

Hermanville/Clearspring Wind Plant EIA
Disposition table: Public and Technical Review Committee Comments Dated 18 March, 2013

Comment	Response
The report makes reference to the fact that there are no buildings in the area that are more than 100 years old. Would you please explain the significance of this comment, i.e. what it would mean if there were any such buildings?	This is a standard approach to archaeological survey work made as a statement of fact.. If there were existing structures that are more than 100 years it may require additional consideration.
Please include the names and titles of the people who collected the data and drafted the report. Please explain what any abbreviations stand for (e.g. CET, ET, Env. Tech, etc).	Presented in Table 2.2 of EIS report, page 20. M.Sc.-- Master of Science, CET -- Certified Environmental Technician, Env. Tech -- Environmental Technician, B.A. -- Bachelor of Arts, M.A. -- Master of Arts, RPA -- Registered Professional Archaeologist.
What precautions/solution/compensations will there be for noise disturbances local residents may experience? Please respond to how this will be monitored and what recourse there will be if the noise decibels rise above the allowable limit recommended by any applicable regulations	See Appendix D of EIS Noise Impact Assessment Report, Section 6.0, Conclusions and Recommendations.
The 10 meter buffer zone reference must be changed to 15 metres to address provincial standards.	Verified. Recognized that "10 metre buffer zone" should read "15 metre buffer zone" in the document.
In situations of wildlife monitoring, planting of trees, or any other type of work that staff of Souris & Area Wildlife (SAB) have the expertise in handling, SAB would like to chosen or considered to perform the work as they are close to the facility, could do the work more economically, and are recognized within the community.	Noted
The noise threshold used was 45DB of which modeling suggested that no receptors would exceed that value. Health Canada suggests that the threshold of 40DB. Could you give the rationale of 45 vs 40DB?	Appendix D of EIS, Noise Impact Assessment Report, Section 5.2, page 8 provides the rationale for establishment of Allowable Noise Limits.
Were these hearings purposely scheduled at this time to prevent / discourage landowners, out of province, from attending?	No. The February, 2013 event was an Open House to provide information and present the EIS in the local area, it was not a hearing. It was merely a method of allowing for information to be presented in another format in addition to those already in place (i.e., PEIDELJ website, printed copies available in local libraries,

	public notification, etc.). The Open House date is established under EIS regulations and is related to the date of submission of the EIS document to PEIDELJ.
What is the cost of the Project ?	Does not apply to the Environmental Assessment
What / Who is the source of the funding? What province (or state) will benefit from the electricity generated?	Does not apply to the Environmental Assessment Prince Edward Island. Section 2.2.1 & 2.2.2 Environmental Impact Assessment, page 11.
What is the total benefit to the area forced to host these turbine?	Does not apply to the Environmental Assessment
Who is responsible for the decommissioning?	The owner of the facility is responsible for decommissioning. Section 2.6.4 and Section 5.4, Environmental Impact Assessment
Why there is no mention of sharp tailed grouse, curlews, blue herons and bald eagles? In fact there is a large bald eagle nest on adjacent to pid# 113704 and 2 eagles have resided there since 2009. If a thorough study was done, why was this missed, it is directly below noise receptor #18, less than 1.5K from the project zone? Now that this eagle's nest has been identified, what precautions will be made to insure they are not displaced or harmed?	<p>Noted</p> <p>While a population of sharp tailed grouse (a non-native species) has been established in the Hermanville area, they are typically prairie and open savannah dwellers. Sharp tailed grouse were seen on just two occasions during the fall surveys near the northeast corner of the site along the roadside transect, more than 500 m from the nearest turbine location. There is no suitable habitat for sharp tailed grouse in the wind farm area, as it is essentially all wooded with the exception of one open field on the south east corner of the project footprint. No activity (construction or operational) will be carried out within 300 metres of that open area.</p> <p>Curlews (whimbrels) do not nest in Atlantic Canada but feed on berry barrens, mudflats and estuaries during the fall migration. No such habitat exists on the project footprint.</p> <p>Great Blue Herons are common in the general area, typical habitat is rivers, lakes and marshes. Nesting is communal in rookeries, usually adjacent to watercourses. Great Blue Herons were observed during the fall migration survey on three occasions, at the north edge of the property along Highway 16, more than 500 m from any turbine location. However, there is no suitable habitat adjacent to any wind farm activity.</p> <p>The eagle nest identified will be in excess of 1.5 km from any project activity. During the field surveys, there was only a single observation of a Bald Eagle during the breeding season, and they were only occasionally sighted during the spring and fall surveys, suggesting that the study area does not support high Bald Eagle activity. No mitigation required.</p>
What precautions will be taken to insure that the Cross River Watershed will not receive excess sediment runoff? Who will pay the fine if this occurs?	Refer to Appendix A, Environmental Protection Plan. Section 3 (Page 7) indicates general watershed protection measures required. Section 5.1 (Page 24) indicates specific erosion control measures required. The project proponent is responsible for implementation of these measures.

<p>What will the PEI gov't do if it is determined by the Federal Wind Study that the health effects are real? What if families become ill - where do they turn to if the doctor thinks it's connected to the turbines?</p>	<p>Does not apply to Environmental Impact Statement</p>
<p>Why is this project proceeding when our own Federal Govt is currently conducting study on the harmful effects of windfarms and the report will come out after this project is completed?</p>	<p>Does not apply to Environmental Impact Statement</p>
<p>Why was it publicly stated 1 year ago that no turbine will be near the road and suddenly turbine #6 is right next to the road? Can this turbine be moved further away from the road for the safety of the traveling public?</p>	<p>Noted. Turbine #6 will be located approximately 250 metres from the public road. Section 54.1 of the Subdivision and Development Regulations of the Prince Edward Island Planning Act require any turbine to be a minimum of the total height of the turbine plus rotors away from a roadway. The turbines to be used are 92 m hub height with a 58 m rotor blade – total height, 150 m.</p>
<p>What precautions will be taken to reduce the threat of ice throw? What compensation will there be if ice damages a car and causes an accident?</p>	<p>See EIS Sections 5.3.4 (Pages 151 – 154) Operations and Maintenance, Accidents and Malfunctions, specifically 5.3.4.2, Recommended Mitigation and section 7.0 Effects of the Environment on the Project (pages 177 & 178.). Also Appendix A, Environmental Protection Plan, Section 4.4 Ice Throw.</p>
<p>Why were people paid \$500.00 before the project zone was completed?</p>	<p>Does not apply to Environmental Impact Statement</p>
<p>Why was a real estate evaluation not done and what guarantee can you provide that my property value won't go down?</p>	<p>Does not apply to Environmental Impact Statement</p>
<p>Include more information on the make, model and performance of the proposed turbines.</p>	<p>The Acciona Windpower AW3000/116 is the proposed wind turbine for the Hermanville/Clearspring Wind Farm. The AW3000/116 is a 3 bladed, up-wind, pitch regulated turbine, mounted on a tubular steel tower. The proposed configuration has a 116m rotor diameter, a generating capacity of 3.0MW, and a hub height of 92m. The cut-in wind speed is 3m/s and cut-out wind speed is 25m/s. Rated power is reached at a wind speed of approximately 13m/s. The rotational speed of the rotor ranges from 10.1 RPM to 15.5 RPM. These general specifications are summarized below.</p> <p>Rotor Diameter (m) 116 Hub Height (m) 92 Generating Capacity (MW) 3.0 Cut-in Wind Speed (m/s) 3 Cut-out Wind Speed (m/s) 25 Rated Wind Speed (m/s) 13 Rotor Speed (RPM) 10.1 – 15.5</p>

<p>Could Turbine 6 potentially impact piping plovers on the beach 1 mile away?</p>	<p>No. Piping plovers are shore birds which are rarely found away from the coast (Burrows, Birds of Atlantic Canada, 2002). Critical piping plover nesting habitat in the general area is located at Naufrage Harbour (approximately 6 km from wind farm site) Priest Pond (approximately 7 km from wind farm site) and East Lake (approximately 14 km from the wind farm site) (Prince Edward Island Piping Plover Atlas (2010 edition) Island Nature Trust)</p>
<p>Would the Energy Corporation consider paying local land/homeowners fair market value for their property if they are negatively impacted by this project?</p>	<p>Does not apply to Environmental Impact Statement</p>
<p>In April of 2012 the Energy Corp was negotiating to place turbines in Eastern Kings, however this location was aborted and moved to Hermanville at some point thereafter. Why was a bird study being done in April in Hermanville?</p>	<p>In April 2012 there was no assurance that the project would proceed in Eastern Kings so the next most prospective site for a wind resource, Hermanville/Clearspring was assessed. A bird survey is required to gather bird information for any potential location, thus a decision was made to collect data at both sites. .</p>
<p>Does Frontier Power have Expertise in acoustic engineering?</p>	<p>Yes. All noise propagation modeling and analysis has been carried out by a licensed professional engineer with expertise in this field.</p>
<p>Is there noise data available from the actual turbine model that is being proposed?</p>	<p>Yes. It is presented in Section 3.2 Turbine Noise Data, page 3, Appendix D.</p>
<p>Appendix D of the report mentions noise modeling. The report states how unpredictable the modeling could be. Why does the EIS not include real-time testing?</p>	<p>Appendix D provides extensive information on the noise modeling process and protocols. Any "unpredictability" is taken into account by using higher levels or "worst case scenarios", none-the-less, Section 6 of Appendix D recognizes the "variability in human perception of noise and the potential occurrence of higher noise levels during some meteorological conditions" and recommends a methodology for dealing with these potentialities.</p>
<p>Why is there no spring floral survey and why is one not recommended?</p>	<p>All turbine sites, roadways, transmission line locations and any other potentially disturbed areas associated with the project were subjected to botanical scrutiny during the on-location surveys. In addition to plant identification, habitat types were also noted. Early spring ephemerals could not in some cases be identified to species, however habitat type and other site information for identification was adequate to indicate the presence of any rare species in areas to be disturbed. A thorough review of the ACCDC information was conducted prior to field surveys so that during the field survey the habitat type of rare spring ephemerals previously identified in the area could be identified. Mitigation and small relocation adjustments were made as required to avoid any potentially sensitive habitats. Thus, as a result of the survey work carried out, no populations of rare or sensitive species are likely to be at risk.</p>
<p>The EIS states that little is known about the population dynamics and</p>	<p>Firstly, of a total of 1,166 bat occurrences logged during the study period, 99.6% of those occurrences were <i>Myotis spp.</i></p>

<p>reproduction biology of the Long Eared Bat, yet it concludes that the project poses minimal risk to bats. How is this conclusion drawn?</p>	<p>(either little brown bats or northern long-eared bats), non-migratory species. Non-migratory species generally are active at low levels. This proved to be the case at Hermanville/Clearspring. Only two occurrences of bats (both <i>Myotis spp.</i>) (0.17%) were recorded in the atmosphere above 34 metres, in the zone where turbine rotors will be turning. This would indicate minimal risk to bats during the operational phase of the project.</p> <p>The overall project location has been subject to extensive forest harvesting in the past. This appears to have provided some good foraging opportunities for bats in the area (see Appendix C – Pre-Construction Bat Monitoring Report). By comparison to past changes, the forest alterations associated with the establishment of the wind farm will be small. Thus the conclusion that with mitigation in place to minimize habitat disturbance during construction, and the lack of activity in the elevations where rotors will be turning during operations, the project will likely present minimal risk to bats. I</p>
<p>The EIS states that there are multiple factors/situations where bats are at risk in the vicinity of wind turbines yet the conclusion states the risk is low (ie. Baro-trauma is referred to as a concern, but makes no reference as to how this will impact local bat populations). Please explain in more detail</p>	<p>Please reference Response to the comment #39, immediately above. Also, reference Appendix C – Pre-Construction Bat Monitoring Report, Section 6, pages 28 - 30 for detailed explanation.</p>
<p>Bird studies conducted prior to June 2012 were conducted by Frontier Power Systems - the consultant hired to promote and manage the project. Would this be conceived as conflict of interest?</p>	<p>No. The bird survey field work done in the spring of 2012 was carried out in accordance with a well established project methodology developed by the late Brian Dalzell (Avitech Services) in discussion with Environment Canada scientist John Chardine in 2008. The methodology was developed initially for wind farm locations in the North Cape area of PEI. The field ornithologist carrying out the Hermanville/Clearspring survey work did the work on the North Cape locations under the direction of Mr. Dalzell.</p>
<p>If the noise impact of wind turbines in minimal, why does the EIS recommend establishing a noise complaint mitigation protocol and suggest an adaptive management approach such as upgrading homes for noise impedance or installing noise screens? Has this been implemented in past PEI Energy Corporation projects?</p>	<p>Appendix D provides extensive information on the noise modeling process and protocols. Any “unpredictability” is taken into account by using higher levels or “worst case scenarios”, none-the-less, Section 6 of appendix D recognizes the “variability in human perception of noise and the potential occurrence of higher noise levels during some meteorological conditions” and recommends a methodology for dealing with these potentialities.</p>
<p>The EIS recommends mitigation measures to potentially protect residents against shadow flicker. What will be the criteria for determining eligibility for mitigation measures, who will be making these</p>	<p>Appendix H, Shadow Flicker Assessment Report outlines criteria for determining shadow flicker. Page 11: “A commonly used assessment criterion or allowable limit for shadow flicker is 30 hrs/year and 30 minutes per day.”</p> <p>The wind farm owner will pay for required mitigations.</p>

decisions, and who will pay for these mitigations?	
Health Canada advises that the predicted noise levels include noise from the substation with a 5 dB adjustment if the noise is expected to be tonal.	The Noise Impact Assessment has been revised to include noise from the substation transformer (Hermanville_NoiseImpactAssessmentReport_R2_20130308.pdf). It should be noted that the proposed substation is located over 600m from the nearest noise receptors. With the transformer included in the noise propagation model, the maximum increase in the predicted sound pressure levels at the nearest noise receptors is 0.02 dB(A).
Will compensation be paid to allow replacement of the provincial forest lands and also to acknowledge the fragmentation of the habitat and its usefulness to wildlife?	There is no compensation plan expected to be paid.
Provide numbers and species of fish collected/encountered during fish surveys.	Eastern Brook Trout, 5 specimens, all less than 12 cm
Note that all access roads or site roads planned to connect to a provincial roadway will require Entranceway Permits from the Department of Transportation & Infrastructure Renewal.	Comment noted.
Note that permits are required for the transport of any oversized/overweight loads on provincial right-of-ways. These permits are available through any Access PEI Office.	Comment noted.
	<u>Specific Questions and Comments</u>
Actual noise levels may exceed predicted levels due to site-specific factors, and noise modeling using turbines as point sources rather than a line source may also underestimate actual noise levels at the nearest receptors. Health Canada advises that additional mitigation may be necessary in order to reduce noise levels at the nearest receptors, particularly in the event of public complaints.	<p>It should be noted that the land area encompassing the ten proposed turbine sites is greater than 350 hectares, and the separation between individual turbines ranges from approximately 500 meters to 900 meters.</p> <p>Modeling this irregular array of wind turbines (or any wind farm) as a line noise source would be an experimental approach. The model parameters, input data, and results would all require extensive validation. This approach may be better suited to a research project using an existing wind farm.</p> <p>Noise propagation modeling for this project was carried out using the industry standard calculation method and standardized input parameters. This calculation method (and input parameters) meets the "best practice" guideline set forth by the Canadian Wind Energy Association. This method is specifically required by regulators in many jurisdictions.</p>

	<p>Section 5.5 and 6.0 of Appendix D to the EIS clearly states that higher noise levels may occur under certain conditions, and recommends the development of a noise complaint mitigation protocol to receive, assess and respond to potential noise complaints. Several examples of potential mitigation measures are provided (see in addition pages 141 to 145 of EIS).</p>
<p>Based on current research, large wind turbines do produce LFN, modeling may underestimate LFN levels during turbine operation, and annoyance is greater when LFN is present. If the sum of sound levels in the 16-, 37.57-, and 63 Hz octave bands exceeds 70 dB, Health Canada advises that additional mitigation be implemented in order to protect nearby residents from LFN. If the C-weighted Ldn exceeds the A-weighted Ldn by more than 10 dB, the percentage highly annoyed can be calculated using ANSI S12.9-2005.</p>	<p>It is noted that Health Canada advises that additional mitigation be implemented in order to protect nearby residents from LFN.</p> <p>The IEC61400-11 standard for determining the sound power levels from wind turbines does not require measurements below 50 Hz, and therefore no octave sound power data is available for the proposed turbine type below the 63 Hz octave band. Furthermore the ISO 9613-2 calculation method is only intended to be used with the eight octave band frequencies from 63 Hz to 8 kHz. This makes it difficult to assess LFN relative to the 70 dB “rattle criterion” without measurements of post construction operational sound levels. The assessment of C-weighted Ldn versus A-weighted Ldn can only be completed through post construction, operational sound monitoring.</p>
<p>Provide a description of the specific steps taken to minimize/mitigate the loss of mature and interior habitat for migratory birds.</p>	<p>Please review the following sub-sections in Section 5 – Impact Assessment, Mitigation and Residual Effects. 5.1.2.2 Avian Species Fauna (pg 106); 5.2.2.2 Fauna (including avian species) (pg 124). Also Table 6.1.</p>
<p>A discussion of cumulative effects should be provided to address impacts of further loss or fragmentation of habitat on migratory bird species, particularly the most vulnerable species, those which prefer mature forest habitat and/or relatively large tracts of interior and mature forest in the project area. While an account of past, present and future projects and activities is a starting point in a cumulative effects assessment, the analysis should consider how impacts of further loss or fragmentation of habitat from the</p>	<p>The total wind farm site comprises 1103 ha. The total footprint area to be disturbed for the establishment of the wind farm is 19.55 ha (1.8% of the total site). Some 69% of the disturbed area will be linear, that is, roadways and/or transmission line. As noted in Figure 2.4, page 23, the disturbed areas for a typical roadway will be 8 metres in width. A combined roadway-utility corridor will be from between 20 and 30 metres in width. Each individual turbine site will require a disturbed area of 0.56 ha. The sub-station location will require a 100m² disturbed area and the service building will require a 350m² disturbed area.</p> <p>Thus, impacts will be linear and narrow, or small openings, less than 0.6 ha, and will affect 1.8 % of the wind farm site. In addition, only a portion of that disturbed area will be in mature forest habitat. This level of habitat loss compared to other activities past, present and likely future in the area is likely</p>

<p>proposed project will combine with habitat fragmentation or loss that may have already occurred in the project area.</p>	<p>insignificant. Also, these disturbed areas are not expected to present a barrier effect to species of birds or other animals.</p>
<p>On Pg. 59 of the EIS it states: “The methodology of these surveys was based on previous survey work completed in the area, which had been developed in consultation with CWS (Dalzell, 2010)”. This refers to a report (Dalzell 2010) on pre-construction monitoring for a wind farm site in Norway, PE. Pre-construction monitoring surveys need to be considered for each specific site as monitoring protocols can differ depending on habitat, known bird use of a site, wind regime, etc. For example, if CWS had been given the chance to comment on this protocol, unique targeted surveys for Canada warbler would likely have been recommended and conducted. Why were there no targeted surveys for Canada Warblers in this case?</p>	<p>Brian Dalzell (Avitech Services) was the lead ornithologist with regard to the pre-construction survey work. Initial pre-construction bird surveys were started in a location known as East Point 2. This location was abandoned and the Hermanville/Clearspring site was considered by the proponent as an alternative. The pre-construction bird survey work was moved to the Hermanville/Clearspring location. There was verbal communication with Mr. Dalzell that he had spoken with provincial officials and an indication that he was speaking with federal officials with regard to the protocol. Mr. Dalzell died suddenly during this period and no written reports were submitted. The survey work continued on this basis and was not interrupted.</p> <p>The field ornithologist carrying out the pre-construction surveys on the site is experienced and competent and worked closely with Mr. Dalzell. With regard to Canada Warblers, a) she identified a nesting area for this species during her work on the Norway wind farm site so is well familiarized with the species. And b) the point count locations (Appendix B figure 1) were situated in a wide variety of habitats. When compared with the Forest Habitat Map (EIS figure 4.1, pg 54) it is noted that sites located near turbine locations T9, T7, T3, & T5 are in areas of upland forest or rich forest – suitable habitat for the species. But no Canada Warblers were noted at any time during the pre-construction monitoring.</p>
<p>There is some disagreement with statements that the area is not likely to be a significant migratory stopover site based on the information presented. Important migratory stopovers should be identified by numbers of migrants, particularly relevant to other sites, rather than simple species composition. For example, the proponent could compare the number of birds per point count or transect (birds/area) with results obtained at surveys at nearby East Point when the East Point wind farm was being planned. High numbers of birds at the tip of East Point during migration were compared to lower numbers of birds inland, illustrating the importance of the tip of East Point for migrating birds, and the lower risk to birds associated with siting the wind farm</p>	<p>Amend the third-to-last paragraph in Section 4.4.2.1 - Local and Migratory Birds to read:</p> <p>During the 2012 spring migration period, a total of 12 transect surveys were conducted between April 18th and June 3rd. Over 1000 individual birds of 54 different species were observed, with the highest abundance and diversity noted in mid-May to early June. The mean number of birds observed per transect point was 4.7, with a range of 1.9 to 8.9 birds/point over the entire survey period; this is considerably lower than the mean of 9.5 birds/point recorded in spring migration surveys for the previously-proposed East Point site (Bredin and Campbell 2008). During the fall migration period, 23 surveys were conducted between July 30th and November 15th; a total of 2133 individual birds and 60 species were detected, with the greatest abundance and species diversity occurring early in the migration season from July 30th to September 1st. The mean number of birds observed per transect point was 4.9 (range of 2.1 to 11.8 birds/point), lower than the corresponding mean of 7.4 birds/point found at East Point (Bredin and Campbell 2008). Further, almost all of the species observed during the migration counts are known to breed in the region, with few northern or southern migrant species seen. Based on these</p>

<p>inland. A similar comparison is necessary to conclude that the Hermanville project area is not an important migratory stopover site.</p>	<p>observations, the Hermanville/Clearspring site is not believed to be a significant migration stopover, particularly relative to nearby coastal areas such as at East Point.</p> <p>Add reference: Bredin, K. and G. Campbell. 2008. Report on Pre-Construction Monitoring of Migratory Birds at Four New Proposed Turbine Locations near East Point, PEI. Report prepared for PEI Energy Corporation, March 2008.</p>
<p>In order to minimize the risk to migratory birds, EC-CWS recommends that the minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures. The use of only strobe lights at night, at the minimum intensity and minimum number of flashes per minute (longest duration between flashes) allowable by Transport Canada, is recommended. Also, using the minimum number of lights possible is recommended. The use of solid-burning or slow pulsing warning lights at night should be avoided. The EIS should be revised to reflect this.</p>	<p>See Table 6.1, Operation Phase (pg 172). Mitigation Measures. "Use minimum amount of and white colour aviation lighting in accordance with Transport Canada Guidelines"</p>
<p>Under Section 6 of the Migratory Bird Regulations (MBR), it is forbidden to disturb, destroy or take a nest or egg of a migratory bird. Clearing vegetation during the construction of the wind farm may cause disturbance to migratory birds and inadvertently cause the destruction of their nests and eggs. It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the Migratory Birds Convention Act (MBCA) and associated regulations.</p>	<p>See Table 6.1, Construction Phase (pg 164 & 165). Mitigation measures, specifically: "The proponent will instruct the management team and contractors on the MBCA, the importance of habitat and measures to be implemented to minimize any disturbance to birds/nests."</p>
<p>The breeding season for most birds within the project area occurs between May 1st and August 31st in this region, however some species as found in the pre-construction surveys do nest outside of this time period. Notably, Killdeer and American Woodcock are early breeders in your project area. What</p>	<p>Neither Killdeer or American Woodcock were identified during any of the pre-construction bird surveys in the project area.</p> <p>Added to EIS, Section 5.2.2.2 Fauna (including avian species) (page 124: "If clearing is to be conducted during the breeding season of early-nesting birds such as owls, raptors and woodpeckers, then breeding bird surveys should be conducted prior to clearing by a competent ornithologist. If a nest is discovered, it should be protected with a buffer appropriate to the species and the area</p>

<p>measures will be implemented in order to avoid the risk of nest destruction to accommodate the breeding season, including those early breeders identified in the pre-construction bird surveys? Also, a management plan must be developed and implemented that includes appropriate preventive measures to minimize the risk of impacts on migratory bird.</p>	<p>should be left undisturbed until nestlings have fledged.”</p>
<p>A variety of species of plants native to the general project area should be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive. Measures to diminish the risk of introducing invasive species must be developed and implemented during all project phases. This should be reflected in the revised EIS.</p>	<p>Noted. Will be reflected in the Environmental Protection Plan (Appendix A)</p>
<p>Page 6, Table 1.3 The PEI website incorrectly places the Archaeology Act under the Department of Health and Wellness. Executive Council Office is the responsible Department under the Minister of Aboriginal Affairs and Archaeology (Premier Ghiz).</p>	<p>Comment noted.</p>
<p>Page 29 - Non-wood poles would only be considered for use in wetland areas if conditions warrant.. Page 53 - If a wetland cannot be spanned, appropriate poles (wood, fiberglass or steel) will be used. Please clarify.</p>	<p>Wood poles will be used for the transmission line under normal circumstances. If conditions in a wetland are such that wood is not appropriate, an alternative material (ie fiberglass or steel) will be used. The statement on page 53 merely re-iterates that statement, with the proviso that if a wetland can be spanned, it will.</p>
<p>Table 1.3 - The <i>Forest Management Act</i> (and <i>Provincial Forest Regulations</i>) should be mentioned. Also, the recreational fishing of brook trout would mean the stream is subject to the <i>Fisheries Act</i>.</p>	<p>Noted. <i>Forest Management Act</i> should be added, <i>Fisheries Act</i> is already referenced.</p>
<p>Section 2.4 - Please specify where overhead lines will be used if at all. From an aesthetic point of view, overhead lines in a Provincial Forest</p>	<p>Overhead lines will be used between T8 and T9 (stream crossing) and in other situations as appropriate. Comment noted.</p>

are a not desirable, but they could be useful in a stream crossing.	
Table 2.1 Page 16 - The properties table mixes up the two phases of the project, the turbines and the MECL line. It would be useful to have these broken out.	Comment noted
Page 17 - The land use feature is not Forestry, but Forest.	Comment noted.
Page 21 - Under Land Survey, line 4 reads as though “the properties” could sign agreements -replace with “landowners”.	Comment noted.
Page 27 - Foundations 20m x 20 m x 3 m deep	Comment noted
Table 3.3 page 40 - Please give further explanation why forested land is not considered a VEC.	Forestry activities will still occur in the area. Any loss of forest potential as a result of clearing for the wind farm will be small in comparison to the total size of the area (1.8%).
Section 3.7 Page 45 - Please clarify the citation for “The Agency, 1994”.	The Canadian Environmental Assessment Agency
4.1.1 Soil Quality - Soil surveys by Whiteside have been supplanted by a newer soil survey (MacDougall , Veer and Wilson, 1988). Incorporate the newest soil survey into the EIS. It is available online or through the Forests, Fish & Wildlife Section of the Dept of Agriculture & Forestry.	Comment noted.
Section 4.3.2 Page 51 - PEI has a Wetland Conservation Policy, which should be referenced in the EIS	It is referenced in the second paragraph of the section mentioned.
Section 4.4.1 Flora Page 53 - No citation given for PEI DEEF, 2011. The use of a forest classification system that throws 20 % of the wood land into “disturbed” is not very helpful when assessing impacts.	Reference is cited, page 201 EIS. 2010 State of the Environment. Dated February, 2011 Specific quote, page 47, Biodiversity section. This is the same classification system that was used in that document. Comments noted: re: location T9 and unploughed forest.

<p>When looking at various forest classifications, the Island Nature Trust system that looks at forest age and height or the Corporate Land Use Inventory would have been more useful. The rare older hardwood stands could have been identified. For instance, it might have been possible to avoid the oldest tolerant hardwood stands instead of detouring a road through the 17 metre hardwoods to get to the turbine 9 location in the best stand. Turbine 3 is also located in mature hardwoods but this is not obvious from the mapped forest. Include measures to be implemented to minimize/mitigate impacts on the older growth forest in the project area.</p> <p>It is concerning that the forest descriptions do not identify the unploughed forest that retains many attributes of the original biodiversity and thus should be conserved. Include measures to be implemented to minimize/mitigate impacts on the portions of unploughed forest in the project area.</p> <p>Regarding use of the term, “floral Species- at- Risk”, none of the plants mentioned have been assessed as being at risk; they have only been coarsely appraised under the General Status of Wild Species Program. “At Risk” designations are provided through the Committee on the Status of Endangered Wildlife in Canada or through the PEI Species at Risk Advisory Committee. This should be reflected in the EIS.</p>	<p>The total wind farm site comprises 1103 ha. The total footprint area to be disturbed for the establishment of the wind farm is 19.55 ha (1.8% of the total site). Some 69% of the disturbed area will be linear, that is, roadways and/or transmission line. As noted in Figure 2.4, page 23, the disturbed areas for a typical roadway will be 8 metres in width. A combined roadway-utility corridor will be from between 20 and 30 metres in width. Each individual turbine site will require a disturbed area of 0.56 ha. The sub-station location will require a 100m² disturbed area and the service building will require a 350m² disturbed area.</p> <p>Thus, impacts will be linear and narrow, or small openings, less than 0.6 ha, and will affect 1.8 % of the wind farm site. In addition, only a portion of that disturbed area will be in mature forest habitat. This level of habitat loss compared to other activities past, present and likely future in the area is likely insignificant.</p> <p>PEI Forestry will continue to manage forestry activities in the crown owned properties within the Wind Farm area. Private properties will have forestry activities managed by the owners of the property.</p> <p>Floral species at risk comment noted.</p>
<p>Section 4.4.2.2 Page 60 - The little brown bat was not formerly <i>M. keenii</i>. The bats are ranked as S1. Second paragraph, where does the estimate of 90 % loss come from?</p>	<p>Corrected, <i>M. septentrionalis</i> was formerly <i>M. keenii</i>, see Dr. Allen Kurta, 2007 Clarification on the Taxonomy of <i>Myotis keenii</i> & <i>Myotis septentrionalis</i> Great Lakes Network Report GLKN/2007/01</p> <p>Sentence in second paragraph “As of autumn 2012, 90% of the previously common little brown bat species has been decimated in NB and NS.” is deleted and replaced with: “As of autumn 2012, an estimated 90% of the bat population in New York State, where WNS was first detected in North America, has died, according to the U.S. National Wildlife Health Centre.” The following sentence “There are also indications.....” is deleted.</p>

<p>Page 61 2nd line - As per above, the little brown bat is not an S5 species . Please update bat S-Ranks as they have been revised in 2011/12 to S1, reflecting a single location under a single threat of White Nose Syndrome. This approach is in agreement with the COSEWIC listing of Endangered</p>	<p>Noted and revised.</p>
<p>Page 61, Paragraph 5. The hibernacula is still there but may or may not be occupied as it has not been inspected since 1988.</p>	<p>Noted</p>
<p>Page 61 Northern Long-eared bat is S1</p>	<p>Noted and revised.</p>
<p>Page 62, 1st line. This assumes that the NLEB is migratory though the February and March 2013 collections of both LBBat and NLEBat are indicating that some bats are indeed overwintering on the island, likely in wells and stone foundations. The notion that the species is entirely non-migratory may not be accurate. This should be revised in the EIS</p>	<p>Page 62, 1st line. "This small non-migratory species is considered a forest-interior species..." no assumption of it being migratory is made.</p> <p>It is noted in the literature that little brown bats and northern long-eared bats are considered non-migratory, although they may indeed travel several hundred kilometres to find acceptable overwintering locations. True migratory species (i.e. Hoary bats, Red bats etc). undertake extensive north-south migrations.</p>
<p>2nd paragraph. There is good evidence that PEI NLE Bats are very reliant on stream habitats for foraging. This is depicted quite nicely in Henderson and Broders , 2008, where marked bats were followed on PEI. This paper is referenced in Appendix C but perhaps not accurately interpreted</p>	<p>Noted</p>
<p>In the Summerside Wind Farm in 2009, nine Little Brown Bats were killed, eight within 130 meters of a small stream which is attractive foraging habitat. The Hermanville wind site has proposed turbine locations located within 200 meters of a stream (ie prime foraging habitat). What measures will be implemented to ensure the turbine</p>	<p>See response to comment below.</p>

<p>locations will have minimal impact on bats in the project area. Is there literature which suggest safe buffers between wind farms and bat foraging areas?</p>	
<p>Putting turbines within woodland , with or without watercourses, has potential impacts to bat populations. Maternity habitat for PEI NLE bats is positively associated with the area of deciduous stands such as those stands to be bisected by the proposed road between Turbine # 9 and Turbine # 10 (see Henderson, Farrow, and Broders, 2008, again, referenced in Appendix C). The sort of 17 meter forest as shown around Turbine 9 is ideal NLE bat maternity habitat with older trees and associated snag habitat -- the forest fragment is also quite large and thus predictably attractive to NLE bats. Recently published Newfoundland bat studies show that during the day, roosting females prefer the tops of the trees which may well be near the turbine blade height. This relationship must be addressed in the EIS.</p>	<p>The turbines to be used on the Hermanville site have a 92 metre hub height and a 58 metre rotor radius, thus the closest that a blade will come to the ground is 34 metres above ground level, twice the height of the mature forest in question. There was evidence of 2 bats flying at 40 metres during the field studies. All other occurrences were well below that level (Appendix C).</p> <p>Mitigation conditions are in place in order to minimize removal of mature trees and snags during the construction phase as well as limiting clearing and grubbing activities during nesting periods.</p>
<p>Page 71 1st paragraph - Please describe the setbacks around the rare plants.</p>	<p>There will not be any setbacks. Early involvement in the planning process made it possible to avoid as many ACCDC listed species as possible through routing, as explained in the mentioned paragraph.</p>
<p>Section 4.4.4 Designated areas - There is inaccurate naming of the designated protected areas. On PEI, they are not referred to as Conservation Areas or Significant Natural Areas. Please reword to use the proper names, eg Natural Area, Wildlife Management Area, National Park, etc.</p>	<p>Noted.</p>
<p>Page 74 - Environment Canada's data base is out of date, as no jurisdiction has supplied data to it for years. Please use the online data base supplied by Canadian Council</p>	<p>Noted.</p>

<p>of Ecological Areas, at www.ccea.org/en_carts.html. The data can be viewed on Google Earth. It is noted that several Natural Areas owned by Island Nature Trust lie between Townshend Woodlot and the proposed wind farm and these have been missed by using old information</p>	
<p>Page 74 Last paragraph - It is implied that the Townshend Woodlot is a Wildlife Management Area, however it is not.</p>	<p>It is implied that it is a designated Natural Area under the provincial Natural Areas Protection Act.</p>
<p>Page 75. 1st paragraph - The DUC areas are not designated as anything, but still should be mentioned as wildlife habitats (some owned by government).</p>	<p>Noted</p>
<p>2nd paragraph - The 6 forest management properties may be Demonstration Woodlots, such as in New Harmony.</p>	<p>Noted</p>
<p>Page 79, Table 4.8 - There is no Royalty attached to this township.</p>	<p>Noted</p>
<p>Section 4.6.3.6 - Some goals for forestry activities mentioned in the PEI Forest Policy include increased forest restoration, particularly on unploughed land, and increased management for a diversity of forest species, ages, products and values. The fact that there are no recent activities does not take into account that trees are growing and older stands are being retained. The goals for provincial forests should be discussed (contact Forests, Fish & Wildlife for more information). The unploughed forest within the project location and the retention of older hardwood stands are applications of the PEI Forest Policy which should be further discussed in the EIS.</p>	<p>Forestry management within the Crown lands associated with the Wind Farm project area will continue to be the responsibility of the Eastern Forest District. Any forestry related matters associated with the small disturbance footprint of the wind farm within the provincial forest will be dealt with in conjunction with that agency. Forest management on private lands within the Wind Farm project area will continue to be the responsibility of the property owners.</p>
<p>Page 88 It is worth mentioning all five</p>	<p>"In addition to Port La Joie (Charlottetown), Port Saint Pierre (St. Peter's Harbour), and Point de l'Est (East Point), the 1728 census</p>

<p>Acadian settlements, however small, in the 1720s as it is illustrative of the geographic dispersion of Acadians already at the time: St. Peter's Harbour, East Point, Cadopiche (Savage Harbour), Tracadie and Malpeque.</p>	<p>indicates that small settlements were located on the north coast of Île Saint-Jean, west of the Project area, at Cadopiche-Havre aux Sauvages (Savage Harbour), Tracadie (Tracadie) and Maquepecque-Malpec (Malpeque) (The Island Register 2012). The 1728 census indicates a wide geographic dispersion of Acadian communities across Île Saint-Jean at that time."</p>
<p>Page 91, last paragraph - The Yankee gale was in 1851.</p>	<p>Noted.</p>
<p>Page 91 – The report indicates "...within potential transmission line routes, are crossings of an historic railway line (circa 1872) that is now part of the Confederation Trail." Can assurance be provided that the trail corridor will in no way be used as a transmission corridor for the project.</p>	<p>The proposed transmission line route(s) do not use the trail corridor as a transmission corridor for the Project. Assurance is provided that the trail corridor will not be used as a transmission corridor, subject to one of the proposed transmission line route(s) being approved.</p>
<p>Page 94 More explanation of the "roadside observations" described as part of the Phase II survey is required.</p>	<p>As stated in the EIS on page 91,</p> <p>"A review of the 1935 aerial photographs of the potential transmission line routes identified numerous building sites along both the Souris Line Road and the southern portion of New Zealand Road. The locations of these early 20th century structures were transposed onto a present day aerial photograph to identify potential existing heritage structures and/or locations where structures that existed in 1935 were no longer present. Nineteen structure locations were evident in the 1935 aerial photographs within 50 m of the New Zealand Road along that potential transmission line routing, while nine were evident along the Souris Line Road routing. These locations, as well as watercourse crossings (and the railway line crossings), have potential for heritage resources. Therefore, these locations were documented and considered during the visual survey of the proposed transmission line routing options."</p> <p>These are the locations that received particular attention during the roadside visual survey. More specific information pertaining to this survey is included in the Heritage Resource Impact Assessment (HRIA) permit report in the form of a table listing identified locations of interest, a map identifying these locations, and field notes describing observations made at each location during the field survey.</p>
<p>Page 99 Name the representative of the regulator who determined that no more testing was required (if not Helen Kristmanson).</p>	<p>Helen Kristmanson was the representative.</p>
<p>Page 101 Munsell codes would be useful as part of this information.</p>	<p>Munsell charts were not used for these investigations as their use is neither a requirement nor standard practice for archaeological investigations in the Maritimes.</p>

<p>Page 102 The Mi'kmaq Confederacy of Prince Edward Island (MCPEI) is a not-for-profit Tribal Council and Provincial Territorial Organization (PTO) governed by a Board of Directors consisting of the Band Councils from Lennox Island and Abegweit First Nations.</p>	<p>Comment noted.</p>
<p>Page 111 Last bullet. Equipment sourced locally should also be cleaned. The spread of the invasive white sweet clover (<i>Melilotus albus</i>) from local pit areas is particularly troublesome.</p>	<p>Comment noted.</p>
<p>Page 116 Avian Species (Bats) - The term avian usually refer to birds (Class Aves) and not to bats. If bat death is to occur during land clearing it will be because a tree with a maternity colony or day roosting bats is felled. This could occur if cutting is taking place too late into the bird breeding season or season when bats are raising their young. This should be addressed in the EIS.</p>	<p>It is addressed in the mitigations section, page 124.</p>
<p>Page 117 Floral Species at Risk - These species are not listed by SARA or COSEWIC. Please clarify the origin for the use of the term “Species at Risk” in this case. What is the nature of the care that Will be taken to protect these species (ie distances from development)?</p>	<p>As described earlier all species of concern including those listed by ACCDC and even more so those given a sensitive, may be at risk or at risk status under the General Status of Species in PEI are considered. Route modification was employed as much as possible to protect species of concern. <i>Spiranthes ochroleuca</i> has a healthy population along the woods roads across the entire Study Area. Although individuals will be lost, the population as a whole in that area will be sustainable.</p>
<p>Page 124. Fauna - Clarify if work is to be performed in the Provincial Forest during the bird nesting season. This contravenes the Prince Edward Island Forest Policy which states “harvest during the critical wildlife breeding season will not be</p>	<p>No clearing, grubbing, trimming will be conducted during the bird nesting season. Roadwork, site preparation and turbine installation may take place during that period.</p> <p>If clearing is to be conducted during the breeding season of early-nesting birds such as owls, raptors and woodpeckers, then breeding bird surveys will be conducted prior to clearing by a competent ornithologist. If a nest is discovered, it should be protected with a buffer appropriate to the species and the area should be left undisturbed until nestlings have fledged.</p>

<p>acceptable management options for public lands.” Will the biologist be looking for winter nesting birds such as Gray Jays, Ravens, Owls and other large raptors? It is not easy to find bird nests. Who will do this work? When will it be done?</p>	
<p>Page 125 Any bats found should not be disposed of but should be submitted ASAP to the Canadian Cooperative Wildlife Health Centre at AVC and notification should be supplied to the PEI Forests Fish and Wildlife Division of any dead or injured bats or birds when specimens are found. Some birds are under provincial jurisdiction. Injured birds should not generally be taken to AVC unless the PEI Energy Corp wishes to pay for their rehabilitation. Only certain injured birds should be taken, namely raptors. Diseased birds should be taken and Dead birds where cause of death is unknown should also be submitted.</p>	<p>Noted.</p>
<p>Page 127</p> <p>Heritage Resources Protocol: specify that the protocol will be developed with archaeological regulator (AASPEI).</p>	<p>This protocol will be developed in consultation with the provincial regulator, AASPEI.</p>
<p>Page 138 2nd paragraph - Information that tree bats (eg NLEBat) collide with turbines when mating over the tallest trees raises the question why turbine 9 is located in 17 meter high hardwoods, the tallest trees in the area. Please explain.</p>	<p>The turbines to be used on the Hermanville/Clearspring site have a 92 metre hub height and a 58 metre rotor radius, thus the closest that a blade will come to the ground is 34 metres above ground level, twice the height of the mature forest in question. There was evidence of 2 bats flying at 40 metres during the field studies. All other occurrences were well below that level.</p>
<p>3rd paragraph. Bat mortalities at the Summerside Wind Farm were reported to be correlated with the stream nearby (a feeding area). This should be incorporated in this paragraph.</p>	<p>Noted</p>

<p>Page 139 Barotrauma - This discussion should not be left to the end after conclusions have been made that bats are at low risk.</p>	<p>This section (5.3) deals specifically with the operational phase of the project. This is where barotraumas is a potential issue. Proposed mitigation conditions follow the discussion on page 148.</p>
<p>Page 140 Noise Impacts – The conclusion that bats forage close to turbine blades differs from previous information that they are flying near the ground. Please clarify.</p>	<p>The statement referred to is not a conclusion, but information provided from the literature, as referenced. The on-site data collected from the Hermanville/Clearspring Wind Farm project area (previous information) is what the earlier information (and conclusion) is based upon.</p>
<p>Page 148 - Any bats injured or dead must be reported immediately to the Forests Fish and Wildlife Division.</p>	<p>Noted</p>
<p>Table 6.1 - A grass clover mix is acceptable to be planted for erosion control as suitable native mixes are unlikely to be available.</p>	<p>Noted</p>
<p>Page 184. Paragraph 2 - Habitat loss can be quantified. The devaluation of the habitat through forest fragmentation should be acknowledged, as well as the loss of the older forest stands which are rare on PEI.</p>	<p>Noted</p>
<p>Table 8.2 - Should include operation of the turbines as part of the cumulative effects for birds and bats as some animals will potentially be killed. It is likely that most kills are never found in wooded or shrub habitat and only a small part of the zone where animals fall is surveyed.</p>	<p>Noted. In row "bat population" Column "Description of Project Activities" to read: "Construction and operation of turbines and infrastructure."</p>
<p>Page 189 - Is "Birds Canada" supposed to be "Bird Studies Canada"?</p>	<p>Yes, Corrections to 2 references.</p>
<p>Appendix B Page 5 - 1st line says birds are listed in Appendix A.</p>	<p>No. The reference is to Appendix A of the report "Hermanville/Clearspring 30 MW Wind Farm Pre-construction Avian Surveys Report", which is Appendix B of the EIS.</p>

Should this say Appendix B?	
<p>Appendix C Page 5 - Should state S1 for Little Brown Bat and Northern Long-Eared Bat. Also, it would be good to include habitats better described for PEI since work was done here as this is referenced only in passing.</p>	Noted
<p>Section 4.2.3 page 21 - Recent work in NS allowed for 96.2% accuracy of identifying LBB calls and 97.5 % accuracy for NLEB calls, therefore it may be possible to review the sonograms and identify the bats to species. Can this be done?</p>	<p>Not at this time. Dr. Hugh Broders, a recognized bat authority in NS indicates that given an excellent recording it may be possible to distinguish to species with <i>Myotis spp.</i>. However, much of the field data is sufficient to indicate generic identity, but not to species level with any level of confidence given the large number of variables that can effect sonogram quality under field conditions.</p>
<p>Page 29 Recommendations - Please justify the conclusion that effects on bats can be mitigated when placing turbines in potentially high quality habitat such as with turbine #9.</p>	<p>As noted, operational effects will likely be minimal due to the elevation at which the turbines turn, not in an area of the atmosphere frequented by the species in the area.</p> <p>Some habitat may be disturbed during construction. Proposed mitigations will minimize this disturbance.</p>
<p>Page 29 - Dead or dying bats must be submitted ASAP to CCWHC and notification and data given immediately to Forests, Fish and Wildlife Division.</p>	Noted.
<p>Appendix C Page 41 - Taylor Ratcliffe references, minor problem with spacing</p>	Noted. Corrected "Taylor, J. 1997. The development of a conservation strategy for hibernating bats of Nova Scotia. Dalhousie University."
<p>Appendix G Table 1.1 - There will be NLE Bats in this habitat, not just "potentially".</p>	Noted.
<p>Page 8 - Another reason not to use bats in searcher efficiency trials is that they are endangered species .</p>	Noted.

Mice can be trapped if need be or white pet store mice sprayed brown. The former option seems more humane.	
Page 11- last line typo bay vs bat	Noted.