment of the requirements for the degree of

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May 2010

Abstract
The objectives of this study are to examine whether proximity to the 240-turbine, Twin Groves wind farm (Phases I and II) in eastern McLean County, Illinois, has impacted nearby residential property values and whether any impact on nearby property values remains constant over different stages of wind farm development with the different stages corresponding to different levels of risk as perceived by nearby property owners. This study uses 3,851 residential property transactions from January 1, 2001 through December 1, 2009 from McLean and Ford Counties, Illinois. This is the first wind farm proximity and property value study to adopt pooled hedonic regression analysis with difference-in-differences estimators. This methodology significantly improves upon many of the methodologies found in the wind farm proximity and property value literature. This study finds some evidence that supports wind farm anticipation stigma theory and the results strongly reject the existence of wind farm area stigma theory.

Executive Summary

The objectives of this study are to examine whether proximity to the 240-turbine, Twin Groves wind farm (Phases I and II) in eastern McLean County, Illinois, has impacted nearby residential property values and whether any impact on nearby property values changes over the different stages of wind farm development. This study uses 3,851 residential property transactions from January 1, 2001 through December 1, 2009 from McLean and Ford Counties, Illinois. This is the first wind farm proximity and property value study to adopt pooled hedonic regression analysis with difference-in-differences estimators. This methodology significantly improves upon many of the previous methodologies found in the wind farm proximity and property value literature.

The estimation results provide evidence that a "location effect" exists such that before the wind farm was even approved, properties located near the eventual wind farm area were devalued in comparison to other areas. Additionally, the results show that property value impacts vary based on the different stages of wind farm development. These stages of wind farm development roughly correspond to the different levels of risk as perceived by local residents and potential homebuyers. Some of the estimation results support the existence of "wind farm anticipation stigma theory," meaning that property values may have diminished in "anticipation" of the wind farm after the wind farm project was approved by the McLean County Board. Wind farm anticipation stigma is likely due to the impact associated with a fear of the unknown, a general uncertainty surrounding a proposed wind farm project regarding the aesthetic impacts on the landscape, the actual noise impacts from the wind turbines, and just how disruptive the wind farm will be. However, during the operational stage of the wind farm project, as surrounding property owners living close to the wind turbines acquired additional information on the aesthetic impacts on the landscape and actual noise impacts of the wind turbines to see if any of their concerns materialized, property values rebounded and soared higher in real terms than they were prior to wind farm approval. Thus, this study presents evidence that demonstrates close proximity to an operating wind farm does not necessarily negatively influence property values or property value appreciation rates. The estimation results strongly reject the existence of "wind farm area stigma theory" for the area surrounding Twin Groves I and II.

DO WE WANT WINDMILLS

Will it alter the landscape?

Will it depreciate land values?

How close to existing houses are windmills put?

How close to proposed subdivisions are windmills put?

If it depreciates land values due to taxes being accessed on property values values will our taxes decrease?

Will it benefit the county in land taxes paid by the involved parties?

Do windmills have permanent magnets?

Is there an electrical field given of by windmills ?

Does it affect wildlife?

Will it affect egg production, Milk production, pork production, beef production?

Will animals eat as the have in the past of will they alter due to electrical fields?

Will it cause health issues?

Will it alter Television signals?

Is there a constant sound from windmills?

Is it heard form a distance of 20ft. 200ft. 2000 ft. or 20,000 ft.

Is there a vibration from windmills?

Garry Bartlett

COMMUNITY AND STAKEHOLDER COMMUNICATION

41. Proponents of renewable energy projects are required to obtain a REA from the MOE, which prerequisites (the "**REA Requirements**") are prescribed by the REA Regulation and include substantive public consultation requirements. In particular, the goal of consultation under the REA Regulation is to ensure that interested stakeholders (including the public, the County and local Aboriginal groups) have an opportunity to provide input into the project at an early stage, and again at a later stage when the project design is more fully established.

42. The Applicant is in the final stages of completing its REA application for the Summerhaven Project, which includes both the SWEC and the Facility. A copy of the REA Application will be filed with Board upon completion as Exhibit B, Tab 7, Schedule 2. In order to meet the REA Requirements, the Applicant is required to notify nearby landowners and the community early in the planning stages, hold at least two public consultation meetings and carry out and document a comprehensive consultation study (the "**Consultation Report**")[5] of the effect of the Summerhaven Project on the surrounding environment. The Consultation Report includes an Aboriginal consultation report ("**Aboriginal Consultation Report**"), excerpts of which are included as Schedule 3. In addition to the Aboriginal Consultation Report, several ancillary reports[6] are required to meet REA Requirements. The Applicant has met the REA Requirements and has also engaged local First Nations, County staff and council, the LDC and local landowners regarding the SWEC generally and the proposed Facility.

43. Public consultation: Three open house meetings were held on December 21, 2009, December 7, 2010, and January 10, 2011. Each meeting consisted of multiple panels explaining key aspects of the Summerhaven Project, including the Facility, and the process of developing, permitting, constructing, operating, and decommissioning a project such as the Summerhaven Project. Representatives of the Applicant were in attendance along with expert consultants to ensure that the appropriate subject matter experts were on hand to engage in discussion with attendees and provide detailed answers to any questions or concerns that were raised. A full record of public concerns raised and how they were addressed by the Applicant is included in the Consultation Report. A dedicated email account and toll-free number[7] have been available to the public prior to the initial public meeting and will continue to be maintained by the Applicant until the Summerhaven Project is commissioned to allow open communication with interested parties. The Consultation Report and all draft ancillary reports were made available in draft form on the website www.canadianwindproposals.com, and in hard copy at the County's head office. Certain reports were sent by mail to interested residents upon request.

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[5] Due to the voluminous nature of the Consultation Report, it is not included in this Application. However, a copy of the Consultation Report can be viewed at www.canadianwindproposals.com.

[6] The other reports that make up the REA application include: Archaeological Study, Built Heritage Report, Construction Plan, Decommissioning Plan, Design and Operations Report, Natural Heritage Report, Noise Study, Property Line Setback Report, Site Plan, Water Assessment and Wind Turbine Specification Report.

[7] Summerhaven.wind@nexteraenergy.com; 1-877-257-7330 (in place until COD), dedicated phone number to be put in place after COD for the Summerhaven Project.

44. LDC Consultation: As outlined in paragraph 38 of this application, the Applicant has met with the LDC to discuss constructing part of the Transmission Line along the County Lands.

45. Aboriginal Consultation: As detailed in the Aboriginal Consultation Report[8] and as at the time of this application, no specific concerns related to the Facility or the SWEC have been raised by Aboriginal groups. The Applicant submits that the Summerhaven Project will not adversely affect any constitutionally protected Aboriginal or treaty rights of the communities identified in the consultation process and should not result in any negative environmental effects that may be of concern to those communities.

[8] Aboriginal Consultation Report, p. 36

RENEWABLE ENERGY APPROVAL APPLICATION

ABORIGINAL CONSULTATION REPORT (EXCERPTS)

APPENDIX E

Aboriginal Consultation Report

NEXTera ENERGY CANADA

ABORIGINAL CONSULTATION REPORT

FOR:

PROPOSED SUMMERHAVEN WIND ENERGY CENTRE

NextEra Energy Canada, ULC

Report Updated as of: December 16, 2010

NEXTera ENERGY CANADA

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NEXTera ENERGY CANADA

Introduction

The Summerhaven Wind Energy Centre project (herein, "the Project") has been developed jointly by NextEra Energy Canada, ULC (also referred to herein as "NEEC") and TCi Renewables. TCi Renewables was the original project developer, who proposed a wind energy center under the project name "Nanticoke". This project, now expanded, has been renamed "Summerhaven".

The parent company of NextEra Energy Canada, ULC is NextEra Energy Resources, LLC, a global leader in wind energy generation with a current operating portfolio of almost 9,000 wind turbines across North America. NextEra Energy Resources, LLC is the largest builder, owner and operator of wind generating facilities in North America.

As a builder, owner and operator, NEEC has a long-term stake in developing and maintaining cordial and cooperative relationships with landowners, municipalities and the communities (both Aboriginal and non-Aboriginal) who may have an interest in the Project.

Canadian wind farms currently owned and operated by NEEC include: Mount Copper, (54 MW) located in Murdochville, Quebec; and Pubnico Point, (30.6 MW) located near Yarmouth, Nova Scotia. A number of projects are being developed in Ontario and another called "Ghost Pine", is nearing completion in Alberta.

The Project area is in Haldimand County, Ontario, south of Hagersville on private lands with rights secured by options that are exercisable upon receipt of requisite approvals. The affected lands are used for rural residential and agricultural purposes.

The Project will consist of up to sixty-one 2.221 MW wind turbines for a nameplate capacity of up to 135.5 MW. The electricity generated will be fed into the existing Hydro One 115 kV transmission grid. Other Project components include a substation, which increases the electrical voltage, the transmission line to the Hydro One corridor and an operations and maintenance building, which will be located beside the substation. Access roads will allow personnel and equipment to access turbines. Underground and overhead cables will connect the turbines to each other, and two weather towers will monitor wind speeds for Project operations.

A complete description of the Project facilities, potential impacts and recommended mitigations are found in the reports submitted by NEEC in accordance with Table 1 of Ontario Regulation 359/09 including the Project Description Report by Golder Associates and the supporting reports, namely: Consultation Report, Construction Plan Report, Design and Operations Report, Decommissioning Plan Report as well as the Natural Heritage Report, Water Assessment Report, Heritage Assessment Report, Noise Study Report, Archaeology

Assessment report and Site Plan Report (the "Project Table 1 Reports"). This Aboriginal consultation report should be read in conjunction with the Project Table 1 Reports and in particular, the planned mitigations described in those reports to avoid impacts to the natural environment and archaeological resources.

While the area of land studied to meet the requirements of Ontario Regulation 359/09 was over 22,000 hectares, the "footprint" of each turbine is about 0.6 hectares. Please refer to the study area and project location maps in the Project Table 1 Reports.

For Aboriginal consultation, it is important to note that the Project is one of a number currently being pursued by NEEC in southwestern Ontario. NEEC is working with many communities for many projects. This provides a good opportunity to share information about wind energy, generally, and the various projects specifically. As information is shared both by NEEC and the communities, the knowledge base grows and forms a basis for greater understanding and working together.

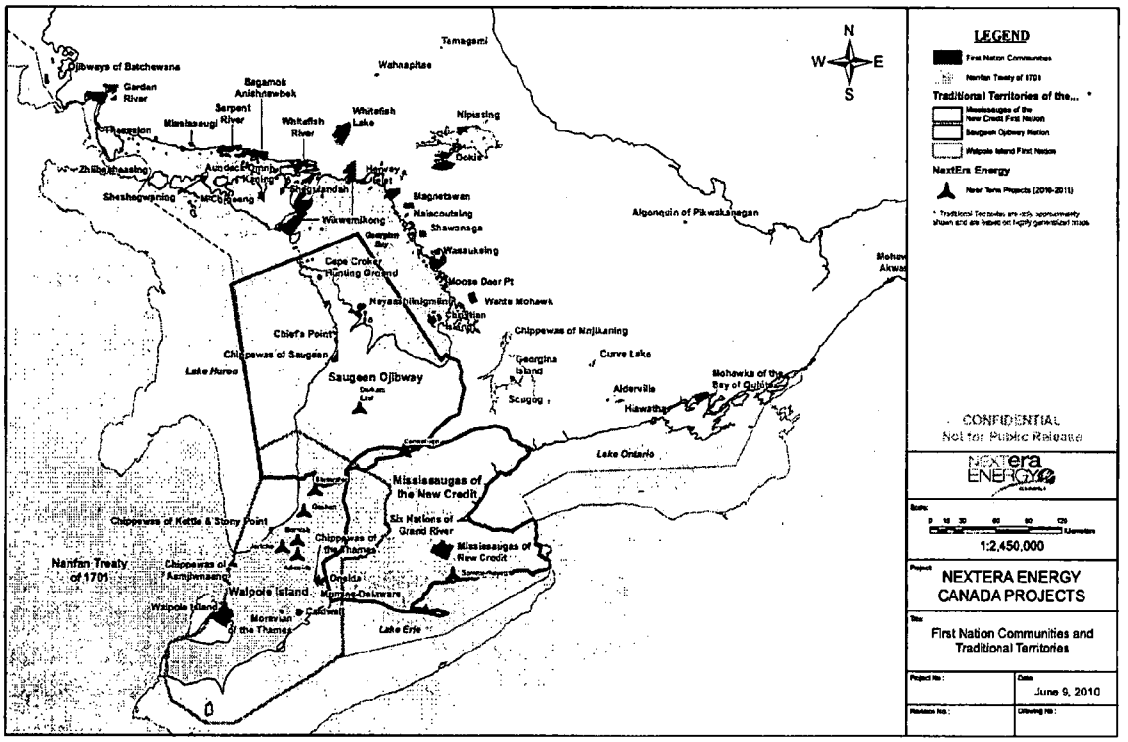
While this report focuses on, and describes Aboriginal consultation issues for the Project, it is being reported in the context of the larger effort. The report therefore describes and discusses issues related to the Project within the body of the report, but records of communications, information-sharing and consultation activities are listed for reference purposes separately in **Appendix 4** within the broader context of all projects. *The reader is asked to consider the information within the body of this report for an understanding of Aboriginal consultation issues that are specific to the Summerhaven project.*

Please refer to the first map below for the Project location in relation to First Nation communities and known traditional territories.

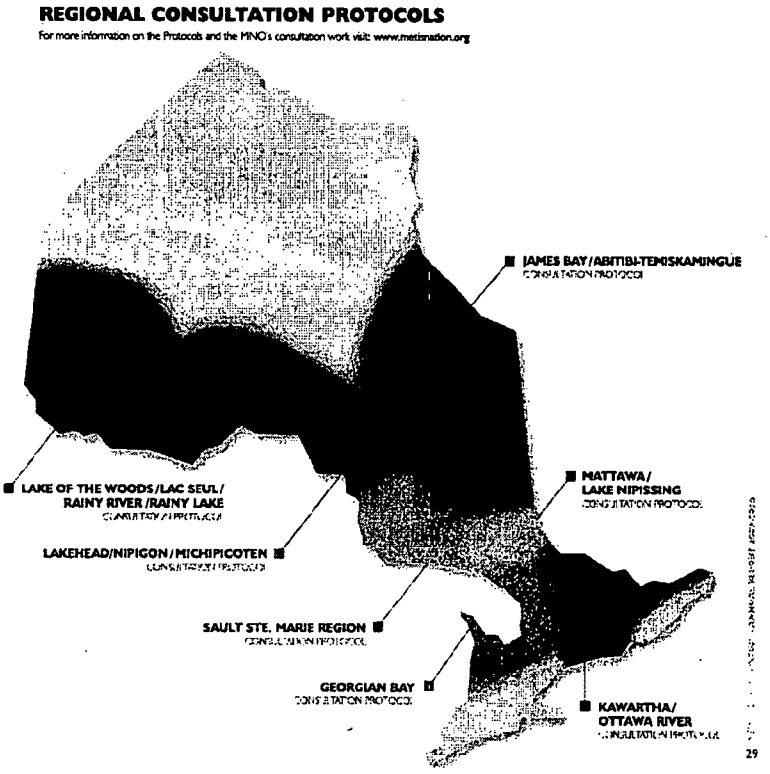
A second map describes approximate boundaries of Traditional Métis Nation of ONtario Harvest Territories located in southwestern Ontario. The Project location and study area are not located in a Traditional Métis Nation of Ontario Harvest Territory.

NEXTera ENERGY CANADA

MAP 1: PROJECT LOCATIONS AND FIRST NATION COMMUNITIES



MAP 2: MÉTIS TRADITIONAL HARVEST TERRITORIES APPROXIMATE BOUNDARIES



Map Source: Métis Nation of Ontario Annual Report, 2009-2010

1. NextEra Energy Canada's Approach to Aboriginal Consultation and Engagement

NEEC's approach to working with Aboriginal communities considers these areas:

1. Identification of Aboriginal communities, and where possible Aboriginal rights, interests and way of life that may be impacted by an NEEC project.
2. Procedural consultation delegated to NEEC as a project proponent under Ontario Regulation 359/09 for Renewable Energy Approval with the communities identified by NEEC and the Director of Renewable Energy Approvals, to:
   (a) assess potential impacts to constitutionally protected Aboriginal and/or treaty rights and any interests of Aboriginal communities in potential environmental impacts that may affect Aboriginal rights or way of life, and;
   (b) explore mutually acceptable avoidance or mitigation measures including accommodation, if required.
3. Dialogue requested by the Aboriginal communities or by NEEC, dealing with broader issues of engagement and mutual interest, which are beyond the procedural consultation scope of Ontario Regulation 359/09.

1.1 Identification of Aboriginal Communities and Potential Interests

IDENTIFYING COMMUNITIES

Prior to implementation of Ontario Regulation 359/09 (also referred to herein as "Renewable Energy Approval", or "REA"), NEEC compiled a list of potentially interested communities, as set out in **Table 2.1.1**, below. This list was based on inquiries made with Indian and Northern Affairs and what is now the Ontario Ministry of Aboriginal Affairs. Communications with the communities began in 2007-2008, in concert with the Ontario Power Authority RES-III program and continued through 2009-2010 in preparation for a FIT and REA application.

As required under Ontario Regulation 359/09, a request to confirm NEEC's list of communities was submitted to the Director of Renewable Energy Approvals in accordance with section 14.(1) of the REA. The Director's list of Aboriginal communities to be consulted was received on October 25, 2010. Communities included in the Director's list are also listed in **Table 2.1.1**.

IDENTIFYING ABORIGINAL RIGHTS AND KEY INTERESTS

The Crown's Duty to Consult arises when a government considers an authorization or action that may affect Aboriginal rights or title. The Duty belongs to the Crown. It is grounded in the honour of the Crown; the Crown cannot delegate its Duty to a proponent. The Crown can, and in the case of Ontario Regulation 359/09, has delegated procedural aspects of its Duty to proponents. NEEC's responsibility under the REA is therefore to undertake a process of information-sharing and dialogue with Aboriginal communities who may be affected by its Project, to learn about Aboriginal values (rights, interests and way of life) that are relevant to the Project. A proponent's good faith, collaborative efforts are required for dialogue with affected Aboriginal communities, with the goal of avoiding or mitigating negative impacts that are within its control, ability or authority.

Under section 17 of the REA, proponents are required to make inquiries and report to the Director any constitutionally protected Aboriginal or treaty rights that a community identifies as being adversely affected by a renewable energy project, and any measures proposed by the proponent or community to mitigate the impacts. Results of these "Section 17" inquiries are reported in **section 3.1**, below.

Sections 14.(1)(b)(2) and 15.(6)5.ii of the Regulation imply a broader line of inquiry with communities by including any community in procedural consultation that may otherwise be interested in any negative environmental effects from the renewable energy project. Results of these inquiries are reported in **section 3.2**, below.

NEEC has taken the following steps to fulfill the foregoing requirements.

External Aboriginal relations consultants were retained to provide analysis and recommendations for consultation with Aboriginal communities. Their reports were important to appreciating the context that should guide effective consultation by a project proponent. This included: relevant historical context; possible issues to be addressed; discussion of Aboriginal world views and their differences from "western views"; the importance of community consensus in decision-making, and; appropriate methods and general approach to consult with Aboriginal communities as a proponent. Inquiries were also made with potentially affected Aboriginal communities to assess their level of interest, request information on relevant Aboriginal values, determine if a consultation protocol or policy existed and ask if there are other issues they associated with the Project.

Based on the above, NEEC appreciates that Aboriginal "way of life", encompasses unique cultural and spiritual beliefs and values, as well as relationships of responsibility and interdependence among peoples, their communities and the natural environment. This involves a holistic perspective, where actions are highly interconnected in ways that may

seem different, or not readily apparent to the non-Aboriginal world view. Consideration of project proposals and decision-making will take time and may encompass a wide variety of issues. Both the time required and the issues may extend beyond the schedule and scope of the REA process. NEEC also understands that the connection between Aboriginal way of life and land is of prime importance to Aboriginal peoples.

Within the above context, the key interest areas that a project proponent must therefore address under the REA include potential impacts to: the natural environment; the cultural environment, and/or; lands which may form the basis of an actual or asserted Aboriginal right or title.

A. Natural Environment

As mentioned above, relationship to the land and natural environment is particularly important in the Aboriginal world view. Project activities that may directly or indirectly have negative impact on species, habitat or ecosystems that are used for food, ceremonial or social purposes would be of immediate concern. Such activities may form the basis of an Aboriginal right, which is integral to Aboriginal way of life. NEEC has sited its facilities appropriately and will as required, implement all environmental mitigation as set out in the Project Table 1 Reports, as submitted to the Director of Renewable Energy Approvals under Ontario Regulation 359/09.

Where natural features are present within 120m of the Project location (including predicted temporary disturbance areas), a Natural Heritage Assessment is a required report of the Application for a Renewable Energy Approval under Ontario Regulation 359/09. The key components of the NHA include four major stepwise components including: 1) a records review; 2) a site investigation; 3) an evaluation of significance of natural features, and; 4) completion of an environmental impact study (EIS) for features predicted to be significant. In conducting a records review or a site investigation, identifying natural features and determining the boundaries of any natural features, NEEC and their consulting team are to use applicable evaluation criteria or procedures established or accepted by the Ministry of Natural Resources "MNR"), as amended from time. The MNR mission is to manage natural resources in an ecologically sustainable way to ensure that they are available for the enjoyment and use of future generations, inclusive of Aboriginal communities.

To meet the requirements of Ontario Regulation 359/09, NEEC is required to complete a Natural Heritage Assessment in accordance with procedures established or accepted by MNR and to submit reports that will satisfy the requirements under sections 25, 26 and 27 of Ontario Regulation 359/09. MNR is then required to provide confirmations with respect to the NHA for the following:

- determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established by MNR;
- site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features are identified;
- evaluation of significance or provincial significance of natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR;
- project location is not in a provincial park or conservation reserve; and
- environmental impact assessment report has been prepared in accordance with the procedures established or accepted by MNR.

Ministry staff have reviewed the Draft Natural Heritage Assessment and comments were only just received by NEEC on December 13, 2010. Based on the comments provided by MNR, confirmation of all of the above factors could not be provided at this time and NEEC is working to obtain the confirmations from MNR. They will be filed as part of the Summerhaven Renewable Energy Approval Application as soon as they are received.

The EIS of significant natural features in step 4 identified above will require there to be no significant long-term environmental impacts, and thus, no significant direct or indirect impacts to species, habitats or ecosystems that may support an Aboriginal right.

NEEC will also undertake discussions to explore the possibility of Aboriginal environmental field monitors and/or environmental liaison committees that would be a vehicle for ongoing communication during construction. These steps could provide additional certainty to the affected Aboriginal communities that the required mitigations are implemented and are effective. These initiatives are explained in more detail in **section 5 "Going Forward"**, below.

B. Cultural

Archeological work for any development project is always potentially of interest to Aboriginal communities who are consulted. Stage 1 and 2 Archaeological Assessments have been completed as required by the Ministry of Tourism and Culture and Stage 3 work is underway. The Stage 1 archaeological assessment of the Summerhaven study area has shown that the entire area exhibits potential for Aboriginal archaeological resources due to the presence of nearby potable water sources, level topography, agriculturally suitable soils and known archaeological sites. As a result, Stage 2 archaeological field work has been ongoing since the end of 2009 in the form of pedestrian survey at five metre intervals in ploughed agricultural fields. The Stage 2 survey to date has resulted in the identification of more than 800 previously unknown sites (ranging from a single flake of chert tool waste to larger

scatters of chert flakes), over 250 of which are located within the limits of the final layout design.

Aboriginal monitors from the Six Nations and the Mississaugas of New Credit have been participating in this work. The monitors have also participated in the subsequent Stage 3 test excavation to determine the limits of sites that were found to require further work.

Approximately half of the Stage 2 sites found within the final layout design area to date have been recommended for Stage 3 test excavation. The other half of the Stage 2 sites found to date were considered to be sufficiently documented once the Stage 2 field survey was completed. Focusing on those sites recommended for Stage 3 test work, 85 of those sites have been subjected to Stage 3 test excavation to date and the remainder should be subjected to Stage 3 test excavation by the middle of 2011.

The archaeology field work has been designed to identify significant sites and the mitigation goal has been to avoid archaeological resources as much as possible. However, if the turbine and infrastructure layout does not permit avoidance after the Stage 2 field survey has been done, Stage 3 work is being conducted, as discussed above. If the site requires further extensive documentation and cannot be avoided during the construction or operation of the wind farm, Stage 4 field work will be conducted with the knowledge of the interested First Nations and participation of their monitors.

On November 26, 2010, meetings were held with staff at Mississaugas of the New Credit, Six Nations of the Grand River and Six Nations Confederacy Council (Haudenosaunee Development Institute) to provide an overview of archaeological work competed to date. Advice was requested from staff on how to appropriately share the information with the communities. A response is expected soon, and NEEC is prepared to present results of the field work in consultation with staff and leadership.

Finally, NEEC plans to have ongoing communications with Aboriginal communities throughout the Project, and has developed a framework and archaeological protocol to guide its actions and those of its consultants and contractors. This is explained in more detail in **sections 1.4 "Aboriginal Relations Canadian Project Framework" and 5 "Going Forward"** below.

C. Land

No reserves are affected by the Project.

The project is not located on any known specific claim areas.

Finally, the Project is located entirely on private lands. NEEC's understanding is that the federal and provincial government policies for settlement of specific and comprehensive claims is that no private land will be expropriated for that purpose. As a result, any claims that may subsequently be advanced affecting private lands where the Project is located would have a separate process to address such claims under those policies.

Based on mapping obtained, previous advice from Indian and Northern Affairs or on information provided by Aboriginal communities themselves, the following information about Aboriginal interests in lands has been determined in regard to the lands where the Project is located.

- Mississaugas of the New Credit - see approximate area of traditional territory asserted on Map 1, above
- Mohawks of Akwesasne - no claims asserted in project area, but potential for interest in lands within the 1701 Nanfan Treaty area as a member of the Haudenosaunee Confederacy
- Mohawks of the Bay of Quinte - no claims asserted in project area, but potential for interest in lands within the 1701 Nanfan Treaty area as a member of the Haudenosaunee Confederacy
- Oneida Nation of the Thames - no claims asserted in project area
- Oneida Council of Chiefs On^yota a:ka Lotiyaneshu - asserted interests under any rights that may exist under the 1701 Nanfan Treaty, including an asserted right to conduct what today would be called economic activities: see map in **Appendix 7**.
- Six Nations of the Grand River (Elected Council) - Under Six Nations Elected Council Consultation and Accommodation Policy, a responsibility is asserted to protect the air, land and water within the 1701 Nanfan Treaty area: see map in **Appendix 7**.
- Haudenosaunee (Six Nations Confederacy) - potentially asserted interests under the 1701 Nanfan Treaty (see map **Appendix 7**) and Haudenosaunee Places to Grow Plan (see map in **Appendix 9**).
- Wahta Mohawks - no claims asserted in project area, but potential for interest in lands within the 1701 Nanfan Treaty area as a member of the Haudenosaunee Confederacy

No asserted Métis Harvest Territories are affected by the Project.

1.2 Project Consultation as a Proponent

NEEC understands its responsibility to carry out the procedural aspects of the Crown's Duty to Consult delegated to it under Ontario Regulation 359/09. Results of this work to date are summarized in **Tables 3.1.1 and 3.2.1** below. These activities are guided by NEEC's Canadian Projects Aboriginal Relations Framework, described below in **Section 1.4**, and reproduced in **Appendix 1**. These activities are also responsive to the consultation and accommodation protocols of the relevant First Nation and Métis governments themselves. The status of progress under such protocols applicable to the Project is included in **section 3.4 "First Nation and Métis Consultation and Accommodation Protocols"**, below.

NEEC appreciates that any necessary decision-making about the Project by communities and Aboriginal leadership may be made on a consensus basis, and that implications of the decisions for seven generations may be considered. As a result, NEEC has distributed relevant contextual background information about wind energy including the technology, development process, industry, related commercial opportunities and the regulatory approval process, as well as the Project-related information required by Ontario Regulation 359/09. Please see section 2.3, "Additional Information Made Available", below and **Appendix 3**.

NEEC has also offered to work collaboratively with Aboriginal communities to ensure that both the contextual and Project-specific information is made available in a meaningful way. Where necessary, NEEC has facilitated the use of other appropriate capacity resources for Aboriginal communities (such as a third party review of the draft Project Table 1 Reports, studies on birds, bats and shadow flicker or covering costs of archaeological monitoring) to assist them to interpret and evaluate technical information. This process of information-sharing, dialogue and where necessary, collaborative problem solving will continue throughout the Project life-cycle.

In some cases, no response was received from the Aboriginal community before completion and submission to MOE of the required Project Table 1 Reports. Where this is the case, NEEC is implementing a management system approach that encompasses: project environmental mitigation and follow-up; systematic tracking and resolution of concerns, and; maintaining open lines of communication. Please see section 5, "Going Forward", below for an explanation.

1.3 Broader Engagement

To date, some communities have requested additional dialogue about matters that, strictly speaking, fall outside the ambit of s. 14 and s. 17 of the REA. NEEC will continue these discussions, which are identified in **Table 3.3.1**, below.

1.4 Aboriginal Relations Canadian Project Framework

As explained above, NEEC is pursing multiple projects and is working together with multiple Aboriginal governments and their staff. Building cordial relationships with communities is both a necessity and a corporate goal. Continuity and a consistent approach is important. Additionally, NEEC recognizes staff in communities receive numerous and sometimes complex consultation requests on a weekly, if not daily basis. As a result, the practical challenge of how those staff can review, analyze, obtain relevant community information and respond to project proposals and consultation requests is often a practical (capacity) issue that must be addressed cooperatively.

NEEC has therefore developed an Aboriginal Relations Canadian Project Framework to address the issues described above. A copy is included in **Appendix 1**. It is labelled "working draft" to reflect that fact that NEEC remains open to input from Aboriginal communities to make this framework as relevant, practical and effective as possible.

Aboriginal interests over project archaeological work are also given particular attention in the framework. Additionally, the Ontario Ministry of Tourism and Culture has recently issued its document titled, "Engaging Aboriginal Communities in Archaeology: A Draft Technical Bulletin for Consultant Archaeologists in Ontario". NEEC has also developed an "Ontario Projects - Archeological Protocol" document on the same working draft basis as the Framework. A copy is provided in **Appendix 2**. The Protocol has been reviewed by an external archaeological consultant for consistency with the Ministry of Tourism and Culture Draft Technical Bulletin, and is being circulated to interested Aboriginal communities for their review and comment.

NEEC views both the above Framework and Protocol as "live" documents, to be updated and refined as corporate knowledge about, and experience with Aboriginal communities grows and through feedback that they may provide.

NEXTera ENERGY CANADA

2. Information Provided to Communities

2.1 Aboriginal Communities with Potential Interests in the Project

The following table identifies communities included in the Director's List of October 25, 2010 (left hand column) cross-referenced to communities initially identified by NEEC's inquiries (right hand column).

As explained above, the Project had begun prior to creation of the REA and the requirement to obtain the Director's List. Consequently, NEEC had developed its own list and had already begun the process of information-sharing and dialogue about the Project in 2007-2008.

TABLE 2.1.1: ABORIGINAL COMMUNITIES IDENTIFIED

Director's List	Communities Previously Identified by NEEC
Not on Director's List	Huron-Wendat (Potential interest related to archaeological reports)
Mississaugas of the New Credit	Mississaugas of the New Credit
Mohawks of Akwesansne	Not identified through previous INAC or MAA inquiries.
Mohawk of the Bay of Quinte	Identified by INAC based on a claim in Tyendinaga and Deseronto Townships (eastern Ontario) that was subsequently confirmed by INAC as incorrect information and that there is no claim near the Project.
Not identified on the Director's List	Oneida Council of Chiefs, On^yota a:ka Lotiyaneshu
Oneida of the Thames	Oneida of the Thames
Six Nations Confederacy Council	Six Nations Confederacy Council
Six Nations of the Grand River	Six Nations of the Grand River
Wahta Mohawk	Not identified through previous INAC or MAA inquiries.

A summary of the salient information and issues received from these communities in relation to the REA and the Project is given in **sections 3.1** and **3.2**, below. Other issues raised by

these communities are described in **section 3.3**. Progress under existing community consultation and accommodation protocols is discussed in **section 3.4**.

All communications that have taken place with the foregoing communities are listed chronologically for information purposes under **Appendix 4**. This is simply a summary of contacts made with the community, by/with whom, the information discussed, nature of the contact and a brief description of follow-up or results. As explained above, some communities have interest in more than this Project. The summaries encompass all relevant projects for the community being reported, but *the substantive issues of procedural consultation for each community that are specific to the Summerhaven project are discussed within the body of this report*. The chronological contact information is simply included to indicate the duration and scope of efforts made in the proponent's Aboriginal program.

2.2 Distribution of Required Information

The Summerhaven Wind Energy Centre is a transition project, in that work had progressed significantly under the previous Environmental Screening Process in preparation for the Ontario Power Authority's RES-III procurement initiative. In addition to any contacts made as part of the former process, NEEC distributed the following materials and information to the aboriginal communities pursuant to the REA, as set out in **Table 2.2.1**, below.

1. A draft of the project description report that was consistent with the Table 1 reports required for a Class 4 Wind Facility under Ontario Regulation 359/09.
2. Any information NEEC had regarding any adverse impacts that the project may have on constitutionally protected aboriginal or treaty rights that the community may have identified as being adversely impacted by the project. (NEEC had no such information.)
3. "Plain language" summaries of each report, and the reports mentioned in paragraphs 1 and 2 of subsection 16 (6) of Ontario regulation 359/09 ("the draft REA Documents"), in respect of which information is being requested under paragraph 17.(1) 4 of the Regulation. The delivery of this information was completed in the manner and on the dates set out below. Each delivery was accompanied by a covering letter addressed to the appropriate leadership person (usually the Chief of Council) and copied to the appropriate staff contact. Copies of the covering letters are included under **Appendix 5.**
4. A written request that the aboriginal community provide in writing any information available to the community that, in its opinion, should be considered in preparing a document summarized under paragraph 3, and in particular, any information the community may have about any adverse impacts that the project may have on

constitutionally protected aboriginal or treaty rights and any measures for mitigating those adverse impacts. Copies of the covering letters are included under **Appendix 5.**

5. Notices of the final public meeting, in a form that complied with the pro forma included in Ontario Ministry of Environment "Technical Bulletin Five: Guidance for Preparing the Consultation Report".

TABLE 2.2.1: DELIVERY OF INFORMATION REQUIRED BY O/REG 359/09

Community	Contact Person(s)	Dates Delivered (a) Draft REA Doc's (b) s. 17 Request (c) Summaries (d) Notice of Final Open House	Delivery Method
Mississaugas of the New Credit	Chief Brian Laforme	(a), (b), (c), (d) October 4, 2010 October 6, 2010	Courier
Mohawks of Akwesansne	Grand Chief Michael Mitchell	(a), (b), (d) October 27, 2010 (c) October 28, 2010	Courier
Mohawk of the Bay of Quinte	Chief R. Donald Maracle	(a), (b), (c), (d) October 27, 2010	Courier
Oneida Council of Chiefs	Chief Alfred Day Charlene Deleary, Secretary	Copied with Six Nations Confederacy Council letter	Courier
Oneida of the Thames	Chief Joel Abram	(a), (b), (c), (d) October 28, 2010	Courier
Six Nations Confederacy Council	Chief A. McNaughton	(a), (b), (c), (d) October 1, 2010 October 6, 2010	Courier
Six Nations of the Grand River	Chief William Montour	(a), (b), (c), (d) October 1, 2010 October 6, 2010	Courier
Wahta Mohawk	Chief Blaine Commandant	(a), (b), (d) (d) October 27, 2010	Courier

In addition to delivery of the foregoing information, NEEC will deliver a letter advising of the submission of its application under Ontario Regulation 359/09, to all communities listed in Table 2.2.1, other than those communities who do not assert traditional territory at the Project location, and the Huron-Wendat Nation (i.e. archaeology interest only). Copies of the REA

documents, as submitted will be enclosed with the letters. A copy of the covering letter template is enclosed as **Appendix 6**.

2.3 Additional Information Made Available

Information presentations about NEEC, the Project and other NEEC projects have been made to various leadership and staff at Mississaugas of the New Credit, Oneida Council of Chiefs, Oneida of the Thames, Six Nations Elected Council and Six Nations Confederacy Council, as recorded in the summaries under **Appendix 4**.

Offers have also been made to make community information presentations to all of the First Nations identified by NEEC for the Project, but none have been accepted yet with the exception of Six Nations of the Grand River. NEEC attended the Six Nations Lands and Resources department Community Open House on May 28, 2010 with an information booth to discuss all current projects. NEEC is prepared to make other community presentations, if requested.

A technical level meeting was also held with Haudenosaunee Development Institute ("HDI") on March 8, 2010 where a Project overview was given. Furthermore, NEEC has provided additional information that is not required to be provided under the REA, but was requested by HDI, which is generally described in its application for consideration and engagement for development.

NEEC has also distributed relevant contextual background information about wind energy including the technology, development process, industry, related commercial opportunities and the regulatory approval process to all the communities it had identified for the Project. In addition to the above presentations, this information was contained in a "Community Reference Binder" that was distributed to all First Nation and Métis communities with potential interests in current Ontario projects. The binder is sized to accommodate additional materials so that communities who wish to, may use it as a central repository for all NEEC project correspondence.

The Community Reference Binder contents are shown in **Appendix 3**.

Finally, NEEC offered to host representatives from all thirteen communities that it had identified for southwestern Ontario projects at a two day June 2010 CanWEA Wind Matters seminar in Toronto titled, "Building the Wind Energy Supply Chain in Canada". This seminar dealt with post construction economic opportunities that might potentially be of interest to Aboriginal communities. Representatives from two communities attended the seminar.

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3. Information Received From Aboriginal Communities

3.1 Information Received About Aboriginal or Treaty Rights Pursuant to s. 17 of O/Reg 359/09

Under section 17(1)4. of Ontario Regulation 359/09, proponents are required to determine and report to the Director any constitutionally protected Aboriginal or treaty rights that a community identifies as being adversely affected by a renewable energy project, and any measures proposed by the proponent or community to mitigate the impacts. Formal requests for this information were delivered as set out in Table 2.1, above.

Communities provided the Applicant with the following written and/or verbal responses in reply to the Applicant's written request under paragraph 4 of subsection 17(1).

TABLE 3.1.1:"S. 17 INFORMATION" PROVIDED BY ABORIGINAL COMMUNITIES

Community	s. 17 Information Provided	How Addressed
Huron-Wendat (Interest related to archaeological reports)	No communication to date	Stage 2 archaeology report to be forwarded upon completion.

Community	s. 17 Information Provided	How Addressed
Mississaugas of the New Credit	No specific "s. 17" information about the Project to date. Prior to sending the "s.17 request", the Mississaugas of the New Credit provided a general list of issues they wished to be consulted about, as follows: 1. Land claims 2. Potential to affect reserves 3. Potential to affect sacred grounds 4. First Nation treaty rights 5. Potential to affect significant pre-historic or historic First Nations archaeological sites of extreme local, provincial or national interest.	The Summerhaven project is not located on any known Mississaugas of the New Credit land claims, reserve lands or treaty areas. NEEC believes the field work conducted by its consultants to date concludes no sacred sites will be affected and that any archaeological sites will be either be avoided, or dealt with in accordance with Ministry of Tourism and Culture requirements in consultation with Mississaugas of the New Credit. NEEC is continuing to work with Mississaugas of the New Credit and met on November 26, 2010 to determine what process will be followed for review of the Project. Please see section 3.4.
Mohawks of Akwesansne	No specific "s. 17" information about the Project to date.	Initial contact with Akwesasne staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.
Mohawks of the Bay of Quinte (Re. Nanfan Treaty Claim)	No specific "s. 17" information about the Project to date.	Initial contact with Bay of Quinte staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.

Community	s. 17 Information Provided	How Addressed
Oneida Council of Chiefs (On^yota a:ka Lotiyaneshu)	No specific "s. 17" information about the Project to date. On March 8, 2010 a letter was received from Howard Elijah, Secretary, Oneida Council of Chiefs On^yota a:ka Lotiyaneshu, on behalf of the Haudenosaunee and stating it was with support of the elected of Council Oneida of Thames. The letter stated, *inter alia*: • The Council strongly support use of sustainable resources and recognized the Project as consistent with their views on conservation and respect for the natural world. • Council of Chiefs' assert a treaty right under 1701 Nanfan Treaty and subsequent 1726 and 1755 clarifications. • The Treaty sets apart an area, including the Project area, for what today would be termed economic activities. • The Duty to Consult and accommodate rests with the Crown and cannot be delegated • The Haudenosaunee have a right to participate in any benefits that result from the Project. The Council sent a copy of their letter to Ministry of Energy and Infrastructure, Ministry of Environment and Ministry of Aboriginal Affairs.	NEEC believes this letter was intended to address another project, named "Bornish". NEEC replied by letter dated 2010-06-03 seeking clarification of which Haudenosaunee communities and governments are represented by Oneida Council of Chiefs and to confirm if the letter only applied to another NEEC project, named Bornish, which is closer to Oneida of the Thames. The letter further asked for identification of any impact the Council believes that the Bornish Project may have on economic activities authorized by the 1701 Nanfan Treaty. No reply has been received. The Nanfan Treaty of 1701 dealt with hunting and fishing (harvesting) rights. The Project is on private lands and should not impact any existing access rights to lands for harvesting purposes. As indicated in the Project Table 1 Reports and work conducted by NEEC's environmental consultants, the Project should not adversely affect species or habitats that may be subject of harvest activities.
Oneida of the Thames	See Oneida Council of Chiefs, below.	See Oneida Council of Chiefs, below.

Community	s. 17 Information Provided	How Addressed
Six Nations of the Grand River (Elected Council)	No specific "s. 17" information about the Project to date however, their is a claim asserted in the Haldimand Tract, to the immediate east of the Project.	NEEC will continue to discuss the Project with SNEC staff and/or leadership, as appropriate. Please see section 3.4, below.
Six Nations Confederacy Council	A meeting took place on March 8, 2010 at the office of the Haudenosaunee Development Institute (HDI). It was mutually agreed that the meeting was for information-sharing, not for consultation. HDI staff and confederacy leadership in attendance explained the areas of greatest concern over development, namely: Haldimand Tract; lands in Fergus and Kirtchener-Waterloo claim areas, and; Haudenosaunee Places to Grow are of prime concern.	NEEC will continue to discuss the Project with HDI and/or Haudenosaunee leadership, as appropriate. NEEC provided information to initiate the HDI process on November 26, 2010. The Project is not located in any known Haudenosaunee claim areas.
Wahta Mohawks	No information provided to date.	On 2010-12-16 Chief Blaine Commandant confirmed Wahta Mohawk would defer any concenrs abou tthe Project to Six Nations Council.

3.2 Information Received About Potential Negative Environmental Impacts Pursuant to s. 14 and 15 of O/Reg 359/09

Ontario Regulation 359/09 section 14.(1)(b)(ii) and 15.(6)5.ii make reference to any interests Aboriginal communities may have concerning potential negative environmental impacts of a renewable energy project. This is in addition to, but differs from the information requested from Aboriginal communities pursuant to section 17(1)4.

The following issues concerning potential adverse environmental impacts of the Project were determined to be of interest to the communities through inquiries made by NEEC.

TABLE 3.2.1: INFORMATION ABOUT POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS OBTAINED FROM ABORIGINAL COMMUNITIES

Community	Environmental Issue(s)	How Addressed
Huron-Wendat (Interest related to archaeological reports)	No communication to date	Stage 2 archaeology report to be forwarded upon completion.
Mississaugas of the New Credit	Mississaugas of the New Credit have provided a list of issues they wished to be consulted about, as follows: 1. Potential to affect use of land and resources for traditional purposes	NEEC believes the field work conducted by its consultants to date concludes that this factor will not be affected by the Project. NEEC is continuing to work with Mississaugas of the New Credit and met on November 26, 2010 to determine what process will be followed for review of the Project. Please see section 3.4, below.
Mohawks of Akwesansne	No information provided to date.	Initial contact with Akwesasne staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.
Mohawks of the Bay of Quinte (Re. Nanfan Treaty Claim)	No information provided to date.	Initial contact with Bay of Quinte staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.

Community	Environmental Issue(s)	How Addressed
Oneida Council of Chiefs	Any burial sites are not to be disturbed	NEEC has adopted an archeological protocol that is consistent with Ministry of Tourism and Culture requirements and has arranged for First Nation monitors to be part of the archaeologists' crew.
Oneida Nation of the Thames	See Oneida Council of Chiefs	See Oneida Council of Chiefs
Six Nations of the Grand River (Elected Council)	The Six Nations Council "Land Use Consultation & Accommodation Policy" states that "...[Six Nations elected] Council asserts a responsibility to protect the land, air, and water within the wider area specified by the 1701 Fort Albany/Nanfan Treaty."	NEEC believes that the results of the Project Table 1 Reports demonstrate that the Project can be constructed and operated consistent with the spirit and intent of the SNEC Policy. On November 1, 2010, NEEC provided capacity funding for SNEC to begin a third party review of the Table 1 Reports. If the review raises new questions, concerning negative environmental impacts, they will be addressed through the mitigations outlined in the Project Table 1 documents, the initiatives described in section 5, below and/or through discussions with Six Nations staff and leadership.

Community	Environmental Issue(s)	How Addressed
Haudenosaunee (Six Nations Confederacy)	A meeting took place on March 8, 2010 at the office of the Haudenosaunee Development Institute (HDI). It was agreed the meeting was not for consultation. HDI require an application fee and payments leading to negotiation of a memorandum of understanding in order to review and comment on the Project. Please see description of the HDI consultation and accommodation process, in section 3.4, below.	NEEC will continue to discuss the Project with HDI and/or Haudenosaunee leadership, as appropriate. NEEC provided information to initiate the HDI process on November 26, 2010. If the review raises new questions, concerning negative environmental impacts, they will be addressed through the mitigations outlined in the Project Table 1 documents, the initiatives described in section 5, below and/or through discussions with Six Nations staff and leadership
Wahta Mohawks	No information provided to date.	On 2010-12-16 Chief Blaine Commandant confirmed Wahta Mohawk would defer any concenrs abou tthe Project to Six Nations Council.

3.3 Other Issues Raised by Aboriginal Communities

Additional issues were raised by some Aboriginal commodities that NEEC believes are outside the scope of constitutionally protected Aboriginal and treaty rights and other interests in potential negative impacts to the environment, which are the subject of O/Reg 359/09.

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TABLE 3.3.1: OTHER ISSUES RAISED BY ABORIGINAL COMMUNITIES

Community	Other Issue(s)	How Addressed
Huron-Wendat (Interest related to archaeological reports)	No communication to date	Stage 2 archaeology report to be forwarded upon completion.
Mississaugas of the New Credit	Mississaugas of the New Credit have provided a list of issues they wished to be consulted about, as follows: 1. Potential to support First Nations industry in the area by efficient and reliable movement of people and goods 2. Revenue-sharing arrangements 3. Partnership ventures 4. Employment opportunities 5. Education assistance 6. Training and apprenticeship programs 7. Scholarships 8. Funding for community based projects 9. Proponent to fund First Nations to actively participate in negotiating an agreement including for legal advisors and consultants 10. Health contributions 11. Contributions for department programs, cultural activities, powwows, library, playgrounds and community events.	NEEC offered to sponsor attendance at June 2010 CanWEA Seminar on opportunities in wind energy supply and value chain. NEEC provided a modest sponsorship of Mississaugas of the New Credit historical gathering called "Our People: The Mississauga Nation," on March 3, 4 & 5, 2010. NEEC will continue to communicate with the Mississaugas of the New Credit and include them in any project-related information programs.
Mohawks of Akwesansne	No information provided to date.	Initial contact with Akwesasne staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.

Community	Other Issue(s)	How Addressed
Mohawks of the Bay of Quinte (Re. Nanfan Treaty Claim)	No information provided to date.	Initial contact with Bay of Quinte staff indicates a letter may be received directing NEEC to continue to deal with Six Nations.
Oneida Council of Chiefs	Opportunities for economic benefits.	NEEC offered to sponsor attendance at June 2010 CanWEA Seminar on opportunities in wind energy supply and value chain. Dialogue regarding such additional issues will continue if requested.
Oneida Nation of the Thames	See Oneida Council of Chiefs	See Oneida Council of Chiefs
Six Nations of the Grand River (Elected Council)	A meeting took place on May 17, 2010 at which staff from Six Nations of the Grand River explained the Six Nations Elected Council (SNEC) Consultation and Accommodation Policy. It was explained at the meeting and by e-mail, that the procedure under the policy requires proponents to first confirm in writing whether or not they want to partner with Samsung on their project, and if not, the discussions then move to negotiating accommodation beginning with submission of project financial information. It is believed these two matters are outside the scope of issues identified in O/Reg 359/09.	NEEC will continue to discuss the Consultation and Accommodation policy with Six Nations of the Grand River with respect to all affected NEEC projects. NEEC have responded to the request concerning Samsung. NEEC offered to sponsor attendance at June 2010 CanWEA Seminar on opportunities in wind energy supply and value chain. NEEC will continue to communicate with the SNEC and include them in any project-related information programs.
Haudenosaunee (Six Nations Confederacy)	No information provided to date.	NEEC will continue to communicate with the Confederacy Council and include them in any project-related information programs.
Wahta Mohawks	No information provided to date.	On 2010-12-16 Chief Blaine Commandant confirmed Wahta Mohawk would defer any concenrs abou tthe Project to Six Nations Council.

3.4 First Nation and Métis Consultation and Accommodation Protocols

The following is a summary of Aboriginal governments who have a published consultation and accommodation protocol applicable to this Project. NEEC's response to the protocol and status of consultation as of the date of this report is also explained below.

A. Mississaugas of the New Credit

NEEC met with staff and a Council member on November 26, 2010 to discuss what process Mississaugas of the New Credit will follow to review the Project. While there is no current procedure or policy in place, the process will generally follow these steps:

1. Independent review of the Project Table 1 Reports
2. Draft report to staff by the independent reviewer
3. Possible clarification meeting to discuss the draft report with NEEC
4. Report to Mississaugas of the New Credit Council by staff
5. Possible community information session or, for issues considered major, a referendum
6. Further discussion with NEEC
7. Council decision

NEEC's Aboriginal Relations Canadian Project Framework contemplates capacity funding where this is required to arrange independent reviews of technical materials by qualified parties and will respond if such a request is received.

NEEC has initiated a transparent, cordial and cooperative relationship with Mississaugas of the New Credit. NEEC has also established a formalized framework, as set out in section 1.4, above, to continue to guide this relationship on a going forward basis. NEEC is confident the work completed in preparation of the Project Table 1 Reports, the results of those studies, the planned mitigations and the additional measures and commitments to ongoing communications and collaboration, as set out under section 5 **"Going Forward"**, below, will address any questions by raised by Mississaugas of the New Credit concerning potential impacts to the environment, cultural interests or lands affected by the Project.

B. Six Nations Confederacy Council

NEEC has been advised that the Haudenosaunee Development Institute ("HDI") has been delegated authority to review and provide technical advice to the Six Nations Confederacy Council for all developments within: (a) Haudenosaunee Green Plan, which includes the Haldimand Tract, the Haudenosaunee Places to Grow and places where clear land rights are held, and also; (b) all lands within the 1701 Nanfan Treaty area.

NEEC has been provided with a copy of: the Haudenosaunee Development Protocol; Tseh Niyoht Dwayadowehsra Ogwahweja Wihwageh Haudenosaunee Green Plan, and; HDI Application for Consideration and Engagement for Development, which sets out the information requested by HDI to initiate review on behalf of the Six Nations Confederacy Council.

Copies of the foregoing protocol and green plan are enclosed in **Appendix 9**.

NEEC has had two meetings and additional telephone, correspondence and e-mail exchanges with HDI. These activities are preliminary to meaningful consultation. The meetings and communications have included staff from HDI, and leadership from the Six Nations Confederacy Council and Oneida Council of Chiefs, On^yota a:ka Lotiyaneshu. The meetings were for introductions, exchanging information, clarifying information and discussing procedural matters. Information provided included all of that, which is described in section 2 **"Information Provided to Communities"**, below.

On November 26, 2010, additional information was provided about this Project to address that requested by HDI to initiate its review process, together with funds to cover the capacity costs for review by HDI and external experts of the Project Table 1 Reports; internal reporting to the Confederacy Council; a community meeting or communications, and; further dialogue with NEEC about the Table 1 reports. The results of this process will determine the Confederacy Council's views on the Project.

NEEC has initiated a transparent, cordial and cooperative relationship with HDI as the staff secretariat for the Confederacy Council. NEEC has also established a formalized framework, as set out in section 1.4, above, to continue to guide this relationship on a going forward basis. NEEC is confident the work completed in preparation of the Project Table 1 Reports, the results of those studies, the planned mitigations and the additional measures and commitments to ongoing communications and collaboration, as set out under section 5 **"Going Forward"**, below, will address any questions by raised by HDI concerning potential impacts to the environment, cultural interests or lands affected by the Project.

C. Six Nations of the Grand River

Six Nations of the Grand River elected council ("SNEC") has issued a Consultation and Accommodation Policy that states:

> As the official governing body of the territory and working with all Six Nations Community Members, Six Nations Elected Council (SNEC) on behalf of the people of Six Nations of the Grand River has interests in and a duty to protect land within the Haldimand Tract. These interests include

unsurrendered lands; conditionally surrendered lands which are subject to unfulfilled conditions; and the Grand River including the river bed.

Additionally Council asserts a responsibility to protect the land, air, and water within the wider area specified by the 1701 Fort Albany/Nanfan Treaty.

A copy of the policy is include as **Appendix 8**. This policy is complimented by a SNEC procedure manual and application form.

NEEC has had a number of meetings, plus additional telephone, correspondence and e-mail exchanges with Six Nations of the Grand River. These are preliminary activities to consultation. The meetings and communications have included staff from SNEC, SNEC leadership and a presentation to SNEC itself. The meetings were for introductions, exchanging information, clarifying information and discussing procedural matters. Information provided included all of that, which is described in section 2 **"Information Provided to Communities"**, below.

On November 5, 2010, additional information was provided about the Project to enable SNEC to initiate its review process. Funds have been provided to cover the capacity costs for review by SNEC staff and external experts of the Project Table 1 Reports; internal reporting to SNEC, and; further dialogue with NEEC about the Table 1 reports. The results of this process will determine the SNEC views on the Project.

NEEC has initiated a transparent, cordial and cooperative relationship with SNEC staff and leadership. NEEC has also established a formalized framework, as set out in section 1.4, above, to continue to guide this relationship on a going forward basis. NEEC is confident the work completed in preparation of the Project Table 1 Reports, the results of those studies, the planned mitigations and the additional measures and commitments to ongoing communications and collaboration, as set out under section 5 **"Going Forward"**, below, will address any questions by raised by SNEC concerning potential impacts to the environment, cultural interests or lands affected by the Project.

D. Mohawk Communities, Oneida Council of Chiefs and Oneida of the Thames

NEEC has made contacts with all three Mohawk Communities (Akwesasne, Bay of Quinte and Wahta), as well as the Oneida Council of Chiefs and Oneida of the Thames. The requisite information to be delivered under the REA pursuant to section 17 has been provided, as documented in **Table 2.2.1**, below. To date, NEEC has not been advised of any specific consultation and accommodation protocol by these communities, nor has any response been received to the requisite information. In fact, early indications from staff of the Mohawk communities are that, given the location of the Project, leadership may deem it

acceptable that Six Nations Confederacy Council takes the lead on behalf of Haudenosaunee communities. This is consistent with previous advice received from Oneida Council of Chiefs.

As of the date of writing this report, a written confirmation of the foregoing has been requested from the three Mohawk communities and Oneida of the Thames, but not yet received. Such confirmation is pending internal inquiries by staff and in some cases, may need to be brought to council as an information item. In such cases, NEEC's request will be prioritized according to other matters before the council(s) and is subject to the standing council meeting cycle.

NEEC has communicated with staff at all three Mohawk communities. In addition, communications and meetings have taken place with leadership and staff at Six Nations Confederacy Council, Six Nations Elected Council, Oneida Council of Chiefs and Oneida of the Thames. NEEC has also established a formalized framework, as set out in section 1.4, above, to continue to guide relationships with all communities on a going forward basis. NEEC is confident the work completed in preparation of the Project Table 1 Reports, the results of those studies, the planned mitigations and the additional measures and commitments to ongoing communications and collaboration, as set out under section 5 **"Going Forward"**, below, will address any questions by raised by the three Mohawk communities, Oneida Council of Chiefs and Oneida of the Thames concerning potential impacts to the environment, cultural interests or lands affected by the Project.

E. Métis

The Project is not in an area where either Métis Nation of Ontario or Historic Saugeen Métis Council assert any traditional harvest territory. No other Métis organizations have been identified to have interests that may be affected by the Project. As a courtesy, NEEC has included the Summerhaven project in its discussions with Métis Nation of Ontario and will continue to do so.

4. Consideration of, and Changes Made as a Result of Information Received

As a result of the discussions with Aboriginal communities identified in section 2.1 and the information they brought forward, as identified in sections 3.1 and 3.2, above, the proposal to engage in the Project was altered in the following way.

As of the filing of the REA, no concerns have been communicated to NEEC from Aboriginal communities that required a change in design or mitigation strategies. However, ongoing review work identified in Table 3.1.1, 3.2.1 and section 3.4 is continuing with the First Nations. NEEC is confident this dialogue will result in a mutually satisfactory conclusion. NEEC has undertaken to ensure ongoing communications and addressing questions during construction and operations as described in section 5, "Going Forward".

5. Going Forward: Communications and Approach

The results of consultation efforts leading up to, and that support the submission of NEEC's REA are described above. This section describes NEEC's approach going forward.

Aboriginal communities interested in the Project were provided with the draft Project Table 1 reports as detailed in section 2.2, above. Additionally NEEC will notify, or has notified each of the Communities who received a written request pursuant to section 17 of the REA (see Table 2.2.1, above) of the submission of its application for approval of the Project under Ontario Regulation 359/09. Copies of any Project Table 1 Reports that have been amended, and a copy of this consultation report will be included with these notifications.

A copy of the wording of the covering letters to be delivered with those documents is included in **Appendix 6**. The letter will explain the next stage of the REA approval process.

Any of the Aboriginal communities are entitled to comment during the 30 day review period, and may also comment when the Director's decision is posted on the environmental registry of the Environmental Bill of Rights. Should this occur, NEEC will respond as part of that process and as requested by the Director.

NEEC will continue its dialogue as set out in section 3.4 above. To date, no impacts to constitutionally protected Aboriginal or treaty rights have been identified through preliminary information-sharing. Procedural consultation under community protocols described in section 3.4 is the next phase. Should the procedural consultation result in identification of an impact to either a constitutionally protected Aboriginal or treaty right that is not presently identified, or to habitat or species that may form the basis of a constitutionally protected Aboriginal right, NEEC will use good faith efforts to seek mutually acceptable avoidance, or else mitigation and accommodation for matters that are within its mandate and/or control. This will be achieved though a systematic approach described below.

If unexpected questions or concerns are received after approval of the REA, NEEC will address those situations through the following measures:

1. Implementation of construction mitigation as required and as set out in the final project Table 1 Reports, in particular, the Archaeology reports, Construction Plan Report, Design and Operations Report, the Decommissioning Report and the Natural Heritage Report as submitted to the Director of Renewable Energy Approvals under Ontario Regulation 359/09, including any required monitoring and follow-up;

2. A management system approach to tracking and resolving issues of concern brought to the attention of NEEC by Aboriginal communities that is consistent with Ontario Regulation 359/09, Table 1, Section 4, and;
3. Maintaining open lines of communication with Aboriginal communities throughout construction and operations.
4. Site-specific mitigations that may be mutually agreed to with the Aboriginal community.

Where no specific information has been provided by Aboriginal communities, NEEC undertakes to implement any necessary mitigation measures identified the final REA documents and Project Table 1 Reports. These measures will result in no significant long-term environmental impacts by the Project, and therefore, no significant long-term impacts to species, habitats or ecosystems that may be of concern to Aboriginal communities.

NEEC has also initiated internal discussions to explore the possibility of Aboriginal environmental field monitors and/or environmental liaison committees. This may be through the communities themselves, Aboriginal contractors, or may be through Provincial Territorial, Tribal Council or another collective organization with an appropriate relationship to the communities for this Project. The mandate of the monitors or committee would be to view and report on the implementation of mitigations set out in the Project natural heritage study report, and make suggestions where improvements are possible. This concept will be explored further with those Aboriginal organizations and communities with an interest in the Project.

Should an Aboriginal community express an issue of concern with the Project activities, NEEC will have a formal system to receive, track and resolve such concerns as is required under Ontario Regulation 359/09, Table 1, section 4. It will be based on these principles.

Generally, an "issue of concern" is one that cannot be resolved at the field level within three (3) business days. This tracking and resolution system would generally include features that enable:

1. referral of issues of concern to company, contractor or government personnel with the ability to address them;
2. documenting, monitoring and reporting of outstanding issues of concern to management;
3. ability to "escalate" an issue of concern to more senior personnel for resolution, and:

4. reporting of all issues of concern as part of project monitoring reports and commissioning activities.

Finally, NEEC will maintain ongoing communications with Aboriginal communities through the construction and operating phase of its project as one element of its ongoing community, municipal and landowner communications program. In additional to contact with leadership and/or key staff, and where practicable, local Aboriginal community newsletters, web sites or other communication vehicles will be used to convey relevant project notices and updates, as may be agreed to by the Aboriginal communities. Anticipated topics may include Project schedule updates, reports on Project activities and on the effectiveness of environmental mitigations. Details of the content of this program, frequency of updates and communication vehicles will be discussed with Aboriginal communities who express interest in receiving such information.

Should accommodations be requested that fall outside these parameters, they may be more appropriately relevant to the Crown consultation with the affected Aboriginal community.

6. Conclusion

NEEC has undertaken a thorough Aboriginal consultation program for the Project and this dialogue continues. The steps and information distribution required under Ontario Regulation 359/09 have been completed as described in section 2.1 and 2.2, above.

No impacts to constitutionally protected Aboriginal or treaty rights have been brought to NEEC's attention to date as confirmed in section 3.1, and any other issues of concern over potential negative environmental impacts are, or are being dealt with as set out in section 3.2. and 3.4

Other issues brought to the attention of NEEC that fall outside the scope of O/Reg 359/09 are explained in section 3.3, including NEEC's response.

Based on information received to date, no modifications to the design, construction plan, mitigations or other aspects of the Project were necessary, as stated in section 4, above.

Communication, information exchange and resolution of any issues with Aboriginal communities will continue through the construction and monitoring phase of the Project, and into operations, as undertaken in section 5 of this Aboriginal Consultation Report.

As a result, NEEC submits that the Project will not adversely affect any constitutionally protected Aboriginal or treaty rights of the communities identified above and should not result in any negative environmental effects that may be of concern to those communities.

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LIST OF APPENDIXES

	No.
NEEC Energy Canada, ULC, "Aboriginal Relations Canadian Project Framework"	1
NEEC Energy Canada, ULC, Ontario Projects - Archaeological Protocol	2
NEEC Energy Canada, ULC "Community Reference Binder" contents	3
Contact Summaries	4
Copies of Letters to Communities re. delivery of draft REA documents and request for comments under s. 17(1) 4.	5
Template text for letters to Communities re. filing of the Project REA Application	6
1749 Nanfan Treaty Text and Maps	7
Six Nations Elected Council Consultation and Accommodation Policy	8
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IMPACT ASSESSMENTS

46. The final System Impact Assessment ("**SIA**") for the Summerhaven Project was issued by the IESO on November 4, 2010, a copy of which is attached at Schedule 2. The final Customer Impact Assessment ("**CIA**") for the Summerhaven Project was issued by HONI on November 9, 2010, a copy of which is attached at Schedule 3. Subsequent to the issuance of the SIA and CIA, the Applicant amended the original specifications of the Facility to reduce length of the Transmission Line from 12 km to 9 km. On December 7, 2010 the IESO and HONI responded by letter (attached at Schedule 4) indicating that the proposed changes do not materially affect the results of the SIA or CIA, and that neither the SIA nor the CIA need to be amended.

47. The SIA found that the Summerhaven Project (including the Facility), as proposed, does not have a material adverse impact on the reliability of the IESO-controlled grid, nor will it cause new violations of existing circuit breaker interrupting capabilities on the IESO-controlled grid. The SIA includes several recommendations, including a recommendation that a single, joint use switching station be built for the Summerhaven Project and a neighbouring wind project rather than two separate stations. The Applicant will construct the Facility according to the recommendations and conditions outlined in the SIA.

SYSTEM IMPACT ASSESSMENT

REPORT

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Power to Ontario.
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System Impact Assessment Report

SUMMERHAVEN WIND ENERGY CENTRE

CONNECTION ASSESSMENT & APPROVAL PROCESS

Final Report

CAA ID 2010-388

Applicant: Summerhaven Wind LP.

Market Facilitation Department

November 04, 2010

Document ID	IESO_REP_0656
Document Name	System Impact Assessment Report
Issue	1.0
Reason for Issue	Final Report
Effective Date	November 04, 2010

System Impact Assessment Report

Summerhaven Wind Generation Project

Acknowledgement

The IESO wishes to acknowledge the assistance of Hydro One in completing this assessment.

Disclaimers

IESO

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IESO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IESO should issue a notice of approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Approval of the proposed connection is based on information provided to the IESO by the connection applicant and the transmitter(s) at the time the assessment was carried out. The IESO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by the transmitter(s) at the request of the IESO. Furthermore, the connection approval is subject to further consideration due to changes to this information, or to additional information that may become available after the approval has been granted. Approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed facility to the IESO-controlled grid. However, connection approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IESO in accordance with Chapter 4, section 6 of the Market Rules. The IESO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IESO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IESO provides a draft of this report to the connection applicant, you must be aware that the IESO may revise drafts of this report at any time in its sole discretion without notice to you. Although the IESO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that it is using the most recent version of this report.

HYDRO ONE

Special Notes and Limitations of Study Results

The results reported in this study are based on the information available to Hydro One, at the time of the study, suitable for a System Impact Assessment of a new generation or load connection proposal.

The short circuit and thermal loading levels have been computed based on the information available at the time of the study. These levels may be higher or lower if the connection information changes as a result

of, but not limited to, subsequent design modifications or when more accurate test measurement data is available.

This study does not assess the short circuit or thermal loading impact of the proposed connection on facilities owned by other load and generation (including OPG) customers.

In this study, short circuit adequacy is assessed only for Hydro One breakers and does not include other Hydro One facilities. The short circuit results are only for the purpose of assessing the capabilities of existing Hydro One breakers and identifying upgrades required to incorporate the proposed connection. These results should not be used in the design and engineering of new facilities for the proposed connection. The necessary data will be provided by Hydro One and discussed with the connection proponent upon request.

The ampacity ratings of Hydro One facilities are established based on assumptions used in Hydro One for power system planning studies. The actual ampacity ratings during operations may be determined in real-time and are based on actual system conditions, including ambient temperature, wind speed and facility loading, and may be higher or lower than those stated in this study.

The additional facilities or upgrades which are required to incorporate the proposed connection have been identified to the extent permitted by a System Impact Assessment under the current IESO Connection Assessment and Approval process. Additional facility studies may be necessary to confirm constructability and the time required for construction. Further studies at more advanced stages of the project development may identify additional facilities that need to be provided or that require upgrading.

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SUMMERHAVEN WIND GENERATION PROJECT

IESO SYSTEM IMPACT ASSESSMENT

SIA Findings

Summerhaven Wind LP is developing a new 125 MW wind power generation farm, Summerhaven Wind Energy Centre, in Haldimand County, Nanticoke, Ontario. The project was awarded a contract under the government FIT program, and is expected to start commercial operation in December 2011.

Summary

This assessment examined the impact of injecting 125 MW of wind power generation to the provincial grid, via the 230kV circuit N1M, on the reliability of the IESO-controlled grid.

The following conclusions and recommendations were made:

Conclusions and Recommendations

Conclusions:

The analysis concluded that:

(1) The proposed wind farm does not have a material adverse impact on the reliability of the IESO-controlled grid.

(2) The proposed project will not cause new violations of existing circuit breaker interrupting capabilities on the IESO-controlled grid.

(3) The reactive capability of the wind turbine generators along with the impedance between the wind turbine generators and the IESO-controlled grid results in a reactive power deficiency at the connection point.

(4) No overloads were identified but the pre-contingency flows on the 230 kV circuits Q23BM/Q25BM approach the continuous ratings and post-contingency flows on the 230 kV circuits Q23BM/Q25BM, R14T/R17T and R19TH/R21TH approach Long Term Emergency ratings.

(5) For all contingency cases tested with the proposed Summerhaven Wind Farm in service, the voltage decline criteria are met.

(6) With the proposed project in service, none of the recognized contingencies cause any material adverse impact to the transient performance of the IESO-controlled grid.

(7) Based on the information provided by the applicant, the fault ride through capability of the wind turbines is adequate.

Recommendations:

(1) Considering that another FIT wind project, Port Dover and Nanticoke Wind Farm (PDNW), will be connected to N2M at a point about 1 km away from the connection point of this project, it is strongly recommended that a common switching station be built for both projects instead of two separate stations. This will reduce the overall connection costs, increase system reliability and operational flexibility and improve connection security for both projects.

(2) Since the Wind Farm Management System (WFMS) must coordinate the voltage control process, it is recommended that all WTGs control the PCC voltage to a reference value, reactive power compensation devices are automatically controlled/switched to regulate the overall WTGs' reactive power generation to around zero output, while the WF main transformer ULTC is adjusted to regulate the collector bus voltage such that it is within normal range. Once the WFMS description document is provided to the IESO, we will assess if the voltage control philosophy is acceptable.

(3) It is recommended that an ULTC step-up transformer be chosen, to improve operational flexibility and save on the amount of required shunt capacitors.

IESO's Requirements for Connection

Transmitter Requirements

The following requirements are applicable for Hydro One for the incorporation of Summerhaven Wind Farm:

(1) Change the relay settings of N1M terminal stations to account for the effect of the wind farm.

Modifications to protection relays after this SIA is finalized must be submitted to IESO as soon as possible or at least six (6) months before any modifications are to be implemented. If those modifications result in adverse impacts, the connection applicant and the transmitter must develop mitigation solutions.

Applicant Requirements

Specific Requirements: The following specific requirements are applicable to the applicant for the incorporation of Summerhaven Wind Farm. Specific requirements pertain to the level of reactive compensation needed, operation restrictions, Special Protection System, upgrading of equipment and any project specific items not covered in the general requirements:

(1) The wind farm is required to have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output. Based on the equivalent parameters for the WF provided by the connection applicant, the IESO's simulations resulted in the following:

- a static compensation device of 40 Mvar in steps no larger than 10 Mvar, has to be installed at the collector buses to compensate for the losses within the facility. The capacitors will need to be auto-switched via the Wind Farm Management System.

The connection applicant has the obligation to ensure that ensure that the WF has the capability to meet the MR requirement at the connection point and be able to confirm this capability during the commission tests.

(2) The applicant is required to provide a copy of the functionalities of the Wind Farm Management System (WFMS) to the IESO.

General Requirements: The proposed connection must comply with all the applicable requirements from the Transmission System Code (TSC), IESO Market Rules and standards and criteria. The most relevant requirements are summarized below and presented in more detail in Section 2 of this report.

(1) The new generator must satisfy the Generator Facility Requirements in Appendix 4.2 of the Market Rules.

(2) All 230kV equipment must have a maximum continuous voltage rating and the ability to interrupt fault current at a voltage of at least 250 kV.

(3) Any revenue metering equipment that is installed must comply with Chapter 6 of the Market Rules.

(4) Equipment must sustain increase fault levels due to future system enhancements. Should future system enhancements result in fault levels exceeding equipment capability, the applicant is required to replace equipment at its own expense with higher rated equipment, up to 63 kA as per the Transmission System Code for the 230 kV system.

(5) The 230 kV breakers must meet the required interrupting time of less than or equal to 3 cycles as per the Transmission System Code.

(6) The connection equipment must be designed such that adverse effects due to failure are mitigated on the IESO-controlled grid.

(7) The connection equipment must be designed for full operability in all reasonably foreseeable ambient temperature conditions.

(8) The facility must satisfy telemetry requirements as per Appendices 4.15 and 4.19 of the Market Rules. The determination of telemetry quantities and telemetry testing will be conducted during the IESO Facility Registration/Market entry process.

(9) Protection systems must satisfy requirements of the Transmission system code and specific requirements from the transmitter. New protection systems must be coordinated with existing protection systems.

(10) Protective relaying must be configured to ensure transmission equipment remains in service for voltages between 94% of minimum continuous and 105% of maximum continuous values as per Market Rules, Appendix 4.1.

(11) Although the SIA has found that a Special Protection Scheme (SPS) is not required for Summerhaven WF, provisions must be made in the design of the protections and controls at the facility to allow for the installation of Special Protection Scheme equipment. Should a future SPS be installed to improve the transfer capability in the area or to accommodate transmission reinforcement projects, Summerhaven Wind Farm will be required to participate in the SPS system

and to install the necessary protection and control facilities to affect the required actions.

(12) Protection systems within the generation facility must only trip appropriate equipment required to isolate the fault.

(13) The autoreclosure of the new 230kV breaker at Summerhaven main transformer must be blocked. Upon its opening for a contingency, it must be closed only after the IESO approval is granted. The IESO will require reduction of power generation prior to the closure of breaker, followed by gradual increase of power to avoid a power surge.

(14) The generator must operate in voltage control mode. The generation facility shall regulate automatically voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal based within ±0.5% of any set point within ±5% of rated voltage. If the AVR target voltage is a function of reactive output, the slope $\Delta V / \Delta Q_{max}$ shall be adjustable to 0.5%.

(15) A disturbance monitoring device must be installed. The applicant is required to provide disturbance data to the IESO upon request.

(16) Models and data, including any controls that would be operational, must be provided to the IESO through the IESO Facility Registration/Market Entry process at least seven months before energization to the IESO-controlled grid.

(17) During the commissioning period, a set of IESO specified tests must be performed. The commissioning report must be submitted to the IESO within 30 days of the conclusion of commissioning. Field test results should be verifiable using the PSS/E models used for this SIA.

(18) The registration of the new facilities will need to be completed through the IESO's Market Entry process before any part of the facility can be placed in-service. If the data or assumptions supplied for the registration of the facilities materially differ from those that were used for the assessment, then some of the analysis might need to be repeated.

(19) The proposed facility must be compliant with applicable reliability standards set by the North American Electric Reliability Corporation (NERC) and the North East Power Coordinating Council (NPCC) prior to energization to the IESO controlled grid.

(20) The applicant may need to meet the restoration participant criteria as per the NERC standard EOP-005. Further details can be found in section 3 of Market Manual 7.8 (Ontario Power System Restoration Plan).

Notification of Conditional Approval

From the information provided, our review concludes that the proposed changes will not result in a material adverse effect on the reliability of the IESO-controlled grid. It is recommended that a Notification of Conditional Approval be issued for Summerhaven Wind Farm subject to the requirements listed in this report being implemented.

1. Project Description

Summerhaven Wind LP has proposed to develop a 125 MW wind farm located in Haldimand County, Nanticoke, Ontario, known as Summerhaven Wind Farm which has been awarded a Power Purchase Agreement under the FIT program with Ontario Power Authority. It is expected that commercial operation will start in December 2011.

Summerhaven WGS will be connected to Hydro One's 230 kV circuit N1M via a new 230 kV three-breaker ring bus switching station. The new switching station will be about 6 km away from Nanticoke TS. Summerhaven WF substation will be located about 12 km from the new switching station. The substation will consist of one 140 MVA, 34.5/230 kV transformer and one 34.5 kV collector bus.

The development will consist of a total of 56 Siemens SWT 2.3 VS – 2.22MW wind turbine generators with a rated power output of 2.22 MW each. Two back-to-back AC/DC links and a 2.6 MVA, 0.06 pu reactance (on 2.6 MVA base), 0.69/34.5 kV transformer connects each generator to one of the five 34.5 kV collector circuits C1, C2, C3, C4, or C5. Each collector circuit will have the following number of generators:

Circuit ID	C1	C2	C3	C4	C5	Total
Number of generators	12	11	11	11	11	56
Maximum MW	26.6	24.4	24.4	24.4	24.4	124.3

– End of Section –

2. General Requirements

Generators

Each generator must satisfy the Generator Facility requirements in Appendix 4.2 of Market Rules.

The Market Rules (appendix 4.2) require that the generation facility directly connecting to the IESO-controlled grid must have the capability to operate continuously between 59.4Hz and 60.6Hz and for a limited period of time in the region above straight lines on a log-linear scale defined by the points (0.0s, 57.0Hz), (3.3s, 57.0Hz), and (300s, 59.0Hz).

The generators shall respond to frequency increase by reducing the active power with an average droop based on maximum active power adjustable between 3% and 7% and set at 4% . Regulation deadband shall not be wider than ± 0.06%. A sustained 10% change of rated active power after 10 s in response to a constant rate of change of frequency of 0.1%/s during interconnected operation shall be achievable.

The generators shall respond to frequency decline by temporary boosting their active power output by recovering energy from the rotating blades. It is not required for wind facilities to "spill" wind to provide a sustained response to frequency decline.

The generators must be able to ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times unless disconnected by configuration.

The generation facility directly connecting to the IESO-controlled grid must have the minimum capability to supply continuously all levels of active power output for 5% deviations in terminal voltage. Rated active power is the smaller output at either rated ambient conditions (e.g. temperature, head, wind speed, solar radiation) or 90% of rated apparent power. To satisfy steady-state reactive power requirements, active power reductions to rated active power are permitted. the generation facility must have the capability to inject or withdraw reactive power continuously (i.e. dynamically) at a *connection point* up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the *IESO*.

If necessary, shunt capacitors must be installed to offset the reactive power losses within the facility in excess of the maximum allowable losses. If generators do not have dynamic reactive power capabilities as described above, dynamic reactive compensation devices must be installed to make up the deficient reactive power.

Connection Equipment (Breakers, Disconnects, Transformers, Buses)

1. Appendix 4.1, reference 2 of the Market Rules states that under normal conditions voltages are maintained within the range of 220 kV to 250 kV. Thus, the IESO requires that the 230 kV equipment in Ontario must have a maximum continuous voltage rating of at least 250 kV. Fault interrupting devices must be able to interrupt fault current at the maximum continuous voltage of 250 kV.

If revenue metering equipment is being installed as part of this project, please be aware that revenue metering installations must comply with Chapter 6 of the IESO Market Rules for the Ontario electricity market. For more details the applicant is encouraged to seek advice from their Metering Service Provider (MSP) or from the IESO metering group.

2. The Transmission System Code (TSC), Appendix 2 establishes maximum fault levels for the transmission system. For the 230 kV system, the maximum 3 phase symmetrical fault level is 63 kA and the single line to ground (SLG) symmetrical fault level is 80 kA (usually limited to 63 kA).

   The TSC requires that new equipment be designed to sustain the fault levels in the area where the equipment is installed. If any future system enhancement results in an increased fault level higher than the equipment's capability, the connection applicant is required to replace the equipment at their own expense with higher rated equipment capable of sustaining the increased fault level, up to the TSC's maximum fault level of 63 kA for the 230 kV system.

3. The Transmission System Code (TSC), Appendix 2 states that the maximum rated interrupting time for 230 kV breakers must be ≤ 3 cycles. The connection applicant shall ensure that the new breakers meet the required interrupting time as specified in the TSC.

4. The connection equipment must be designed so that the adverse effects of failure on the IESO-controlled grid are mitigated.

5. The connection equipment must be designed so that it will be fully operational in all reasonably foreseeable ambient temperature conditions.

IESO Monitoring and Telemetry Data

In accordance with the telemetry requirements for a generation facility (see Appendices 4.15 and 4.19 of the Market Rules) the connection applicant must install equipment at this project with specific performance standards to provide telemetry data to the IESO. The data is to consist of certain equipment status and operating quantities which will be identified during the IESO Market Entry Process.

As part of the IESO Facility Registration/Market Entry process, the connection applicant must also complete end to end testing of all necessary telemetry points with the IESO to ensure that standards are met and that sign conventions are understood. All found anomalies must be corrected before IESO final approval to connect any phase of the project is granted.

Protection Systems

1. Protection systems must be designed to satisfy all the requirements of the Transmission System Code as specified in Schedules E, F and G of Appendix 1 (version B) and any additional requirements identified by the transmitter. New protection systems must be coordinated with existing protection systems.

2. Protective relaying must be set to ensure that transmission equipment remains in-service for voltages between 94% of the minimum continuous and 105% of the maximum continuous values

in the Market Rules, Appendix 4.1.

3. The Applicant is required to have adequate provision in the design of protections and controls at the facility to allow for installation of Special Protection Scheme (SPS). Should a future SPS be installed to improve the transfer capability in the area or to accommodate transmission reinforcement projects, the applicant will be required to participate in the SPS system and to install the necessary protection and control facilities to affect the required actions.

4. Any modifications made to protection relays by the transmitter after this SIA is finalized must be submitted to the IESO as soon as possible or at least six (6) months before any modifications are to be implemented on the existing protection systems. If those modifications result in adverse impacts, the connection applicant and the transmitter must develop mitigation solutions.

   Send documentation for protection modifications triggered by new or modified primary equipment (i.e. new or replacement relays) to connection.assessments@ieso.ca.

   For protection modifications that are not associated with new or modified equipment (i.e. protection setting modifications) please send documentation to protection.settings@ieso.ca.

5. Protection systems within the generation facility must only trip the appropriate equipment required to isolate the fault. After the facility begins commercial operation, if an improper trip of the 230 kV circuit N1M occurs due to events within the facility, the facility may be required to be disconnected from the IESO-controlled grid until the problem is resolved.

6. The autoreclosure of the new 230 kV breakers at the connection point must be blocked. Upon its opening for a contingency, it must be closed only after the IESO approval is granted. The IESO will require reduction of power generation prior to the closure of the breaker followed by gradual increase of power to avoid a power surge.

Miscellaneous

1. The generators must operate in the voltage control mode. Operation of the facility in power factor control or reactive power control is not acceptable.

2. The generation facility shall regulate automatically voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal based within ±0.5% of any set point within ±5% of rated voltage. If the AVR target voltage is a function of reactive output, the slope $\Delta V / \Delta Q_{max}$ shall be adjustable to 0.5%.

3. The connection applicant is required to install at the facility a disturbance recording device with clock synchronization that meets the technical specifications provided by Hydro One. The device will be used to monitor and record the response of the facility to disturbances on the 230 kV system in order to verify the dynamic response of generators. The quantities to be recorded, the sampling rate and the trigger settings will be provided by Hydro One.

Facility Registration/Market Entry Requirements

The connection applicant must complete the IESO Facility Registration/Market Entry process in a timely manner before IESO final approval for connection is granted. Models and data, including any controls that would be operational, must be provided to the IESO. This information should be submitted at least seven months before energization to the IESO-controlled grid, to allow the IESO to incorporate this project into IESO work systems and to perform any additional reliability studies.

As part of the IESO Facility Registration/Market Entry process, the connection applicant must provide evidence to the IESO confirming that the equipment installed meets the Market Rules requirements and matches or exceeds the performance predicted in this assessment. This evidence shall be either type tests done in a controlled environment or commissioning tests done on-site. In either case, the testing must be done not only in accordance with widely recognized standards, but also to the satisfaction of the IESO. Until this evidence is provided and found acceptable to the IESO, the Facility Registration/Market Entry process will not be considered complete and the connection applicant must accept any restrictions the IESO may impose upon this project's participation in the IESO administered market or connection to the IESO-controlled grid.

The evidence must be supplied to the IESO within 30 days after completion of commissioning tests. Failure to provide evidence may result in disconnection from the IESO-controlled grid.

If the submitted models and data differ materially from the ones used in this assessment, then further analysis of the project will need to be done by the IESO.

Reliability Standards

Prior to connecting to the IESO controlled grid, the proposed facility must be compliant with the applicable reliability standards set by the North American Electric Reliability Corporation (NERC) and the North East Power Coordinating Council (NPCC). A list of applicable standards, based on the proponent's/connection applicant's market role/OEB licence can be found here:

http://www.ieso.ca/imoweb/ircp/reliabilityStandards.asp

In support of the NERC standard EOP-005, the proponent/connection applicant may need to meet the restoration participant criteria. Please refer to section 3 of Market Manual 7.8 (Ontario Power System Restoration Plan) to determine its applicability to the proposed facility.
The IESO monitors and assesses market participant compliance with these standards as part of the IESO Reliability Compliance Program. To find out more about this program, visit the webpage referenced above or write to ircp@ieso.ca.

Also, to obtain a better understanding of the applicable reliability obligations and find out how to engage in the standards development process, we recommend that the proponent/ connection applicant join the IESO's Reliability Standards Standing Committee (RSSC) or at least subscribe to their mailing list at rssc@ieso.ca. The RSSC webpage is located at: http://www.ieso.ca/imoweb/consult/consult_rssc.asp.

– End of Section –

3. Review of Connection Proposal

3.1 Proposed Connection Arrangement

The proposed connection arrangement is shown in Figure 1.

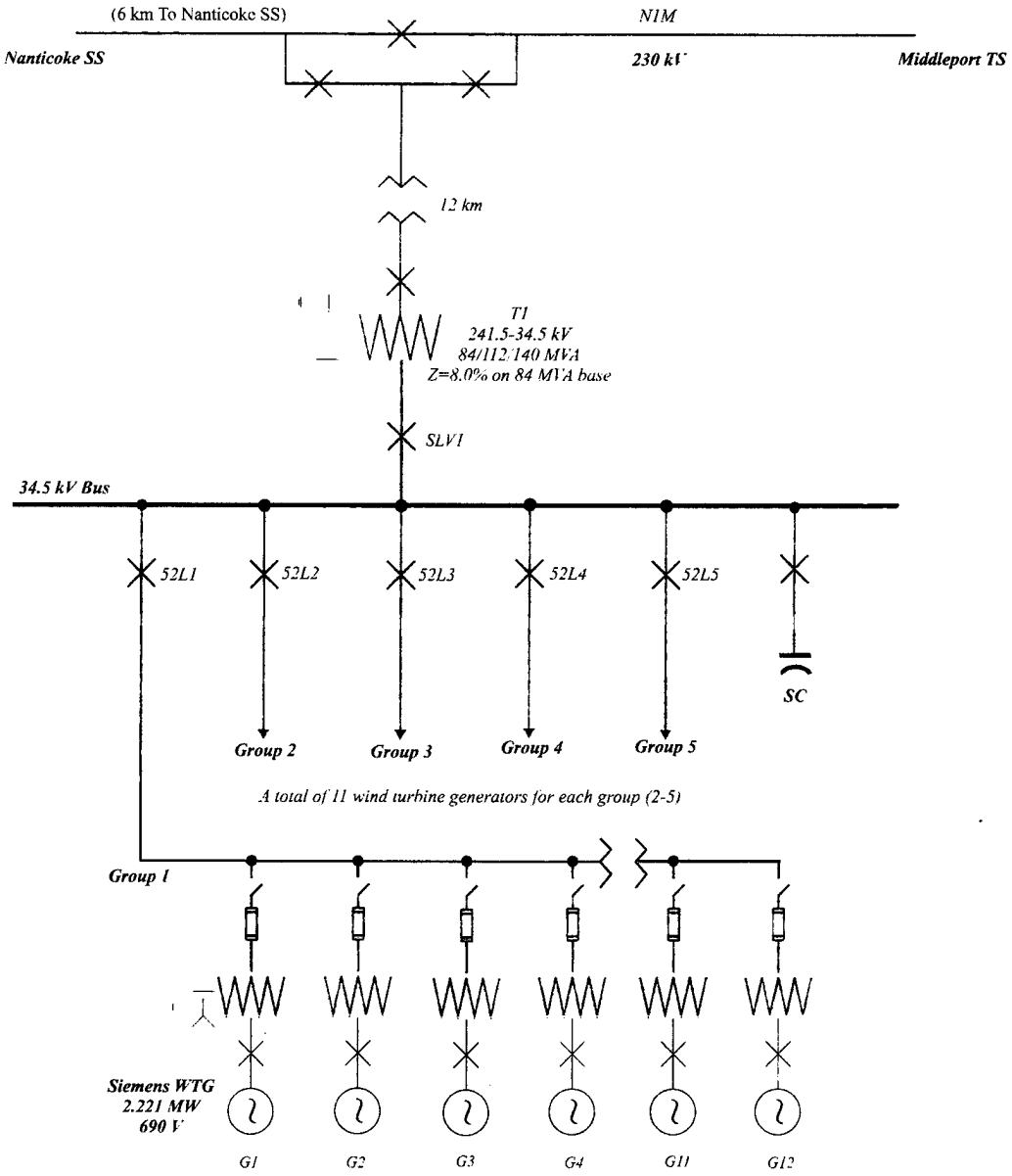


Figure 1: Proposed Connection Arrangement

The proposed connection arrangement, as shown in Figure 1, is acceptable to the IESO.

Considering that another FIT wind project, Port Dover and Nanticoke Wind project (PDNW), will be connected to N2M at a point about 1 km away from the connection point of this project, a common switching station connection arrangement for Summerhaven and PDNW was proposed by Hydro One, as shown in Figure 2.

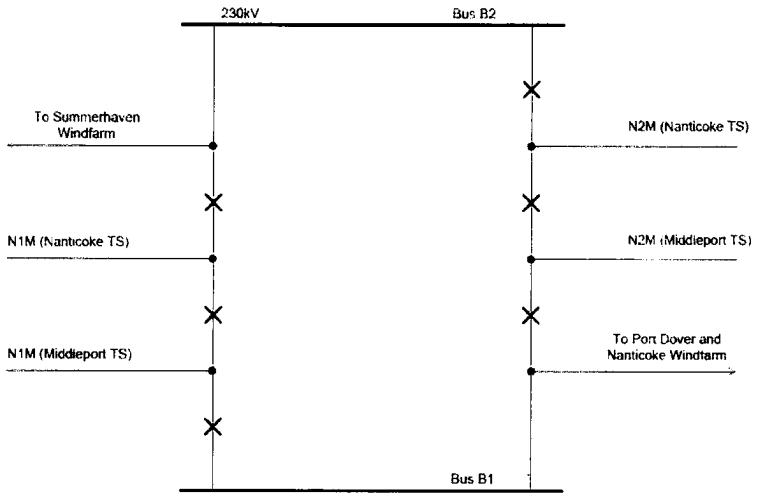


Figure 2: Common Switching Station Connection Arrangement

The proposed common switching connection arrangement will also be studied and discussed in Section 6 of this report: System Impact Studies.

3.2 Existing System

Summerhaven WGS is proposed to connect to the existing Hydro One 230 kV circuit N1M between Nanticoke SS and Middleport TS. The graphs below display the MW flow out N1M, N2M and N5M at Nanticoke SS and 230 kV voltages at Nanticoke SS and Middleport TS. These are hourly average samples from Jan 1 to Dec 31, 2009 obtained from IESO real-time data. For MW flow graphs, positive values mean flow out of the station.

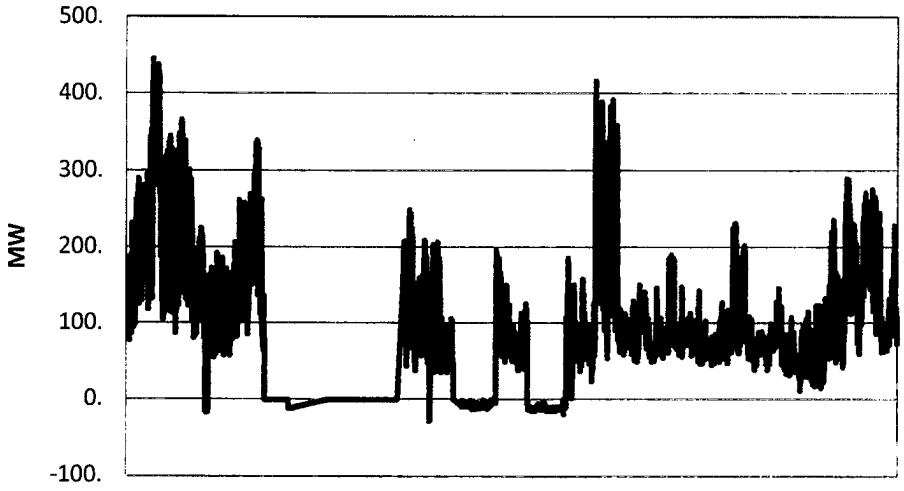


Figure 3: MW flow on N1M at Nanticoke SS

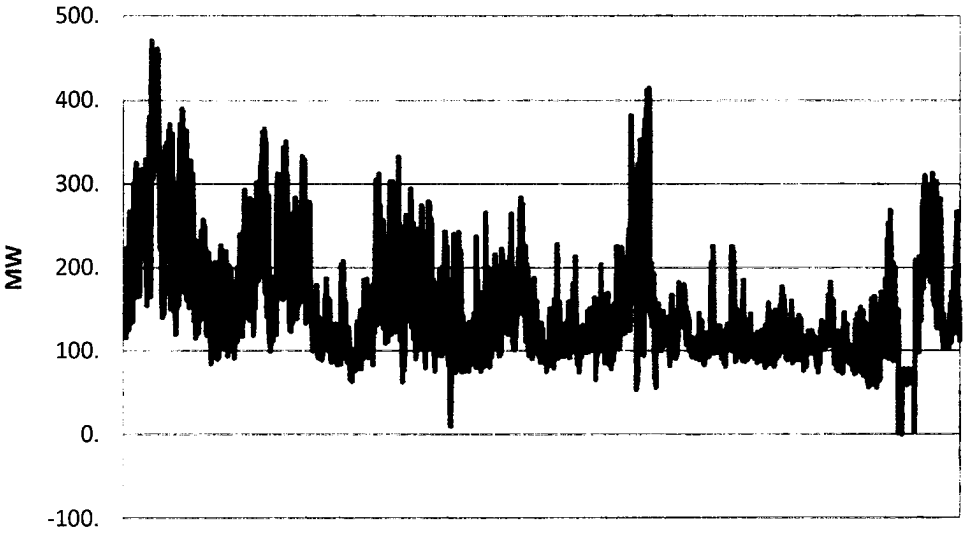


Figure 4: MW flow on N2M at Nanticoke SS

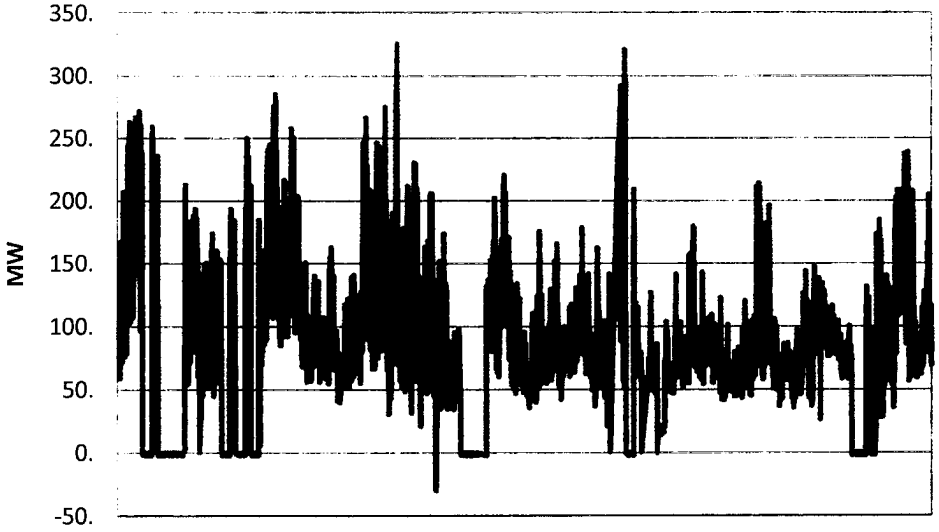


Figure 5: MW flow on N5M at Nanticoke SS

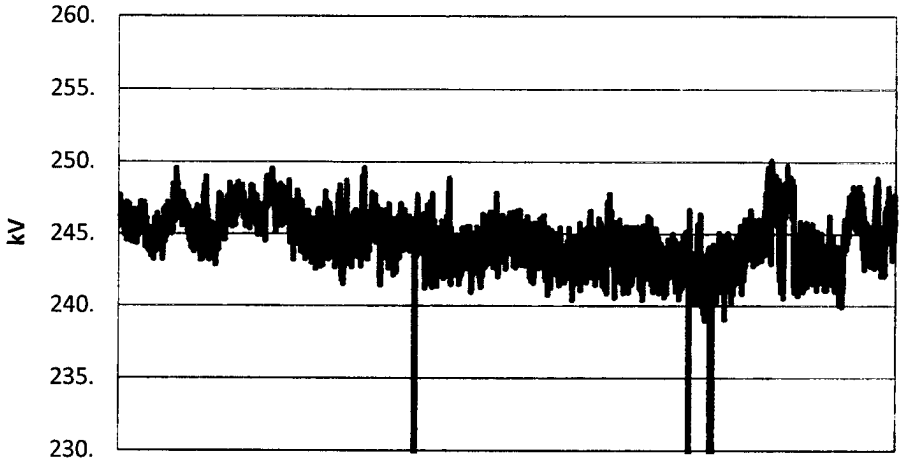


Figure 6: 230 kV Voltage at Nanticoke SS

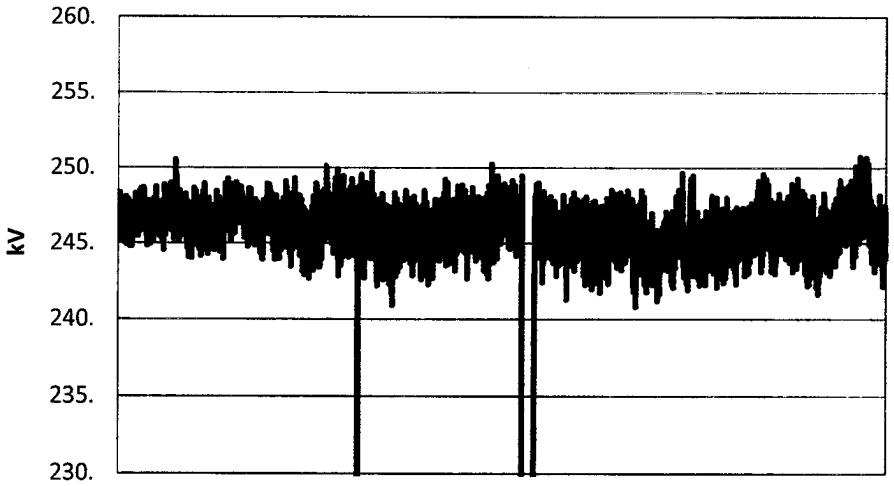


Figure 7: 230 kV Voltage at Middleport TS

The following can be observed.

Nanticoke SS	Average voltage (kV)	244.1
	N1M MW (max flow)	444.9
	M2M MW (max flow)	469.6
	N5M MW (max flow)	325.0
Middleport TS	Average voltage (kV)	243.9

The above historical data was used in establishing the study assumptions in Section 6 of this report.

4. Data Verification

4.1 Tap Line

Specifications of the 230 kV tap line provided by the connection applicant are listed below.

Voltage	240 kV
Rating	665 MVA
Length	12 km
Impedance	0.966+j5.885 ohms

4.2 Generator

A generator connecting to the IESO-controlled grid must have the capability to perform the following unless specified otherwise.

- Supply continuously all levels of active power output for 5% deviations in terminal voltage. Rated active power is the smaller output at either rated ambient conditions (e.g. temperature, head, wind speed, solar radiation) or 90% of rated apparent power. To satisfy steady-state reactive power requirements, active power reductions to rated active power are permitted.

- Inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the *IESO*.

The details of the generator data used in this assessment are given below:

Siemens SWT-2.3-93 60 Hz variable speed wind turbine

Voltage	0.69 kV
Rating	2.3 MW
Power Factor	0.9 leading – 0.9 lagging

4.3 Transformer

Specifications for the 34.5/230 kV step-up transformer are listed below.

Transformation	240/34.5 kV
Rating	84/112/140 MVA ONAN/ONAF/ONAF
Impedance	0.08 pu based on 84 MVA
Configuration	3 phase, high side: wye-grounded, low side: delta
Tapping	off-load tap changers at HV (235.46, 238.48, 241.5, 244.52, 253.58 kV)

4.4 Circuit Breakers and Switches

Specifications of the isolation devices provided by the connection applicant are listed below.

Breakers and switches	LV	HV
Rated line-to-line voltage (kV)	34.5	250
Interrupting time (ms)	83	50
Rated continuous current (A)	1200	2000/1200
Rated short circuit breaking current (kA)	20	63

4.5 Collector System

The 34.5 kV collector system equivalent circuit impedance including the pad mount transformers provided by the connection applicant are listed as follows:

Feeder #	Equivalent Impedance(pu)		Charging (Mvar)
	R	X	
1	0.085	0.429	N/A
2	0.078	0.381	N/A
3	0.073	0.311	N/A
4	0.091	0.419	N/A
5	0.11	0.612	N/A

Per unit data are based on 100 MVA & 34.5 kV.

– End of Section –

5. Fault Level Assessment

Fault level studies were completed by Hydro One to examine the effects of the Summerhaven Wind Farm on fault levels at existing facilities in the area. Studies were performed to analyze the fault levels with and without Summerhaven and other proposed projects in the surrounding area. Studies were carried out with the following facilities and system assumptions:

Niagara, South West, West Zones:

- All hydraulic generation
- 6 Nanticoke
- 2 Lambton
- Brighton Beach (J20B/J1B)
- Greenfield Energy Centre (Lambton SS)
- St. Clair Energy Centre (L25N & L27N)
- East Windsor Cogen (E8F & E9F) + existing Ford generation
- TransAlta Sarnia (N6S/N7S)
- Imperial Oil (N6S/N7S)
- Thorold GS (Q10P)

Central, East Zones:

- All hydraulic generation
- 6 Pickering units
- 4 Darlington units
- 4 Lennox units
- GTAA (44 kV buses at Bramalea TS and Woodbridge TS)
- Sithe Goreway GS (V41H/V42H)
- Portlands GS (Hearn SS)
- Kingston Cogen
- TransAlta Douglas (44 kV buses at Bramalea TS)

Northwest, Northeast Zones:

- All hydraulic generation
- 1 Atikokan
- 2 Thunder Bay
- NP Iroquois Falls
- AP Iroquois Falls
- Kirkland Lake
- 1 West Coast (G2)
- Lake Superior Power

- Terrace Bay Pulp STG1 (embedded in Neenah paper)

Bruce Zone:

- 8 Bruce units (Bruce G1 and Bruce G2 maximum capacity @ 835 MW)
- 4 Bruce B Standby Generators

All constructed wind farms including:

- Erie Shores WGS (WT1T)
- Kingsbridge WGS (embedded in Goderich TS)
- Amaranth WGS – Amaranth I (B4V) & Amaranth II (B5V)
- Ripley WGS (B22D/B23D)
- Prince I & II WGS (K24G)
- Underwood (B4V/B5V)
- Kruger Port Alma (C24Z)
- Wolf Island (injecting into X4H)

New Generation Facilities:
Committed wind generation:

- Greenwich Wind Farm (M23L and M24L)
- Gosfield Wind Project (K2Z)
- Kruger Energy Chatham Wind Project (C24Z)
- Raleigh Wind Energy Centre (C23Z)
- Talbot Wind Farm (W45LC)
- Greenfield South GS (R24C)

Other committed generation projects:

- Halton Hills GS (T38B/T39B)
- Oakville Generating Station (B15C/B16C)
- York Energy Centre (B82V/B83V)
- Island Falls (H9K)
- Becker Cogeneration (M2W)
- Wawatay G4 (M2W)
- Beck 1 G9: increase capacity to 68.5 MVA (Beck #1 115 kV bus)
- Lower Mattagami Expansion
- All renewable generation projects awarded FIT contracts

Transmission System Configuration

Existing system with the following upgrades:

- Bruce x Orangeville 230 kV circuits up-rated
- Burlington TS: Rebuild 115 kV switchyards
- Leaside TS to Birch JCT: Build new 115 kV circuit. Birch to Bayfield: Replace 115 kV cables.
- Uprate circuits D9HS, D10S and Q11S

- Hurontario SS in service with R19T+V41H open from R21T+V42H (230 kV circuits V41H and V42H extended and connected from Cardiff TS to Hurontario SS). Huronontario SS to Jim Yarrow 2x3km 230 kV circuits in-service
- Cherrywood TS to Claireville TS: Unbundle the two 500 kV super-circuits (C551VP & C550VP)
- Allanburg x Middleport 230 kV circuits (Q35M and Q26M) installed
- Claireville TS: Reterminate circuit 230 kV V1RP to Parkway V71P Reterminate circuit 230 kV V72R to Cardiff(V41H)
- One 250 Mvar (@ 250 kV) shunt capacitor bank installed at Buchanan TS
- LV shunt capacitor banks installed at Meadowvale
- Modeling of Michigan system with short circuit equivalent provided by International Transmission Company (ITC).
- 1250 MW HVDC line ON-HQ in service
- Tilbury West DS second connection point for DESN arrangement using K2Z and K6Z
- Second 500kV Bruce-Milton double-circuit line in service. Double-circuit line from the Bruce Complex to Milton TS with one circuit originating from Bruce A and the other from Bruce B
- Windsor area transmission reinforcement:
- 230 kV transmission line from Sandwich JCT (C21J/C22J) to Lauzon TS
- New 230/27.6 DESN, Leamington TS, that will connect C21J and C22J and supply part of the existing Kingsville TS load
- Replace Keith 230/115 kV T11 and T12 transformers
- 115 kV circuits J3E and J4E upgrades
- Woodstock Area transmission reinforcement:
    - Karn TS in service and connected to M31W & M32W at Ingersol T
    - W7W/W12W terminated at LFarge CTS
    - Woodstock TS connected to Karn TS
- Nanticoke and Detweiler SVCs
- Series capacitors at Nobel SS in each of the 500 kV circuits X503 & X504E to provide 50% compensation for the line reactance
- Lakehead TS SVC
- Porcupine TS & Kirkland Lake TS SVC
- Porcupine TS: Install 2x125 Mvar shunt capacitors
- Essa TS : Install 250 Mvar shunt capacitor
- Hanmer TS: Install 149 Mvar shunt capacitor
- Pinard TS: Install 2x30 Mvar LV shunt capcitors
- Upper Mattagami expansion
- Fort Frances TS: Install 22 Mvar moveable shunt capacitor
- Dryden TS: Install shunt capacitors
- Lower Mattagami Expansion – H22D line extension from Harmon to Kipling.

System Assumptions

- Lambton TS 230 kV operated open
- Claireville TS 230 kV operated open
- Leaside TS 230 kV operated open
- Leaside TS 115 kV operated open
- Middleport TS 230 kV bus operated open
- Hearn SS 115 kV bus operated open – as required in the Portlands SIA
- Napanee TS 230 kV operated open
- Cherrywood TS north & south 230kV buses operated open
- Cooksville TS 230 kV bus operated open

- Richview TS 230 kV bus operated open
- Burlington 115 kV bus operated open
- Allanberg 115 kV bus operated open
- All capacitors in service
- All tie-lines in service and phase shifters on neutral taps
- Maximum voltages on the buses

The following table summarizes the fault levels near Nanticoke area before and after FIT projects and corresponding breaker ratings.

Bus	Before – wind farm o/s				After – wind farm i/s				Lowest Breaker Ratings (kA) (at max operational voltage)	
	3-phase Fault (kA)		L-G Fault (kA)		3-phase Fault (kA)		L-G Fault (kA)			
	Sym.	Asym.	Sym.	Asym.	Sym.	Asym.	Sym.	Asym.	Sym.	Asym.
Beach 230	37.7	44.4	35.9	45.7	37.8	44.6	36.0	45.8	41.1	46.2
Beach 115	26.7	32.7	32.3	41.5	26.7	32.7	32.3	41.5	39.3	45.5
Burlington 230	51.5	61.8	43.6	55.7	51.8	62.1	43.7	55.8	63	75.6
Burlington 115	25.4	32.1	26.8	35.1	25.4	32.1	28.5	37.8	39.3	45.5
Middleport 230	46.7	58.7	43.8	57.4	47.1	59.3	44.2	57.9	60	70.4
Buchanan 230	31.7	37.1	27.0	34.3	31.8	37.2	27.1	34.4	39.4	46.2
Buchanan 115	25.0	29.8	27.8	34.9	25.1	29.8	29.1	36.7	39.3	45.5
Nanticoke 230	40.9	58.2	40.1	59.5	42.3	60.1	42.4	62.8	54.3	65.6
Detweiler 230	22.4	26.1	19.5	24.8	22.7	26.5	19.7	25.0	40	42.1
Detweiler 115	23.7	27.3	26.6	34.3	24.1	27.8	27.0	33.1	39.3	45.5
Beck 230	56.6	77.7	62.0	85.9	56.7	77.8	62.1	86.0	69.5	91
Beck 115	24.1	29.3	28.7	36.5	24.1	29.3	28.7	36.5	36	39
Allanberg 115	25.6	30.0	27.9	33.6	25.6	30.1	27.9	33.6	39.3	45.5

The results show that there are slightly increases in fault levels in the surrounding area of the Summerhaven Wind Farm, due to the proposed project. It can be concluded that the proposed project will not cause any new violations of existing circuit breaker interrupting capabilities on the IESO-controlled grid.

– End of Section –

6. System Impact Studies

This connection assessment was carried out to identify the effect of the proposed facility on thermal loading of transmission interfaces in the vicinity, the system voltages for pre/post contingencies, the ability of the facility to control voltages, and the transient performance of the system.

6.1 Assumptions and Background

A base case with a peak demand of 25,912 MW was the starting point for this study, along with the following assumptions and modifications:

System Conditions

Ontario demand was scaled to summer 2013 values as shown in the following table:

Demand: 25,912 MW									
NW	NE	Essa	Ottawa	East	Toronto	Niagara	SW	Bruce*	West
604	1221	1541	1840	1491	10099	949	5052	133	3061

All transmission system elements were in service.

The following table summarizes some of the major in-service generation for each scenario.

Generation Station	Units In-service
Atikokan	1
Nanticoke	5
Thunder Bay	1
Lambton	0
Bruce	7
Pickering	4
Lennox	0
Darlington	4
Halton Hills	3
Thorold	2
York Energy Centre	2
Portlands	0
Sithe Goreway	0
West Coast	1

Dispatch Philosophy

Where possible, the following philosophy was used to dispatch units:

- Hydraulic units were put in-service at 90% of their maximum continuous rating
- Nuclear units were put in-service at 100% of their maximum continuous rating
- NUGS units were put in-service at 100% of their maximum continuous rating
- Gas units were put in-service at 100% of their maximum continuous rating

- Wind was placed at 100% of its maximum continuous rating.

Interface Flows

The base case was adjusted to stress the transmission lines from Nanticoke to Toronto. The following table lists the interface flows for the study scenario.

FABC	BLIP	FETT	QFW
4200	-1500	4500	1300

The interfaces are defined as follows:

Interface	Definition
FABC	Flow Away From the Bruce Complex
BLIP	Buchanan Longwood Input
FETT	Flow East to Toronto
QFW	Queenston Flow West

6.2 Protection Impact Assessment

A Protection Impact Assessment (PIA) was completed by Hydro One to examine the impact of the new generators on the existing transmission system protections. The existing protections for N1M at Nanticoke TS and Middleport TS were described in the PIA report and the proposed connection arrangements and protections were analyzed.

The IESO concluded that the proposed protection adjustments have no material adverse impact on the IESO-controlled grid. The PIA report is attached in Appendix D.

6.3 Special Protection System (SPS)

Although the SIA has found that a Special Protection Scheme (SPS) is not required for Summerhaven WF, provisions must be made in the design of the protections and controls at the facility to allow for the installation of Special Protection Scheme equipment. Should a future SPS be installed to improve the transfer capability in the area or to accommodate transmission reinforcement projects, Summerhaven WF, will be required to participate in the SPS system and to install the necessary protection and control facilities to affect the required actions.

6.4 Reactive Power Compensation

Market Rules (MR) require that generators inject or withdraw reactive power continuously (i.e. dynamically) at a connection point up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the IESO.

A generating unit with a power factor range of 0.90 lagging and 0.95 leading at rated active power connected via a main output transformer with an impedance not greater than 13% based on generator rated apparent power provides the required range of dynamic power at the connection point.

Typically, the impedance between the WTG and the connection point is larger than 13%. However, provided the WTG has the capability to provide a reactive power range of 0.90 lagging power factor and 0.95 leading power factor at rated active power, the IESO accepts the WF to compensate for the full reactive power requirement range at the connection point with switchable shunt admittances (e.g. capacitors and reactors). Where the WTG technology has no capability to supply the full dynamic reactive power range at its terminal, the shortfall has to be compensated with dynamic reactive power devices (e.g. SVC).

This section of the SIA indicates how the WF can meet the MR requirements regarding reactive power capability, but the connection applicant is free to deploy any other solutions which result in compliance with the MR.

It is the connection applicant's responsibility to ensure that the WF has the capability to meet the MR requirement at the connection point and be able to confirm this capability during the commission tests.

6.4.1 Dynamic Reactive Power Compensation

The following summarizes the IESO required level of dynamic reactive power and the available capability of SMK223 from Siemens document "Reactive Power Capability" (Document PG-R3-30-0000-0113-05).

	Terminal Voltage	Active Power	Reactive Power Capability/Turbine
IESO Required	1.0 pu	1.0 pu	$Q_{gen} = 2.55 \times \sin [\cos^{-1} (0.9)] = 1.11$ Mvar
			$Q_{abs} = 2.55 \times \sin [\cos^{-1} (0.95)] = 0.8$ Mvar
SMK223 Capability	1.0 pu	1.0 pu	$Q_{gen} = 1.22$ Mvar
			$Q_{abs} = 1.15$ Mvar

The SMK223 generators can deliver the IESO required dynamic reactive power to the generator terminal at rated power and at rated voltage. Thus, the IESO has determined that there is no need to install any additional dynamic reactive power compensation device.

6.4.2 Static Reactive Power Compensation

In addition to the dynamic reactive power requirement identified above, the WF has to compensate for the reactive power losses within the facility to ensure that it has the capability to inject or withdraw reactive power up to 33% of its rated active power at the connection point. As mentioned above, the IESO accepts this compensation to be made with switchable shunt admittances.

Load flow studies were performed to calculate the need for static reactive compensation, based on the equivalent parameters for the WF provided by the connection applicant.

The reactive power capability in lagging p.f. of the generation facility was assessed under the following assumptions:

- typical voltage of 240 kV at the connection point;
- maximum active power output from the equivalent WTG;
- maximum reactive power output (lagging power factor) from the equivalent WTG, unless limited by the maximum acceptable WTG terminal voltage;
- maximum acceptable WTG voltage is 1.06, as per WTG voltage capability;

It should be noted that the off-load tap changer on the transformer at Summerhaven WGS will result in excessive high LV voltage and the WTG terminal voltage which will restrict Q output from the WTG.

The reactive power capability in leading p.f. of the generation facility was assessed under the following assumptions:

- typical voltage of 240 kV at the connection point;
- minimum (zero) active power output from the equivalent WTG;
- maximum reactive power consumption (leading power factor) from the equivalent WTG, unless limited by the minimum acceptable WTG terminal voltage;
- minimum acceptable WTG voltage is 0.9, as per WTG voltage capability;

The IESO's reactive power calculation used the equivalent electrical model for the WTG and collector feeders as provided by the connection applicant. It is very important that the WF has a proper internal design to ensure that the WTG are not limited in their capability to produce active and reactive power due to terminal voltage limits or other facility's internal limitations. For example, it is expected that the transformation ratio of the WTG step up transformers will be set in such a way that it will offset the voltage profile along the collector, and all the WTG would be able to contribute to the reactive power production of the WF in a shared amount.

Based on the equivalent parameters for the WF provided by the connection applicant, an amount of 40 Mvar of static reactive power compensation is required to be installed at the WF collector bus to meet the reactive power requirements at the connection point.

The connection applicant has the obligation to ensure that the WF design and the reactive power compensation system takes into account the real electrical parameters and real limitations within the WF facility.

6.4.3 Static Reactive Power Switching

A switching study was carried out to investigate the effect of the new LV shunt devices on the voltage changes. It was assumed that the largest capacitor step size is 40 Mvar. To reflect the reasonable restrictive system conditions, the voltage change study assumed that one transmission element (N2M) is out of service.

Capacitor at LV kV bus	LV bus voltage	ICG connection point
Pre-switching	34.6 kV	239.2 kV
Post-switching	35.9 kV	241.7 kV
ΔV	3.8%	1.0%

The IESO requires the voltage change on a single capacitor switching to be no more than 4 % at the any point in the ICG. The results show that switching a single capacitor of 40 Mvar produces less than 4 % voltage change at the connection point. However, it is necessary to supply the static reactive compensation in small enough steps to have operational flexibility over the entire range of active power output from the wind turbines. The amount of static reactive power compensation should be shared between at least four switchable shunt capacitors.

The IESO has no restrictions on voltage changes within the WF facility; however, if the equipment within the proposed facility is sensitive to voltage changes, small enough shunt capacitor size steps have to be designed to cater to the facility needs.

6.5 Wind Farm Management System

If the generation facility connects to the IESO-controlled grid, the IESO requires that the facility assists in maintaining adequate voltages in the high voltage system. It is expected that the wind farm controls the voltage at a point as close as possible to the connection point to values specified by the IESO. This requires that wind farms possess the ability to supply sufficient dynamic reactive power to the high voltage system during voltage declines.

The generation facility shall regulate automatically voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal based within ±0.5% of any set point within ±5% of rated voltage. If the AVR target voltage is a function of reactive output, the slope $\Delta V / \Delta Q_{max}$ shall be adjustable to 0.5%.

The Wind Farm Management System (WFMS) must coordinate the voltage control process. The IESO recommend the following two voltage control philosophies:

Option #1

(1) All WTGs control the PCC voltage to a reference value. A control slope is applied for reactive power sharing among the WTGs as well as with adjacent generators.

(2) Capacitor banks are automatically switched in/out to regulate the overall WTGs' reactive generation to around zero output.

(3) WF main transformer ULTC is adjusted to regulate the collector bus voltage (LT bus voltage) such that it is within normal range;

Option #2

(1) The capacitor banks are automatically switched in/out according to the WF active power output. A sample capacitor switching scheme is shown in the following table.

P - overall WF active power output	Capacitor banks to be switched on
$0 < P < P_1$	(No capacitor)
$P_1 < P < P_2$	C_1
$P_2 < P < P_3$	C_1+C_2
.....	.....
$P_N < P < P_{MAX}$	$C_1+C_2+...+C_N$

(2) All WTGs control the PCC voltage to a reference value. A control slope is applied for reactive power sharing among the WTGs as well as with adjacent generators.

(3) WF main transformer ULTC is adjusted to regulate the collector bus voltage (LT bus voltage) such that it is within normal range;

The proponent has chosen Option #1 and must submit a description of the functionalities of the WFMS, including the coordination between the automatic capacitor switching and generator reactive power production to control the voltage at a desired point. This document also must contain the settings of the automatic capacitor switching scheme. If the WFMS is unavailable, the IESO requires each generator controls its own terminal voltage.

6.6 Thermal Analysis

The assessment examined the effect the proposed facility would have on the thermal loadings of the Southwest-Center area 500/230 kV transmission elements.

The *Ontario Resource and Transmission Assessment Criteria* requires that all line and equipment loadings be within their continuous ratings with all elements in service, and within their long-term emergency ratings with any element out of service. Lines and equipment may be loaded up to their short-term emergency ratings immediately following the contingencies to effect re-dispatch, perform switching, or implement control actions to reduce the loading to the long-term emergency ratings.

Hydro One provided the Continuous, Long Term Emergency and Short Term Emergency planning thermal ratings for various circuits under summer weather conditions. The algorithm for deriving these ratings is as follows:

- *Ambient conditions*: 35°C temperature , 4 km/hr wind speed, daytime
- *Continuous*: Rating obtained at the lesser of conductor temperature of 93 °C or sag temperature
- *Long Term Emergency*: Rating obtained at the lesser conductor temperature of 127°C or sag temperature
- *Short Term Emergency*: Rating obtained at the sag temperature with a pre-contingency loading of 100% of the continuous rating.

The following table summarizes the ratings for various circuits monitored for the thermal analysis. For circuits with several sections having different ratings, the ratings for the most limiting section are chosen.

Element	Monitored Element		Rating (A)		
	From	To	Continuous	Long Term Emergency	Short Term Emergency
N580M	NANTICOKE_TS500	MIDDLEPT 500	2820	3660	3930
N581M	NANTICOKE_TS500	MIDDLEPT 500	2820	3660	3930
M585M	MIDDLEPT8185500	MILTON_SS 500	2820	3620	3880
V586M	MIDDLEPT8185500	CLAIREVILLE 500	2820	3620	3880
M572T	MILTON_SS 500	TRAFALG_M 500	2820	3620	3880
M573T	MILTON_SS 500	TRAFALG_M 500	2820	3620	3880
M570V	MILTON_SS 500	CLAIREVILLE 500	2820	3660	4010
M571V	MILTON_SS 500	CLAIREVILLE 500	2820	3660	4010
N1M	NANTICOKE_TS220	MIDDLEPT_DK1 220	1350	1350	1350
N2M	NANTICOKE_TS220	MIDDLEPT_DK1 220	1350	1350	1350
N5M	NANTICOKE_TS220	MIDDLEPT_DK2 220	1350	1350	1350
N6M	NANTICOKE_TS220	MIDDLEPT_DK2 220	1350	1350	1350
Q23BM	MIDDLEPT_DK2220	BURLINGTON 220	1060	1300	1470
Q25BM	MIDDLEPT_DK2220	BURLINGTON 220	1060	1400	1900
M27B	MIDDLEPT_DK1220	BURLINGTON 220	1060	1400	1900
M28B	MIDDLEPT_DK1220	BURLINGTON 220	1060	1300	1470

T36B	BURLINGTON 220	TRAFALGAR_TS 220	1110	1350	1570
T37B	BURLINGTON 220	TRAFALGAR_TS 220	1110	1350	1570
T38B	BURLINGTON 220	TRAFALGAR_TS 220	1110	1350	1570
T39B	BURLINGTON 220	TRAFALGAR_TS 220	1110	1350	1570
R14T	TRAFALGAR_TS220	RICHVIEW_AH1 220	1110	1420	1660
R17T	TRAFALGAR_TS220	RICHVIEW_AH1 220	1110	1420	1660
R19TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	1110	1420	1660
R21TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	1110	1420	1660

The following table summarizes the pre-contingency amps and loading as a percentage of the continuous ratings, with the Summerhaven project in service.

Element	Monitored Element		Pre-Contingency Load Flow	
	From	To	Amps	% of Cont. Rating
N580M	NANTICOKE_TS500	MIDDLEPT 500	1030	37
N581M	NANTICOKE_TS500	MIDDLEPT 500	997	35
M585M	MIDDLEPT8185500	MILTON_SS 500	757	27
V586M	MIDDLEPT8185500	CLAIREVILLE 500	825	29
M572T	MILTON_SS 500	TRAFALG_M 500	608	22
M573T	MILTON_SS 500	TRAFALG_M 500	587	21
M570V	MILTON_SS 500	CLAIREVILLE 500	580	21
M571V	MILTON_SS 500	CLAIREVILLE 500	580	21
N1M	NANTICOKE_TS220	MIDDLEPT_DK1 220	701	52
N2M	NANTICOKE_TS220	MIDDLEPT_DK1 220	706	52
N5M	NANTICOKE_TS220	MIDDLEPT_DK2 220	730	54
N6M	NANTICOKE_TS220	MIDDLEPT_DK2 220	581	43
Q23BM	MIDDLEPT_DK2220	BURLINGTON 220	1035	98
Q25BM	MIDDLEPT_DK2220	BURLINGTON 220	1041	98
M27B	MIDDLEPT_DK1220	BURLINGTON 220	682	64
M28B	MIDDLEPT_DK1220	BURLINGTON 220	682	64
T36B	BURLINGTON 220	TRAFALGAR_TS 220	465	42
T37B	BURLINGTON 220	TRAFALGAR_TS 220	465	42
T38B	BURLINGTON 220	TRAFALGAR_TS 220	410	37
T39B	BURLINGTON 220	TRAFALGAR_TS 220	410	37
R14T	TRAFALGAR_TS220	RICHVIEW_AH1 220	909	82
R17T	TRAFALGAR_TS220	RICHVIEW_AH1 220	914	82
R19TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	860	77
R21TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	858	77

As shown, all pre-contingency flows were found to be within the continuous ratings. However, it should be noted that the flows on Q23BM/Q25BM from Neale Jct to Burlington Jct were approaching continuous ratings.

The following list of contingencies was studied as part of the thermal analysis:

ID	Loss of Circuit	ID	Loss of Circuit	ID	Loss of Circuit
C1	N580M	C2	M585M	C3	V586M
C4	M572T	C5	M570V	C6	N1M (Nanticoke-Summerhaven)
C7	N1M (Summerhaven-Middleport)	C8	N2M (Nanticoke-PDNW)	C9	N2M (PDNW-Middleport)
C10	N5M	C11	N6M	C12	Q23BM
C13	M27B	C14	T36B	C15	R14T
C16	R19TH	C17	N1M+N2M	C18	N5M+N6M
C19	Q23BM+Q25BM	C20	M27B+M28B	C21	T36B+T37B
C22	T38B+T39B	C23	R14T+R17T	C24	R19T+R21T

The following tables summarize the post-contingency loading as a percentage of the Long Term Emergency rating for contingencies 1-24.

Element	Monitored Element		% of Long Term Emergency Rating							
	From	To	C1	C2	C3	C4	C5	C6	C7	C8
N580M	NANTICOKE_TS500	MIDDLEPT 500	0	37	13	26	26	28	29	29
N581M	NANTICOKE_TS500	MIDDLEPT 500	42	13	37	28	28	29	29	29
M585M	MIDDLEPT8185500	MILTON_SS_500	34	0	32	20	21	23	24	24
V586M	MIDDLEPT8185500	CLAIREVILLE 500	6	29	0	21	23	21	21	21
M572T	MILTON_SS_500	TRAFALG_M 500	17	14	16	0	18	17	17	17
M573T	MILTON_SS_500	TRAFALG_M 500	17	14	16	21	18	16	17	16
M570V	MILTON_SS_500	CLAIREVILLE 500	22	9	22	20	0	16	16	16
M571V	MILTON_SS_500	CLAIREVILLE 500	22	9	22	20	27	16	16	16
N1M	NANTICOKE_TS220	MIDDLEPT_DK1 220	69	58	54	54	52	22	22	63
N2M	NANTICOKE_TS220	MIDDLEPT_DK1 220	69	58	54	54	53	60	65	28
N5M	NANTICOKE_TS220	MIDDLEPT_DK2 220	62	56	59	55	54	59	62	60
N6M	NANTICOKE_TS220	MIDDLEPT_DK2 220	51	45	48	44	43	47	50	49
Q23BM	MIDDLEPT_DK2220	BURLINGTON 220	82	85	78	78	74	76	76	76
Q25BM	MIDDLEPT_DK2220	BURLINGTON 220	82	85	79	79	75	76	77	77
M27B	MIDDLEPT_DK1220	BURLINGTON 220	48	58	62	56	52	50	48	49
M28B	MIDDLEPT_DK1220	BURLINGTON 220	48	58	62	56	52	50	48	49
T36B	BURLINGTON 220	TRAFALGAR_TS 220	36	46	44	40	35	33	33	33
T37B	BURLINGTON 220	TRAFALGAR_TS 220	36	46	44	40	35	34	33	33
T38B	BURLINGTON 220	TRAFALGAR_TS 220	32	42	40	36	31	29	29	29
T39B	BURLINGTON 220	TRAFALGAR_TS 220	32	42	40	36	31	29	29	29
R14T	TRAFALGAR_TS220	RICHVIEW_AH1 220	67	67	71	54	67	64	63	63
R17T	TRAFALGAR_TS220	RICHVIEW_AH1 220	67	68	71	54	68	64	64	64
R19TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	63	65	68	48	65	60	60	60
R21TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	63	64	68	48	64	60	60	60

Element	Monitored Element		% of Long Term Emergency Rating							
	From	To	C9	C10	C11	C12	C13	C14	C15	C16
N580M	NANTICOKE_TS500	MIDDLEPT 500	29	28	29	28	27	27	27	27
N581M	NANTICOKE_TS500	MIDDLEPT 500	29	29	29	29	29	28	28	28
M585M	MIDDLEPT8185500	MILTON_SS_500	24	23	23	24	23	24	23	23
V586M	MIDDLEPT8185500	CLAIREVILLE 500	21	21	22	22	22	22	22	22
M572T	MILTON_SS_500	TRAFALG_M 500	17	16	17	18	17	17	16	16
M573T	MILTON_SS_500	TRAFALG_M 500	17	16	16	17	17	17	16	15
M570V	MILTON_SS_500	CLAIREVILLE 500	16	17	16	16	16	16	17	17
M571V	MILTON_SS_500	CLAIREVILLE 500	16	16	16	16	16	16	17	17
N1M	NANTICOKE_TS220	MIDDLEPT_DK1 220	64	54	58	53	49	52	52	52
N2M	NANTICOKE_TS220	MIDDLEPT_DK1 220	19	54	60	54	49	52	52	52
N5M	NANTICOKE_TS220	MIDDLEPT_DK2 220	62	43	64	51	19	54	54	54
N6M	NANTICOKE_TS220	MIDDLEPT_DK2 220	52	46	0	40	45	43	43	43
Q23BM	MIDDLEPT_DK2220	BURLINGTON 220	76	73	71	0	79	73	74	73
Q25BM	MIDDLEPT_DK2220	BURLINGTON 220	77	73	71	92	79	73	73	73
M27B	MIDDLEPT_DK1220	BURLINGTON 220	49	53	54	55	0	52	52	51
M28B	MIDDLEPT_DK1220	BURLINGTON 220	49	53	54	56	66	51	52	51
T36B	BURLINGTON 220	TRAFALGAR_TS 220	33	34	33	30	31	0	33	33
T37B	BURLINGTON 220	TRAFALGAR_TS 220	33	34	33	30	32	47	33	33
T38B	BURLINGTON 220	TRAFALGAR_TS 220	29	30	29	26	27	37	29	29
T39B	BURLINGTON 220	TRAFALGAR_TS 220	29	30	29	26	27	37	29	29
R14T	TRAFALGAR_TS220	RICHVIEW_AH1 220	63	64	64	62	63	63	0	73
R17T	TRAFALGAR_TS220	RICHVIEW_AH1 220	64	64	64	62	63	63	99	74
R19TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	60	60	60	58	59	59	70	0
R21TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	60	60	60	58	59	59	70	86

Element	Monitored Element		% of Long Term Emergency Rating							
	From	To	C17	C18	C19	C20	C21	C22	C23	C24
N580M	NANTICOKE_TS500	MIDDLEPT 500	31	30	28	26	28	27	28	28
N581M	NANTICOKE_TS500	MIDDLEPT 500	33	33	29	30	29	28	28	28
M585M	MIDDLEPT8185500	MILTON_SS_500	25	23	27	25	25	23	24	24
V586M	MIDDLEPT8185500	CLAIREVILLE 500	22	24	23	24	23	22	23	23
M572T	MILTON_SS_500	TRAFALG_M 500	17	17	18	18	18	17	13	13
M573T	MILTON_SS_500	TRAFALG_M 500	18	17	18	17	17	17	12	13
M570V	MILTON_SS_500	CLAIREVILLE 500	16	16	17	16	8	16	20	20
M571V	MILTON_SS_500	CLAIREVILLE 500	16	16	17	16	9	16	20	20
N1M	NANTICOKE_TS220	MIDDLEPT_DK1 220	22	71	55	44	50	51	50	51
N2M	NANTICOKE_TS220	MIDDLEPT_DK1 220	14	72	55	44	51	51	51	51
N5M	NANTICOKE_TS220	MIDDLEPT_DK2 220	74	43	46	58	53	53	53	53

N6M	NANTICOKE_TS220	MIDDLEPT_DK2 220	64	0	35	47	43	44	42	42
Q23BM	MIDDLEPT_DK2220	BURLINGTON 220	87	69	0	92	74	73	75	75
Q25BM	MIDDLEPT_DK2220	BURLINGTON 220	81	64	0	86	70	68	70	70
M27B	MIDDLEPT_DK1220	BURLINGTON 220	39	54	65	0	45	44	45	45
M28B	MIDDLEPT_DK1220	BURLINGTON 220	41	58	70	0	48	47	48	48
T36B	BURLINGTON 220	TRAFALGAR_TS 220	30	31	27	28	0	48	28	29
T37B	BURLINGTON 220	TRAFALGAR_TS 220	30	31	27	28	0	48	28	29
T38B	BURLINGTON 220	TRAFALGAR_TS 220	26	27	23	24	51	0	25	25
T39B	BURLINGTON 220	TRAFALGAR_TS 220	26	27	23	24	51	0	25	25
R14T	TRAFALGAR_TS220	RICHVIEW_AH1 220	62	63	61	61	64	64	0	93
R17T	TRAFALGAR_TS220	RICHVIEW_AH1 220	62	63	61	61	64	64	0	93
R19TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	58	59	57	57	60	60	92	0
R21TH	TRAFALGAR_TS220	RICHVIEW_AH2 220	58	59	57	57	60	59	92	0

As shown, all post-contingency flows were found to be within the Long Term Emergency ratings. However, it should be noted that circuits Q23BM/Q25BM, R14T/R17T and R19TH/R21TH would be approaching LTE ratings when their companion circuit is out of service.

Appendix B shows the diagrams for thermal study simulations.

It should be noted that the concerns on the pre-contingency and post-contingency flow existed before Summerhaven's connection to the IESO-Controlled grid. Summerhaven WGS will make the situation slightly worse but the flows are still below ratings.

As mentioned in Section 3.1, Hydro One is proposing a common switching station connection arrangement for Summerhaven and PDNW. Thermal studies were carried out with common switching station connection arrangement and the results showed a common station would slightly alleviate the post contingency situation.

With a common switching station any N-1 condition involving any section of N1M/N2M would allow the production from the two generating facilities to be evacuated through the three remaining lines, resulting in more secure connections for Summerhaven and PDNW. For any N-2 condition it would still allow injection from both generation facilities. The full switching station would allow for easier and more flexible real-time operation. The full switching station would also allow for future expansions to accommodate system upgrades or new generation connections. In addition, a common switching station would likely involve overall cost savings when compared to two separate switching stations.

Therefore, it is strongly recommended that a common switching station be built for both projects instead of two separate stations.

6.7 Voltage Analysis

The assessment of the voltage performance in the Nanticoke area was done in accordance with the IESO's *Ontario Resource and Transmission Assessment Criteria.* The criteria states that with all facilities in service pre-contingency, 230 kV, 115 kV, 44-13.8kV system voltage declines following a contingency shall be limited to 10% before and after transformer tap changer action, and absolute maximums and

minimums of 250-207kV, 127-108kV and 112%-88% of nominal, respectively. The 44-13.8kV system voltages are further limited to 5% voltage decline after tap changer action.

The voltage decline studies were performed with the Summerhaven WGS facility connected to the circuit N1M. A constant MVA load model was used in both immediate pre-contingency state and in post-ULTC state.

The study results summarized in the following tables indicate that both declines of pre-ULTC and post-ULTC values are within the IESO's criteria of 10%.

Monitored Busses	Pre-Cont Voltage (kV)	Loss of Summerhaven				Loss of PDNW			
		Pre-ULTC		Post-ULTC		Pre-ULTC		Post-ULTC	
		kV	%	kV	%	kV	%	kV	%
Nanticoke 230	246.5	245.8	-0.3	246.0	-0.2	246.0	-0.2	246.2	-0.1
Summerhaven 230	248.5	-	-	-	-	248.0	-0.2	248.3	-0.1
Summerhaven 34.5	36.0	-	-	-	-	36.1	0.3	36.2	0.6
Port Dover 230	246.7	246.1	-0.2	246.3	-0.2	-	-	-	-
Port Dover 34.5	35.9	35.8	-0.3	35.9	0.0	-	-	-	-
Grand Energy 230	248.0	247.4	-0.2	247.6	-0.2	247.5	-0.2	247.7	-0.1
Middleport 230 DK1	246.6	246.1	-0.2	246.4	-0.1	246.2	-0.2	246.5	0.0
Middleport 230 DK2	246.7	246.2	-0.2	246.6	0.0	246.3	-0.2	246.6	0.0
Burlington 230	245.0	244.6	-0.2	244.9	0.0	244.7	-0.1	245.0	0.0
Burlington 115	122.6	122.4	-0.2	122.6	0.0	122.4	-0.2	122.6	0.0

In conclusion, addition of the Summerhaven project does not result in material adverse impact on the voltage performance of the IESO-controlled grid.

6.8 Transient Analysis

Transient stability analysis was performed considering faults in Nanticoke and Middleport area with the proposed Summerhaven WGS in-service. All contingencies studied were three-phase faults cleared with normal fault clearing times. Double circuit contingencies were simulated as three phase faults occurring on two both circuits simultaneously.

ID	Contingency	Location	Fault Clearing Time (ms)	
			Near	Remote
SC1	N1M (Nanticoke-Summerhaven)	Nanticoke	83	116
SC2	N1M (Nanticoke-Summerhaven)	Summerhaven	83	116
SC3	N1M (Summerhaven-Middleport)	Summerhaven	83	116
SC4	N1M (Summerhaven-Middleport)	Middleport	83	116
SC5	N2M (Nanticoke-Port Dover)	Nanticoke	83	116
SC6	N2M (Nanticoke-Port Dover)	Port Dover	83	116
SC7	N2M (Port Dover-Middleport)	Port Dover	83	116
SC8	N2M (Port Dover-Middleport)	Middleport	83	116

SC9	N6M	Nanticoke	83	116
SC10	M27B	Middleport	83	116
SC11	N1M+N2M	Nanticoke	83	116
SC10	N5M+N6M	Nanticoke	83	116
SC10	M27B+M28B	Middleport	83	116
SC10	Q23BM+Q25BM	Middleport	83	116

The transient simulation plots for single contingencies are shown in Appendix C. The transient simulation results suggest that none of the simulated contingencies caused transient instability or undamped oscillations. All results show gradual attenuation of the oscillations.

In conclusion, addition of the Summerhaven project does not result in material adverse impact on the transient performance of the IESO-controlled grid.

Further transient studies with the common switching station connection arrangement were carried out and it was found that none of the simulated contingencies caused transient instability or undamped oscillations.

6.9 Low-voltage ride through capability

The new generating facility is required to ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times, unless disconnected by configuration.

As any other generators, the Siemens WTG is expected to trip only for contingencies which remove the generator by configuration or abnormal conditions such as severe and sustained under-voltage, over-voltage, under-frequency, over-frequency etc. The severity of under-voltage seen by generator terminals is to be temporarily mitigated by the LVRT capability. The LVRT feature is implemented by injection of additional reactive current by the grid side AC/DC converter to maintain generator terminal voltage in the event of a disturbance in the power system that causes the terminal voltage to drop.

The implementation of LVRT should not require any instant modification to under-voltage protection settings. In PSS/E model for MK II, the LVRT feature accompanies a change of under-voltage settings as shown below (From Siemens Document "UserInputData-SMK223_InputData_SWT-2.3-101_VS_60 Hz_V1.2.xls".

Voltage range	*Event*
1.00 – 0.85 pu	No trip
0.85 – 0.5 pu	Relay 1 trips in 3.1 sec
0.5 – 0.15 pu	Relay 2 trips in 1.835 sec
0.15 – 0.0 pu	Relay 3 trips in 0.24 sec

In order to examine the need for low voltage ride through (LVRT) capability, the three phase faults on N1M at Summerhaven WGS (SC2 and SC3) with normal clearing time were simulated. These particular contingencies are electrically much closer to the new generation facility than other contingencies. Thus, they could potentially have a greater impact on the terminal voltage of WTG. It should be noted that if

breakers fail under SC2 and SC3 the Summerhaven WF would be disconnected by configuration. Therefore, breaker failure was not considered in this test.

The variation of the terminal voltage of the new generation facility is plotted in Figure 8 below. It can be seen that the duration during which the generator terminal voltage drops below 0.33 pu is about 0.116 sec. Therefore, the fault ride through capabilities of the wind turbines are adequate.

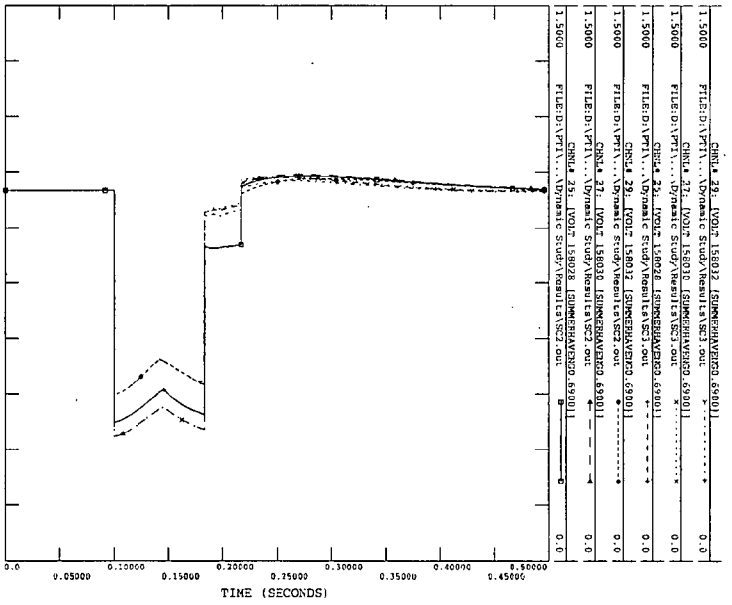


Figure 8: Terminal Voltage of Wind Generator during LLLG Faults at Summerhaven SS

The LVRT capability must be demonstrated during commissioning by monitoring several variables under a set of IESO specified field tests and the results should be verifiable using the PSS/E model.

– End of Report –

Appendix A Market Rules: Appendix 4.2

Appendix 4.2 – Generation Facility Requirements

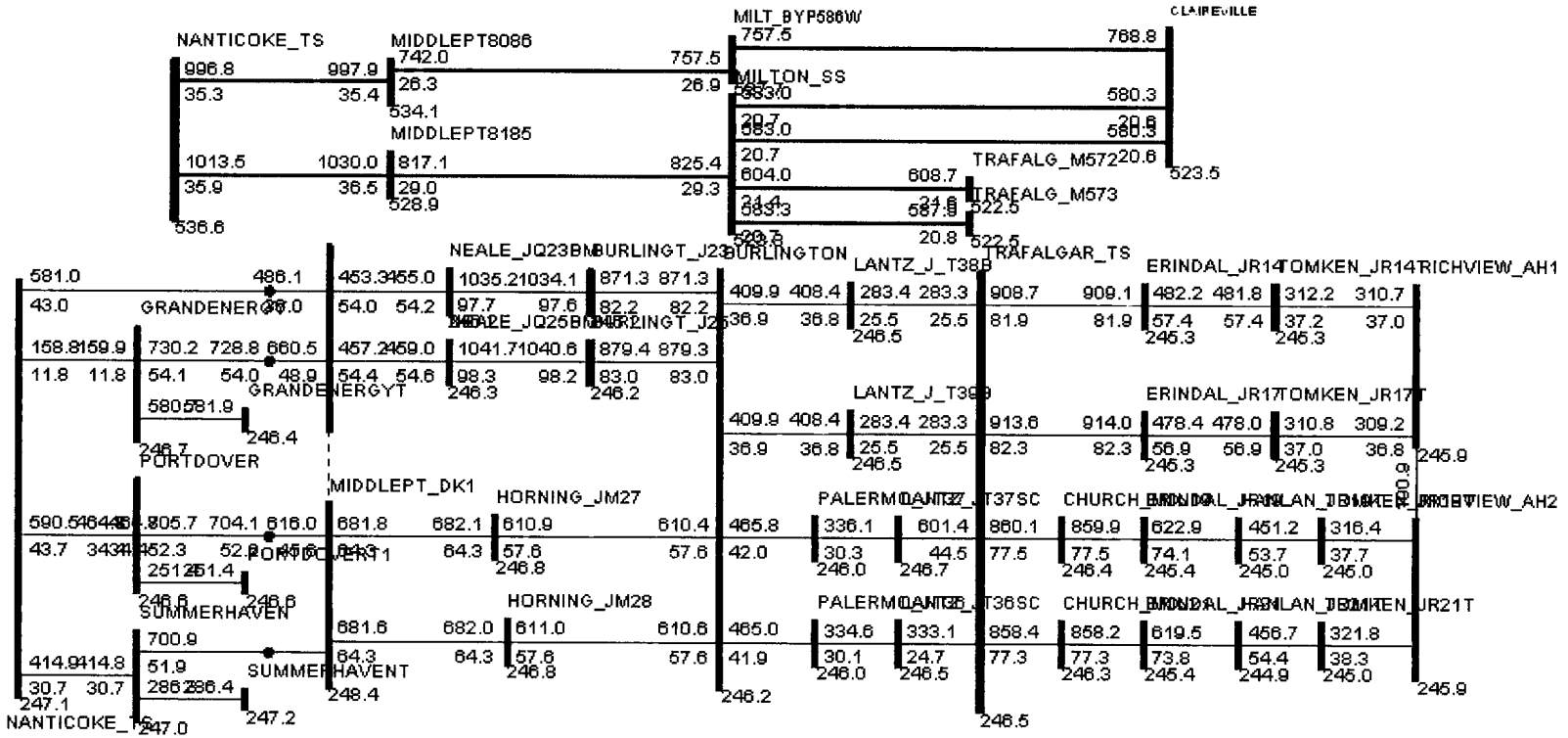
The performance requirements set out below shall apply to *generation facilities* subject to a *connection assessment* finalized after March 6, 2010. Performance of alternative technologies will be compared at the point of connection to the *IESO-controlled grid* with that of a conforming conventional synchronous *generation unit* with an equal apparent power rating to determine whether a requirement is satisfied.

Each *generation facility* that was authorized to connect to the *IESO-controlled grid* prior to March 6, 2010 shall remain subject to the performance requirements in effect for each system at the time of its authorization to connect to the *IESO-controlled grid* was granted or as agreed to by the *market participant* and the *IESO* (i.e. the "original performance requirements"). These requirements shall prevail until the main elements of an associated system (e.g. governor control mechanism, main exciter) are replaced or substantially modified. At that time, the replaced or substantially modified system shall meet the applicable performance requirements set out below. All other systems, not affected by replacement or substantial modification, shall remain subject to the original performance requirements.

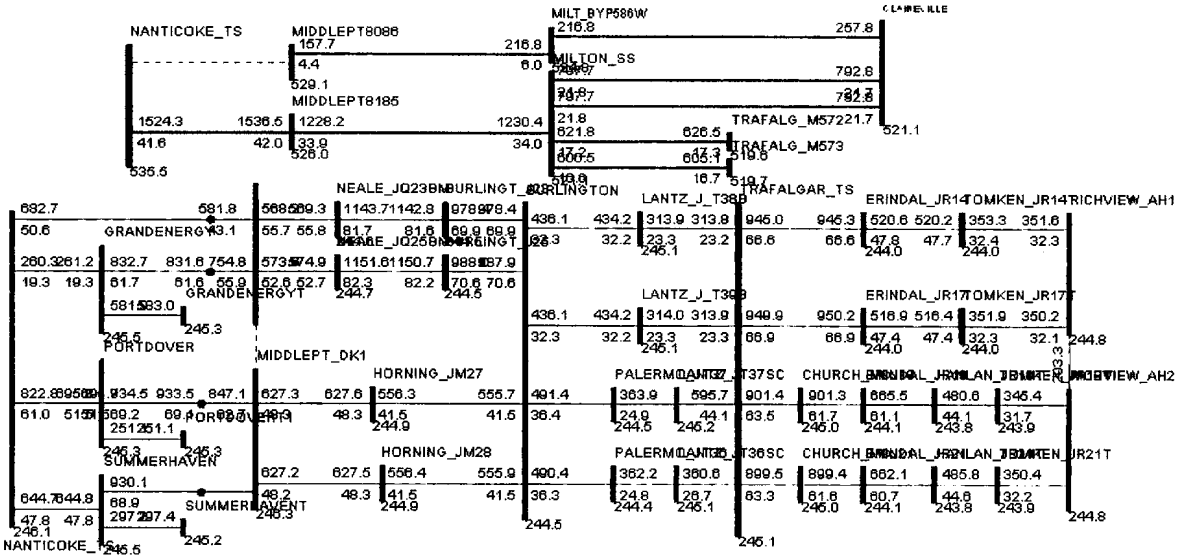
Category	***Generation facility* directly connected to the *IESO-controlled grid*, *generation facility* greater than 50 MW, or *generation unit* greater than 10 MW shall have the capability to:**
1. Off-Nominal Frequency	Operate continuously between 59.4 Hz and 60.6 Hz and for a limited period of time in the region above straight lines on a log-linear scale defined by the points (0.0 s, 57.0 Hz), (3.3 s, 57.0 Hz), and (300 s, 59.0 Hz).
2. Speed/Frequency Regulation	Regulate speed with an average droop based on maximum active power adjustable between 3% and 7% and set at 4% unless otherwise specified by the *IESO*. Regulation deadband shall not be wider than ± 0.06%. Speed shall be controlled in a stable fashion in both interconnected and island operation. A sustained 10% change of rated active power after 10 s in response to a constant rate of change of speed of 0.1%/s during interconnected operation shall be achievable. Due consideration will be given to inherent limitations such as mill points and gate limits when evaluating active power changes. Control systems that inhibit governor response shall not be enabled without *IESO* approval.
3. Low Voltage Ride Through	Ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times unless disconnected by configuration.
Category	***Generation facility* directly connected to the *IESO-controlled grid* shall have the capability to:**
4. Active Power	Supply continuously all levels of active power output for 5% deviations in terminal voltage. Rated active power is the smaller output at either rated ambient conditions (e.g. temperature, head, wind speed, solar radiation) or 90% of rated apparent power. To satisfy steady-state reactive power requirements, active power reductions to rated active power are permitted.
5. Reactive Power	Inject or withdraw reactive power continuously (i.e. dynamically) at a *connection point* up to 33% of its rated active power at all levels of active power output except where a lesser continually available capability is permitted by the *IESO*. A conventional synchronous unit with a power factor range of 0.90 lagging and 0.95 leading at rated active power connected via a main output transformer impedance not greater than 13% based on generator rated apparent power is acceptable.
6. Automatic Voltage Regulator (AVR)	Regulate automatically voltage within ±0.5% of any set point within ±5% of rated voltage at a point whose impedance (based on rated apparent power and rated voltage) is not more than 13% from the highest voltage terminal. If the AVR target voltage is a function of reactive output, the slope $\Delta V / \Delta Q_{max}$ shall be adjustable to 0.5%. The equivalent time constants shall not be longer than 20 ms for voltage sensing and 10 ms for the forward path to the exciter output. AVR reference compensation shall be adjustable to within 10% of the unsaturated direct axis reactance on the unit side from a bus common to multiple

	units.
7. Excitation System	Provide (a) Positive and negative ceilings not less than 200% and 140% of rated field voltage at rated terminal voltage and rated field current; (b) A positive ceiling not less than 170% of rated field voltage at rated terminal voltage and 160% of rated field current; (c) A voltage response time to either ceiling not more than 50 ms for a 5% step change from rated voltage under open-circuit conditions; and (d) A linear response between ceilings. Rated field current is defined at rated voltage, rated active power and required maximum continuous reactive power.
8. Power System Stabilizer (PSS)	Provide (a) A change of power and speed input configuration; (b) Positive and negative output limits not less than ±5% of rated AVR voltage; (c) Phase compensation adjustable to limit angle error to within 30° between 0.2 and 2.0 Hz under conditions specified by the IESO, and (d) Gain adjustable up to an amount that either increases damping ratio above 0.1 or elicits exciter modes of oscillation at maximum active output unless otherwise specified by the *IESO*. Due consideration will be given to inherent limitations.
9. Phase Unbalance	Provide an open circuit phase voltage unbalance not more than 1% at a *connection point* and operate continuously with a phase unbalance as high as 2%.
10. Armature and Field Limiters	Provide short-time capabilities specified in IEEE/ANSI 50.13 and continuous capability determined by either field current, armature current, or core-end heating. More restrictive limiting functions, such as steady state stability limiters, shall not be enabled without *IESO* approval.
11. Performance Characteristics	Exhibit *connection point* performance comparable to an equivalent synchronous *generation unit* with characteristic parameters within typical ranges. Inertia, unsaturated transient impedance, transient time constants and saturation coefficients shall be within typical ranges (e.g. H > 1.2 Aero-derivative, H > 1.2 Hydraulic less than 20 MVA, H > 2.0 Hydraulic 20 MVA or larger, H > 4.0 Other synchronized units, X'd < 0.5, T'do > 2.0, and S1.2 < 0.5) except where permitted by the *IESO*.

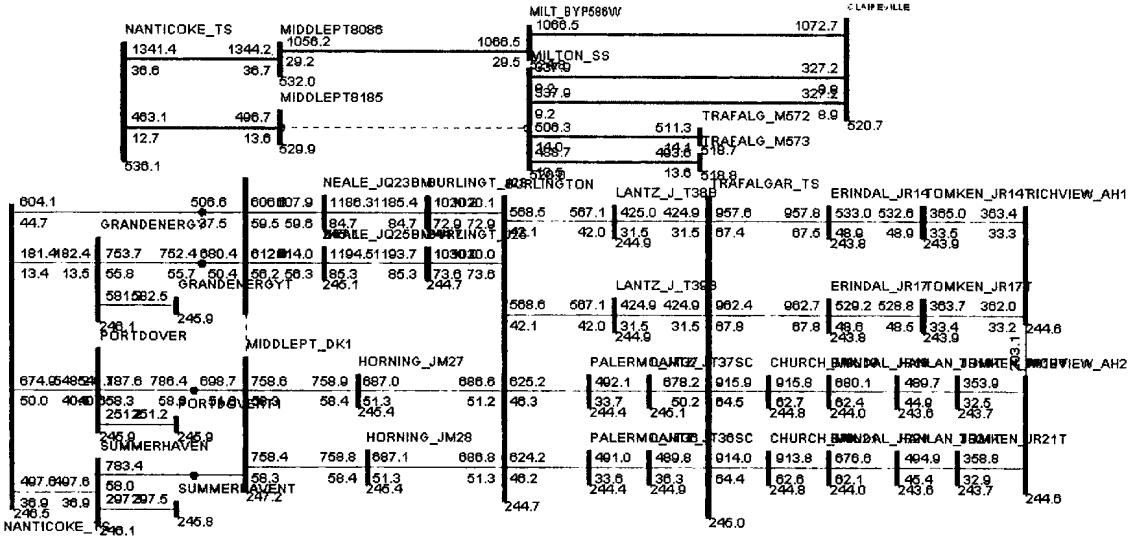
Appendix B Diagrams for Load Flow Results



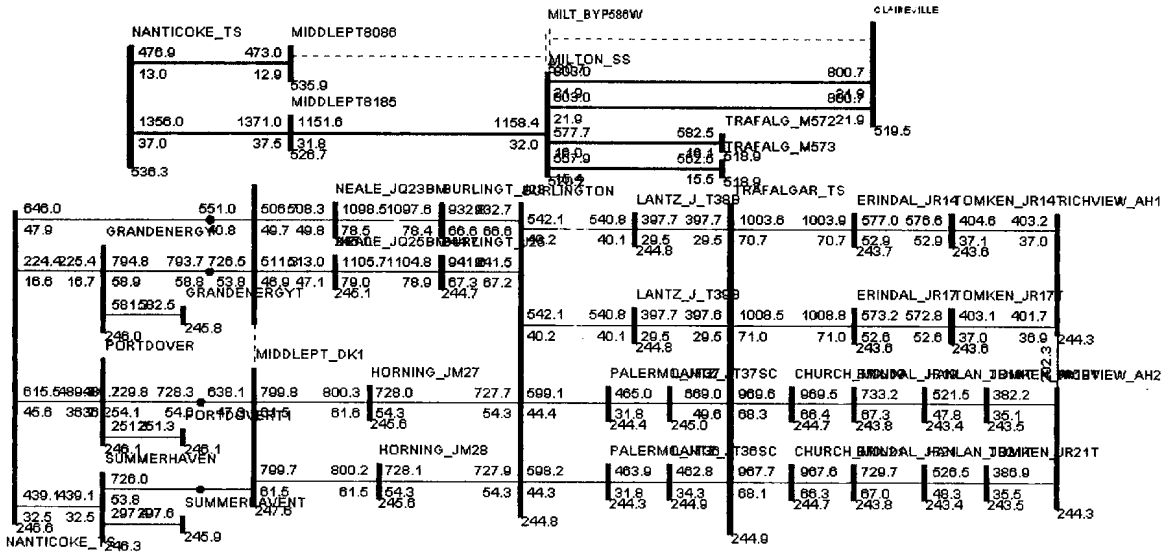
Load Flow Diagram 1: Pre-contingency



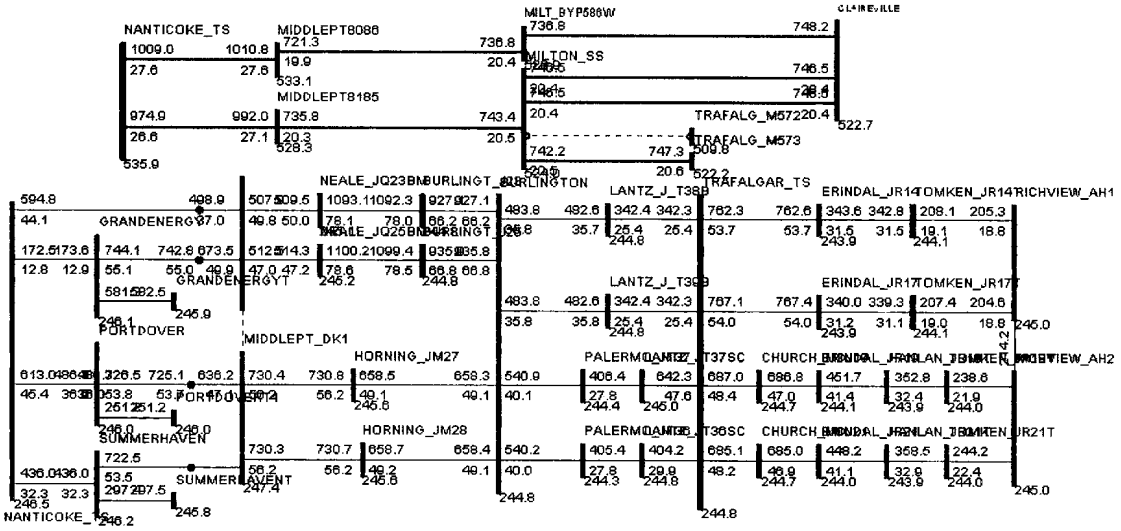
Load Flow Diagram 2: Loss of N58M



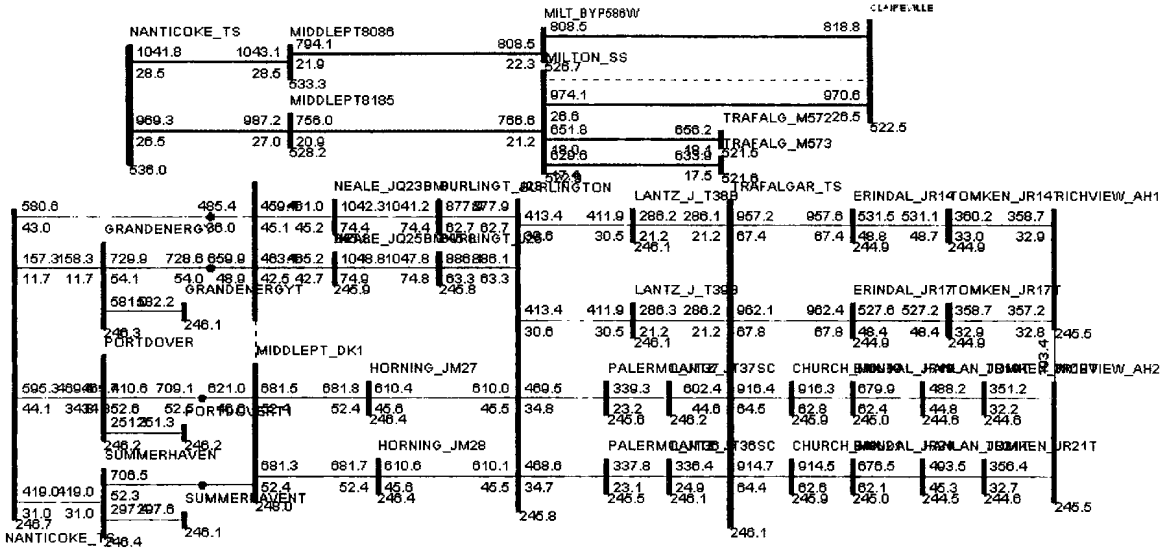
Load Flow Diagram 3: Loss of M585M



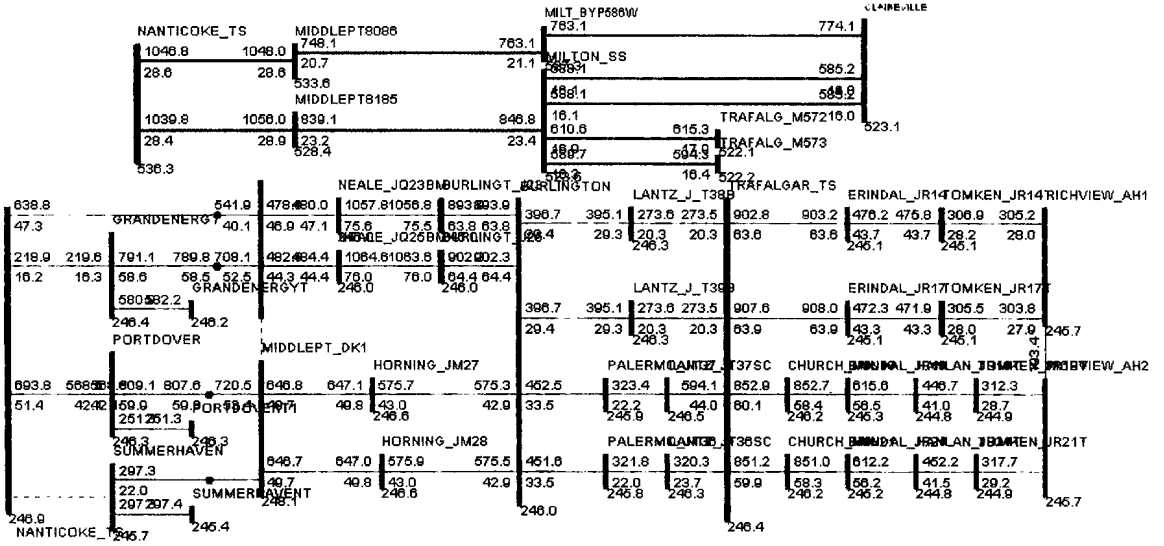
Load Flow Diagram 4: Loss of V586M



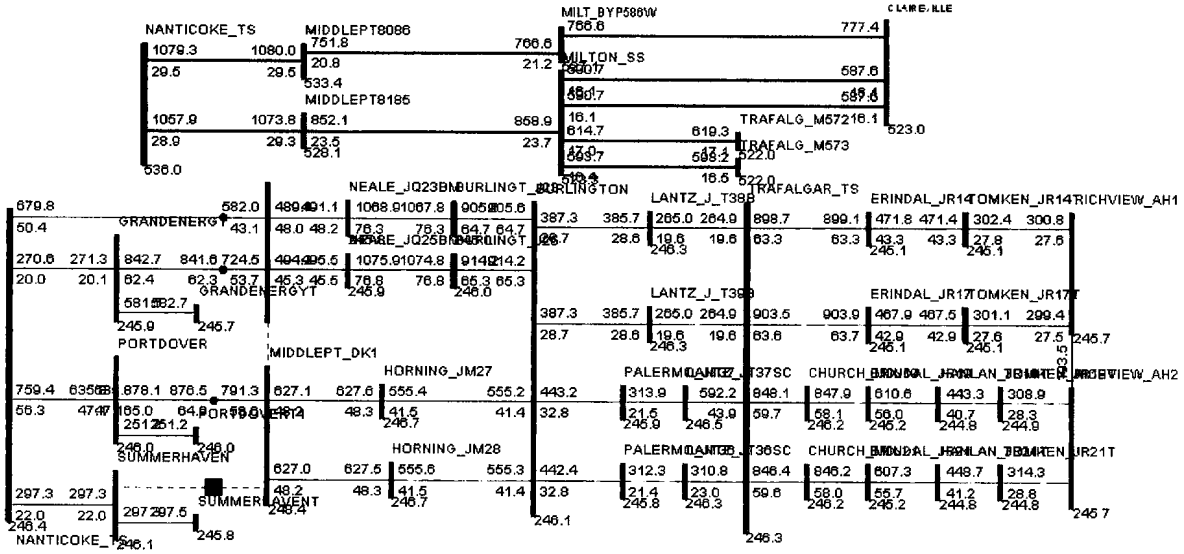
Load Flow Diagram 5: Loss of M572T



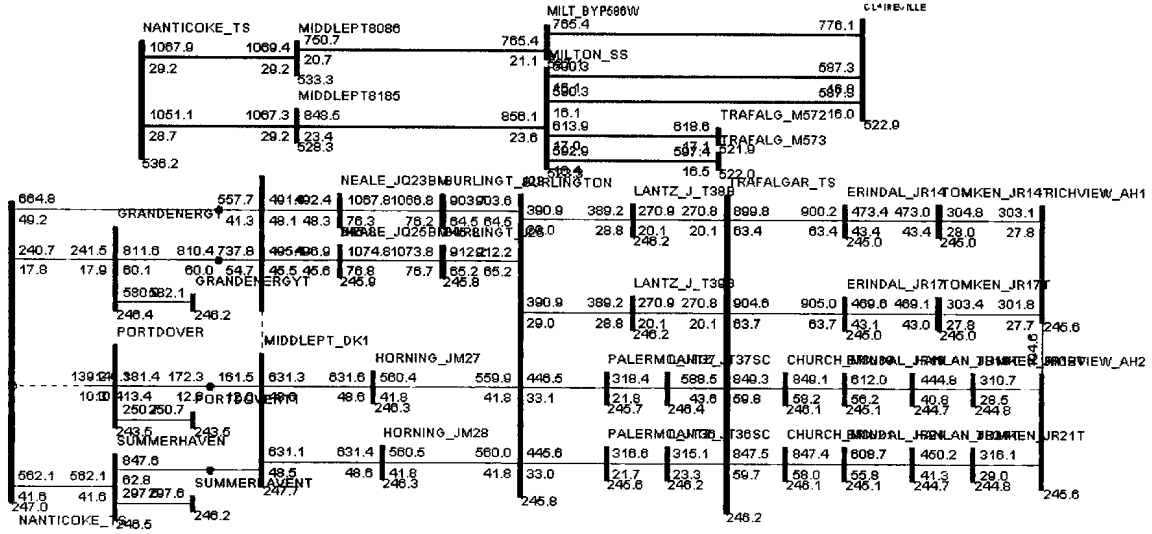
Load Flow Diagram 6: Loss of M570V



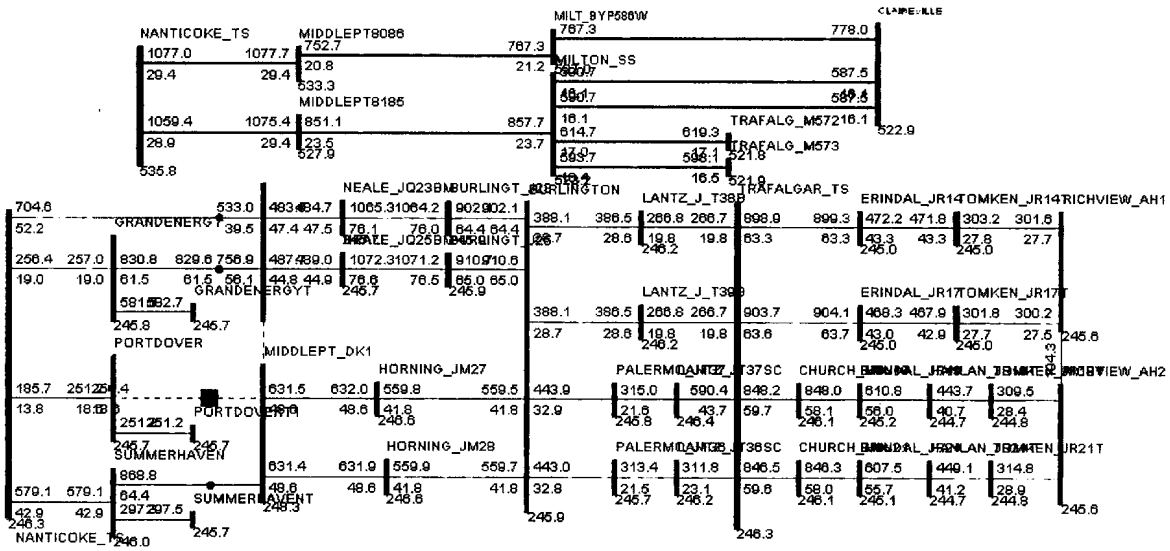
Load Flow Diagram 7: Loss of N1M (N.-Summerhaven)



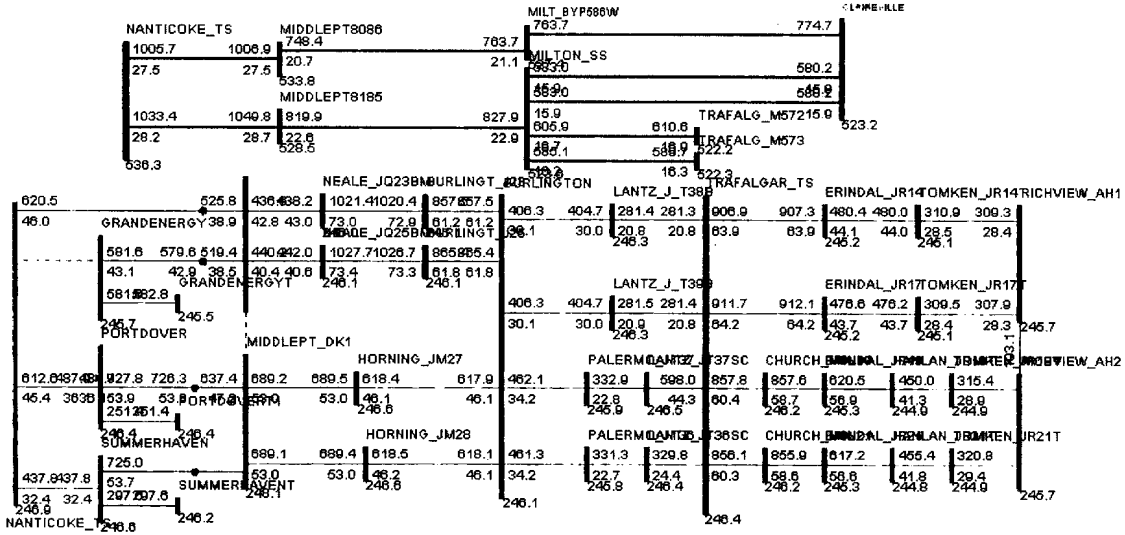
Load Flow Diagram 8: Loss of N1M (Summerhaven-M.)



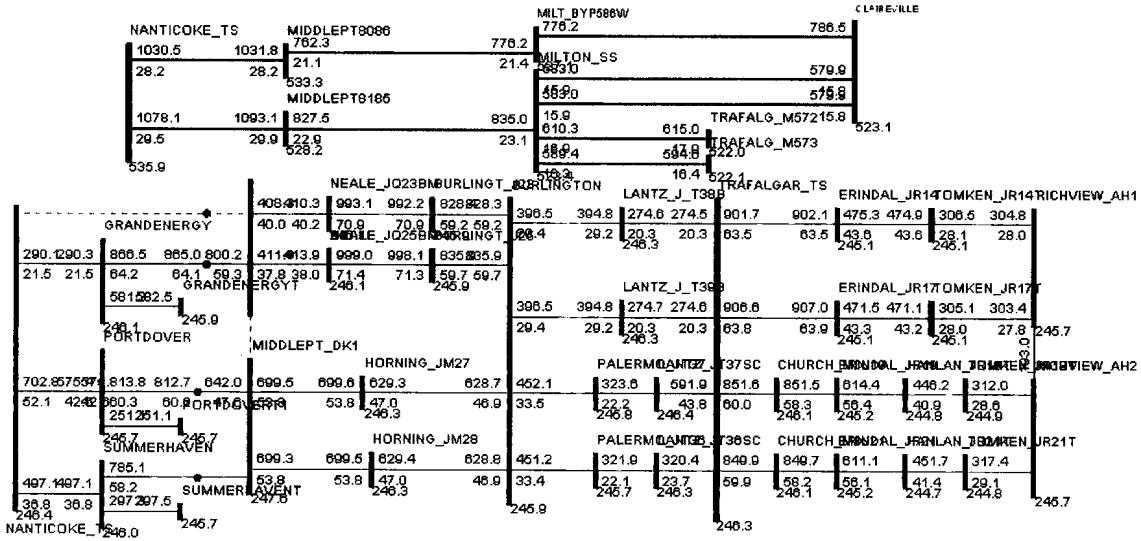
Load Flow Diagram 9: Loss of N2M (N.-PDNW)



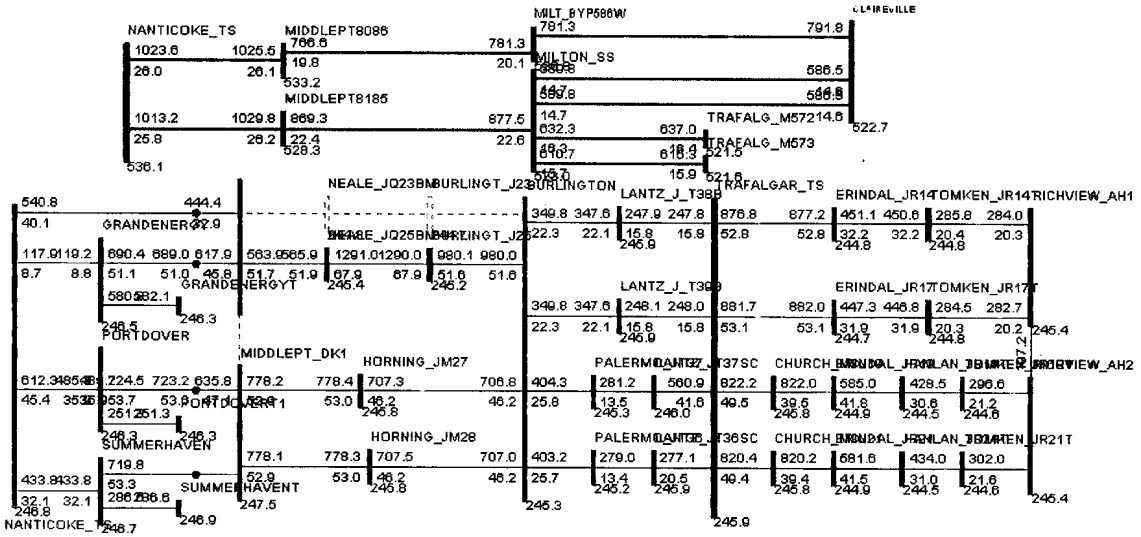
Load Flow Diagram 10: Loss of N2M (PDNW-M.)



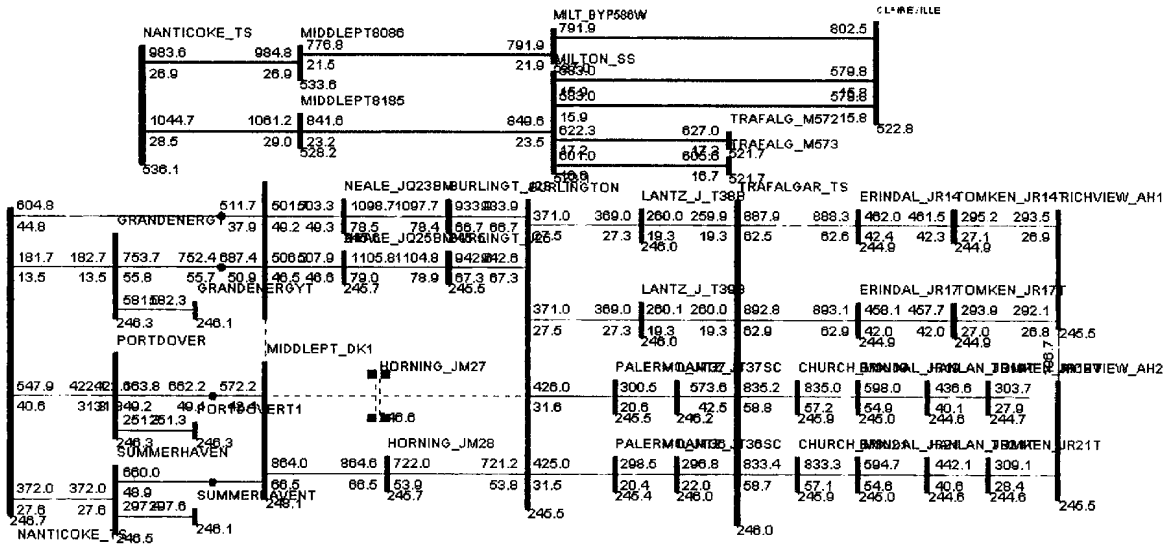
Load Flow Diagram 11: Loss of N5M



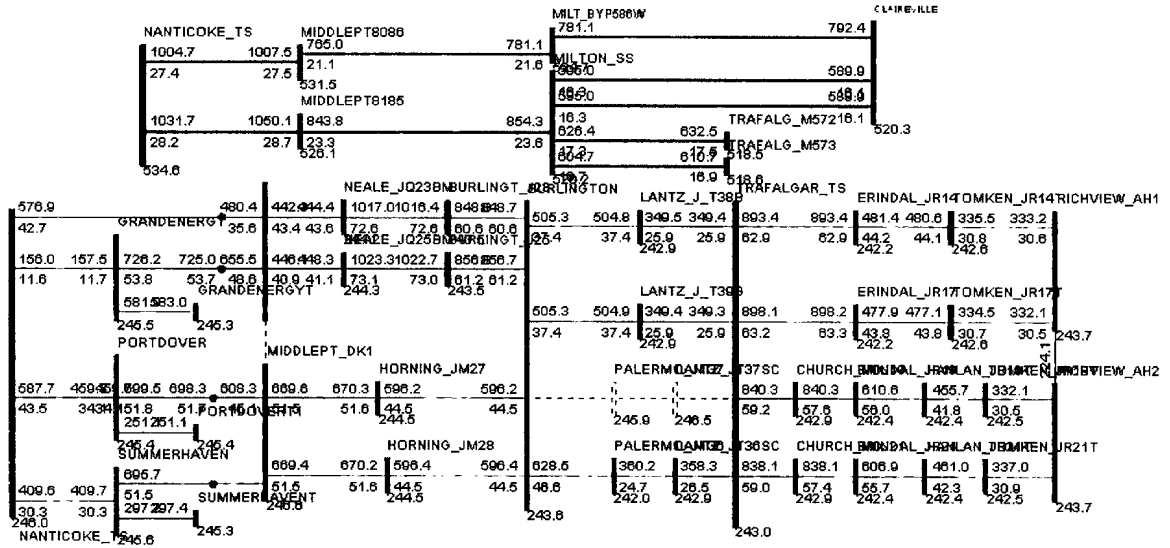
Load Flow Diagram 12: Loss of N6M



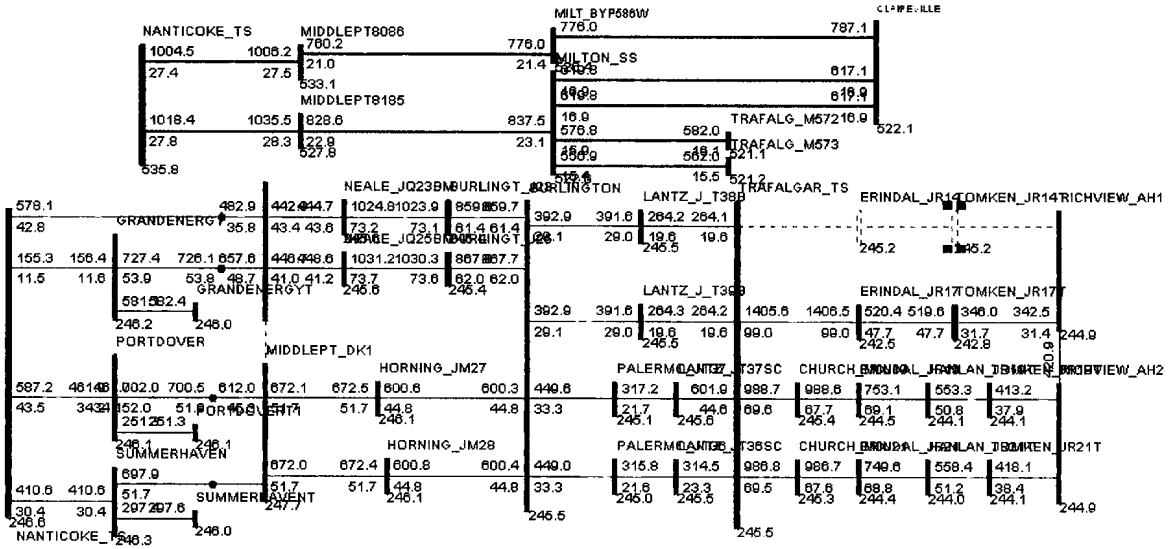
Load Flow Diagram 13: Loss of Q23BM



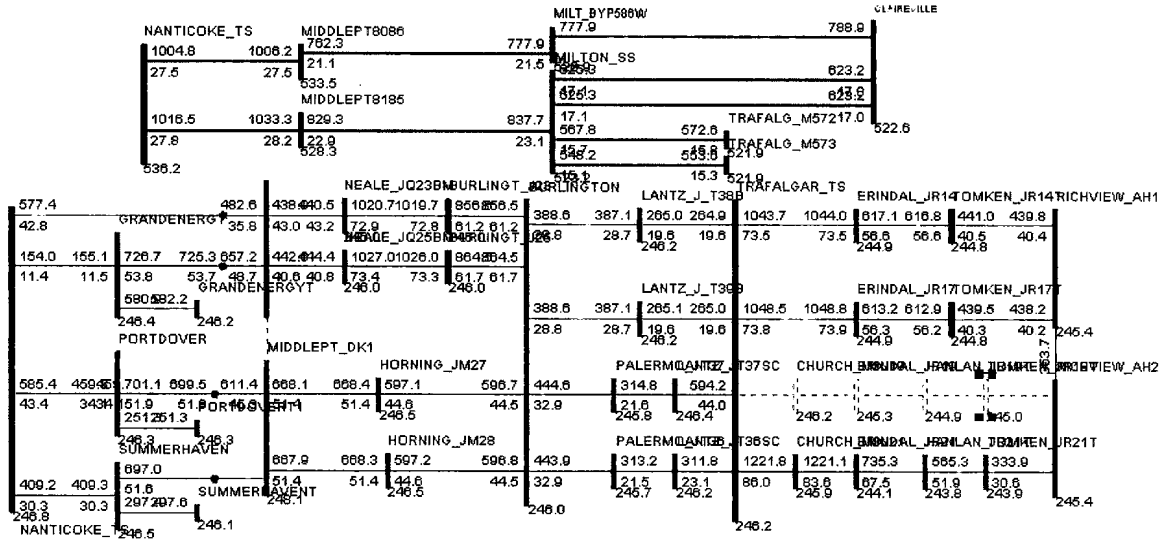
Load Flow Diagram 14: Loss of M27B



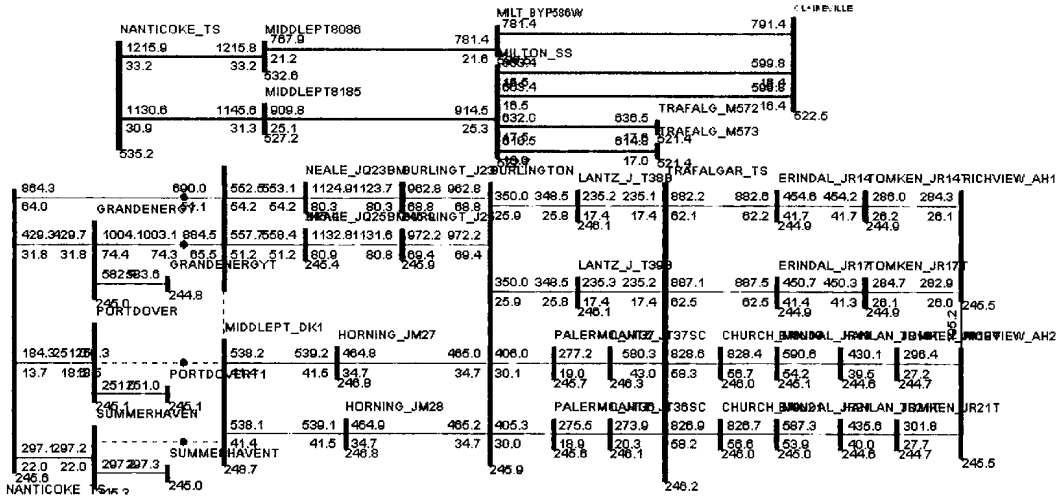
Load Flow Diagram 15: Loss of T37B



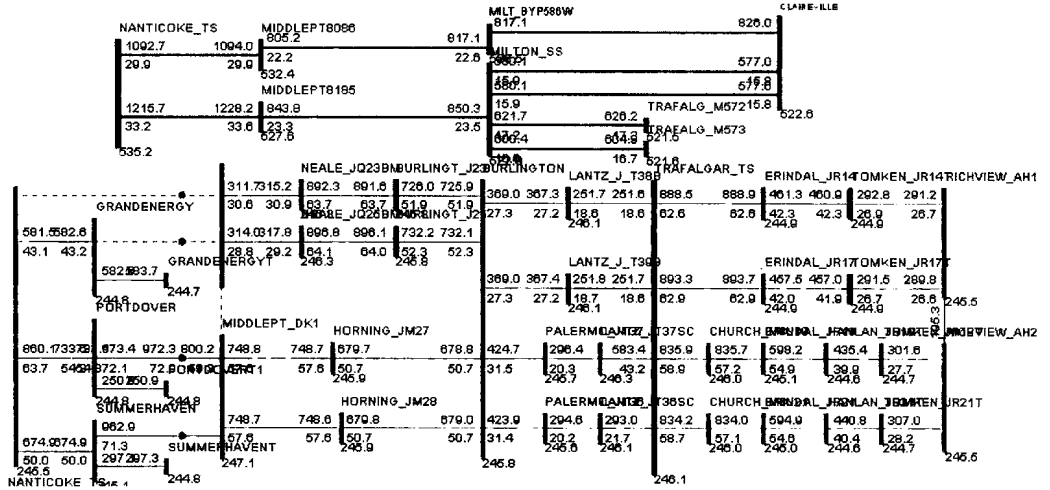
Load Flow Diagram 16: Loss of R14T



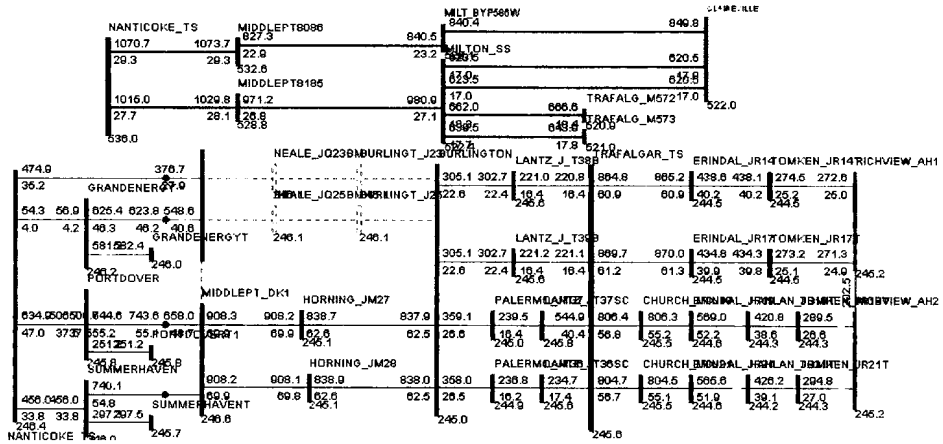
Load Flow Diagram 17: Loss of R19TH



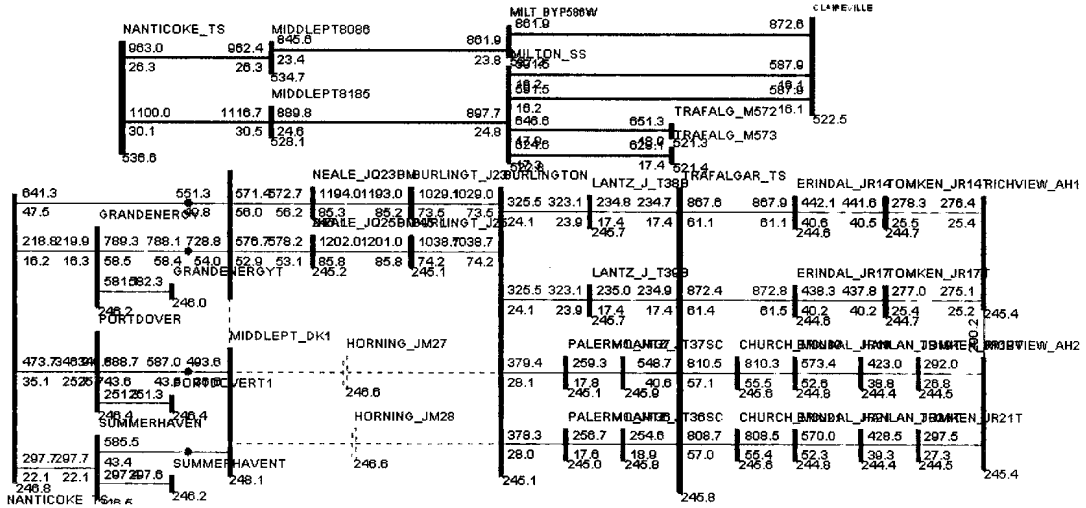
Load Flow Diagram 18: Loss of N1M/N2M



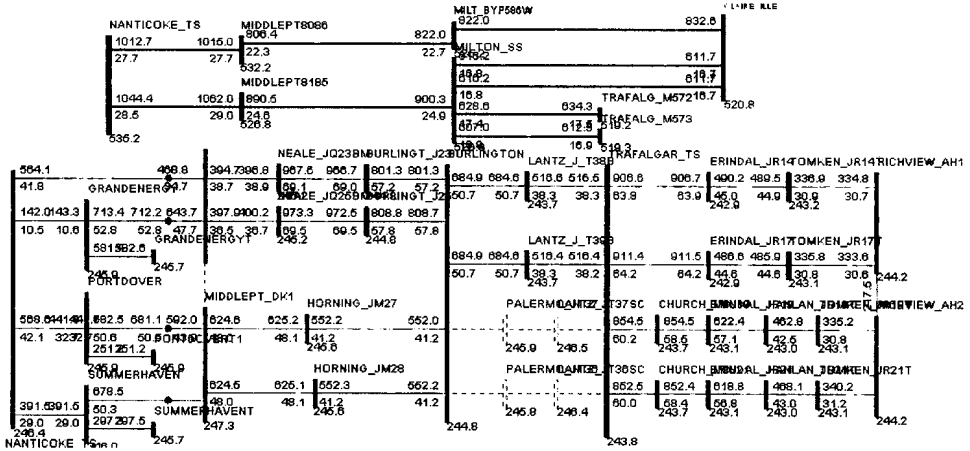
Load Flow Diagram 19: Loss of N5M/N6M



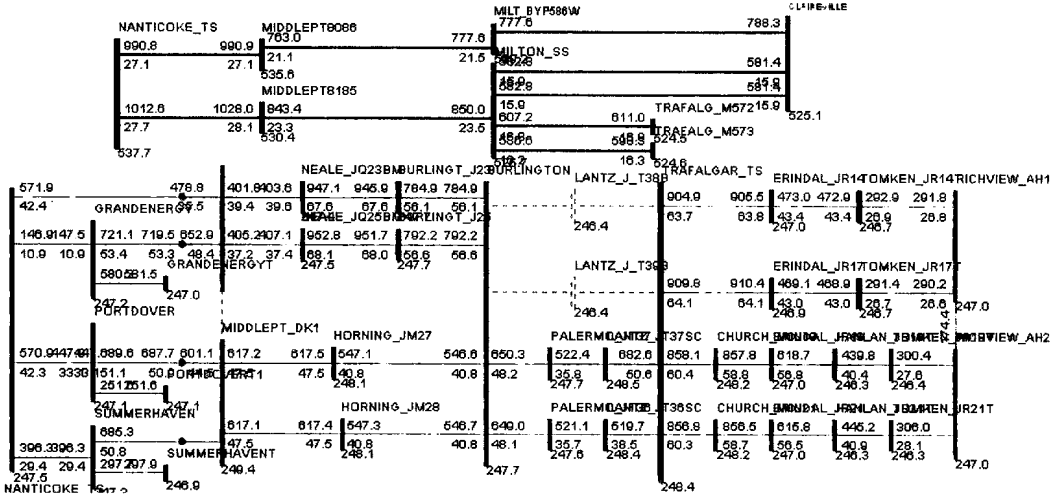
Load Flow Diagram 20: Loss of Q23BM/Q25BM



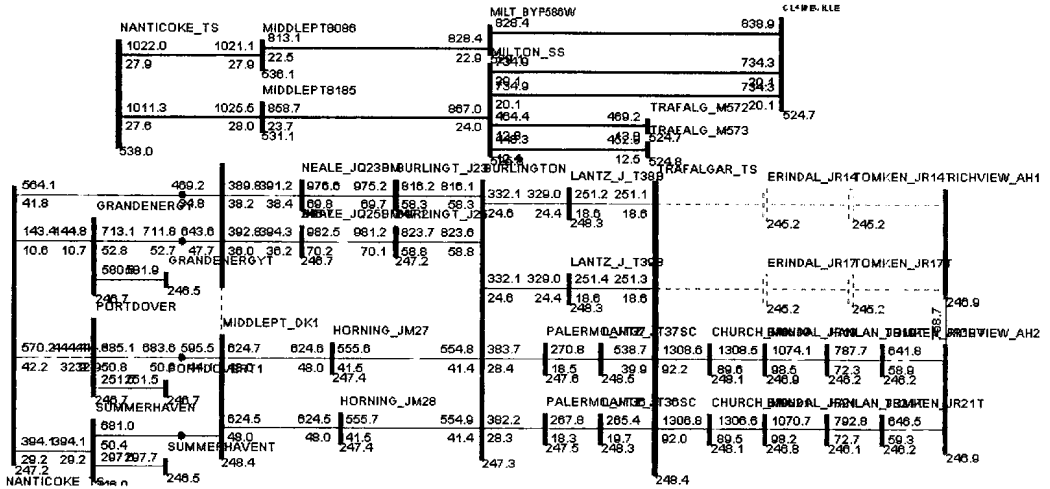
Load Flow Diagram 21: Loss of M27B/M28B



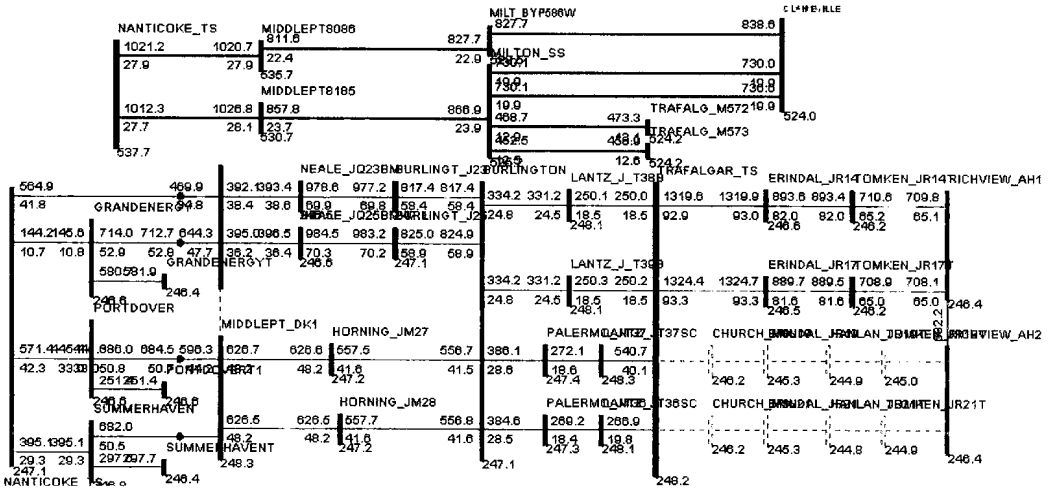
Load Flow Diagram 22: Loss of T36B/T37B



Load Flow Diagram 23: Loss of T38B/T39B



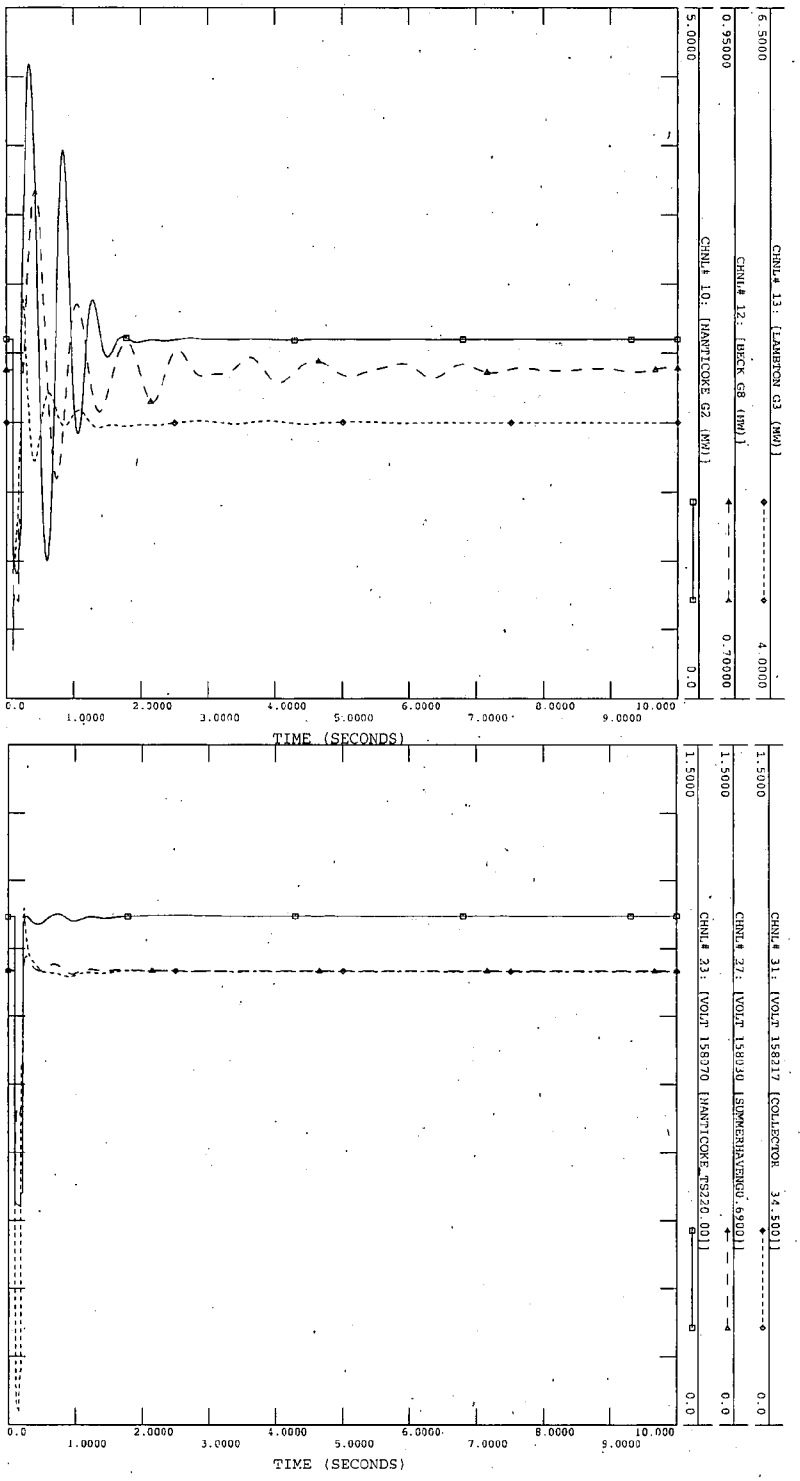
Load Flow Diagram 24: Loss of R14T/R17T



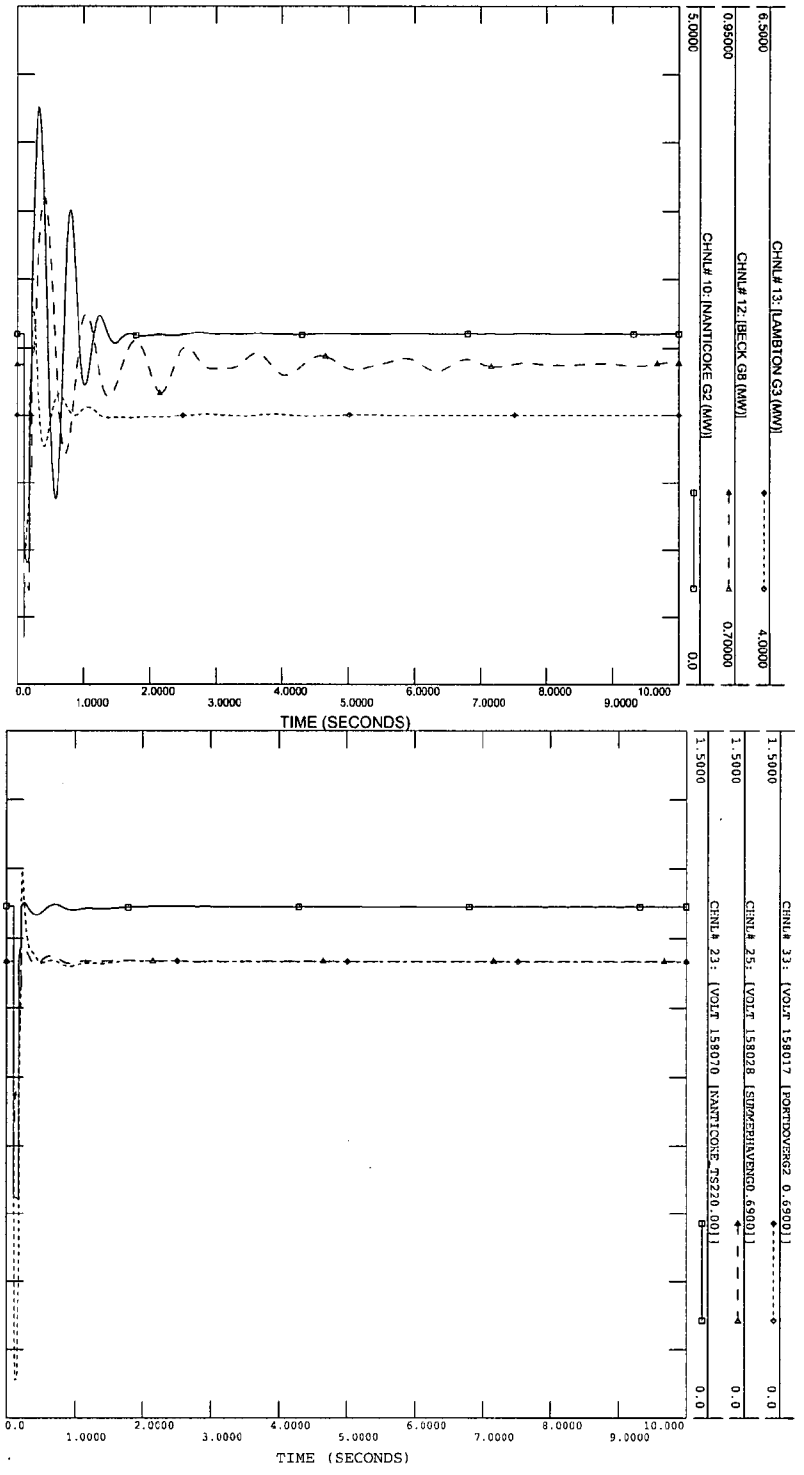
Load Flow Diagram 25: Loss of R19TH/R21TH

Appendix C Diagrams for Transient Simulation Results

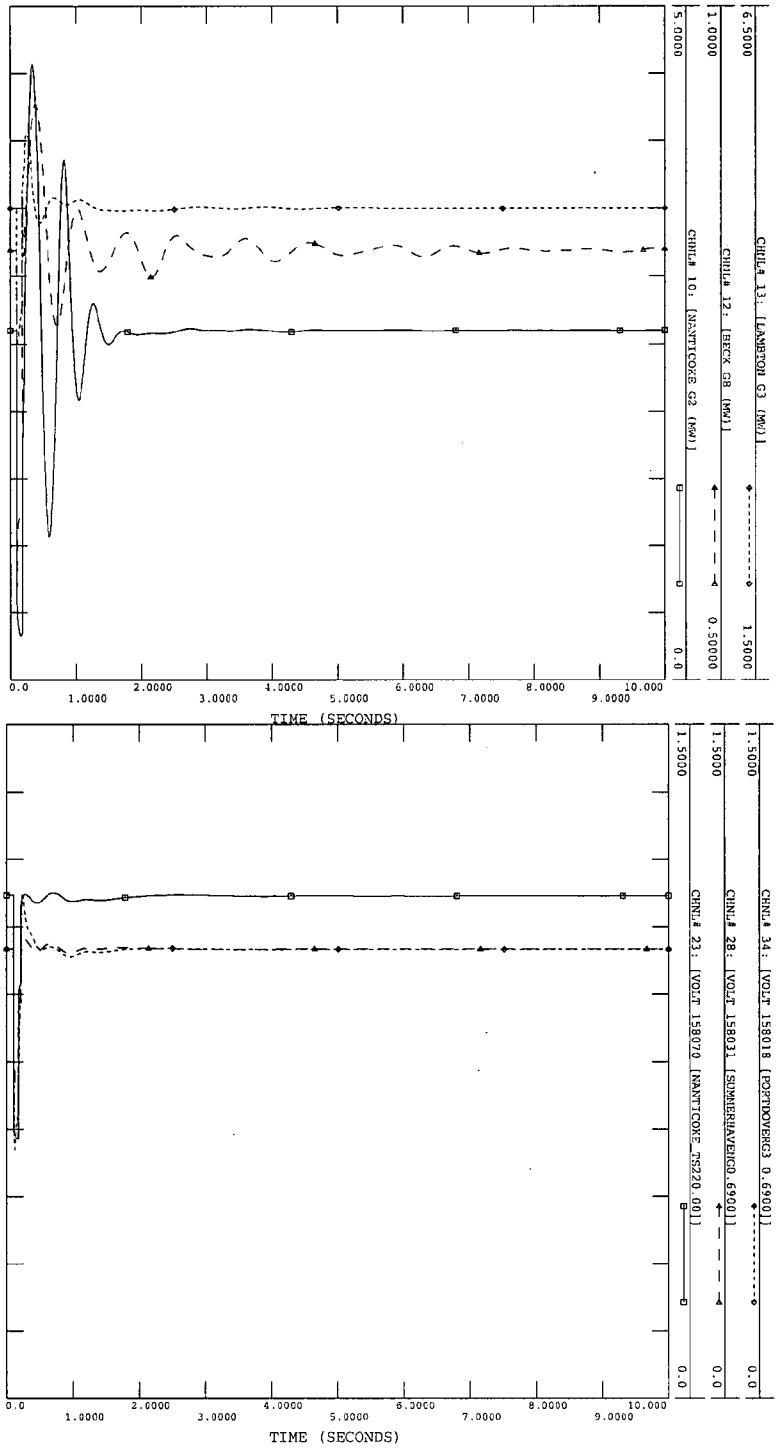
SC1: LLLG Fault on N1M (Nanticoke-Summerhaven) at Nanticoke



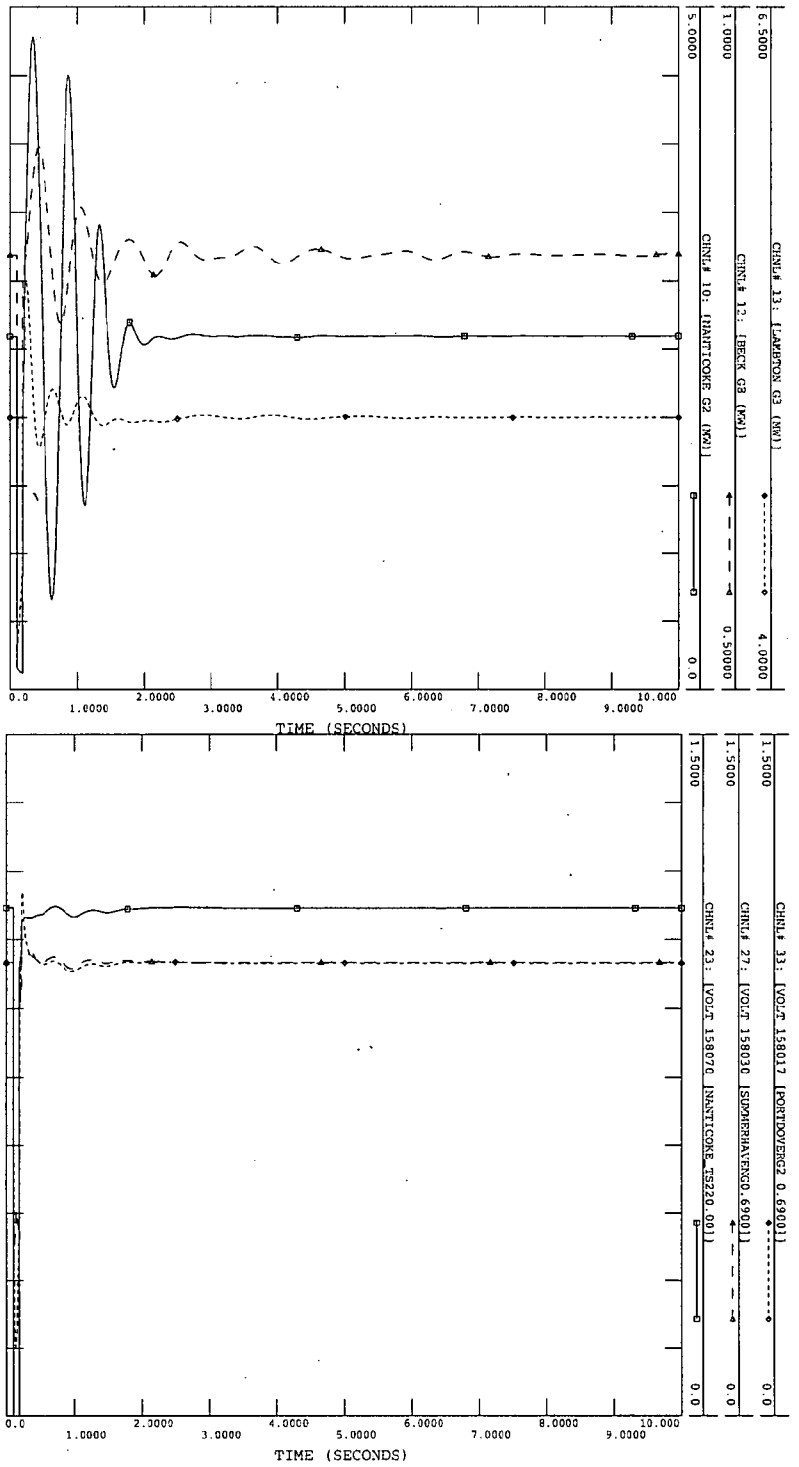
SC2: LLLG Fault on N1M (Nanticoke-Summerhaven) at Summerhaven



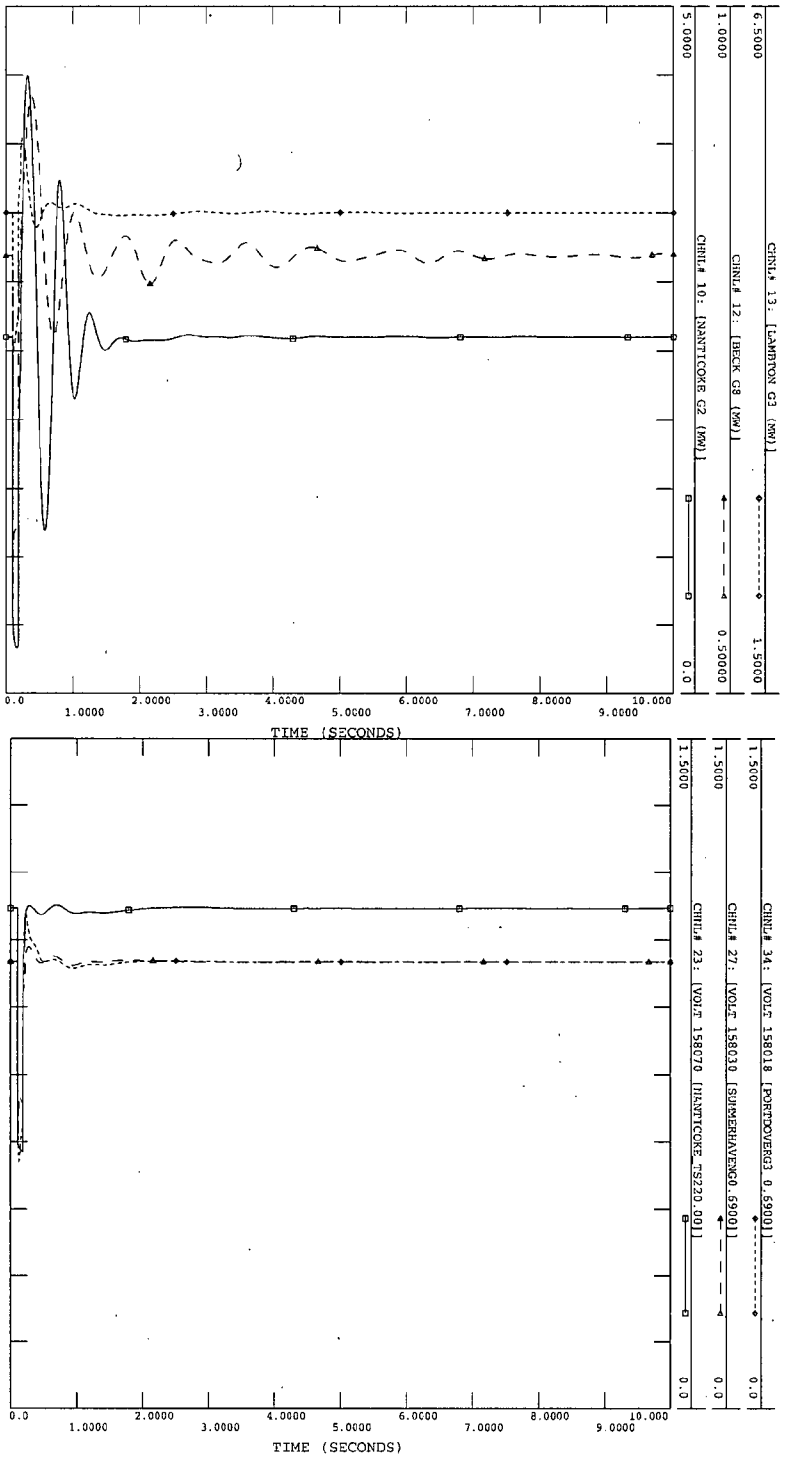
SC3: LLLG Fault on N1M (Summerhaven -Middleport) at Summerhaven



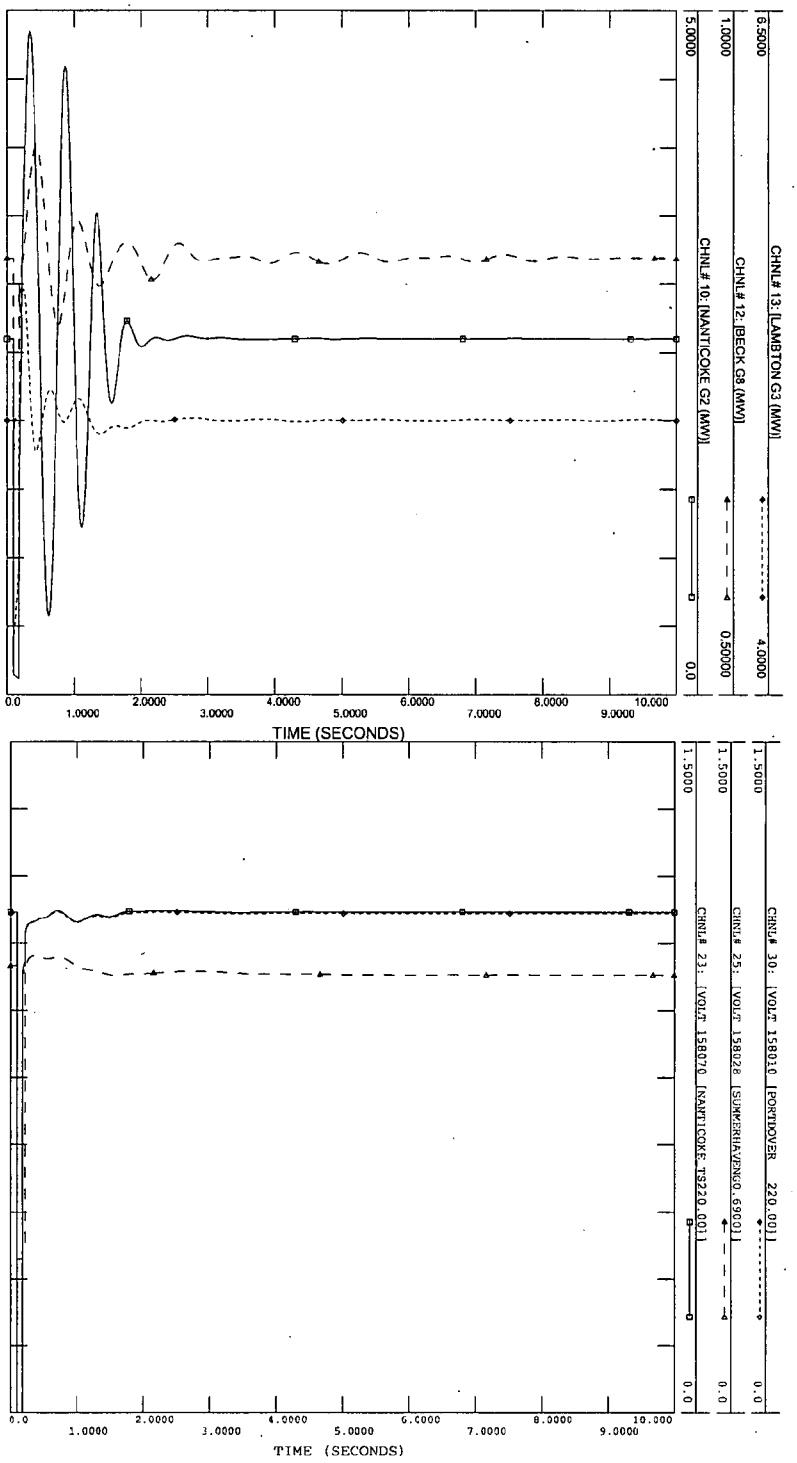
SC4: LLLG Fault on N1M (Summerhaven -Middleport) at Middleport



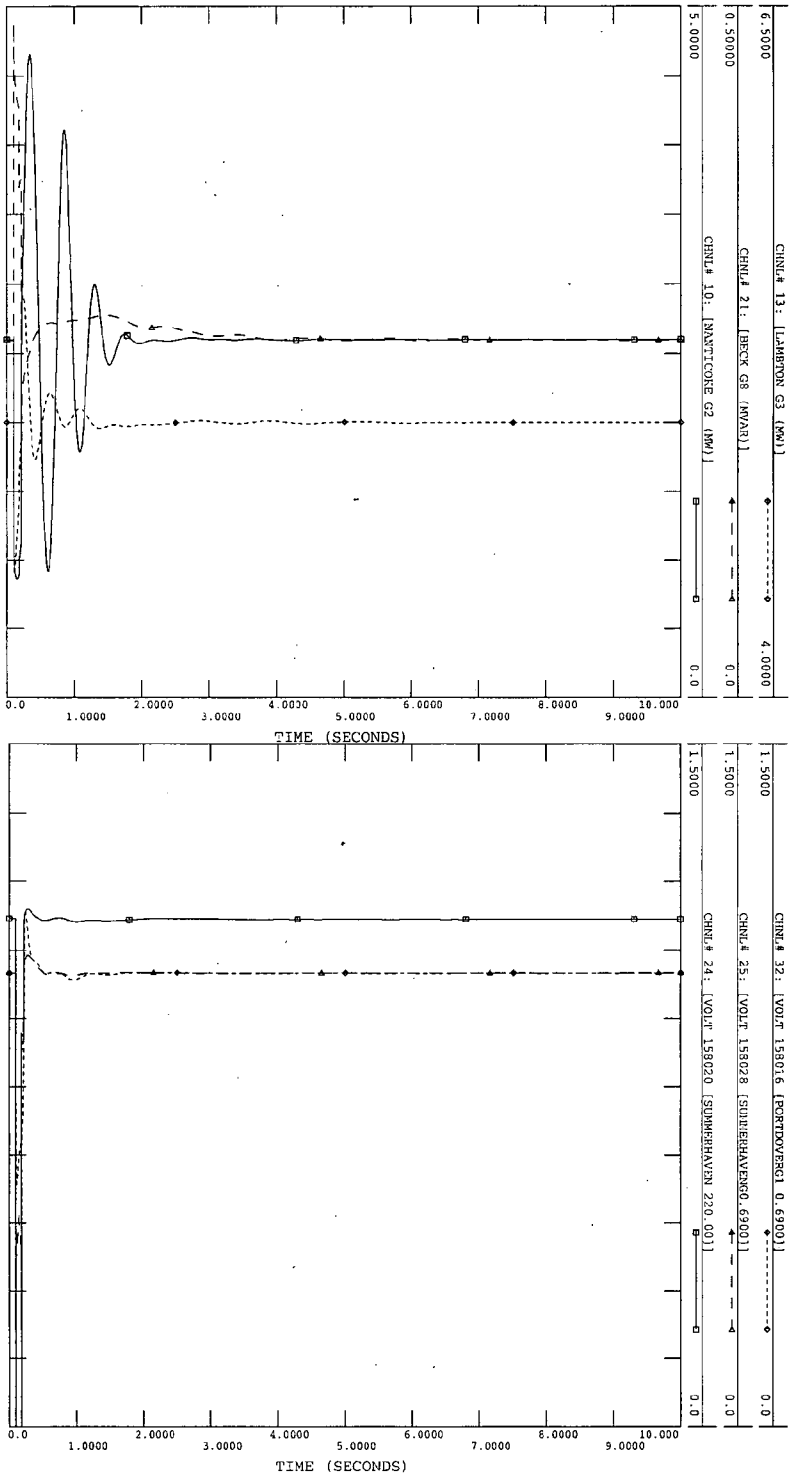
SC5: LLLG Fault on N2M (Nanticoke-Port Dover) at Nanticoke



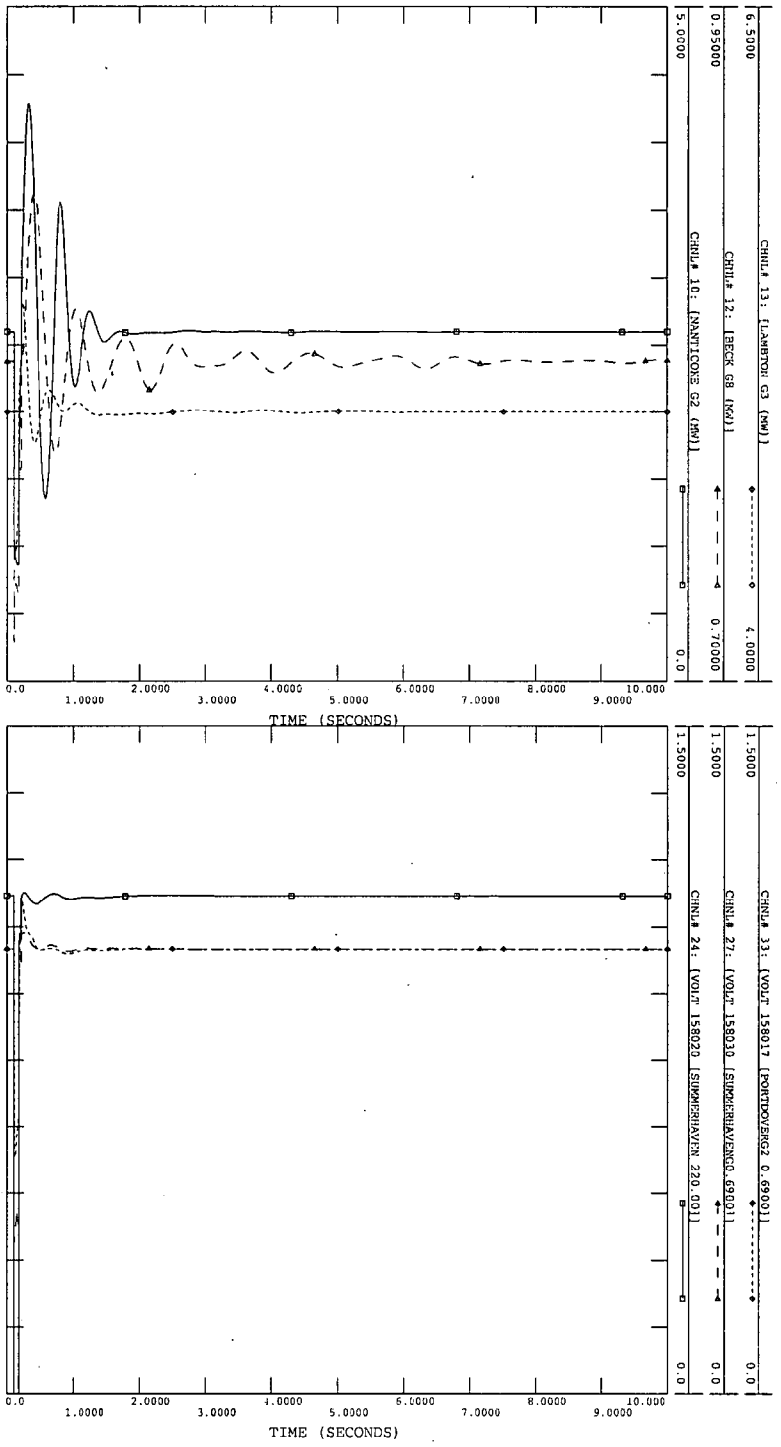
SC6: LLLG Fault on N2M (Nanticoke-Port Dover) at Port Dover



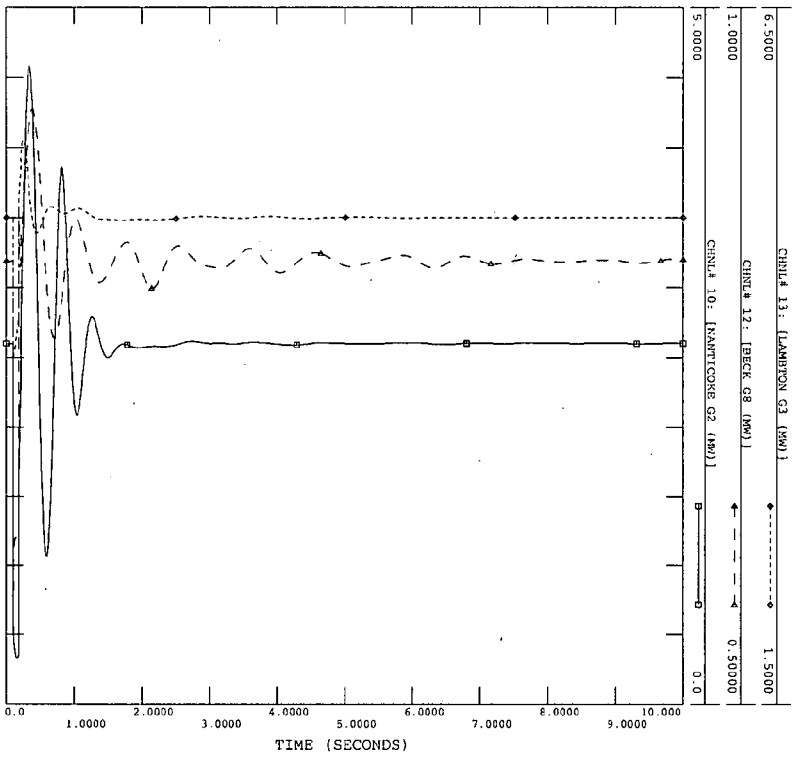
SC7: LLLG Fault on N2M (Port Dover-Middleport) at Port Dover

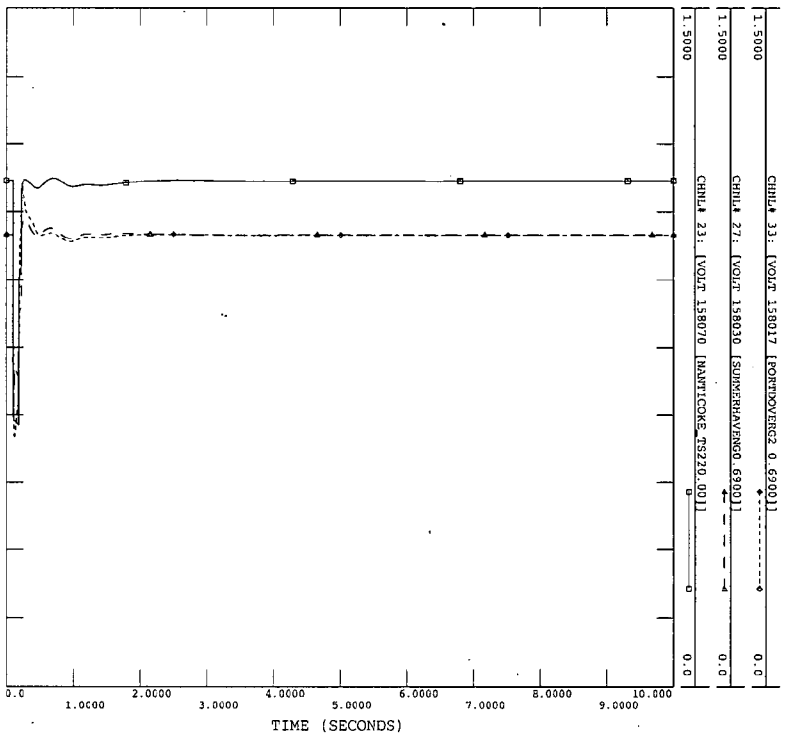


SC8: LLLG Fault on N2M (Port Dover-Middleport) at Middleport

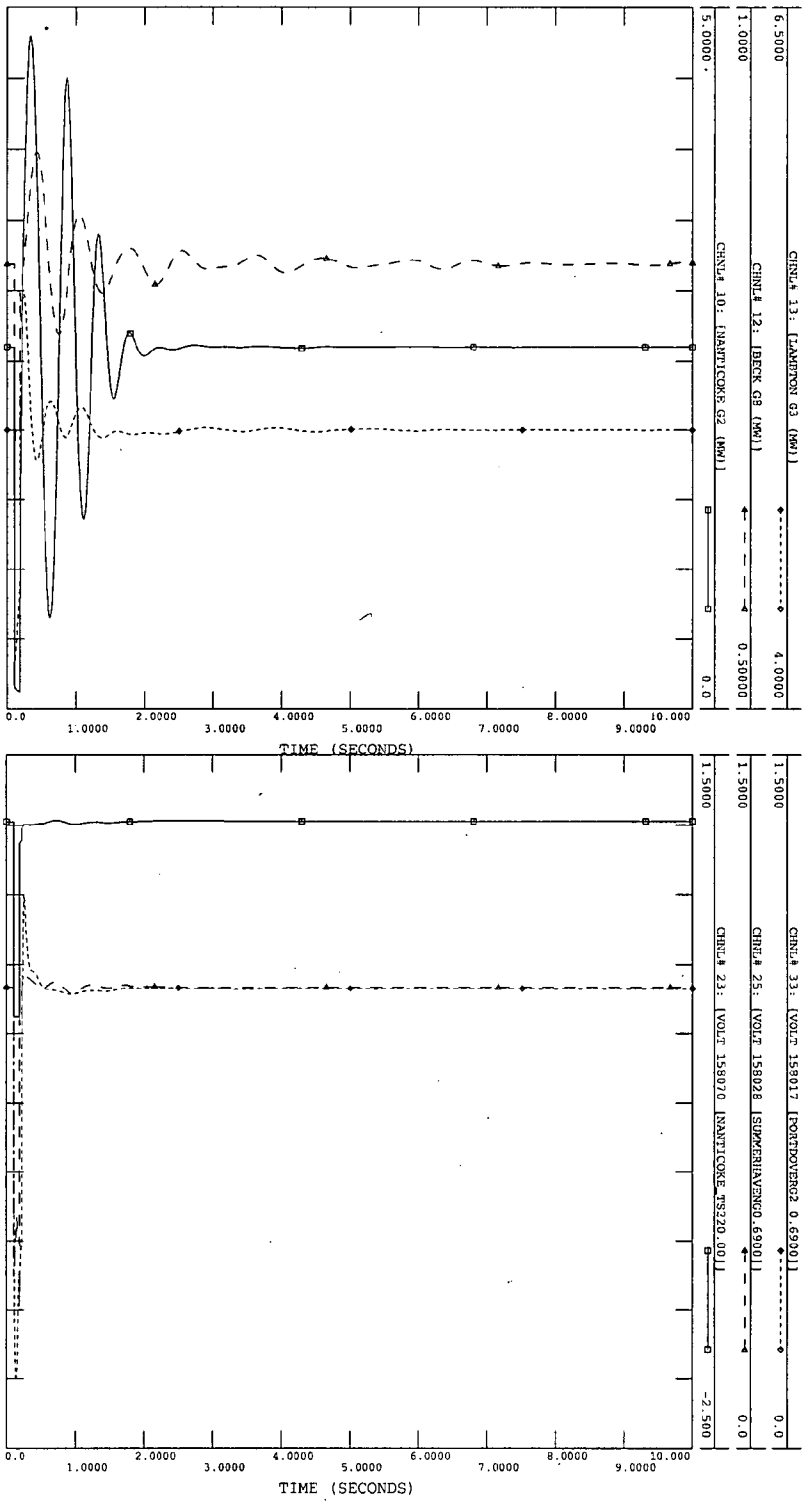


SC9: LLLG Fault on N6M at Nanticoke





SC10: LLLG Fault on M27B at Middleport



Appendix D Protection Impact Assessment

Hydro One Networks Inc.
483 Bay Street
Toronto, Ontario
M5G 2P5

PROTECTION IMPACT ASSESSMENT

SUMMERHAVEN WIND FARM PROJECT

125 MVA WIND FARM GENERATION CONNECTION

Date: September 23, 2010
P&C Planning Group Project #: PCT-081-PIA

Prepared by

Hydro One Networks Inc.

Disclaimer

This Protection Impact Assessment has been prepared solely for the IESO for the purpose of assisting the IESO in preparing the System Impact Assessment for the proposed connection of the proposed generation facility to the IESO–controlled grid. This report has not been prepared for any other purpose and should not be used or relied upon by any person, including the connection applicant, for any other purpose.

This Protection Impact Assessment was prepared based on information provided to the IESO and Hydro One by the connection applicant in the application to request a connection assessment at the time the assessment was carried out. It is intended to highlight significant impacts, if any, to affected transmission protections early in the project development process. The results of this Protection Impact Assessment are also subject to change to accommodate the requirements of the IESO and other regulatory or legal requirements. In addition, further issues or concerns may be identified by Hydro One during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with the Transmission System Code legal requirements, and any applicable reliability standards, or to accommodate any changes to the IESO-controlled grid that may have occurred in the meantime.

Hydro One shall not be liable to any third party, including the connection applicant, which uses the results of the Protection Impact Assessment under any circumstances, whether any of the said liability, loss or damages arises in contract, tort or otherwise.

EXECUTIVE SUMMARY

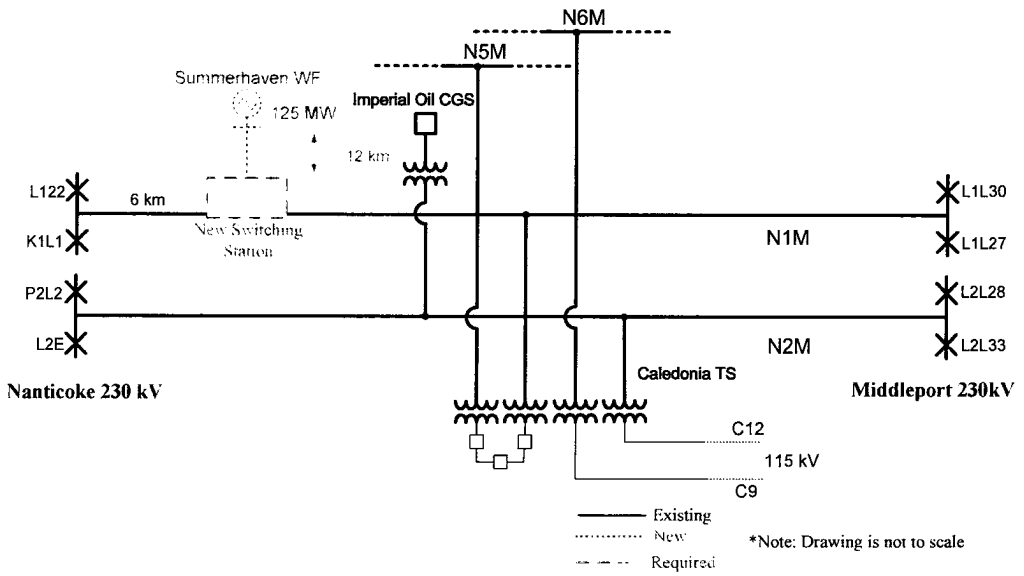


Figure 1: Summerhaven WF Connection to HONI Transmission System

It is feasible for Summerhaven Wind Farm to connect the proposed 125 MW generation at the location in Figure 1 as long as the proposed changes are made:

LINE SECTIONALIZATION

Fault studies have shown that for a fault at the Middleport terminal the relays at Nanticoke terminal will see current reversal. For this condition, only protections at Middleport would provide fault coverage. Tripping at Nanticoke would be via transfer trip or, if communications fail, sequentially after the Middleport terminal opens. When routine maintenance is performed on one of the protection groups at Middleport, a single contingency failure of the remaining in-service protection would result in no fault clearing capability at Nanticoke which is unacceptable. The proponent is willing to connect the wind farm into N1M through a switching station as shown in figure 1. This configuration, which sectionalizes line N1M, represents a solution for the aforementioned problem.

PROTECTION HARDWARE

Due to connection of the new Summerhaven Wind Farm generating facility and the ring-bus connection point, the present distance relays at Nanticoke TS must be replaced with line differential relays and the present relays at Middleport TS must be upgraded to standard line differential or distance relays which will be selected at the design stage. New standard relays will also have to be installed for all three terminals at the new switching station.

PROTECTION SETTING

Line differential is required between Nanticoke TS and the new switching station. The line segment between the new switching station and Middleport TS can be protected either by using line differential or distance relays. All settings will have to be modified accordingly.

TELECOMMUNICATIONS

New telecommunication link(s) need to be established to transmit protection signals among all stations that are required for the reliable fault clearing. The provision of new telecommunication facilities that are required to facilitate this connection (subject to final design considerations) is responsibility of the proponent.

CUSTOMER IMPACT ASSESSMENT

483 Bay Street
Toronto, Ontario
M5G 2P5

CUSTOMER IMPACT ASSESSMENT

SUMMERHAVEN WIND ENERGY CENTRE
124.3MW WIND GENERATION FACILITY
GENERATION CONNECTION
- FINAL -

Revision: Rev 0

Date: 9 November 2010

Issued by: Transmission System Development Division
Hydro One Networks Inc.

Prepared by:

Warren King
Transmission System Development
Hydro One Networks Inc.

Reviewed by:

Farooq Qureshy
Trans. Plans Manager – Central, Eastern
Transmission System Development
Hydro One Networks Inc.

Disclaimer

This Customer Impact Assessment was prepared based on information available about the connection of the proposed Summerhaven Wind Energy Centre. It is intended to highlight significant impacts, if any, to affected transmission customers early in the project development process and thus allow an opportunity for these parties to bring forward any concerns that they may have. Subsequent changes to the required modifications or the implementation plan may affect the impacts of the proposed connection identified in Customer Impact Assessment. The results of this Customer Impact Assessment are also subject to change to accommodate the requirements of the IESO and other regulatory or municipal authority requirements.

Hydro One shall not be liable to any third party which uses the results of the Customer Impact Assessment under any circumstances whatsoever for any indirect or consequential damages, loss of profit or revenues, business interruption losses, loss of contract or loss of goodwill, special damages, punitive or exemplary damages, whether any of the said liability, loss or damages arises in contract, tort or otherwise. Any liability that Hydro One may have to Summerhaven Wind, LP in respect of the Customer Impact Assessment is governed by the Agreement between Summerhaven Wind, LP and Hydro One dated August 31, 2010.

CUSTOMER IMPACT ASSESSMENT

SUMMERHAVEN WIND, LP – SUMMERHAVEN WIND ENERGY CENTRE

124.3 MW WIND GENERATION FACILITY

1 INTRODUCTION

Summerhaven Wind, LP is to develop the 124.3MW Summerhaven Wind Energy Centre ("Summerhaven") in Haldimand County, Nanticoke, Ontario. This project is being developed as part of the Ontario Power Authority's Renewable Energy Feed in Tariff program.

The proposed generating station is to consist of 56 Siemens SWT-2.3-101, 60Hz, 2.556MVA wind turbine generators (WTG). Each generator is to be limited to an output capability of 2.22MW. The generating station will connect Hydro One's transmission system on 230kV circuit N1M near Concession 4, approximately 6km north of Nanticoke TS as shown in Figure 1.

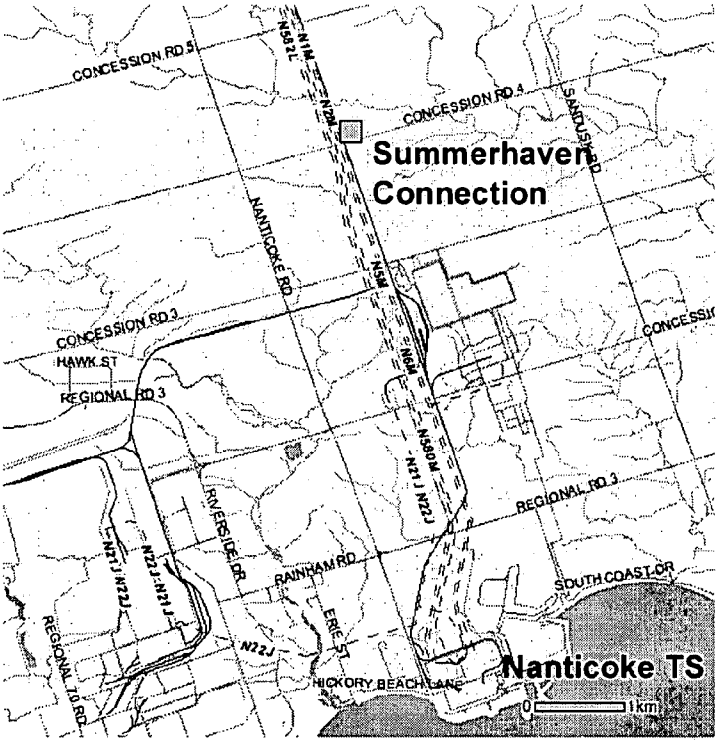


Figure 1: Summerhaven connection to Hydro One's network

As part of the Connection Assessment and Approval (CAA) process, the IESO will carry out a System Impact Assessment (SIA) of the proposed wind generation connection.

Hydro One Networks Inc. (Hydro One) Customer Impact Assessment (CIA) assesses the impact of the proposed generation connection on existing customers in the affected area. This CIA incorporates all comments received during the customer review period which ended on 5 November 2010.

This study does not evaluate the overall impact of the Summerhaven Wind Energy Centre on the bulk system. The impact of the new generator on the bulk system is the subject of the System Impact Assessment issued by the Independent Electricity System Operator (IESO).

The study does not evaluate the impact of the Summerhaven Wind Energy Centre on the network Protection and Control facilities. Protection and Control aspects will be reviewed during the preparation of the Connection cost Estimate and will be reflected in the Connection and Cost Recovery Agreement.

1.1 Generating Station Connection

Summerhaven proposes to connect to Hydro One circuit N1M via a 12km, 230kV transmission line. Circuit N1M connects Nanticoke TS and Middleport TS and supplies customer load at Caledonia TS, a 230/27.6kV DESN station. The study area is shown in Figure 2.

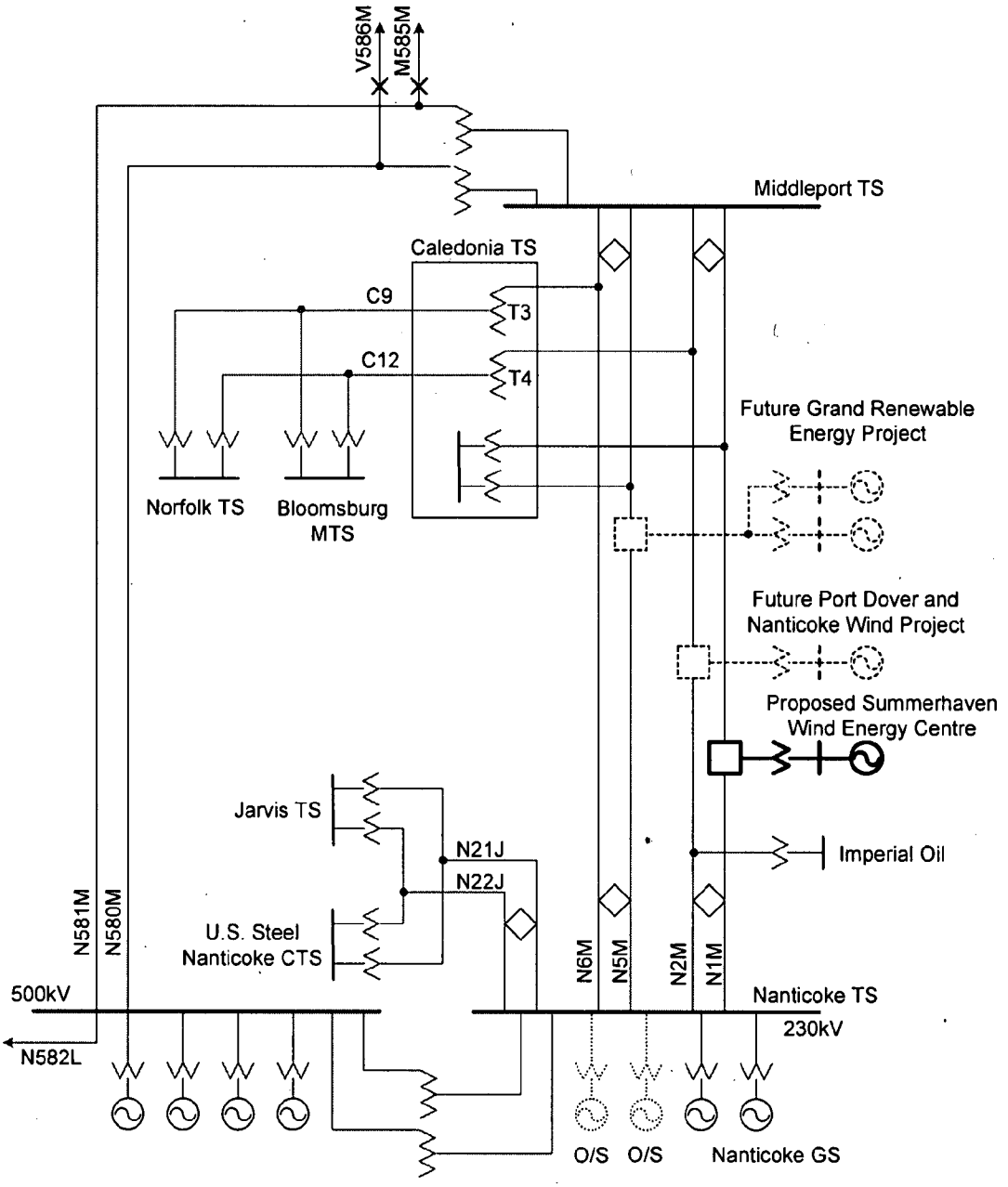


Figure 2: Summerhaven CIA study area

The proposed connection to circuit N1M is shown in Figure 3. The 56 WTGs connect to the customer's 230/34.5kV substation via 5, 34.5kV feeders. The first feeder connects 12 WTGs and four feeders connect 11 WTGs. The IESO requires the installation of a static compensation device of 40Mvar, in steps no larger than 10Mvar, to the collector buses to compensate for electrical losses within the Summerhaven facility[1]. The substation includes a single 230/34.5kV, 84/112/140MVA, Yg-D step up transformer.

[1] IESO Summerhaven System Impact Assessment, CAA ID 2010-388

Each Siemens SWT-2.3-101 WTG is rated at 2.556MVA, +/-0.9pf but limited to 2.22MW.

The 12km customer transmission line will connect to the customer's 230/34.5kV collector substation. This transmission line will connect to N1M in a three breaker ring-bus configuration as shown in Figure 3.

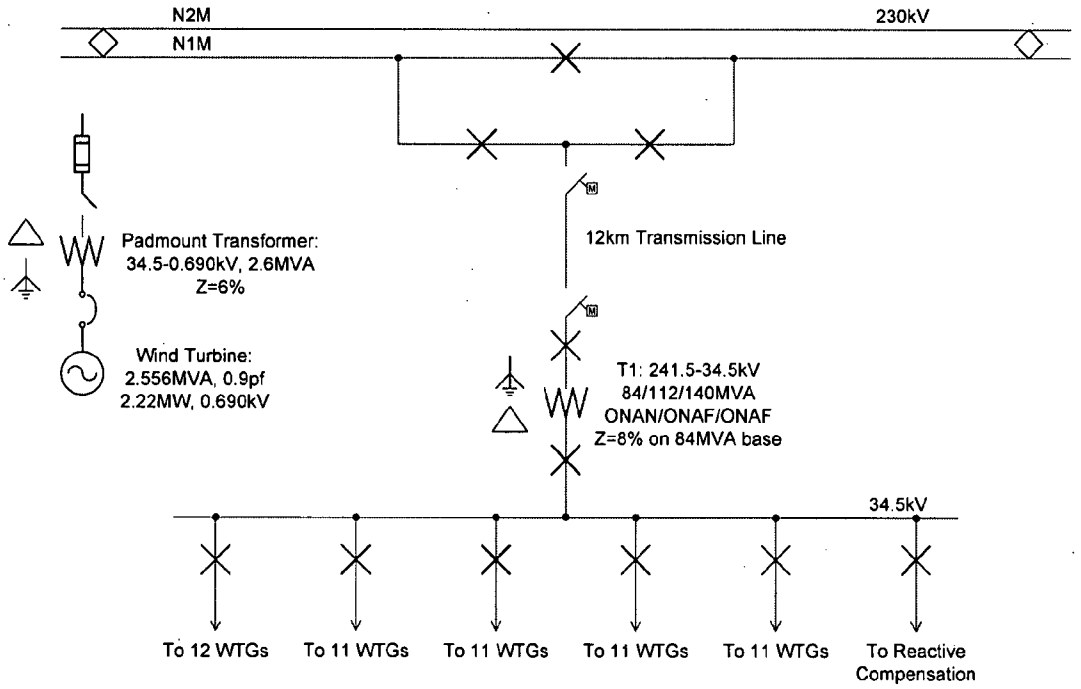


Figure 3: Summerhaven connection to N1M

The proponent for Summerhaven has recently modified the design of their proposed transmission line and collector system. Hydro One will review this new information and issue an addendum to this report if necessary.

1.2 Study Scope

The CIA Study is a requirement of the Ontario Energy Board (OEB) to assess the potential impacts of the proposed Summerhaven Wind Energy Centre on the existing transmission connected customer(s). The following areas are reviewed:

- Supply capacity/reliability
- Voltage and thermal performance
- Short circuit analysis
- Preliminary outage impact assessment

1.3 Customer Connections

The focus of this study was on customers supplied by stations directly connected to circuit N1M and other 230kV circuits originating from Nanticoke TS, as well as the Caledonia 115kV system (circuits C9 and C12). Affected customers are shown in Table 1.

Table 1: Transmission Customers connected in the study area

Station	Customer
Imperial Oil Nanticoke CGS	Imperial Oil Limited - Nanticoke
U.S. Steel Canada - Nanticoke CTS	U.S. Steel Canada Inc.
Jarvis TS	Haldimand County Hydro Inc. Hydro One Networks Inc.
Nanticoke GS	Ontario Power Generation Inc. [Nanticoke GS]
Caledonia TS	Haldimand County Hydro Inc. Hydro One Networks Inc.
Bloomsburg MTS	Norfolk Power Distribution Inc.
Norfolk TS	Norfolk Power Distribution Inc. Hydro One Networks Inc.

2 METHODOLOGY AND CRITERIA

2.1 Planning Criteria

The IESO's Ontario Resource and Transmission Assessment Criteria (ORTAC) forms the basis for the planning criteria used in this CIA.

2.1.1 Voltage Change Limits

With all planned facilities in service pre-contingency, system voltage changes in the period immediately following a contingency shall not result in a voltage decline greater than 10% for pre-transformer tap-changer action (including station loads less than 50kV) and 10% post-transformer tap-changer action (5% for station loads less than 50kV). In addition, the steady state voltage at station loads less than 50kV are to remain within 6% of the nominal voltage.

2.1.2 Short Circuit Limitations

Appendix 2 of the transmission system code (TSC) specifies the maximum symmetrical three phase and single line to ground short circuit levels. These limits are summarized in Table 2.

Table 2: Transmission System Code Short Circuit Limits

Nominal Voltage (kV)	Max. 3 Phase Fault (kA)	Max. SLG Fault (kA)
230	63	80[1]
115	50	50
27.6 (4-wire)	17[2]	12[2]
13.8	21[2]	10[2]

Notes:

(1) Usually limited to 63kA

(2) Effective September 1, 2010, Hydro One requires a 5% margin on the acceptable TSC limits at voltage levels of <50kV to account for other sources of fault current on the distribution system such as unmodeled synchronous motors and data inaccuracies.

2.2 Study Assumptions

Summer 2010 peak loading conditions were assumed in this study.

Hydro One is aware of the following two transmission connected renewable generation projects that intend to connect in the study area after the Summerhaven project:

- Port Dover and Nanticoke Wind Project (connection to circuit N2M) – 105MW
- Grand Renewable Energy Project (connection to circuit N5M) – 240MW

The results of this CIA include the impact of these other two generation projects except for the short circuit results which do not include the contribution from these two other projects.

Nanticoke GS has historically operated with up to 8 units in-service. Two of these units were closed on September 30, 2010. The following future bulk system conditions were assumed in this study:

- Nanticoke GS: 2 units in-service at 240kV, 4 units in-service at 500kV
- Nanticoke TS: 350Mvar SVC at the 500kV bus
- New Bruce to Milton 500kV double circuit transmission line in-service

3 STUDY RESULTS

The proposed Summerhaven Wind Energy Centre is not expected to adversely impact the transmission connected customers in the area. The findings of this CIA are summarized below.

3.1 Supply Capacity/Reliability

The proposed point of connection on circuit N1M has enough capacity to incorporate the plant's full capacity.

The proposed three breaker ring bus station at Summerhaven's point of connection will not adversely affect supply reliability to customers connected to this line.

3.2 Voltage and Thermal Performance

The thermal and voltage study considered the impact of the Summerhaven interconnection on local transmission system. The study included the following contingencies:

- Loss of Summerhaven
- N1M, N2M, N1M and N2M
- N5M, N6M, N5M and N6M
- N21J, N22J, N21J and N22J
- N580M, N581M
- N582L
- Loss of Nanticoke TS 500/230kV autotransformer

The analysis reviewed the effect of contingencies both before and after tap changer action. Both Norfolk TS and Bloomsburg MTS are supplied by the Caledonia 115kV circuits C9 and C12. The loads at these two stations were assumed to be voltage dependent in the before tap changer analysis; constant power loads were assumed in all other cases.

In all of the contingencies studied, the post-contingency voltage changes in the affected area met the criteria outlined in Section 2.1.1. Detailed results are shown in Appendix A. None of the above contingencies resulted in thermal overloads on the affected circuits.

3.3 Short Circuit Analysis

The short circuit analysis reviews the short circuit levels at customer buses with Summerhaven in-service. The incremental short circuit contribution from Summerhaven on customer buses is summarized in Appendix B. All customers are required to check to ensure that the equipment and grounding system at their stations meet the expected increase in fault level.

3.3.1 Impact at Stations Previously Mitigated for Fault Level

Customer Impact Assessment studies conducted for projects that have either previously connected or plan to connect prior to the connection date planned for this project have identified stations at less than 50 kV where the fault level is within 5% of the values in Appendix 2 of the Transmission System Code (TSC), and it is necessary to install measures to reduce the fault level to within acceptable values, or alternatively prohibit connections which either caused or further aggravated this issue. The customer whose project caused the fault level to exceed the TSC limit either funded or will be required to fund the cost of this mitigation measure. The TSC requires that any customer that benefits from such an installation that connects within five calendar years of the in-service date of the mitigation measure also contribute towards the cost of the measure, and that any such payments be refunded to the original contributing customer(s). This Section of this CIA report is to report on the impact that this project has at those previously mitigated stations to see if this project is required to financially contribute to the cost for any of those measures.

Table 3: Summerhaven impact on 3 phase fault levels at stations previously mitigated for fault levels

Station	3ph Sym. Fault level without Summerhaven (kA)	3ph Sym. Fault level with Summerhaven (kA)	Difference
Windsor Walker TS #1	17.55	17.55	0.00
Martindale Z	14.91	14.91	0.00
Caledonia TS	16.51	16.51	0.00
Kingsville TS	16.89	16.89	0.00

Table 4: Summerhaven impact on single line to ground (SLG) fault levels at stations previously mitigated for fault levels

Station	SLG Sym. Fault level without Summerhaven (kA)	SLG Sym. Fault level with Summerhaven (kA)	Difference
Windsor Walker TS #1	3.50	3.50	0.00
Martindale Z	19.78	19.78	0.00
Caledonia TS	9.91	9.91	0.00
Kingsville TS	11.91	11.91	0.00

The results of the fault levels studies in Table 3 and Table 4 show that the Summerhaven project does not have a measureable (>= 0.01kA) impact on the fault level at any of the stations where mitigation measures are necessary to limit fault levels to acceptable values.

3.4 Preliminary Outage Impact Assessment

With appropriate construction and outage planning, it is expected that the connection of Summerhaven can be performed with minimal supply impact to the existing transmission customers.

4 CONCLUSIONS AND RECOMMENDATIONS

This CIA study has reviewed the impact of the Summerhaven Wind Energy Centre on the existing transmission customers in the vicinity of the proposed connection. The results show that this project does not adversely affect existing customers in the area.

All customers are required to check to ensure that the equipment and grounding system at their stations meet the expected increase in fault level.

APPENDIX A

Voltage Study Results

Voltage change was modeled both before and after under load tap changer action was reviewed with Summerhaven, Port Dover and Nanticoke Wind and Grand Renewable Energy Projects in-service. The following contingencies were studied:

- Loss of Summerhaven
- N1M North and South of Summerhaven connection
- N2M North and South of Port Dover Nanticoke Wind connection
- N1M North and N2M North
- N1M North and N2M South
- N1M South and N2M South
- N5M, N6M, N5M and N6M
- N21J, N22J, N21J and N22J
- N580M, N581M
- N582L
- Loss of Nanticoke TS 500/230kV autotransformer

Buses where the voltage change was greater than 2% are shown in the following tables.

Contingency N580M

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Middleport DK1 (230kV)	248.2	242.6	-2.3%	242.2	-2.4%
Caledonia N2M (230kV)	247.6	242.8	-1.9%	242.5	-2.0%
Caledonia N1M (230kV)	247.7	243.0	-1.9%	242.7	-2.0%

Contingency N1M North of Summerhaven Connection

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Caledonia TS (27.6kV)	29.4	28.5	-3.3%	29.2	-0.8%

Contingency N2M North of Port Dover Nanticoke Wind Connection

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Bloomsburg MTS (27.6kV)	27.4	24.9	-9.4%	27.8	1.3%
Norfolk TS (27.6kV)	29.0	26.8	-7.7%	29.4	1.4%
Caledonia C9 (115kV)	125.0	122.0	-2.4%	121.0	-3.2%

Contingency N1M North of Summerhaven, N2M North of Port Dover Nanticoke Wind

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Bloomsburg MTS (27.6kV)	27.4	24.8	-9.7%	27.6	0.6%
Norfolk TS (27.6kV)	29.0	26.7	-8.0%	29.2	0.6%
Caledonia TS (27.6kV)	29.4	28.4	-3.6%	29.1	-1.3%
Caledonia C9 (115kV)	125.0	121.6	-2.7%	120.5	-3.7%

Contingency N1M North of Summerhaven, N2M South of Port Dover Nanticoke Wind

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Caledonia TS (27.6kV)	29.4	28.4	-3.4%	29.1	-1.0%

Contingency N6M

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Bloomsburg MTS (27.6kV)	27.4	24.8	-9.5%	27.7	1.1%
Norfolk TS (27.6kV)	29.0	26.5	-8.6%	29.4	1.4%
Caledonia C12 (115kV)	125.3	122.0	-2.6%	121.0	-3.4%

Contingency N5M

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Caledonia TS (27.6kV)	29.4	28.5	-3.1%	29.3	-0.6%

Contingency N5M, N6M

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Bloomsburg MTS (27.6kV)	27.4	24.8	-9.6%	28.0	1.9%
Norfolk TS (27.6kV)	29.0	26.5	-8.8%	29.3	1.0%
Caledonia TS (27.6kV)	29.4	28.5	-3.4%	29.2	-1.0%
Caledonia C12 (115kV)	125.3	121.9	-2.7%	120.7	-3.6%

Contingency N21J

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
Jarvis TS (27.6kV)	29.3	28.6	-2.5%	29.3	-0.1%
US Steel A1A2 (13.8kV)	14.7	14.3	-2.4%	14.5	-1.4%
US Steel B1B2 (13.8kV)	14.7	14.3	-2.4%	14.5	-1.4%

Contingency N22J

Bus	Initial Voltage (kV)	Before ULTC (kV)	Change	After ULTC (kV)	Change
US Steel A1A2 (13.8kV)	14.7	14.3	-2.4%	14.5	-1.4%
US Steel B1B2 (13.8kV)	14.7	14.3	-2.4%	14.5	-1.4%
Jarvis TS (27.6kV)	29.3	28.6	-2.4%	29.0	-1.2%

APPENDIX B

Short Circuit Analysis

			Before Summerhaven (kA)				After Summerhaven (kA)				Incremental (kA)				Limiting Breaker Rating (kA)	
			3 Phase		L-G		3 Phase		L-G		3-Phase		L-G			
Bus #	Bus Name	Max kV	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym	Sym	Asym
5954	Bloomsburg JQ	29.0	6.763	7.509	5.655	6.887	6.763	7.509	5.655	6.887	0.000	0.000	0.000	0.000	(2)	(2)
5415	Bloomsburg T2	127.1	3.236	3.451	1.966	2.032	3.237	3.452	1.966	2.032	0.001	0.001	0.000	0.000	-	-
5411	Bloomsburg T1	127.0	3.238	3.453	1.961	2.028	3.238	3.453	1.961	2.028	0.000	0.000	0.000	0.000	-	-
5968	Caledonia BY	29.0	16.505	21.629	9.906	13.924	16.508	21.633	9.907	13.925	0.003	0.004	0.001	0.001	22.00	23.10
6271	Imperial Oil Nanticoke	29.0	13.120	17.694	1.280	1.460	13.121	17.696	1.280	1.460	0.001	0.002	0.000	0.000	(2)	(2)
5145	Imperial Oil Nanticoke	250.0	28.803	36.855	24.766	30.013	28.943	37.010	25.012	30.252	0.140	0.155	0.246	0.239	-	-
6083	Jarvis BY[1]	29.0	14.338	18.286	9.168	12.684	14.34	18.288	9.168	12.685	0.002	0.002	0.000	0.001	22.00	23.10
5105	Nanticoke	250.0	40.869	58.139	40.066	59.493	41.174	58.548	40.758	60.458	0.305	0.409	0.692	0.965	(2)	(2)
5003	Nanticoke	550.0	30.684	42.68	32.781	47.489	30.750	42.773	32.913	47.669	0.066	0.093	0.132	0.180	(2)	(2)
6164	Norfolk BY	29.0	8.563	8.563	7.824	8.527	8.564	8.564	7.824	8.528	0.001	0.001	0.000	0.001	9.60	9.95
6230	US Steel A	14.2	19.679	26.154	0.752	0.752	19.684	26.160	0.752	0.752	0.005	0.006	0.000	0.000	(2)	(2)
6231	US Steel B	14.2	19.679	26.154	0.752	0.752	19.684	26.160	0.752	0.752	0.005	0.006	0.000	0.000	(2)	(2)
5279	US Steel D1	250.0	22.196	28.582	18.364	22.039	22.285	28.682	18.507	22.178	0.089	0.100	0.143	0.139	-	-
5280	US Steel D2	250.0	22.196	28.583	18.392	22.067	22.285	28.682	18.536	22.206	0.089	0.099	0.144	0.139	-	-

Notes:

(1) Includes current limiting reactors being installed at Jarvis TS

(2) Customer to check and verify breaker rating

(3) Contact parting times used are as follows: 230kV and higher buses: 25ms, Norfolk BY 27.6kV: 50ms, all other buses: 33ms

LETTER FROM IESO

December 7, 2010

ieso
Power to Ontario.
On Demand.
Station A, Box 4474
Toronto, ON
M5W 4E5

Mr. Ben Greenhouse
Project Director
Summerhaven Wind LP. Care of NextEra Energy
5500 North Service Road
Burlington Ontario
L7L 6W6 Canada

Dear Mr. Greenhouse:

Summerhaven Wind Energy Centre
CAA ID Number: 2010-388

Thank you for the updated information regarding the proposed Summerhaven Wind Energy Centre.

The System Impact Assessment for Summerhaven Wind Energy Centre was completed (CAA ID 2010 - 388) on November 4, 2010. Recently, you submitted a modified design of the Summerhaven WGS to the IESO and Hydro One. The proposed changes involve the collector system and the shortening the 230 kV connection line from 12 km to 9 km.

The IESO have reviewed the proposed changes and examined their impact on the conclusions and requirements in the SIA report. The IESO concluded that the proposed design changes for the Summerhaven Wind Energy Centre do not materially affect the results of the SIA. Therefore the final SIA report dated November 04, 2010 remains valid and does not need to be amended.
Hydro One also advised the IESO that the proposed changes do not materially alter the results of the CIA report dated November 09, 2010, and there is no need to issue an amendment to that report.

For further information, please contact the undersigned.

Yours truly,

Barbara Constantinescu
Manager – Market Facilitation
Telephone: (905) 855-6406
Fax: (905) 855-6319
E-mail: barbara.constantinescu@ieso.ca

CONNECTION PROJECT IMPACTS ON TRANSMISSION SYSTEM

48. No network reinforcements are required for the Facility. The Applicant does not attribute any market efficiency benefits to the Facility and therefore has not included any quantification of these benefits.

Ontario Energy Board

Notice of Proposal under Sections 80 and 81 of the *Ontario Energy Board Act, 1998 (the "OEB Act")*

PART I: GENERAL MINIMUM FILING REQUIREMENTS

All applicants must complete and file the information requested in Part I.

1.1 Identification of the Parties

1.1.1 Applicant

Name of Applicant Summerhaven Wind, LP	File No: (Board Use Only)	
Address of Head Office 5500 North Service Road Suite 205 Burlington ON L7L 6W6	**Telephone Number** 905-335-4904	
	Facsimile Number 905-335-5731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	
Name of Individual to Contact Ben Greenhouse	**Telephone Number** 905-335-4904 ext. 13	
	Facsimile Number 905-335-4731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	

1.1.2 Other Parties to the Transaction or Project

If more than one attach list

Name of Applicant	File No: (Board Use Only)

Bornish-Conestogo LP, Inc.		
Address of Head Office 5500 North Service Road Suite 205 Burlington ON L7L 6W6	**Telephone Number** 905-335-4904	
	Facsimile Number 905-335-5731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	
Name of Individual to Contact Ben Greenhouse	**Telephone Number** 905-335-4904 ext. 13	
	Facsimile Number 905-335-4731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	

Name of Applicant Strathroy Wind GP, Inc.	File No: (Board Use Only)	
Address of Head Office 5500 North Service Road Suite 205 Burlington ON L7L 6W6	**Telephone Number** 905-335-4904	
	Facsimile Number 905-335-5731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	
Name of Individual to Contact Ben Greenhouse	**Telephone Number** 905-335-4904 ext. 13	
	Facsimile Number 905-335-4731	
	E-mail Address Ben.greenhouse@nexteraenergy.com	

1.2 Relationship between Parties to the Transaction or Project

1.2.1 ***Attach a list of the officers, directors and shareholders of each of the parties to the proposed transaction or project.***

Summerhaven Wind, LP has no directors or officers. The holders of its limited partnership shares are:

(1) Bornish-Conestogo LP, Inc. and

(2) Strathroy Wind GP, Inc., its general partner

Below is a list of the officers and directors for each of Bornish-Conestogo LP, Inc. and Strathroy Wind GP, Inc.

Bornish-Conestogo, LP

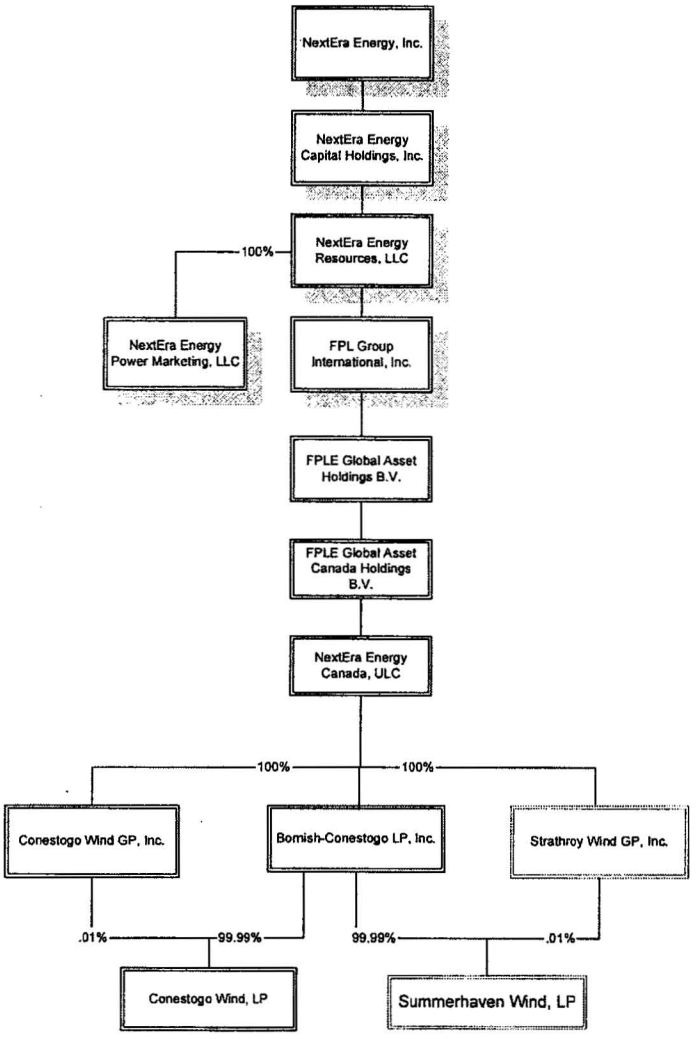
Name	Title	Title Role	Status
Gosselin, Dean R.	Director	Director	Active
Ketchum, John W.	Director	Director	Active
Schultz, Charles S.	Director	Director	Active
Sorensen, Mark R.	Director	Director	Active
Ketchum, John W.	President	Officer	Active
Gosselin, Dean R.	Vice President	Officer	Active
Sorensen, Mark R.	Treasurer	Officer	Active
Schultz, Charles S.	Secretary	Officer	Active

Strathroy Wind GP, Inc.

Name	Title	Title Role	Status
Davidson, F. Mitchell	Director	Director	Active
Tuscai, TJ	Director	Director	Active
Davidson, F. Mitchell	President	Officer	Active
Gosselin, Dean R.	Vice President	Officer	Active
O'Sullivan, Michael	Vice President	Officer	Active
Tuscai, TJ	Vice President	Officer	Active
Wiley, F. Allen	Vice President	Officer	Active
Cribbs, Richard	Treasurer	Officer	Active
Suncine, Kevin T	Secretary	Officer	Active

1.2.2 ***Attach a corporate chart describing the relationship between each of the parties to the proposed transaction or project and each of their respective affiliates.***

Summerhaven Wind, LP - Ownership Structure



1.3 Description of the Businesses of Each of the Parties

1.3.1	***Attach a description of the business of each of the parties to the proposed transaction or project, including each of their affiliates licenced under the OEB Act to operate in Ontario for the generation, transmission, distribution, wholesaling or retailing of electricity or providing goods and services to companies licenced under the OEB Act in Ontario ("Electricity Sector Affiliates").***	
	The Applicant, Summerhaven Wind, LP, is a special purpose vehicle established for the purpose of developing, constructing and operating the Summerhaven Wind Energy Centre ("**SWEC**"). The Applicant was successful in obtaining a power purchase agreement with the Ontario Power Authority ("**OPA**") under the OPA's feed-in-tariff program for the energy generated by the SWEC. The SWEC is a 125 MW wind power generating facility that is to be located in Haldimand County. Upon completion of the SWEC, the Applicant will be the licenced owner and operator. The Applicant will also own and operate the interconnection facilities (the "**Facility**") used to connect the SWEC to the IESO-controlled grid (the SWEC and the Facility referred to collectively as the "**Summerhaven Project**"). The Applicant is affiliated with NextEra Energy Power Marketing, LLC ("**NextEra EPM**"). NextEra EPM is in the business of purchasing and selling physical and financial energy commodities. Apart from NextEra EPM, the Applicant does not have any affiliates that are currently licenced under the OEB Act. However, an affiliate of the Applicant, Conestogo Wind, LP has entered into a FIT contract with the OPA for a 23 MW wind generating facility (the "**Conestogo Project**") and will be seeking a generating licence from the OEB prior to commercial operation of said project.	
1.3.2	***Attach a description of the geographic territory served by each of the parties to the proposed transaction or project, including each of their Electricity Sector Affiliates, if applicable, and the geographic location of all existing generation facilities.***	
	The Summerhaven Project will be located in Haldimand County, along the shores of Lake Erie from the town of Jarvis to Nelles Corners, south of Highway 3. The Summerhaven Project will cover an area of approximately 23,000 acres of contiguous land, of which 303 acres will be used to host components of the Summerhaven Project. The power generated by SWEC will flow directly onto the IESO-controlled grid via the Facility, therefore no particular service territory exists for the Summerhaven Project. NextEra EPM does not have a geographic service territory. None of the Applicant's affiliates currently own or operate electricity generation or transmission in Ontario. One of the Applicant's affiliates, Conestogo Wind, LP, is however, developing the Conestogo Project near the town of Conestogo, north of Waterloo.	

1.3.3	***Attach a breakdown of the annual sales (in C$, and in MWh) as of the most recent fiscal year end of the existing generation output among the IESO Administered Markets ("IAM"), bilateral contracts, and local distribution companies.***	
	To date, neither the Applicant nor any of its affiliates, including Conestogo Wind, LP have any generating capacity in Ontario. Accordingly, neither the Applicant nor any of its affiliates have generated revenues from the sale of electricity in Ontario. It is expected that the Summerhaven Project will attain commercial operation and begin generating revenue under the FIT Contract in January 2012.	
1.3.4	***Attach a list identifying all relevant Board licences and approvals held by the parties to the proposed transaction or project and each of their Electricity Sector Affiliates, and any applications currently before the Board, or forthcoming. Please include all Board file numbers.***	
	Applicant i. An application for a leave to construct transmission facilities is being filed concurrently with this Notice of Proposal (Board file number to be assigned) ii. An application for a generating licence will be submitted to the Board upon receipt of the Notice to Proceed for the Summerhaven Project, as per the Board's application instructions for FIT Project generation licences (Board file number to be assigned). NextEra EPM i. Electricity Wholesaler Licence EW-2009-0076, valid until May 12, 2014. Issued pursuant to Board decision EB-2009-0076, dated May 13, 2009. Conestogo Wind, LP i. An application for a generating licence will be submitted to the Board upon receipt of the Notice to Proceed for the Conestogo Project from the OPA, as per the Board's application instructions for FIT Project generation licences (Board file number to be assigned)	

1.4 Current Competitive Characteristics of the Market

1.4.1	***Describe the generation capacity (in MW), within the Province of Ontario, of the parties to the proposed transaction or project, including each of their respective Electricity Sector Affiliates, prior to the completion of the proposed transaction or project.***	
	To date, neither the Applicant nor any of its affiliates have any generating capacity in the Ontario.	
1.4.2	***Describe the generation market share based on actual MWh production as a percent of the Annual Primary Demand, within the Province of Ontario, of the parties to the proposed transaction or project, including each of their respective Electricity Sector Affiliates, prior to completion of the proposed transaction or project.***	
	Prior to the completion of the Summerhaven Project the Applicant will have zero percent market share. Prior to the completion of the Conestogo Project, Conestogo Wind, LP will have zero percent market share.	

1.5 Description of the Proposed Transaction or Project and Impact on Competition - General

1.5.1	***Attach a detailed description of the proposed transaction or project, including geographic locations of proposed new transmission or distribution systems, or new generation facilities.***	
	The Summerhaven Project is a proposed 124.4 MW wind energy generation facility which was awarded a Feed in Tariff contract by the OPA in April 2010. The IESO and Hydro One Networks Inc. ("**HONI**") have issued their final system impact assessment and customer impact assessment, respectively, approving the Summerhaven Project. The Summerhaven Project will be located in Haldimand County, in southern Ontario. The Facility is being proposed in order to connect the SWEC to the IESO -controlled transmission grid, specifically, HONI's N1 transmission line. The Facility will consist of the following components: 1) a newly constructed transforming substation which will step-up the voltage from 34.5 kV to 230 kV, comprising of a single 84/112/140 MVA, Yg-D step up transformer; 2) a 230 kV transmission line, comprising of a single circuit overhead line extending from the transforming substation to the point of interconnection at a proposed switchyard as described below, a length of approximately 9 km; and 3) a newly constructed switchyard, owned by HONI, in a three breaker ring-bus configuration, connecting to HONI's N1M 230kV circuit. The Facility is more fully described in the Applicant's leave to construct application.	
1.5.2	***Describe the generation capacity (in MW), within the Province of Ontario, of the parties to the proposed transaction or project, including each of their respective Electricity Sector Affiliates, after the completion of the proposed transaction or project.***	
	The Summerhaven Project is projected to have a nameplate generation capacity of 124.4 MW. The Conestogo Project is projected to have a nameplate generation capacity of 23 MW.	
1.5.3	***Describe the generation market share based on anticipated MWh production as a percentage of the Annual Primary Demand, within the Province of Ontario, of the parties to the proposed transaction or project, including each of their respective Electricity Sector Affiliates, after the completion of the proposed transaction or project.***	
	According to IESO market data, the total electricity consumption for 2010 reached 142 TWh, up from 139 TWh in 2009. The output from the SWEC, combined with the output from the Conestogo Project will represent approximately 0.31% of the Annual Primary Demand once both projects are	

	fully operational.	
1.5.4	***Attach a short description of the impact, if any, of the proposed transaction or project on competition. If there will be no impact on competition, please state the reasons. Cite specifically the impacts of the proposal on customer choice regarding generation, energy wholesalers, and energy retailers.***	
	Other than making use of available grid capacity (IESO-controlled), the Summerhaven Project will have no impact on competition since (a) the Applicant has entered into a fixed-price power purchase agreement with the OPA, (b) the Facility will be used exclusively to connect the SWEC to the IESO-controlled grid, and (c) the Facility and the SWEC are being financed by the Applicant as opposed to directly by rate payers. The development of the Summerhaven Project will not affect the choice of consumers since power generated from the Summerhaven Project is being flowed directly to the IESO-controlled grid for general consumption.	
1.5.5	***Provide confirmation that the proposed transaction or project will have no impact on open access to the transmission or distribution system of the parties or their affiliates. If open access will be affected explain how and why.***	
	Open access of the transmission system and distribution system (owned and operated by Haldimand County Hydro) will not be impacted by the SWEC or the Facility.	

1.6 Other Information

1.6.1	***Attach confirmation that the parties to the proposed transaction or project are in compliance with all licence and code requirements, and will continue to be in compliance after completion of the proposed transaction or project.***	
	The Applicant and its affiliates are in compliance with all licence and code requirements, and will continue to be in compliance after completion of the Summerhaven Project and the Conestogo Project.	

PART II: SECTION 80 OF THE ACT – TRANSMITTERS AND DISTRIBUTORS ACQUIRING AN INTEREST IN GENERATORS OR CONSTRUCTING A GENERATION FACILITY

All applicants filing a Notice of Proposal under section 80 of the Act must complete and file the information requested in Part II.

2.1 Effect on Competition

2.1.2	Describe whether the proposed generation output will be primarily offered into the IAM, sold via bilateral contracts, or for own use.	
2.1.3	Provide a description of the generation including fuel source, technology used, maximum capacity output, typical number of hours of operation in a year, and peaking versus base-load character.	
2.1.4	Provide details on whether the generation facility is expected to be a "must run" contract with the IESO.	
2.1.5	Provide details of whether the generation facility is expected to serve a "load pocket", or is likely to be "constrained on" due to transmission constraints.	

2.2 System Reliability

Section 2.2 must be completed by applicants who are claiming that the proposed transaction or project is required for system reliability under clause 82(2)(b) of the Act.

2.2.1	Provide reasons why the proposal is required to maintain the reliability of the transmission or distribution system. Provide supporting studies.	
2.2.2	Discuss the effect of the proposal on the adequacy (ability of supply to meet demand) of supply in the relevant control area or distribution region, citing effects on capacity plus reserve levels in comparison to load forecasts.	
2.2.3	Discuss the effect of the proposal on the security (ability of supply to respond to system contingencies) of supply.	
2.2.4	Provide a copy of the IESO Preliminary System Impact Assessment Report, if completed, and the IESO Final System Impact Assessment Report, if completed. If the IESO is not conducting a System Impact Assessment Report, please explain.	

PART III: SECTION 81 OF THE ACT - GENERATORS ACQUIRING AN INTEREST IN OR CONSTRUCTING A TRANSMISSION OR DISTRIBUTION SYSTEM

All applicants filing a Notice of Proposal under section 81 of the Act must complete and file the information requested in Part III.

3.1 Effect on Competition

3.1.1	***Provide a description of the transmission or distribution system being acquired or constructed.***	
	Please see 1.5.1. for a description of the transmission system being constructed.	
3.1.2	***Provide details on whether the generation facilities owned by the acquiring company are or will be directly connected to the transmission or distribution system being acquired or constructed.***	
	The SWEC will be directly connected to the Facility. The Facility will connect to the IESO-controlled grid, specifically, HONI's N1 transmission line.	
3.1.3	***Provide details of whether the generation facility is expected to serve a "load pocket", or is likely to be "constrained on" due to transmission constraints.***	
	The Summerhaven Project is not expected to serve a load pocket. Given that it is classified as an "intermittent generator" under the IESO Market Rules, the Summerhaven Project is not expected to be constrained on due to transmission constraints.	
3.1.4	***Provide details on whether the generation facilities are expected to sign a "must-run" contract with the IESO.***	
	Given that it is classified as an "intermittent generator" under the IESO Market Rules, the Summerhaven Project will not enter into a reliability must-run contract with the IESO.	