GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary

SEPTEMBER 2012

Goshen Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC (NextEra) is proposing to construct a wind energy Project in Bluewater and South Huron, Huron County, Ontario. The project will be referred to as the Goshen Wind Energy Centre (the "Project") and will be located on private lands in the vicinity of the shoreline of Lake Huron. The wind turbine technology proposed for the Project is the GE 1.6-100 Wind Turbine and one GE 1.56-100 Wind Turbine. With a total nameplate capacity of 102 MW, the Project is categorized as a Class 4 facility. Although NextEra is seeking a Renewable Energy Approval (REA) for up to 72 wind turbines, only 63 will be constructed for the Project.

The purpose of the Design and Operations Report is to provide specific details on how the Project is designed, the equipment used, operated and how emergencies and ongoing communication will be managed. The report also presents mitigation measures, monitoring commitments and residual effects, if any. Residual effects are "left over" effects once mitigation measures have been applied.

The Design and Operation Reports was prepared in accordance with the requirements outlined in Ontario Regulation 359/09, the regulation governing renewable energy projects in Ontario.

NEXTera™ ENERGY CANADA

GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary

Corresponding section references are provided below to assist with reviewing the associated reports.

SITE PLAN - SECTION 2

This Site Plan, shown on Figure on back page, was designed to meet Provincial "setback distances" outlined in the following table.

Setback	Distance (metres (m))	Details
Noise Receptors	550	To be measured from the centre of a turbine's base to a non-participating receptor.
Property Line	Hub height (80)	Setback can be reduced to blade length plus 10 m (60 m total) measured from the centre of the turbine's base to the nearest property boundary if a Property Line Setback Assessment Report shows that siting turbines closer will not cause adverse effects.
Roads and Railway	Blade length plus 10 m	Blade length plus 10 m (60 m total) measured from the centre of the turbine's base to the boundary of the right-of-way.
Significant Natural Heritage Features	120	Measured from the project location boundary to the nearest point of the natural features. Project components may be sited closer than the prescribed setback if an Environmental Impact Study is prepared.
Water Bodies	120	Measured from the average annual high water mark of a lake, or permanent / intermittent stream (Project components may be sited closer than 120 m if a Water Body Report is prepared - note that turbines and transformers may not be sited closer than 30 m to these features).
Petroleum Resources	75	Setback may be reduced with the submission of a Petroleum Engineer's Report to the MNR.

ONTARIO REGULATION 359/09 SETBACK DISTANCES FACILITY DESIGN PLAN - SECTION 3

WIND TURBINES

- Up to 71 GE 1.6-100 Wind Turbine with LNTE generator locations and pad mounted step-up transformers and one GE 1.56-100 Wind Turbine generator location, 80 m tall tower with 50 m long blades.

ACCESS ROADS

- 11 m wide during construction. Provides access to properties for equipment during construction and for maintenance during operations.

COLLECTION LINES

- Underground 34.5 kilovolt (kV) electrical collection lines to connect the turbines to the transformer substation.

GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary

ELECTRICAL TRANSMISSION

- 115 kV transmission line to run from the transformer substation to a breaker switch station which will connect the electricity generated by the project to the existing Hydro One 115 kV transmission line.

TRANSFORMER SUBSTATION AND BREAKER SWITCH STATION:

- Approximately 2-3 hectares in size the transformer substation increases voltage of electricity from collection lines (34.5 kV) to 115 kV for transmission to the Breaker Switch Station which is the connection point with the existing Hydro One 115 kV transmission line.

OPERATIONS AND MAINTENANCE BUILDING

- Approximately 30 m by 15 m in size, will be constructed on privately held lands or an existing building will be purchased/leased. Will be used to monitor day-to-day operations of the wind energy centre.

PERMANENT METEOROLOGICAL TOWERS

- Typically 80 m in height, three MET towers are proposed to be constructed. MET towers are used to monitor weather conditions at the site.

FACILITY OPERATION PLAN - SECTION 4

WIND TURBINE OPERATION

- 5-8 workers will carry out day to day activities associated with turbine operation.
- A communication line connects each turbine to the Operations Centre, which closely monitors and can control the operation of each turbine.

MAINTENANCE

- Approximately every 6 months, routine maintenance will be carried out by 2-3 workers over a full day at each turbine.
- The substation will receive periodic protective relay maintenance and the collection lines will receive periodic assessments of their condition.
- Unplanned maintenance can include failure of small components and may be addressed by a technician over several hours.
- Events involving the replacement of major components such as gearboxes are not typical; however, this could require the use of large equipment.

WASTE MANAGEMENT

- Waste generated during operations will be removed from the operations and maintenance building by a licensed operator and disposed of at an approved facility. Recycling services will be used to the extent available.

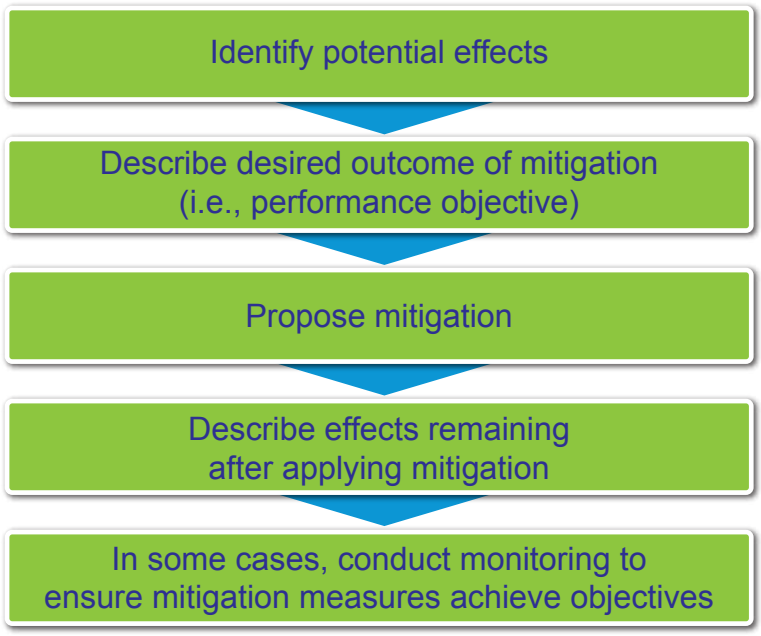
EMERGENCY RESPONSE AND COMMUNICATION PLAN - SECTION 5

The Emergency Response and Communication Plan, which will be filed with the Ministry of the Environment, the Municipalities of Bluewater and South Huron, and Huron County, wil include details on:

- Emergency Action Plans for outlining steps to be taken in the event of an on-site emergency;
- Ongoing Communication to update the community throughout the construction and operations phase; and,
- Complaints Resolution Process for dealing with any questions or concerns.

ENVIRONMENTAL EFFECTS MONITORING PLAN - SECTION 6

The following flow chart describes the effects assessment process from the first stage of identifying potential effects through to describing residual effects (i.e. effects remaining after mitigation measures are applied) and conducting monitoring.



GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary

This section provides a summary of some of the potential effects, mitigation measures and monitoring commitments from the effects assessment. For the full effects assessment, please refer to the Design and Operations Report.

CULTURAL HERITAGE

No effects to cultural heritage are anticipated during the operations phase.

NATURAL HERITAGE RESOURCES (SUCH AS WETLANDS AND FORESTS)

Disturbance or mortality to wildlife (e.g. birds and bats) may occur due to collisions with turbines. To avoid or lessen these effects, operational mitigation techniques may be implemented. Monitoring will consist of three years of post-construction mortality surveys for birds and bats which will be submitted to the Ministry of Natural Resources.

SURFACE WATER AND GROUNDWATER

Water contamination is possible, although unlikely, due to accidental spills associated with maintenance activities. A spill response plan will be developed and an emergency spill kit will be kept on site. In addition, the Ministry of the Environment and the local municipalities will be notified of any spills.

EMISSIONS TO AIR

Maintenance vehicles may create dust and increase emissions to air. To reduce the amount of dust generated, the speed of maintenance vehicles will be limited. All construction vehicles will meet provincial emissions regulations.

GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary

NOISE

The operation of turbines and the substation may increase noise levels experienced by some residents. Turbines will be set back at least 550 m from all residents who are not leasing their land for the Project to avoid or lessen the effects. Noise modelling was also conducted to predict and ensure that noise levels from the operating turbines and substation will not be greater than limits set by the Ministry of Environment. Any noise-related complaints will be tracked and follow-up monitoring will occur as required.

LOCAL INTERESTS, LAND USE AND INFRASTRUCTURE

Turbines, access roads, and the substation will result in a minor reduction in usable agricultural land. To avoid or lessen these effects, the length of access roads will be minimized where possible.

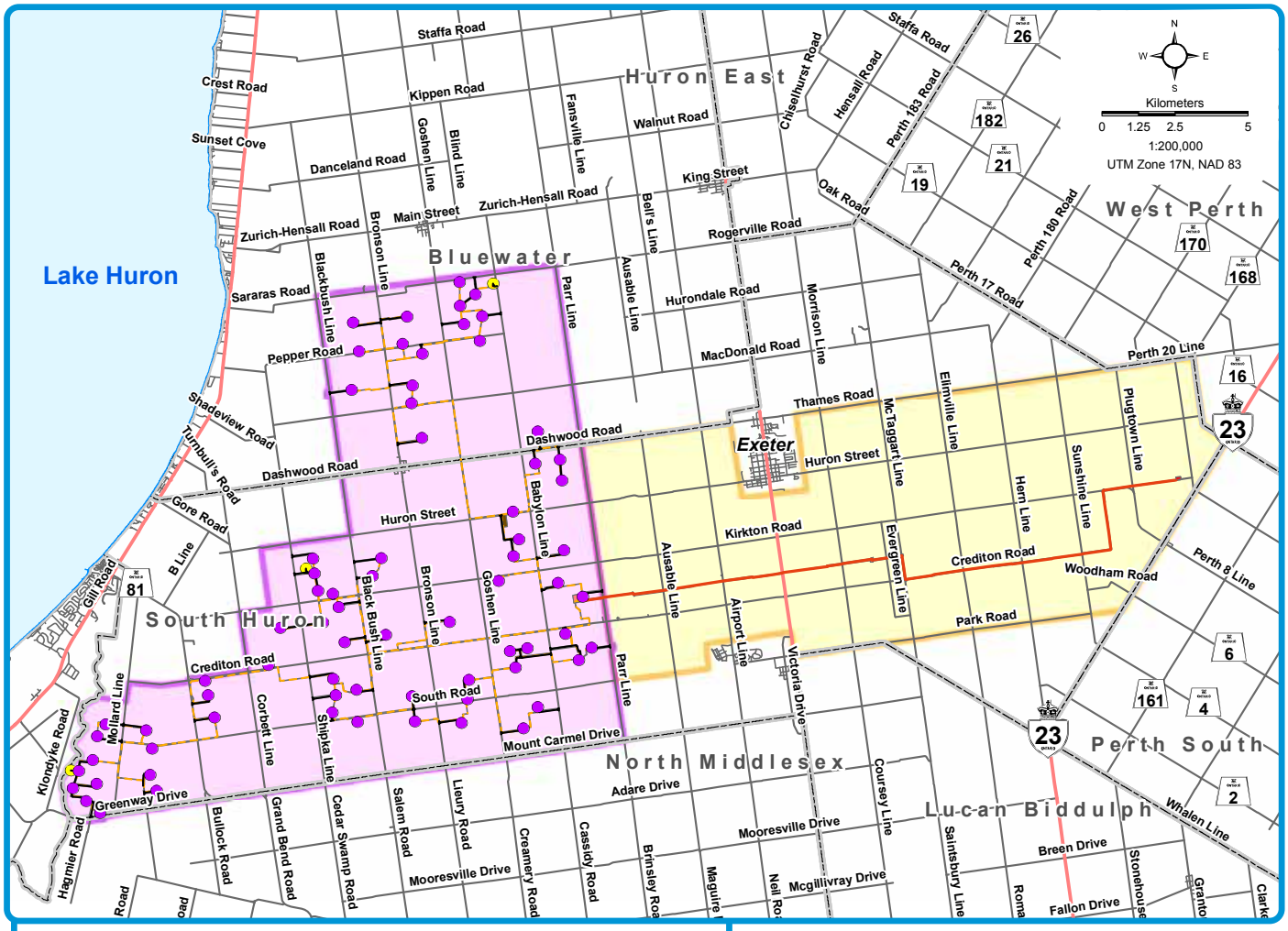
PUBLIC HEALTH AND SAFETY

Potential effects on human health and safety could occur from ice shed (ice falling from turbine blades). To avoid or mitigate these effects, all setback distances will be adhered to. Shadow flicker (a "flicker" caused when rotating turbine blades are directly between a viewer and the sun) represents a potential annoyance to some residents under certain conditions and the effect is reduced by adhering to the required setback distances. Any safety or other complaints will be tracked and follow-up monitoring will occur as required.

The overall conclusion of the Design and Operations Report is that this Project can be operated without any remaining effects that could harm the environment. Post-construction monitoring related to effects on wildlife, including birds and bats, will be undertaken to confirm this conclusion.

GOSHEN WIND ENERGY CENTRE

Design and Operations Report Summary



Have A Question?

We hope you find this Plain Language Summary helpful. In case you would like additional information or have any questions, please contact us directly:

Project Proponent
Derek Dudek
Community Relations Consultant
NextEra Energy Canada, ULC
5500 North Service Road, Suite 205
Burlington, Ontario, L7L 6W6
Phone: 1-877-257-7330
Email: Goshen.Wind@NextEraEnergy.com

Project Consultant
Marc Rose
Senior Environmental Planner
AECOM
300-300 Town Centre Blvd.
Markham, Ontario, L3R 5Z6
Phone: 905-477-8400 x388
Email: marc.rose@aecom.com