



**Amherst Island Wind Project  
Renewable Energy Modification  
Report**

FINAL REPORT

June 29, 2021

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## Sign-off Page

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# AMHERST ISLAND WIND PROJECT RENEWABLE ENERGY MODIFICATION REPORT

Introduction  
June 29, 2021

## 1.0 INTRODUCTION

Windlectric Inc. (Windlectric) received a Renewable Energy Approval (REA #7123-9W9NH2 dated August 24, 2015), from the Ministry of the Environment, Conservation and Parks (MECP) to develop, construct, and operate the Amherst Island Wind Project (the Project). The Project is a Class 4 wind facility, which includes 26 Siemens wind turbines with an overall project nameplate capacity of 74.3 Megawatts (MW). The Project is located in Loyalist Township, in the County of Lennox and Addington, Ontario. A site plan map for the Project is provided in **Appendix A**.

To date four amendments to the REA for the Project have been submitted to the MECP:

- The first amendment (dated June 2014) was to make minor administrative and technical modifications, including the following: minor revised location for the underground cable vaults on project maps; minor change to the transmission line route and submarine cable route; minor change to the island and mainland dock design; and to insert missing figures into Project Description Report.
- The second amendment (dated July 2014) was to add an additional receptor (Receptor R727) and to de-rate three wind turbines (turbine numbers 7, 18, and 26).
- The third amendment (dated March 2015) was to update the description of the permitting requirements applicable to the concrete batch plant.
- The fourth amendment (dated May 2015) was to make minor project design and technical modifications, including the following: changing the Project's turbine models and reducing the total number of turbines from 36 to 27, of which 26 would be installed; rerouting the collection system to avoid the Village of Stella; and adding an underground collector line along a previously proposed access road.

The minor modification described herein is to support the installation of ice protection technology on one of the Project's turbines.



# AMHERST ISLAND WIND PROJECT RENEWABLE ENERGY MODIFICATION REPORT

Summary and Rationale for Minor Modification

June 29, 2021

## 2.0 SUMMARY AND RATIONALE FOR MINOR MODIFICATION

The proposed Project Design Change is to install within turbine S37 a retrofit blade ice protection system manufactured by Borealis Wind Inc. (Borealis). The accumulation of ice on the turbine blades can cause weight imbalances, which would require an automatic shutdown of the turbine. Ice buildup on the turbine blades could also lead to ice throw or shed, where fragments of mixed ice and snow fall off the blades. The installation and operation of the Borealis system would reduce instances of ice formation on the turbine blades, and therefore limit the risk of an automatic shutdown or ice throw or shed.

The overall nameplate capacity (74.3 MW) of the facility will not change and no physical design changes to the exterior of the turbine are required, however operational changes to the turbine will be required for the operation of the Borealis system.

To support this Project Design Change, an Acoustic Test Report, WTG S37 (June 9, 2021) and an Acoustic Audit – Immission Report (June 24, 2021) were prepared by Howe Gastmeier Chapnik Ltd. (HGC) (**Appendix B**). These two reports have been included to demonstrate compliance with the MECP *Noise Guideline for Windfarms* (2016) and Ontario Regulation (O. Reg.) 359/09.



### **3.0 PROJECT DESIGN CHANGE – INSTALLATION OF BOREALIS DE-ICING EQUIPMENT**

The proposed Project Design Change entails the installation and operation of the Borealis system within turbine S37. The system consists of a blade heater installed inside each blade and a control cabinet installed within the nacelle. The system has two modes of operation: ON and OFF. The system would de-ice the blades while the wind turbine is parked and would further prevent any accumulation of ice on the blades during normal turbine operation. No physical design changes are required to the exterior of the turbine.

The Acoustic Test Report prepared by HGC (**Appendix B**) has determined that for all measured wind speeds, S37 meets the specified sound power level of 105.0 dBA as required in REA Number 7123-9W9NHS when considering the allowable 0.5 dBA tolerance under the MECP's *Compliance Protocol for Wind Turbine Noise* (2017). In addition, the Immission Audit (**Appendix B**), including a time history analysis of the operation of Turbine S37 with and without the Borealis system operating, indicates that the addition of the Borealis system to Turbine S37 has a negligible acoustic impact, and is operating in compliance with the MECP's sound level criteria and Ontario Regulation (O. Reg.) 359/09.

Windlectric has prepared an application to amend the REA to account for the installation and operation of the Borealis system in turbine S37. The amendment is designated as a Project Design Change.



## **4.0 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 adverse environmental effects that would require additional mitigation or monitoring measures beyond those outlined in the REA documents as a result of the proposed modifications to the Project has been completed. Through this screening process it has been determined that the proposed installation of the Borealis system within turbine S37 will result in no physical changes to the exterior of the turbine and no change in previously identified impacts related to noise and vibration; therefore no new adverse environmental impacts are expected.



## **5.0 POTENTIAL IMPACTS TO REA TECHNICAL ASSESSMENTS AND STUDIES**

Windlectric previously completed all the required REA technical assessments (including the Natural Heritage Assessment and Environmental Impact Study, Noise Assessment, Water Assessment, Heritage Assessment, Stage 1 and Stage 2 Archaeological Assessments, and an Underwater Archaeological Assessment) for the Project which encompasses the installation and maintenance of the turbines, construction of access roads and other related infrastructure.

Windlectric completed an Acoustic Test Report and Immissions Audit (**Appendix B**) to assess the proposed Project Design Change to install within turbine S37 the Borealis system. These assessments concluded that the installation of the Borealis system would not result in any new adverse environmental impacts nor result in changes to the REA Assessment.

Table 1 and Table 2 below outline any potential negative impacts on environmental components due to the Project Design Change and any new mitigation and/or monitoring measures proposed (where applicable).

**Table 1: Potential Negative Impacts on Natural Environmental Components**

<b>Environmental Component</b>	<b>Potential Negative Environmental Impacts</b>	<b>Mitigation Measures</b>	<b>Monitoring Requirements</b>
Air Quality	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Soil Quality	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Soil Quantity	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Groundwater	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Surface Water Quality	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Surface Water Quantity	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Aquatic Habitat and Biota	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Woodlands	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Wetlands	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Wildlife Habitat	No additional negative impact.	No additional mitigation required.	No new monitoring required.





**AMHERST ISLAND WIND PROJECT RENEWABLE ENERGY MODIFICATION REPORT**

Potential Impacts to REA Technical Assessments and Studies  
June 29, 2021

**Table 1: Potential Negative Impacts on Natural Environmental Components**

<b>Environmental Component</b>	<b>Potential Negative Environmental Impacts</b>	<b>Mitigation Measures</b>	<b>Monitoring Requirements</b>
Wildlife	No additional negative impact.	No additional mitigation required.	No new monitoring required.

**Table 2: Potential Negative Impacts on Socio-Economic Environmental Components**

<b>Environmental Component</b>	<b>Potential Negative Environmental Impacts</b>	<b>Mitigation Measures</b>	<b>Monitoring Requirements</b>
Noise	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Public and Facility Safety	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Change in Visual Landscape	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Property Values	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Availability of Resources	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Recreational Land Use	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Infrastructure	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Traffic	No additional negative impact.	No additional mitigation required.	No new monitoring required.
Archaeological and Heritage Resources	No additional negative impact.	No additional mitigation required.	No new monitoring required.



Summary of Revisions to the Technical Assessments  
June 29, 2021

## **6.0 SUMMARY OF REVISIONS TO THE TECHNICAL ASSESSMENTS**

Table 3 identifies the amendments to the REA technical assessments submitted with the original REA Application and reviewed by the MECP that are required to address by the proposed Project Design Change.

**Table 3: Potential Negative Impacts on Socio-Economic Environmental Components**

<b>Report</b>	<b>Original Text</b>	<b>Revised Text</b>
Noise Impact Assessment Report	Describes the existing conditions, potential impacts and mitigation measure	No revisions to the Noise Impact Assessment Report The Acoustic Test Report and Immission Audit will be appended to this report.

A copy of the Acoustic Test Report prepared by HGC, dated June 9, 2021 and the Immissions Audit also prepared by HGC, date June 24, 2021 are provided in **Appendix B**.



# AMHERST ISLAND WIND PROJECT RENEWABLE ENERGY MODIFICATION REPORT

Consultation and Notification

June 29, 2021

## 7.0 CONSULTATION AND NOTIFICATION

Consultation regarding the proposed modification was undertaken with the MECP via conference call on June 21, 2021 and via email on June 25, 2021.

A copy of this Modification Report has been provided to the Ministry of Natural Resources and Forestry (MNR) and the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) for their information via email on July 5, 2021. As there are no unassessed areas, and no new adverse environmental impacts, we do not anticipate the need for new confirmation letters from these ministries.

A copy of this Modification Report will be placed on the Project website:  
[www.amherstislandwindproject.com](http://www.amherstislandwindproject.com).

The Notice of Proposed Change to an Approved Renewable Energy Project will be mailed/emailed out to Project stakeholders notifying them of the proposed Project Design Change and directing them to review the Modification Report available on the Project website. The Notice shall be distributed to the public in accordance with Section 32(1) of O. Reg. 359/09. In addition, the Notice will be published on two separate publication days in the Kingston Whig Standard newspaper during the weeks of July 5, 2021 and July 12, 2021. A copy of the notice is presented in **Appendix C**.



# AMHERST ISLAND WIND PROJECT RENEWABLE ENERGY MODIFICATION REPORT

Conclusion  
June 29, 2021

## 8.0 CONCLUSION

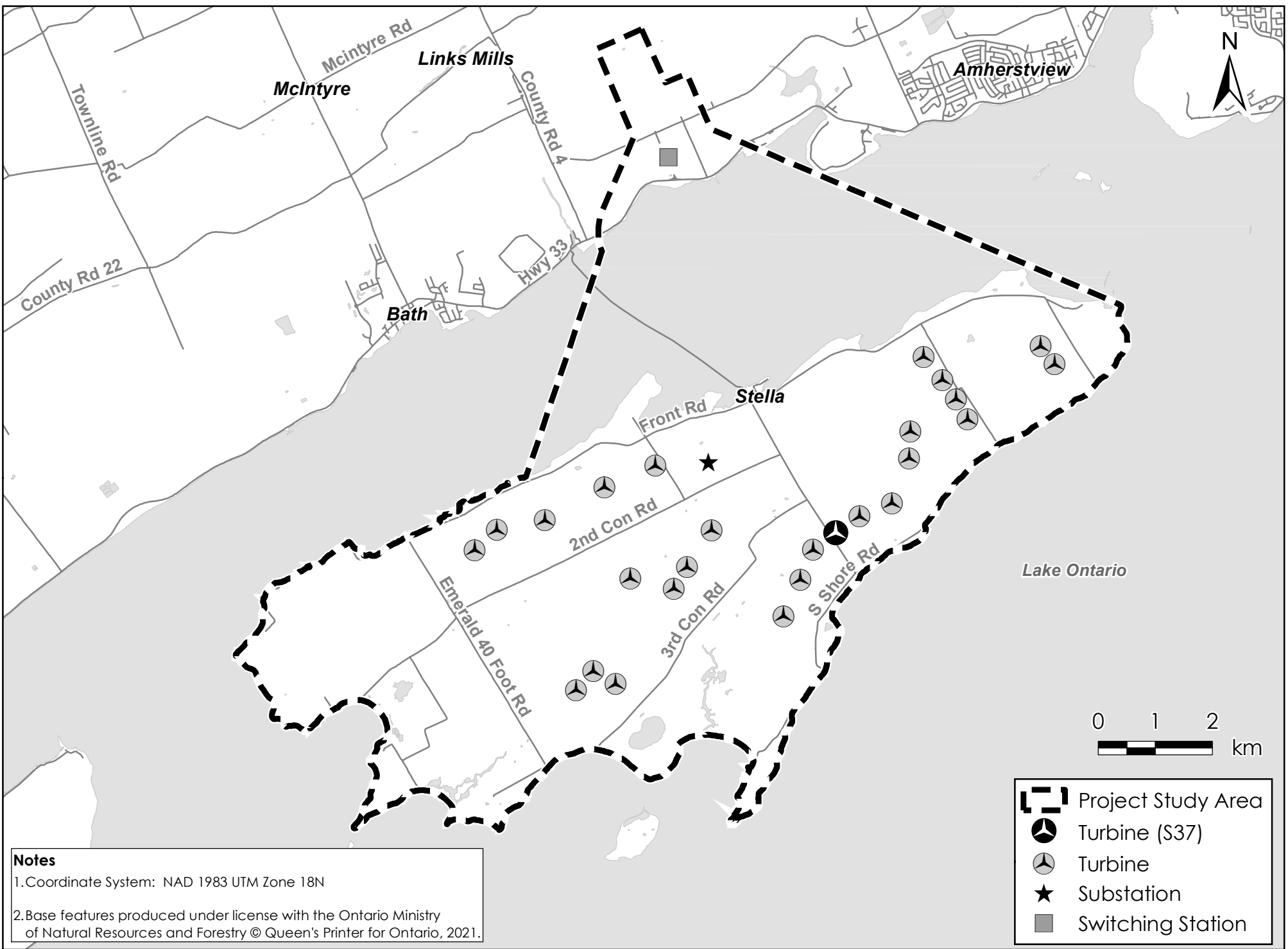
The proposed operational modifications have been assessed in accordance with O. Reg. 395/09 and the MECP's Technical Guide. It has been determined that the proposed operational modifications will not result in new adverse environmental impacts or require additional associated mitigation measures beyond those identified as part of the original REA Application submitted for the Project.








# APPENDIX A:

## Site Layout





**Notes**  
1. Coordinate System: NAD 1983 UTM Zone 18N  
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2021.

	Project Study Area
	Turbine (S37)
	Turbine
	Substation
	Switching Station

**APPENDIX B:**  
**Acoustic Test Report, WTG S37**  
**(Provided Under Separate Cover) and**  
**Acoustic Audit – Immission Report: Borealis Ice Protection**  
**System (Provided Under Separate Cover)**



**APPENDIX C:**  
**Notice of a Proposed Change to an  
Approved Renewable Energy Project**





# NOTICE OF A PROPOSED CHANGE TO A RENEWABLE ENERGY PROJECT

## by Windlectic Inc. regarding a Proposal to Engage in a Renewable Energy Project

**Project Name:** AMHERST ISLAND WIND ENERGY PROJECT

**REA Approval Number:** 7213-9W9NH2

**MOE Reference Number:** 1271-96VNH3

**OPA Reference Number:** FIT-FUT3NOX

**Project Location:** The Project will be located on Amherst Island and a portion of land located on the mainland within Loyalist Township in the County of Lennox and Addington in eastern Ontario.

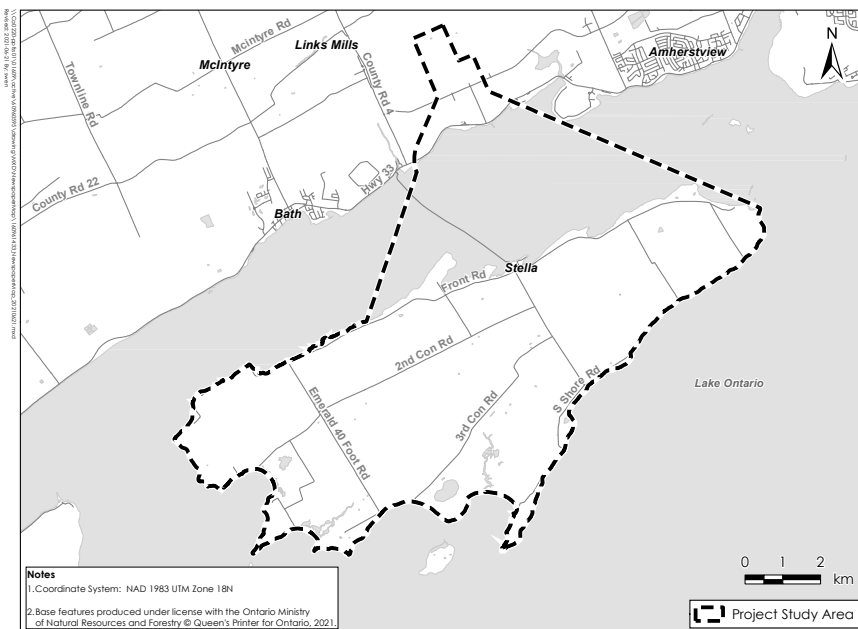
Dated At: On this 5<sup>th</sup> day of July, 2021.

Windlectric Inc. was issued a Renewable Energy Approval on August 24, 2015 and four Amendments to the Renewable Energy Approval in June 2014, July 2014, March 2015, and May 2015. Windlectric Inc. is proposing to make a change to the Project that is subject to Ontario Regulation 359/09. This notice is being distributed to make the public aware of the proposed change to the Project in accordance with Section 32.3(1) of the Regulation.

### Project Description and Proposed Change:

Pursuant to the Act and Regulation, the facility consists of a Class 4 wind facility with 26 Siemens wind turbines with an overall nameplate capacity of 74.3 Megawatts (MW). The Project also includes ancillary works including an electrical collector systems and substation, a transmission line, access roads, meteorological towers, and a switching station and transmission line at the mainland near Millhaven, Ontario.

An application has been made to the Ministry of the Environment, Conservation and Parks for a change to the Project requiring an amendment to the existing Renewable Energy Approval. The proposed change consists of the installation and operation of a retrofit blade ice protection system manufactured by Borealis Wind Inc., within wind turbine S37. The system would de-ice the blades while the wind turbine is parked and would further prevent any accumulation of ice on the blades during normal turbine operation, and therefore would further prevent the impacts, if any, of any ice build-up on the turbine blades. No physical design changes are required to the exterior of the turbine; however operational changes to the turbine will be required for the operation of the Borealis system. The proposed change is considered to be a Project Design Change. To support this Project Design Change, an Acoustic Test Report, and Immission Audit have been prepared to demonstrate compliance with MECP Noise Guideline for Windfarms (2017) and O. Reg. 395/09.



### Documents for Public Inspection:

Further details regarding the proposed change to the Project are provided in a Modification Report (dated June 2021), a copy of which can be found on the Project website at: [www.amherstislandwindproject.com](http://www.amherstislandwindproject.com). The Acoustic Test Report and Immission Audit (2021) are also available on the Project website.

Copies of the final REA documents also remain available on the Project website.

### Project Contacts and Information:

To learn more about the Project, or to communicate questions or comments, please contact:

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