

**Amherst Island Wind Energy
Project - Renewable Energy
Approval Amendment
Modification Report #2**



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**AMHERST ISLAND WIND ENERGY PROJECT - RENEWABLE ENERGY APPROVAL AMENDMENT
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Introduction
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1.0 Introduction

1.1 BACKGROUND

Windlectric Inc. (the Proponent or Windlectric) submitted a Renewable Energy Approval (REA) Application on April 18, 2013 to develop, construct and operate the Amherst Island Wind Energy Project (the Project) within Loyalist Township (the Township) in the County of Lennox and Addington (the County) in eastern Ontario, in response to the Government of Ontario's initiative to promote the development of renewable electricity in the province. Since submission of the REA Application, Windlectric filed a Modification Report to the Ministry of the Environment and Climate Change (MOECC), dated June 2014 and submitted to the MOECC on July 3, 2014

The basic components of the proposed Project include up to 36 Siemens wind turbines. The turbine model proposed utilizes the same 36 turbine pad locations that have been subject to the assessment required under the Renewable Energy Approval (REA). The layout includes 24 Siemens SWT-2.3-113 2300 kW and twelve (12) Siemens SWT-2.3-113 2221 kW model wind turbines. The final layout will result in a total installed nameplate capacity of approximately 56 - 75 MW. The number of wind turbines will be dependent upon final selection of the model of the wind turbine most appropriate to the proposed Project.

The proposed Project will also include a 34.5 kilovolt (kV) underground and/or overhead electrical power line collector system, fibre optic data lines from each turbine and/or wireless technology for the communication of data, a transmission line, truck turnaround areas, a submarine cable, an operations and maintenance building, permanent dock, a substation, a switching station, an un-serviced storage shed, one connection point to the existing electrical system, cable vault areas, meteorological tower(s) (met tower(s)), access road(s) to the met tower site(s), and turbine access roads with culvert installations, as required, at associated watercourse crossings.

Temporary components during construction may include staging areas for the turbines, access roads, met tower(s), collector lines and transmission line as well as crane paths, a temporary dock, site office(s), batch plant, central staging areas, and associated watercourse crossings. The electrical power line collector system would transport the electricity generated from each turbine to the substation, along the submarine cable to the mainland and then to a switching station located near to an existing Hydro One Networks Inc. (HONI) 115 kV transmission line.

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The REA application considered the following alternative Project configurations:

- two alternative mainland transmission line routes;
- two alternative switching station locations and corresponding point of common coupling with the HONI line;
- three alternative mainland temporary dock locations along the mainland;
- a submarine cable with three alternative submarine cable routes near the mainland;
- three alternative mainland submarine cable landing locations and corresponding cable vault locations;
- up to three alternative met tower locations; and,
- up to three potential locations for an operations and maintenance building.

Final selection of the sites to be used would be based on the results of consultation activities, detailed design / engineering work, and the conditions experienced during construction.

Windlectric is making a technical modification to the REA Application as a result of feedback received from the MOECC.

This report and its attachments provide information regarding the minor modification. Based on the information set out below, the minor modification is a Technical Change pursuant to the classification system outlined in the Ministry of the Environment's *Technical Guide to Renewable Energy Approvals* (October, 2013). As such, this document has been prepared to address the requirements of Chapter 10 "Making Changes to REA Projects" of the Technical Guide.

1.2 SUMMARY AND RATIONALE FOR MINOR MODIFICATION

1.2.1 Modification #1 – Technical Change

The MOECC recently contacted Algonquin Power regarding an additional noise receptor ("Bunkie") located on Lot 11, Front Road Amherst Island. The agency received information from the property owner that his Bunkie had not been considered in the project Noise Assessment Report as a receptor (Note: the closest turbine is more than 600 meters from the supposed Bunkie). Despite evidence to support the opinion of Windlectric that the Bunkie is not a receptor, the MOECC has indicated that based on information they have received, a revised project noise report, with associated supporting spreadsheet and modelling data, should be submitted to consider the Bunkie as a noise receptor.

A revised noise assessment report has been prepared including the Bunkie as a receptor for the analysis. Three turbines were required to be de-rated to ensure compliance with the MOECC noise guidelines. The de-rating results in reductions in power level and maximum sound emissions from each turbine.

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Turbines 7, 18 and 26 will, as a result of this change, now be SWT-2.3-113 2221 kW model wind turbines which are the same turbine model as the 12 de-rated turbines assessed in the REA application. No new turbine model will be required for the project. The new layout therefore includes 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines.

The revised Noise Assessment Report is presented in Appendix A and discussed in the following sections.

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Results of Effects Assessment for the Project Modification
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2.0 Results of Effects Assessment for the Project Modification

O. Reg. 359/09 requires that any adverse environmental effects that may result from construction, installation, operation and maintenance activities be described. The term “environment” in O. Reg. 359/09 has the same meaning as in the *Environmental Protection Act*, and includes the natural, physical, cultural, and socio-economic environment.

A screening to identify any new environmental effects that would require additional mitigation or monitoring measures beyond those outlined in the REA documents as a result of the proposed modification to the Project was completed.

No new infrastructure is being proposed in this modification, only the reduction in noise emission and electrical power level resulting from de-rating turbines. The technical change described above will result in a reduction in noise emissions during operations.

Construction and installation methods of the turbines will be completed in the same manner as the turbines which have already been assessed as part of the REA Application and the work will be completed within previously assessed areas, no new environmental effects are expected.

2.1 IMPACTS ON STUDIES/ REA REPORTS

A summary of the text and Figures to be amended in each REA report is described in the sections below.

2.1.1 Noise Assessment Report

The following is a list of the Tables, Figures and Appendices that were revised in the Noise Assessment Report.

Revised Noise Assessment Report	Section, Table, Figure
Table B.1	Updated to reflect change of WTG model for S07, S18 and S26
Table C.1	Updated to add Receptor R727 and show reduced noise levels due to turbine change
Table C.2	Updated to show reduced noise levels due to turbine change
Figures A.1 and A.1	Updated to include R727
Figures C.1, C.2 and C.3	Updated to include R727 and show revised 40dBA contour
Appendix B	Updated Contract Acoustic Emissions documents and added additional documents provided by Siemens: <ul style="list-style-type: none">• Summary SWT-2.3-113 Rev 1 P6.024.12 Test Report Summary• Amherst Island MOE Acoustic Letter from Siemens

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2.1.2 Summary of Impacts/Changes to REA Reports and Studies

The following table provides a list of the REA reports and studies that were reviewed by MOE, and notes whether changes to the reports are required due to the modification proposed. As well, an outline of the specific changes or the justification for no change being required is provided. Any changes to the reports have been addressed by issuance of this Modification Report and its appendices.

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Table 1: Summary of Impacts/Changes to REA Reports & Studies			
REA Reports & Studies	Change (Yes/No)	Figure No.	Discussion of change / Justification for 'no' change
REA REPORTS			
Project Description Report	Yes	5	Sections 1.1 and 3.1 – update the number of each turbine model (i.e. 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines) Figure 5 to be updated. See Appendix B for revised figure.
Construction Plan Report	Yes	n/a	Section 1.1 – update the number of each turbine model (i.e. 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines)
Design & Operations Report	Yes	n/a*	Sections 1.1 and 3.1 – update the number of each turbine model (i.e. 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines) Appendix B – Noise Assessment Report *Appendix C (Letter to MOECC) says Figure 5 needs to be updated. This was an administrative error. There is no Figure 5 in the Design & Operations Report.
Decommissioning Plan Report	No	n/a	There are no figures within the Decommissioning Plan Report; therefore no changes required.
Consultation Report	Yes	n/a	Consultation with government representative has been undertaken for the proposed modification to the Project, and the mechanism to update the project documents is described in Section 3 of this Modification Report.
ADDITIONAL REPORTS			
Natural Heritage Assessment Report	No	n/a	n/a
Water Assessment Report	Yes	n/a	Section 1.1 – update the number of each turbine model (i.e. 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines)
Stage 1 Archaeological Assessment	No	n/a	n/a
Stage 2 Archaeological Assessment	No	n/a	n/a
Underwater Archaeological Report	No	n/a	n/a
Heritage Assessment Report	No	n/a	n/a
Protected Properties Assessment	No	n/a	n/a
Wind Turbine Specifications Report	Yes	n/a	Sections 1.1 and 2.1 – update the number of each turbine model (i.e. 21 Siemens SWT-2.3-113 2300 kW and fifteen (15) Siemens SWT-2.3-113 2221 kW model wind turbines)

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REA Reports & Studies	Change (Yes/No)	Figure No.	Discussion of change / Justification for 'no' change
Noise Assessment Report (Appended to the Design and Operations Report)	Yes	Yes	See Section 2.1.1 of this report.
Property Line Setback Assessment	No	n/a	No changes are being made to the turbine locations for this project.

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Consultation
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3.0 Consultation

Consultation regarding the proposed modification was undertaken with the MOECC via this Modification Document and as per a letter submitted to the MOE dated July 25, 2014 (Appendix C).

A copy of this Modification Document has been provided to the Ministry of Natural Resources (MNR) and Ministry of Tourism, Culture and Sport (MTCS) for their information. As there are no unassessed areas, and no new effects, we do not anticipate the need for new confirmation letters from these ministries.

A copy of this Modification Document will be placed on the Project website, within 2 weeks.

Within this time period, an electronic copy of this Modification Document will be provided to:

- Loyalist Township
- County of Lennox & Addington
- Mississaugas of Scugog Island First Nation
- Curve Lake First Nation – Mississaugas of Mud Lake Curve Lake
- Hiawatha First Nation – Mississaugas of Rice Lake
- Alderville First Nation – Mississaugas of Aderville
- Kawartha Nishnawbe First Nation
- Mohawks of the Bay of Quinte – Tyendinaga Mohawks Territory
- Williams Treaty First Nations

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Closure
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4.0 Closure

The proposed modification has been adequately assessed in accordance with O. Reg. 359/09 and the MOECC's Technical Guide. It has been determined that the modification would not result in new negative environmental effects or associated mitigation measures beyond those identified as part of the original REA Application submitted for the Project.

This report has been prepared by Stantec for the sole use of Windlectric, and may not be used by any third party without the express written consent of Windlectric. The data presented in this report are in accordance with Stantec's understanding of the Project as it was presented at the time of reporting.

Reviewed by *Robert C Rowland*
(signature)

Rob Rowland, Senior Project Manager

Reviewed by *Kerrie Skillen*
(signature)

Kerrie Skillen, Project Manager