

# NextEra Energy Canada Adelaide Wind Energy Centre

Community Liaison Committee (CLC): Meeting #2

May 22nd, 2014 6:30 p.m. to 8:30 p.m.

Gemini SportsPlex - Westcast Room  
667 Adair Blvd.  
Strathroy, ON

**NOTE: This meeting package was compiled by the CLC Coordinators and Facilitators (AECOM) and as such may be subject to clarification or correction by NextEra Energy Canada and its technical staff/specialists. The CLC members will be notified of any revisions to the meeting package, and the final package will be posted and available for public review on NextEra Energy Canada's website.**



# Introductions

## CLC Members:

- Fallon Burch
- Dean Jacobs
- Kurtis Smith
- Mac Parker
- Donna Hornblower
- Caroline Cornelissen
- Ron Peters

## CLC Coordinators and Facilitators (AECOM):

- Avril Fisken
- Adam Wright

## NextEra Energy Canada:

- Ben Greenhouse, Director, Development
- Michael Lange, Project Manager, Development
- Dick Rausch, Construction Manager
- Bourke Thomas, Construction and Environmental Liaison
- Guillaume Jacques, Borea Construction
- Jeff Damen, Construction
- Nancy O'Neill, Environmental Services
- Doug McIntosh, Regional Operations Manager
- Jeffrey MacFarlane, Operations Manager
- *Josie Bird, Senior Communications Specialist*
- *Craig Scott*

# Agenda

1. Introductions
2. Recap of CLC Meeting # 1
  - Purpose of the CLC
  - Overview of the Project
  - Public Attendance and Depositions
  - Requests for Additional Information
  - Minutes (Parking Lot Items)
3. Activities and Questions/Comments Raised Since the First CLC Meeting
4. Update on Construction and Installation
5. Anticipated Timing of Commissioning and Operations
6. Depositions, if any requests received
7. Tentative Items for Discussion at Future CLC Meetings
8. Plus/Delta

# Recap: CLC Meeting #1

## Purpose of the CLC:

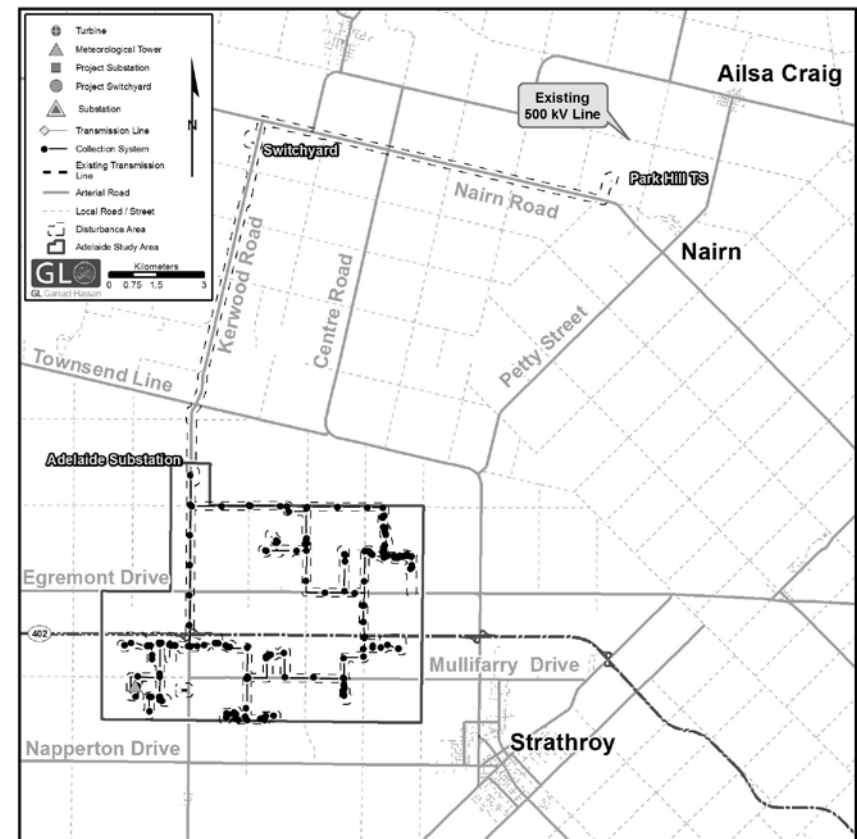
- A forum for two-way communication between NextEra Energy Canada and the public
- An opportunity to provide additional information and updates, and to respond to questions or concerns related to:
  - Construction and installation
  - Use and operation
  - Maintenance
  - Retirement of the Facility

## Project Overview:

- Class 4 Wind Facility
- Located in Municipality of North Middlesex, Middlesex County
- 37 turbines, w/ 80 metre towers and 50.5 metre blades
- A generating capacity of 60 MWs
- Status of background studies and approvals.
- Outline of construction process

## Public Attendance and Depositions:

- Local residents in attendance.
- No depositions.



# Recap: CLC Meeting #1

## Meeting Summary for our 1<sup>st</sup> CLC Meeting:

- Draft minutes were prepared by AECOM and circulated to the CLC on **January 22, 2014**
- Members were asked to advise AECOM of any errors, omissions or changes by **February 12, 2014**
- All recommended comments/changes were incorporated and the minutes were posted on NextEra's publically accessible website on **February 20, 2014**
- CLC members were also emailed the final minutes on **February 20, 2014**

**Opportunity for Improvement:** We'd like to understand your expectation for when you should receive the summary of the meeting? Is two weeks after we meet acceptable?

# Recap: CLC Meeting #1 – Local Labour

## Construction Stats

- General Contractor is Borea Construction Canada
- **42 southwestern Ontario Companies** used (subcontractors and suppliers) on the Bornish project.
- There is at least **\$40M** in contracts with subcontractors and suppliers in the southwestern Ontario region.
- Peak volume of individuals on site including subcontractors was around 150. Currently, we are at peak with about 150 staff members on site.
- Indirect economic benefits have not been measured, but local hotels, restaurants, home improvement stores, gas stations, machine shops, pubs and grocery stores have seen an increase in business since the start of the project.

## Projected Economic Impact

Construction Jobs:	150 at peak
Full Time Operations Jobs:	6 - 8
Capital Expenditures:	\$180 Million
Corporate Income Tax:	\$ 90Million*
Property Taxes:	\$ 8 Million*
Landowner Payments:	\$ 13 Million*

\*Estimated over first 20 years of the project.

# Project Activities and Status

## 1. Planning and Resource Assessments

- **Surveying:** Design survey is complete.
- **Geotechnical Studies and Sampling:** Complete
- **Archaeological Assessments:** Complete

## 2. Permitting and Clearances

- **Feed-in-Tariff contract by the Ontario Power Authority:** Awarded April 2010
- **Renewable Energy Approval (REA):** Issued August 2013, with terms/conditions
- **Ausable Bayfield Conservation Authority:** All permits issued
- **Municipality of North Middlesex (building permits):** Complete
- **MTCS sign-off on archaeological studies:** Complete

# Project Activities and Status

## 3. Construction

- **Land Clearing, Construction and Installation:** December 2013 to July 2014
- **Clean up, Modifications and Road Repairs:** July 2014 onward
- **Turbine Commissioning (testing & inspections):** May to August 2014

## 4. Operations

- Anticipated to begin August 2014

## 5. Decommissioning

- To happen at the end of useful life of the project (e.g., after 25 to 30 years of operations)



# Construction Process and Anticipated Timing

	2013/2014											
	Complete	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug
Land Clearing												
Access Roads & Paths (temporary and permanent)												
Construction Laydown Area												
Turbine Site and Crane Pad Construction												
Turbine Foundations												
Wind Turbine Assembly and Installation												
Underground Electrical Cables												
Electrical Substation												
Above-ground Electrical Transmission Lines												
Meteorological Towers												
Clean up and Reclamation Following Construction												
Modifications or Repairs to Municipal or Provincial Roads												
Turbine Commissioning (testing and inspections)												

# Update on Construction and Installation

## Construction Laydown Area: Complete

- Temporary storage/laydown areas located around turbines, the substation, the switchyard area, and the centralized construction field office and temporary storage area.
- Area was cleared by trucks, graders, tracked bulldozers and backhoes.
- Top soil and subsoil were stripped, as required to create an even work surface.
- If construction disturbances were close to watercourse(s) then erosion control measures were implemented (i.e., hay bales, silt fences).

# Update on Construction and Installation

## Roads and Land Clearing: Complete

- Project area to be accessed via existing road right-of-ways. Will not require construction of permanent paved roads.
- Final access road width to be 16 feet.
- Access roads for use during construction are built using tracked bulldozers and backhoes to strip topsoil and subsoil, and the addition of compacted gravel to create an even travel surface.
- Soil management will be incorporated into the process to facilitate site reclamation
- Following construction, access roads will be used for maintenance activities at the turbines.

# Update on Construction and Installation

## Turbine Foundations: In Progress

- Excavation for the turbine base is approx. 20m x 20m x 3.5m. Excavation material was stockpiled for backfilling.
- Constructed using concrete, formwork and rebar. Formwork and rebar are used to construct the foundation.
- Excavated area then backfilled and compressed, leaving only the tower base portion of the foundation above ground.
- During foundation installation, a transformer pad will be installed at each turbine site. Construction of each pad mounted transformer involves: excavation, soil storage, installation of a grounding grid, pad, transformer, and electrical connections.



# Update on Construction and Installation

## Collector System and Electrical Transmission Lines: June 2014

- Combination of overhead and underground 34.5kV standard utility cable, between turbines and the Project substation.
- Overhead 115kV transmission line installed on steel reinforced monopoles. Poles installed 4 to 5m below grade and cable reel trucks are used to string cables in place.
- Trenching is used to install underground cables. Soil management will be incorporated into this process to facilitate site reclamation.

# Update on Construction and Installation

## Horizontal Directional Drilling: 99% Complete

- Horizontal directional drilling or punch and bore crossings were proposed for certain crossings that are either <10m from a waterbody or natural feature, or are in the natural feature. These alternatives are more appropriate to reduce negative environmental effects.
- High-voltage warning markers were installed where underground cables cross public roads or are situated in multi-use servicing corridors.

# Update on Construction and Installation

## Transforming Substation: 95% complete

- Equipment includes an isolation switch, circuit breaker, step-up power transformer, distribution switch gear, instrument transformers, grounding and metering equipment.
- Substation grounding meets the Ontario Electrical Safety Code.
- Secondary containment system was installed around the main transformer in the event of an oil leak to prevent any soil contamination.
- Substation is connected to our transmission line (115kV) that goes to Bornish substation and then to Parkhill substation.
- The Parkhill substation is then connected to Hydro One transmission line.





# Update on Construction and Installation

## Wind Turbine Commissioning: July 2014

### Requires Collection System, Substation, and Turbines to Start

- Turbine commissioning will take place in sequential order prior to the planned Commercial Operation of the Project.
- Portable generators may be used to provide backfeed power for commissioning prior to being connected to the power grid.
- Commissioning will necessitate testing and inspection of electrical, mechanical, and communications operability.
- A detailed set of operating instructions must be followed in order to connect with the electrical grid.





# Update on Construction and Installation

## Clean Up and Reclamation: Starts in June, ongoing

- Waste and debris generated during construction activities to be collected and disposed of at an approved facility.
- All equipment and vehicles will be removed from the construction area.
- Reasonable efforts made to minimize waste generated and to recycle materials, including returning packaging material to suppliers for reuse/recycling.
- During construction: Use of industry best practices for spill prevention will be utilized. In unlikely event of a minor spill, clean up will be immediate and any impacted soils will be removed from the site and disposed of at an approved facility.
- Stripped soil will be replaced and re-contoured in the construction areas and disturbed areas will be reseeded during appropriate conditions for germination (as seasonality allows).

# Operations

- The operation phase will be approximately 25 years and the operations building will require full time staff (i.e., site supervisor and wind technicians).
- Turbines will require scheduled maintenance (i.e., oil change, gearbox cleaning and lubrication, replacement of worn parts). Routine preventative maintenance activities will be scheduled as required, in accordance with manufacturer requirements.
- Spill prevention best practices utilized during the Construction Phase will also be implemented during operational maintenance.
- If unscheduled maintenance of a turbine is required (i.e. component failure), then the turbine will be taken out of service until the repair is complete. Larger trucks and cranes may be required periodically for larger repairs, but this is expected to occur infrequently.
- To monitor subsystems within each turbine and the local wind conditions, a comprehensive control system is installed and networked to the local operator and to NextEra's central operations centre (staff on-site 24/7). The operations building will be notified if an event occurs outside a turbine's normal operating range, and the turbine will be shut down. Turbines can be controlled remotely from the central operations centre.
- Operation decisions based on meteorological data include turbine shut down under icy or extreme weather, and cut-in and cut-out wind speed.

**NOTE: Meeting #3 will get into more detail on operations.**

# Tentative Items for Discussion at Future CLC Meetings

## CLC Meeting #3

- Post-Construction Activities (e.g., reclamation or required repairs)
- Introduce Operations Team
- Update on Operations and Maintenance
- Monitoring & Mitigation Measures
- Provisions for Decommissioning
- Other

## CLC Meeting #4

- Update on Operations and Maintenance
- Monitoring & Mitigation Measures
- Other

**Timeframe for next meeting, and possible dates?**



- Archaeological Reports
- Community Liaison Committee Materials
- Community Newsletter
- Construction Plan Report
- Consultation Reports, Information Packages and Other Communication
- Decommissioning Plan Report
- Design and Operations Report
- Heritage Assessment Report
- Noise Study Report
- Natural Heritage Report
- Ontario Energy Board - Documents
- Project Description Report
- Project Modifications
- Renewable Energy Approval documents
- Shadow Flicker Report
- Turbine Visualization Images
- Water Assessment & Water Body Report
- Wind Turbine Specification Report

# Depositions from Members of the Public

- The CLC meetings are open to the general public for observation.
- Notices of upcoming meetings will be posted on NextEra's website ([www.NextEraEnergyCanada.com](http://www.NextEraEnergyCanada.com)). AECOM will also publish Notices in the local newspapers.
- Brief depositions (up to 3 per meeting, at a maximum of 5 minutes each) may be made by members of the general public, providing the depositions pertain to items on the meeting agenda (i.e., the construction, installation, use, operation, maintenance and retirement of the Facility).
- Depositions will be selected at the discretion of the CLC Facilitator and in consultation with the CLC members and NextEra.
- To be considered for a public deposition, a request along with the written deposition must be submitted to AECOM at least one week in advance of the CLC meeting:

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