



## Meeting Summary – Bornish Community Liaison Committee No.3

Attn.: CLC members, NextEra Staff

Subject: Bornish Wind Energy Centre, Community Liaison Committee (CLC): Meeting No.2

December 9, 2014 6:30pm – 8:30pm North Middlesex Community Centre 225 McLeod Parkhill, ON

#### Present:

#### **CLC Committee Members**

 Barb Shea, Muriel Allingham, Robert Lewis, Chuck Hall, Gary Zavitz, Adrian Cornelissen, Lucy Hendrikx, Dean Jacobs

#### NextEra

Ben Greenhouse, Director, Development; Michael Lange, Project Manager,
 Development; Catherine Mitchell, Business Management; Doug McIntosh, Regional
 Operations Manager; Peter Miller, Operations Manager

#### NRSI

• Charlotte Moore, Terrestrial & Wetland Biologist, NRSI

#### **AECOM**

• Avril Fisken, Adam Wright

#### Absent:

• Jack Willemse, Mark Cadman





Item Discussed	Action
1. Welcome and Introductions <sup>1</sup>	
Avril Fisken (CLC Chair) welcomed the CLC and members of the public to the 3 <sup>rd</sup> CLC meeting for the Bornish Wind Energy Centre. Chair introduced herself and Adam Wright as the CLC Coordinator. Avril noted that Adam will circulate the minutes to the Committee within 2 weeks of the meeting for Committee review after which they will be posted publically.	
The Chair discussed video recording of the previous meetings and noted that while the Committee originally voted not to allow video recording at meetings, the decision was changed in an internal committee effectiveness meeting last week. There is now no issue with people from the public taping the meeting but they must remain seated so as not to interrupt the meeting.	
Chair asked if there were any questions.	
Bob Lewis (BL) - Will the recording be complete and unedited?  Chair - it will be a raw version and unedited.	
Committee members then introduced themselves (refer to pg. 1).	
Chair reviewed the Agenda and noted that the meeting would run to 8:10 to accommodate the late start.	
Chair noted that resulting from the committee effectiveness meeting last week (Dec. 1 <sup>st</sup> 2014) there was a request to have a detailed Agenda for the public and CLC members to follow along with to ensure the meeting stays on task and on time.	
Chair reviewed the Agenda for the meeting	
1. Introductions	

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<sup>&</sup>lt;sup>1</sup> The Meeting Summary is not intended to be verbatim, rather it is provided to Committee members to ensure that key discussions have been accurately captured and that context is provided for readers who were not present at the meeting.





- 2. Recap of CLC Meeting # 2
  - Purpose of the CLC
  - Construction Overview and Update
  - Public Attendance and Depositions
  - Requests for Additional Information
  - Minutes (Parking Lot Items)
- 3. Activities and Questions/Comments Raised Since the Second CLC Meeting
- 4. Update on Construction and Installation
- 5. Operations and Maintenance Introduction of Operations
  Team
- Preliminary Discussion of Monitoring and Mitigation Measures (to be further discussed at CLC Meeting No. 4)
- 7. Depositions, if any requests received
- 8. Tentative Items for Discussion at Future CLC Meetings

Chair noted that there would be a 15 minute period at the end of the meeting allotted for the Public's questions.

Chair then reviewed the committee effectiveness meeting:

The purpose of the Committee Effectiveness meeting was to determine how the Bornish CLC can best move forward in the most constructive manner. A code of conduct was agreed to for all CLC members including AECOM and NextEra representatives. The intent was to ensure that the CLC meetings are as effective as possible.

Chair reviewed the code of conduct; refer to Code of Conduct (Appendix A).

The Code of Conduct was agreed to by CLC members that attended the meeting last week (Dec  $1^{st}$  2014). With respect to AECOM, it was decided that the Chair would provide a question period for members at the end of the meeting.

Chair reminded members that a survey was provided so the CLC has an opportunity to provide feedback on what a successful meeting looks like and the metrics for measuring this success. The Chair also encouraged those members who were unable to attend the effectiveness meeting to provide their feedback by completing the survey and sending to AECOM.





The chair noted there was another suggestion to provide the Agenda in meeting notices so when the public receives the notice for the meeting, they will have a good idea of what to expect at the meeting. A suggestion was also made to send the notice to municipal clerks for posting on the websites of municipalities.

Provide Agenda in Meeting Notice and Forward Meeting Notice to Municipal Clerks

### Who were the people that attended the additional CLC meeting to discuss committee effectiveness?

6 of 10 Committee members attended this additional meeting; Muriel Allingham, Robert Lewis, Mark Cadman and Jack Willemse were not present.

Muriel Allingham (MA) - I suggest that the public can make a comment whenever they feel it is pertinent. I feel that when the opportunity arrives they should be able to speak their mind. (Comment in reference to the public being provided with 15 minutes at the end of the meeting to ask questions.)

Chair - This meeting is open to the public, and as such we encourage people to attend and learn from the meeting. We hope that the CLC will bring comments forward from the community members.

Chuck Hall (CH) - We agreed as a group that (having the public speak whenever they feel is pertinent) would not be the case, as we wanted to ensure the public has time at the end of the meeting to ask questions after the Agenda items have been addressed.

Chair moves discussion forward

### MA - Whether or not Bob or I were in attendance, these decisions need to be put past us as well.

Chair - All CLC members were given a chance to comment on the meeting outcome (i.e., code of conduct) in advance of tonight's meeting. The information was mailed to all committee members for their comments.

Chair then provided a recap of Meeting #2.





#### 2. Recap of Meeting #2

#### **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 the Municipality of North
- Middlesex in Middlesex County
- 45 turbines, w/ 80 metre towers and 50.5 metre blades
- · Generating capacity of 72.9 MWs
- Status of background studies and approvals.
- Outline of construction process

#### **Public Attendance and Depositions:**

- Local residents in attendance
- No depositions

#### Meeting Summary for our 2<sup>nd</sup> CLC Meeting:

- A draft Meeting Summary was prepared by AECOM and circulated to the CLC on June 3 2014
- Members were asked to advise AECOM of any errors, omissions or changes by June 17 2014
- No suggested changes were received
- The Summary was posted to NextEra's publically accessible website on June 24 2014
- CLC members were also emailed the final Summary on June 24 2014

Ben Greenhouse reviewed the Parking Lot Items from meeting # 2 (refer to slide 7).

Chair clarified that Muriel had comments from the public that she





## agreed to send to the CLC members. Muriel noted that police reports are available and construction keeps a log of incidents that the construction team is made aware of.

Ben Greenhouse (BG) - Perhaps we can put this on the Parking lot. To bring forward Incidents that were reported to the Ministry of Labour and the police:

### Adrian Cornelissen (AC) - From a safety perspective how many man hours were lost due to accident?

BG - NextEra can access the reports that they are aware of but it may be tough to get all of these reports. I have never done this before but if we can access this information we will get it.

Ben continued to review the Parking lot items;

### Have we developed any market research regarding disposal practices for blades?

Doug McIntosh (DM) - There is potential for blades to be turned into concrete fill, asphalt, etc. Moving forward NextEra has a team looking into further options so that when decommissioning occurs (in 20 to 30 years) there are plenty of options to consider when recycling the blades.

At a previous meeting I misspoke about the process for disposal practices for turbine blades. I have never decommissioned a facility, and was unaware of the disposal practices As mentioned NextEra has team which is researching options for decommissioned blades.

Member of the public stands in front of the camera which is recording the proceedings. Committee members asked this person to move so that the camera is not blocked. Public attendee refuses to move.

Chair notes that we have an impasse, and asks the Committee whether they would like to continue or wait.

- 2 voted that we continue
- 6 voted that we wait for the public attendee to move

BL - In your summary from the additional meeting, one of the things that you were asking for is mutual respect, we feel we have

### Provide information on:

- How many accidents?
- How many job stoppages?
- How many complaints to the police?
- Any incidents reported by companies or the public
- Number of lost man hours?





been treated with profound disrespect by NextEra. We feel we have been lied to at these meetings and this was a lack of respect.

Chair noted that as a Committee we want to move forward, and that moving away from the camera is simple request.

CH - We are asking that all cameras have access to record the meeting proceedings.

(The camera being blocked was moved. The public attendee continued to stand in the spot.)

Ben G. continued to discuss slide 9, introducing Peter Miller as the on-site contact.

#### MA - What maintenance has been required to date?

PM – The turbine's 'break-in maintenance schedule' is the maintenance that is occurring.

### Lucy Hendrix (LH) - What type of vibrancy options have been forwarded in the past?

Catherine Mitchell (CM) - In other areas, a community used the money to buy a fire truck as well as fund charitable organizations. The municipality would review applications received and then allocate funding. We have also had funding used for parks and community improvement projects. Applications are directed to the municipality and as such NextEra does not have a direct say in how this money is spent.

### LH - The municipality of North Middlesex will have the final say on how this money is spent?

BG - In the agreement we signed, there are general guidelines to suggest how we would like this money to be spent (i.e., energy efficiency, recreational facilities), but Bornish does not pick the projects.

#### Barb Shea (BS) - Are there any restrictions?

BG -There are no explicit restrictions. If NextEra were to have an issue with a project, we would hope to have a discussion with the municipality but we do not hold "veto" power.

AC - It would not be used for hiring staff or things like that. It will be





for the community benefit.

# BL - Regarding the turbine blade disposal, how long have companies been building turbines for? For about 20 -30 years. Nobody has thought of this until now. I am stunned to find out that nobody knows about this from NextEra.

DM - At the time of our last meeting I was not aware of NextEra practices for disposal of the turbine blades, this being said, NextEra has an entire team looking at this and will have more information regarding this as the project progresses.

Gary Zavitz (GZ) - Doug and I spoke at the last meeting, in Germany the metal and fiberglass is used for road aggregate and other applications.

BG - In 25 years we expect there to be new technology available but with that in mind we are open to discussing the de-commissioning plan.

Chair asked if there are any other questions. None were received.

NextEra to provide information on blade disposal processes (e.g., recycling and endues) at decommissioning. Include information on where grinding will happen and the transportation of the blades.

#### 3. Activities and Questions/Comments Raised Since CLC #2

Ben G. continued to review slide 8

### What happens to the Community Vibrancy Fund if the company changes ownership?

If Bornish or its parent companies are sold and the project changes hands, there is a clause in the agreement that the new company would have to abide by the original terms of the agreement.

### BL - Apparently there is a bond that NextEra has to secure funds for decommissioning?

BG – No, Bornish does not provide a bond but there are obligations under the REA to follow what is written in our de-commissioning plan. There are also obligations to follow in our contracts with land owners, and there are penalties if NextEra does not comply. There is an obligation through road use agreements with municipalities, and obligations to post bond for this as it gets closer to the decommissioning date.





BL - I noticed that Florida Light and Power (sic Florida Power and Light) does not directly own each of these wind farms. I have noticed that this money flows into Bornish and then to the parent company. Is there is an opportunity for Bornish to go bankrupt and then siphon these funds to the parent company? In Texas there was an agreement based on percentage of profits, there was one landowner who made no money as NextEra was not making profits. What happened is that they oversold the contract and then they can legally say we did not make a profit while the subsidiary makes a lot of money.

BG - I am not familiar with this situation but it is quite an outrageous allegation. There are situations in Texas where in some months turbines are not making a net profit and that could I suppose impact revenue sharing, but I have not heard about moving money to avoid making payments to landowners. If you could provide evidence before making allegations like this, it would be useful.

While NextEra does have individual companies set up for each wind project but these are not "shell" companies; the Bornish project company owns all the project's assets, which are worth well over 150 million dollars; even if the project for some reason was not selling power, the scrap value alone holds significant value.

### BL - What about the costs of taking the turbine down compared to the value of the scrap?

BG- We have commissioned independent reports that show that the costs of decommissioning are miniscule compared to the scrap value.

**BL – Why are so many dead turbines left standing in California?**DM – We are not aware of "dead turbines" standing in California. In fact, quite the opposite – we have taken down older machines in California and replaced with new machines.

## CH – (To BL) All of this information you provided at the meeting can you provide this in advance of the meeting so we can help expedite the meeting?

Chair noted that we have captured the information, and we should be concise with our questions to ensure that all members of the CLC have time to bring forth concerns.

Ben G. - Continued to review slide 8.

Bring in reports of scrap turbines material costs for next meeting.





# What is the price rate that NextEra gets for its electricity from the turbines and does this price stay the same for the full 20 year term of the contract? And does the company get paid even if the turbines are not producing?

Bornish's set price is 13.5 cents a KW hour. This price changes slightly throughout the contract, as it is linked to the Consumer Price Index (an economic measure measuring the price of a "basket" of goods). When we signed these contracts, the system rules were such that the turbines could sell power whenever they were generating. Since then the system operator has changed the rules to allow turbines to be "dispatched off", or curtailed - told to turn off. As a result of this rule change, there was a negotiation with the Ontario Power Authority (OPA), and now there are a certain number of hours every year during which NextEra must accept being curtailed without compensation. After that cap is hit, NextEra will be compensated for lost revenue should we be curtailed when NextEra would otherwise have been able to produce power.

#### MA - Do you report your gross or net output?

BG - In the metering plan that is required by the OPA, we specified that we are metering net output.

#### BL – I asked a few times at the open houses about the high price of the electricity being paid of the turbines. I was told that prices were locked in. Now I hear that is not true?

BG – It's a nominal increase; recognizing that operational costs increase with inflation in the general economy, 20% of our contract price is indexed to CPI. Historically, CPI has increased at an average of around 2% per year, meaning we should expect an increase of approximately 0.4% each year. Technically, the price could go down if CPI falls. I think the statement made at the open houses is still valid; when compared to inflation this remains a good deal (it is rising at 20% of the rate of inflation).

#### What complaints have you received?

Peter Miller (PM) - In the 34 days that I have been here I have received no complaints.

Charlotte Moore (CMo.) - Noted that they received one complaint





regarding habitat restoration and this was resolved in short order.

### MA - Have you received any comments about the Evergreen Substation? The Hydro One Substation?

DM - There was a Hydro One requested outage at the Evergreen substation.

#### MA - Why was there a requested outage?

BG - At the substation where the energy is transitioned to the correct voltage, there was an issue. Some of the switches that were installed had temporary motors. Hydro One took an outage to replace these motors so they could handle icing of the switch and could operate throughout the winter.

#### MA - Were there any complaints from the community?

DM - NextEra has received no complaints. If there were complaints from the municipality they would have to come to us.

Adrian C. - There are negotiations with NextEra to limit the noise from substations. We are working with the planners on a site plan.

BG - These negotiations were not a result of complaints to NextEra about noise from the substation – it was in response to concerns that had been raised prior to the commencement of operation.

AC- I would like to clarify that we approached both Hydro One and NextEra, and Hydro One was not interested in participating.

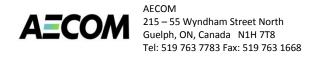
### MA – What is the difference between an issue and a complaint? BG - If someone called us with an issue, this then becomes a complaint.

DM - In this situation, the concern was expressed before operations began. If the project is in operations, we view this type of concern a complaint.

### Question from the public – During that shutdown, was NextEra producing power they could not put on the grid?

DM - We can't produce power without being connected to the grid.

#### BS - Were there any complaints regarding health?





BG - No there were not.

## Muriel Allingham noted that she does not appreciate that Gary Zavitz and Dean Jacobs are members of the Community Liaison Committee for the Bornish project.

Chair reviewed the CLC membership selection and that NextEra cast the net wide to ensure diverse opinions and experiences were brought to the Committee. An individual's stance on wind energy was not considered and NextEra wanted everyone to have opportunities to be heard and learn about the project. To encourage membership NextEra published in local papers (The Middlesex Banner, Parkhill Gazette, Turtle Island News). Through this process anyone who applied to the Committee and agreed to the Charter was accepted.

Barb Shea (BS) - Are any of the CLC members paid? Chair - No, none of the CLC members are paid.

4. Status of Post-Construction Activities

Ben G. reviewed slide 9.

### 1) Construction Clean up, Modifications and Road Repairs: July 2014 onward

- 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 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

MA: Why is Union Gas, for the Jericho Project and the Bornish Project, re-coating all their regulators? Is this because of stray





#### voltage? We were told this wouldn't be an issue.

BG: We worked with Union Gas and performed studies on the impact to their pipelines and found that stray voltage would not be an issue. What was highlighted though was that if there was a fault in our lines (such as a lightning strike) and the current went to the ground near the gas line, that the rising voltage in the ground could momentarily increase the voltage on the line. If someone was touching a gas line riser when such a fault occurred, they could – in theory – receive a shock. The work Union Gas performed was to ensure that this situation would not occur.

#### BL: They aren't concerned their pipes will blow up?

BG - Union Gas is always concerned about the safety of their lines, but based on the studies we performed, they are confident that this does not negatively impact the safety of their operations.

### BL: They did this work solely in case someone is holding a gas line during a lightning storm?

BG- In case of a fault, there are other things that could cause a fault, but yes – solely for that remote possibility.

## MA – Could it be the result of stray voltage? All this expense to Union Gas just to ensure nobody is electrocuted during a lightning storm?

BG – Again, our studies show that stray voltage is not an issue. This action is solely being taken for the reasons I described. The work was performed at the expense of NextEra, not Union Gas.

Ben G. continued to review slide 9.

#### Reclamation: (August to Spring 2015)

- 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)
- Largely finished with Reclamation

#### 5. Update on Project Commissioning and Operations

Doug M. reviewed slide 10.





**Wind Turbine Commissioning: August 15, 2014:** Requires Collection System, Substation, and Turbines to Start

- Turbine commissioning took place in sequential order prior to the planned Commercial Operation of the Project
- Portable generators were used to provide backfeed power for commissioning prior to being connected to the power grid
- Commissioning included testing and inspection of electrical, mechanical, and communications operability
- A detailed set of operating instructions were followed in order to connect into the electrical grid

**BG** –I will take a step back here, because it is getting a little technical. I'd like to explain that under our FIT contract, we need 90% of our turbines to be operational to meet the terms in our contract. When we talk about commissioning the turbines, this means we take the turbines that have been erected and ensure that they are connected, and fully ready to start generating power.

**DM** - After this commission testing was complete and no issues were identified, all 45 turbines went operational or what is called COD (Commercial Operation Delivery).

- 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

MA - There are two maintenance visits per year? DM - Yes, this is true.





## GZ - There is advanced monitoring equipment on each turbine where turbines are operated remotely, this is preventative schedule maintenance.

DM – Yes, this is correct. We are looking to move to predictive maintenance on an annual basis.

MA - Has there been any corrective maintenance on the turbines? DM – Yes, there have been some blown fuses, and the pitch harness tie wraps were not tight enough so we needed to change a few of those. Overall the project is running at a 99.6% rate, meaning that only 0.4% has required corrective maintenance to date.

#### MA - What causes these pitch harness issues?

Any rotating machinery will require maintenance. Once it starts running, we expect some early issues with a large rotating machine.

### AC - Can you speak to the conditions of the concrete being poured last year? Were there any structural issues?

BG - There are standard tests completed to ensure that the strength of the concrete was up to specifications. In Bornish, there were no issues. What may be confusing people is that there was some discussion in the community about one foundation in Adelaide that failed these tests. As a result, that foundation was removed and repoured.

BL - A local farmer asked me if I knew anything about trees dying from the calcium that was injected into the concrete due to pouring in cold weather. They think the calcium is affecting the trees downwind from the poured concrete.

BG: I have not heard any such concerns, nor can I confirm that we used extra calcium in the concrete.

#### MA - How much energy is required to start and stop a turbine?

DM - The turbines have 480 volt motors and I am unsure on the exact draw. If the turbine blades are active and there is enough power (1.6 KW/h) than no additional energy is required to start a turbine.

Doug M. continued to review Operations (slide 11)





- 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

These are remotely monitored in the Juno Beach office, The Fleet Performance and Diagnostic Centre is manned 24/7 days a week. A turbine will automatically shut down if there is something wrong and it cannot be re-set.

### Dean Jacobs (DJ) - Going back to the COD, were you awarded any acceleration days?

BG - Acceleration days (an incentive provided by the Government of Ontario as an incentive to complete projects early) were only applicable for projects that received contracts out of the initial round of the FIT program. This was not the case for Bornish, so we had no acceleration days.

Doug M. continued to review operations (slide 12)

#### **System Maintenance**

- GE 1.62 MW wind turbines are automated and have few maintenance requirements
- Initial maintenance of the turbines occurs approximately 500 hours after initial commissioning and routine preventative maintenance activities are scheduled as required
- Maintenance activities include changing of oil and gas filters, cleaning of gear boxes, replacement of worn parts and on-going inspections
- All maintenance activities adhere to the same waste disposal and spill prevention industry best practices undertaken during construction

#### **Unplanned Turbine Maintenance**





- Modern turbines are very reliable and designed to operate for approximately 25 years
- Minor component failure may occur (i.e. electronic cards, switches, fans or sensors) and can take a turbine out of service until the faulty component is replaced
- Replacement of a major component (i.e. gearbox or rotor) is atypical. NextEra would work with the County and the landowner to coordinate the delivery of any large equipment and repairs (if required)

MA - How many turbines required corrective maintenance in the Bornish project to date?

CH – If we are going to ask for this information, can we also have comparable information on other projects to benchmark this info?

DM - As a note, the Bornish project is running at one-fifth of the estimated down time. So we have only taken 20% of the expected down days.

Doug M. continued to review the Complaint Resolution process.

- NextEra acknowledges that some members of the community may have concerns regarding construction activities and longterm wind farm operations
- To resolve disputes in a collaborative manner, NextEra follows its complaints resolution process
- Should any complaints arise throughout the course of the construction, operation and decommissioning phases, a NextEra representative will contact the complainant to understand and seek a resolution
- NextEra will notify the local MOE (Ministry of Environment)
   district office of the complaint within 2 business days of
   receipt of the complaint (1 business day if the complaint is
   related to Ground Water)
- The MOE notification will include:
  - Description of the nature of the complaint;
  - Wind direction at the time of the incident related to the complaint;
  - Time and date of the incident related to the

Provide maintenance records for Bornish, and compare to other projects of a similar size





complaint; and

 A description of the measures taken to address the cause of the incident and to prevent a similar occurrence in the future

GZ - Maintenance on these is not unlike a computer, in the first 60-90 days you find out the issues. This is a burnout rate where things get ironed out.

#### MA - What is Gary's paid position?

GZ - I am not being paid to be here. I am committed to wind energy as an educator and advocate. I was part of the group that built the downtown Toronto co-operative model.

#### Doug M. continued to review dispute resolution process

- NextEra will provide the local MOE district office with written records of the complaint within 8 business days of the complaint
- As soon as possible, no later than three (3) days call complainant to follow up
- Prepare letter to respond to customer/citizen and mail within
   5 days of receiving complaint
- Information requests and complaints about the local operations and maintenance can be addressed to:

NextEra Energy Canada, ULC 390 Bay Street, Suite 1720 Toronto, ON M5H 2Y2 Toll Free Phone: 1-877-463-4963 Main Office Line: 416-364-9714

Email: bornish.wind@nexteraenergy.com Website: <a href="https://www.NextEraEnergyCanada.com">www.NextEraEnergyCanada.com</a>

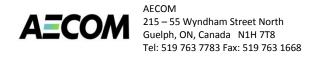
**NOTE:** NextEra contact information to be updated.

#### 6. Monitoring and Mitigation Measures

Doug M. reviewed the monitoring and mitigation measures.

#### Environmental Effects Monitoring Plan:

 In accordance with the requirements of Ontario Regulation (O.Reg.) 359/09, the Environmental Effects





Monitoring Plan addresses various elements including, but not limited to, heritage and archaeological resources, natural heritage features and noise

#### Noise

 The Provincial Environmental Protection Act (EPA) requires that noise emissions for any new projects must not have any adverse effects on the natural environment and not exceed 40dBA when wind speeds are of 6 metres/second and below

NOTE: the allowable noise levels increase during higher wind speeds.

- Prior to construction, a Renewable Energy Approval (REA) was obtained with measures to be adhered to, i.e. noise modeling by independent consultants
- Noise emissions will not likely change unless there is damage to the equipment (immediately recognized by the computer monitoring system and addressed by the operations team)
- Acoustic Emission and Immission testing will be conducted following COD. Results are then reported to the MOE.

Catherine Mitchell noted that we can provide a summary of the results once the MOE approves.

#### AC - To what level is noise allowed to increase to?

BG – The rules state that noise is allowed to increase up to 51dBa under certain wind conditions, but we often see that turbines are already at their loudest at the lower wind speeds, so there is no increase in acoustic emissions as the wind speeds rise. The noise output beyond 6m is no louder than it is beyond 6m/s.

### AC –When the wind increases, the allowable noise is increased to 51dBa but we do not expect it to exceed 40 dBa.

BG- Yes, MOE wanted us to allow for ambient sound from wind and that is expected to go up to 51 dBa but we don't expect it will be more than 40 dBa.

Doug M. continued to review the monitoring and mitigation measures.





#### Species-At-Risk (SAR) Monitoring

- Species at Risk mortality monitoring occurred during the summer of 2014
- Monitoring was conducted in accordance with MNR requirements
- All 45 turbines were searched monthly
- No Species at Risk mortalities were documented during 2014
- Annual report will be prepared in winter 2014
- Species at Risk Monitoring continues for the life of the project
- 2015 Species at Risk monitoring will begin May 1

#### Bird and Bat Post-Construction Monitoring

- Monitoring will be conducted in accordance with requirements of the REA and MNR Guidelines
- Monitoring will begin May 1, 2015
- Turbine searches will occur twice weekly from May 1st through October 31st, and raptor surveys will continue weekly from November 1st through November 30th.
- Correction factors are applied in order to calculate overall estimated mortality rates across the project
- Annual report provided to MNR by March 31 following each year of monitoring
- 3 years of monitoring are required

#### MA - What does this monitoring entail?

DM - There is a third party contractor who sends searchers out twice a week.

#### MA - Who is this third Party?

DM- NRSI, Natural Resource Solutions Inc.

### Question from the public: Are all turbines searched or just certain turbines?

DM - the REA requires us to search a percentage of turbines; 14 turbines out of 45 turbines bi-weekly, and all 45 turbines each month.





#### Question from the Public: Isn't May 1<sup>st</sup> a little late?

CMo. - May 1<sup>st</sup> is what is set by the Ministry of Natural Resources (MNR).

Doug M. then provided further detail on the monitoring search activities.

Everything found by a searcher goes into a multiplier (a searcher efficiency score and scavenger rate). The company puts out carcasses and depending on how many the searcher finds, they are given numeric searcher efficiency. A scavenger rate is also determined by putting out carcasses and checking on how many have been taken by scavengers. There is a scavenger rate multiplier and searcher efficiency and the area searched which goes into an equation.

Doug M. continued to review Natural habitat monitoring.

#### **Natural Heritage Monitoring**

- Post construction monitoring of certain wildlife habitats is required by the REA
- Bald eagle nesting, foraging and perching habitat
- Habitat monitoring will begin in 2015, in accordance with the requirements of the REA
- 3 Years of habitat monitoring is required
  - 3 years of bald eagle nesting, foraging and perching habitat monitoring
  - 1 year of amphibian woodland breeding habitat monitoring.
- Annual reports will be submitted to MNR by December 31 of each year of monitoring

MA- What percentage of birds get hit, don't drop at the turbine, and fly a little while away? How does NextEra account for these? CMo. - The 50 metre radius is set out by the MNR and that is what we follow. If they are within radius or we incidentally notice them outside this radius than we consider them.

DJ - Regarding language for the SAR, it says there is an annual report prepared. Will we have access to the MNR reports that are submitted?

CMo. - There are different requirements, for mitigation we are





required to prepare this report and be ready to submit within 14 days of request. For the Natural Heritage report we need to submit these reports. We can provide a summary of these reports in 2016 once they are released.

### MA - What will you do if we find a new species of bat? What is the mitigation?

DM - We have a mitigation plan approved, and it includes the listing of the two new bats.

#### AC - Will the reports be provided to the CLC?

CM - We will be providing a summary of the results when they are released in 2016.

## Question from the public: What was the formula used to create the Vibrancy Fund? Was our municipality penalized because we took you to court?

BG – Our standard formula is \$3,500 per megawatt per year, and that is what North Middlesex received. This did not change because of any legal action. The municipality was not penalized. This is per megawatt installed. There are allowances if our tax assessment or rates change significantly over the life of the project (lose capacity); then is the CVF can be adjusted.

### DJ - The rate for your contract is relative to the CPI, so does this amount go up relative to CPI?

BG - I will get back to you on this. But most municipalities wanted to have set rates. To clarify, this was originally thought of as a royalty but this changed to have an escalating price.

**UPDATE:** BG- No, the CVF payment does not increase with CPI. This is logical as the 0.4% increase is intended to compensate for increased costs due to inflation and shouldn't represent an increased profit.

### Where is the approved facility to handle waste debris produced by construction?

BG – The facility used would depend on the type of debris (e.g., oil would be sent to an approved recycling facility.) We can find the contractor and provide this to the CLC for meeting no.4. There are certain legal requirements for disposal of material that we follow.

Provide disposal practices for the various types of construction debris, and the names of landfills / recycling





How many prescribed incidents did you have under reg 213/91? If available, NextEra will provide this information for the next meeting.

facilities used.

Provide list of incidents under Reg. 213/91

### The May 1<sup>st</sup> date for birds seems early. Why not March when the birds are coming?

CMo. - These dates are identified by the MNR for the birds and bats migrating over our study area. These dates can be extended depending on the species in question, for example to start in April for tundra swans, however no significant stop overs for the Tundra Swans were within the Bornish project.

### What carcasses do you put out? And how will NextEra make this information available to the public?

CMo. - We put out migratory bird and bat species. We don't put out any resident bat species. The information relating to these searches will be made available to the public via the NextEra Bornish project website.

http://www.nexteraenergycanada.com/projects/bornish.shtml

### Is the company that puts out the carcasses the same company that searches for them?

BG- Yes, this is the same company. As a note the searcher efficiency trials are done throughout May  $\mathbf{1}^{st}$  to October  $\mathbf{31}^{st}$  and have monthly evaluations.

## AC – Given that the Provincial Policy Statement (PPS) wants to reduce the amount of land taken out of production, how is NextEra going to work with the Province to do this?

BG- There is nothing specific we are working with the government on for this. Keep in mind that there is also a desire expressed in the PPS for the promotion of renewable energy. While solar farms are restricted from certain land classifications or farm lands, my understanding is that the government believed that the relative amount of acres taken out of production with turbines compared to the economic benefit to land owners is not significant enough to warrant any such restrictions on wind projects.

Provide clarity on the search process





### AC – Can you provide a response of how many hectares of land has been taken out of production?

BG-the average is about 1.5 acres per a turbine, but I can get you the exact numbers.

CH - In 2015, there are 2 nuclear plants going offline for repairs and reconfiguration. They showed that there are six points in August where peak demand is high due to weather patterns, and there is speculation that weather patterns are going to continue to affect demand. What contribution will wind turbines offer in 2015 when those reactors are taken offline?

BG - The Bruce plant has recently brought a couple of nuclear reactors back online, which is what primarily allows the other reactors to go offline. Wind and nuclear energy are not directly interchangeable as nuclear provides dispatchable power, unlike wind power that is variable. However, variable does not mean unpredictable. We are required to inform the system operator what NextEra will generate in the future and we are fairly accurate. There has also been discussion of increasing grid connection with Quebec increasing dispatchable power such as Hydro from Quebec.

Action Item- NextEra to provide details regarding supply in peak demands times for the next meeting.

### AC - In our last meeting, you indicated that there was no appetite for further development, is this still true?

BG - Simple answer is no. There is more development planned, but we are not planning to procure more land use in North Middlesex.

#### Where is NextEra looking to expand?

BG - We are looking in Lambton County and Middlesex County, but not North Middlesex. As this is a competitive process I cannot provide more details.

BL - If I were going to enter a project to achieve something I would measure the inputs versus outputs. For NextEra, this is about money but for the Government this seems to be about energy produced. To my understanding there have been no studies looking at the total energy required to mine rare metals and transport the parts to build and decommission these turbines.

DM - There are no rare earth metals in our turbines.

Provide hectares of land taken out of production per turbine; for the Bornish project.

Provide details regarding supply in peak demand times.





#### BL - Is there material coming from China in your components?

DM - I can't 100% answer that question but I would assume some of our electrical components are made in China and other countries.

NextEra to provide VESTAS study to CLC members

# GZ - Do you have any IESO or other data to support this? You mentioned predictive data. Is there something there based on the 10% or 50% to support this. (What factors is IESO comfortable with; 10 to 15 percent penetration?)

NextEra to provide study regarding IESO 10-15% penetration.

BG - There is always variability in the grid. The largest source of variability is load — customers switching their lights and machines on and off. Wind turbines do not appreciably add to the variability of the grid. At the levels of penetration we have in Ontario, wind turbines do not require any further backup to be built. No one is suggesting a power system built entirely on wind-turbines, but the Province has significantly increase wind generation with no additional gas or coal fired plants built to support wind energy. In fact, they are retiring dispatchable power plants. To answer the second question there is a study that we can refer you to that can provide more information regarding the carbon footprint of turbines.

Are there more leases being signed, I heard there are current leaseholders who have signed additional leases for new turbines.

BG - There may have been confusion; this could have been forms signed for crop compensation or an acoustic monitoring station. We have not been active in North Middlesex other than the project infrastructure already in place.

Chair noted that we will reach out for additional Agenda items via email.

#### 7. Depositions

None were submitted.

#### 8. Tentative Items for Discussion at Future CLC Meetings

#### **CLC Meeting #4**

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





_	Post-Construction Activities (e.g., reclamation or	
_	required repairs) Provisions for Decommissioning	





#### **PARKING LOT**

Topic #	Parking Lot Topic	Response / Action
1	Place Agenda in Meeting Notices and send Agenda to municipal clerks.	AECOM will provide an Agenda in meeting notices for all upcoming meetings and as well will send a meeting notice to municipal clerks.
2	Provide CLC members with:  - How many accidents - How many job stoppages - How many complaints were made to the police - Incidents reported by the companies and by the public  Also include information on how many prescribed incidents did NextEra have under reg. 213/91 for this project?	NextEra to compile this information from the Ministry of Labour and the Police and prepare for next meeting.
3	NextEra to provide information on blade disposal processes (e.g., recycling and endues) at decommissioning. Include information on where grinding will happen and the transportation of the blades.	NextEra to provide further details at the next meeting.
4	Information required for where the grinding will happen and how the blades will be transported.	NextEra to provide further details for next meeting.
5	Address questions regarding the cost of decommissioned turbines.	Bring in reports of scrap turbines material costs for next meeting.





6	Provide maintenance records for Bornish, and compare to other projects of a similar size.	NextEra to review all work orders and to provide information for next meeting. Also to provide comparable information for similar projects for reference purposes.
7	CLC would like to know if the CVF rate is relative to CPI, and will it increase with CPI?	Information provided in meeting summary (pg. 23)
8	More information required on the disposal practices, the types of debris, and the names of landfills or recycling facilities used for Bornish project.	NextEra to provide for next meeting
9	Clarity provided on the searching process	NRSI to provide more clarity on the searching process for mortality monitoring for next meeting.
10	More accurate information is required as to how many acres of land will be used by the Bornish project.	NextEra to provide for next meeting
11	Provide further details regarding supply in peak demands times	NextEra
12	Provide link to VESTAS study regarding the environmental footprint	NextEra to provide link to study
13	What factors is IESO comfortable with 10 to 15 percent penetration	NextEra to provide study for next meeting





### **Appendix A**

**Code of Conduct** 





#### **Bornish - CLC Meeting Effectiveness Evaluation Meeting**

#### December 1, 2014 - Parkhill Legion, Parkhill Ontario

#### **Code of Conduct**

On December 1, 2014, the CLC members were invited to participate in a working group to determine how the CLC meetings can be more effective. Six members of the committee attended and identified actions, behaviours and responsibilities for all parties of the CLC meetings.

As outlined in the Community Liaison Committee Charter, the members will provide input and engage in discussion in a respectful and constructive manner.

### As such, the <u>CLC members and other meeting participants (e.g., AECOM, NextEra representatives)</u> <u>agree to:</u>

#### Respectful Dialogue

- Demonstrate mutual respect for meeting participants by genuinely listening to and considering others' opinions
- Be aware of the time you spend speaking and be sure to share this time with others
- Remain seated when voicing your opinion and present yourself in a positive manner
- Be patient when listening to other meeting participants speak, and do not interrupt
- Do not make derogatory or accusatory statements

#### Constructive conversations

- Adhere to the Meeting Agenda and respect the direction provided by the Chair
- Talk one at a time, waiting to be recognized by the Chair, and limit side conversations
- Do not re-hash items already discussed and resolved; keep focused on the topics at hand

### To uphold the Code of Conduct and ensure the effectiveness of the meetings **AECOM (Facilitation Team) agrees to:**

- Provide 'question period' for members of the public at the end of the CLC meeting (15 minutes)
  - Meeting observers will be able to ask one question, along with a direct follow-up question
  - o Identify in the meetings when people are not being respectful
  - Establish Rules for video-taping, (i.e. stationary location)
  - Set the boundaries for Committee members so they are aware of topics that relate to Agenda items and Parking Lot items.
  - Provide the CLC an opportunity to provide feedback on what a successful meeting looks like and the metrics for measuring this success.

#### NextEra agrees to:

- Answer the tough questions; transparency helps the Committee move forward in conversation
- Pro-active communications regarding project details, known point of contact for concerns relating to the project.
- Provide Agenda to the CLC members at least two weeks before the meeting.
- Provide Agenda in meeting notices that are published
- Send notice directly to Municipal Clerks for posting on Municipal and County websites