APPENDIX D WATER BODY ADDENDUM

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Memo

Project No. 1230

To: **Andrea Garcia**

From: **Andrew Ryckman**

Date: **January 10, 2014**

Re: **Adelaide Wind Energy Centre**
Water Body Report Addendum I

Introduction

Natural Resource Solutions Inc. (NRSI) was retained in April 2011 by GL-Garrad Hassan on behalf of NextEra Energy Canada, ULC (NextEra) to conduct a water body assessment in accordance with the Renewable Energy Approval (REA) Regulation, Ontario Regulation 359/09. This assessment included a Records Review, Site Investigation, and Environmental Impact Study (EIS) of any potential water bodies at a proposed 59.9MW wind energy generating facility in the Township of Adelaide Metcalfe in Middlesex County, Ontario.

The Adelaide Wind Energy Centre ('the project') will be owned and operated by Kerwood Wind Inc., a wholly-owned subsidiary of NextEra. The proposed project is located approximately 13km northwest of the Town of Strathroy, Ontario. The general project area is roughly bordered by Centre Road, Townsend Line, Sexton Road, and Napperton Drive. In addition, a transmission line is proposed to run north along Kerwood Road from Cuddy Drive to Nairn Road. This transmission line is then proposed to continue eastward along Nairn Road to an existing 500kV line and substation located west of Petty Street. For the purposes of this memo, NRSI will refer to the areas within 120m of the project location as the 'project area'.

The Water Body Records Review, Site Investigation, and EIS for the Adelaide Wind Energy Centre were completed by NRSI over the course of 2011/2012 as part of the requirements for the Water Body Report and Water Body Assessment, and were submitted to the Ministry of Environment (MOE) in August 2012. This Addendum Report identifies and discusses minor layout changes that have been made to the Adelaide Wind Energy Centre project location and resulting changes to the Water Body Records Review, Site Investigation and EIS.

Overview of Project Changes
Since the approval of the water body reports, minor changes have been made to the project layout, resulting in a review of the considerations made as part of the Adelaide Wind Energy Centre Water Body Records Review, Site Investigation and EIS.

The modification is related to the location of a proposed underground cabling route at the corner of Kerwood Road and Highway 402. The proposed new route will run north from T22 across the 402 and west to Kerwood Road, where it will join up with the previously permitted cabling route. This additional underground cabling will now overlap with one watercourse and will be within 120m of another previously identified watercourse.

A visual overlay of the differences between the project location of the latest approved layout submission and the currently proposed project location of this Addendum Report is provided on Figure 1. Also shown on this figure are the locations of the two watercourses within 120m of the project location and the crossing location of the water body, which will now be overlapped by underground cabling.

Amendments to the Records Review Report
As part of this Addendum for the Adelaide Wind Energy Centre, construction plans were reviewed and the change to the presented project location has been summarized above, comprising of an addition of an underground cabling route. The project area initially examined for the Adelaide Wind Energy Centre Water Body Records Review Report (NRSI 2012) included any watercourses that were overlapped or within 120m of the previously proposed layout. Upon review of the changes to the project layout, all watercourses within this proposed layout were previously studied and included within the Records Review. Thus, there are no new watercourses that require consideration as part of the Records Review of this minor layout change. The only change to the previously approved Records Review is that 39 potential water bodies are potentially overlapping the project location rather than 38 presented in the approved Records Review.

Amendments to the Water Body Site Investigation Report
Through a review of the changes proposed for the Adelaide Wind Energy Centre layout since its latest Water Body Site Investigation confirmation, it has been verified that the proposed alteration to the project layout has resulted in one potential water body overlapping the project location and another potential water body being within 120m of the project location. Based on the proposed layout change it was determined that further site investigation was necessary to determine whether or not these watercourses meet the criteria of a water body under the REA definition and therefore require additional consideration in the Environmental Impact Study. Field investigations were completed on November 27, 2013 at the locations where the underground cabling now crosses a potential water body as well as where a potential water body now comes within 120m of the underground cabling.

During the initial field investigations completed based on the previously approved project layout, one watercourse, Brown Drain (WB85), was not considered a water body at the previous site investigation location south of Highway 402. This location was visited on November 27, 2013 and assessed at the closest location to where the underground cabling is now proposed on the north side of Highway 402. This assessment has confirmed that this feature does not meet the REA requirements to be a water body at

this location north of Highway 402. As a result, this feature is not considered a water body and does not require consideration as part of the Site Investigation and EIS for this minor layout change.

During the initial field investigations completed based on the previously approved project layout, the second watercourse, Brown Drain Branch A (WB86), was not considered a water body according to the REA definition at the site investigation location south of Highway 402. This location was visited on November 27, 2013 and assessed on the north side of Highway 402 where the underground cabling is now proposed to cross the watercourse. This watercourse was confirmed to meet the criteria of a water body at the location where the cabling is proposed to cross the water body, just north of Highway 402. The additional information for this new location is shown in Table 1 below.

Table 1. Updated Water Body Site Investigation Summary for Adelaide Wind Energy Centre Project Area – Adelaide Creek Drainage Area

Watercourse Name	Watercourse Location ID	Description of Watercourse at Assessment Location	Water Body (Yes/No)	Distance to Project Location Component (m)	EIS Required (Yes/No)
Brown Drain	WB85	ephemeral, poorly defined channel, grassed waterway	No	N/A	No
Brown Drain - Branch A	WB86	intermittent/permanent, defined channel with flow	Yes	WT - >120 AR - >120 OL - >120 **UL - Crossing** **CA - Crossing** BU - >120	Yes

Legend
WT- Wind Turbine
AR- Road Access
OL- Overhead Line (transmission line)
UL- Underground Line
CA- Construction Activity (includes crane walk, and staging and disturbance areas)
BU- Building (includes substation and interconnection point)
N/A- Not Applicable

As a result of this additional Site Investigation, Brown Drain – Branch A has been determined to meet the criteria of a water body and therefore requires further consideration within the EIS for this minor layout change.

Amendments to the Environmental Impact Study

As part of this Addendum for the Adelaide Wind Energy Centre, construction plans were reviewed and the change to the presented project location has been summarized above, which consists of an additional underground cabling route. Although very minor adjustments have been noted, the construction details as presented in the original Water Body EIS (i.e. site preparation and servicing, construction, operation, decommissioning, and approach to impact assessment) still provide accurate information pertaining to the

type, extent, duration, and details of the proposed construction activities associated with the Adelaide Wind Energy Centre.

For the purposes of this Addendum, NRSI has reviewed three separate aspects relating to the potential for changes to the EIS, as follows:

- Changes to Mitigation Measures (i.e. project location now closer to natural features)
- New Mitigation Measures (i.e. project location within 120m of a new feature)
- Changes to Monitoring Requirements

Changes to Mitigation Measures

NRSI biologists have reviewed the changes in project location, including the overlap of the project location with an additional water body, and have determined that the mitigation measures presented in the Water Body EIS (NRSI 2012) are still adequate for the protection of the water body from permanent and adverse impacts that may result from the development of the Adelaide Wind Energy Centre. Any mitigation measures outlined for underground cabling installation should be implemented at the location where underground cabling is proposed to overlap with Brown Drain Branch A (Figure 1).

New Mitigation Measures

Since mitigation measures for underground cabling installation have already been outlined in the Water Body EIS, no new mitigation measures need to be outlined or implemented.

Changes to Monitoring Requirements

Based on the minor changes in project location, NRSI has determined that the monitoring requirements identified in the Water Body EIS are suitable for the monitoring of potential environmental effects of the proposed Adelaide Wind Energy Centre. Any monitoring requirements outlined for underground cabling installation should be implemented at the location where underground cabling is proposed to overlap with Brown Drain Branch A (Figure 1).

Summary of Water Body Addendum

In accordance with the REA Regulation, NRSI biologists have completed a comprehensive Water Body Records Review, Site Investigation, and EIS of the Adelaide Wind Energy Centre (NRSI 2012). Following the review of the proposed change in project location (as discussed above), NRSI has re-considered all aspects of the water body assessment within this memo to determine if there are new water bodies, changes in distances to project location, or new mitigation measures or monitoring commitments required to ensure that potential permanent or adverse environmental impacts are mitigated or studied appropriately. The results of this review are summarized in Table 2Table 2 below.

Table 2. Summary of Water Body Addendum for the Adelaide Wind Energy Centre

Addendum Changes	Addendum Result
Water Bodies	One additional water body was identified as overlapping the project location, Brown Drain - Branch A.
Changes in Distances to Project Location	The distances from the project location to a water body has changed due to minor adjustments to the project layout. One additional water body, Brown Drain - Branch A, was identified as being crossed by underground cabling.

Addendum Changes	Addendum Result
	Changes in distances from the project location to the water body (WB86) are shown in Table 1 of this report.
Mitigation Measures	Based on the minor adjustment of the project location, one additional water body was identified as overlapping the project location that requires mitigation measures to be applied. The mitigation measures presented in the Water Body EIS (NRSI 2012) for the installation of underground cabling crossings of water bodies will be required at the new Brown Drain – Branch A crossing location. These mitigation measures, as seen in the Water Body EIS (NRSI 2012) will provide the appropriate protection to ensure any permanent and adverse impacts are mitigated.
Monitoring Commitments	Based on the minor shift in project location, the monitoring commitments outlined in the Water Body EIS (NRSI 2012) are still appropriate to monitor any potentially adverse impacts of this project. No additional monitoring requirements are proposed as a result of the change in project location.

With this Addendum, it is maintained that with the implementation of the planned mitigation measures and monitoring programs as presented in the Adelaide Wind Energy Centre Water Body Environmental Impact Study (NRSI 2012), there is unlikely to be any significant impacts to the additional water body.

I trust that this Addendum provides the level of information required to confirm the proposed change complies with the water body assessment process and continues to maintain no significant impact on water bodies. If you have any questions, don't hesitate to contact the undersigned.

Best Regards,

Andrew Ryckman
Senior Terrestrial and Wetland Biologist

Figure 1

Adelaide Wind Energy Centre
Layout Modification and Water Bodies

439000 439200 439400 439600 439800 440000 440200 440400 440600

4760800 4760600 4760400 4760200 4760000 4759800 4759600 4759400

Brown Drain 'Branch A'

Brown Drain

WB86

WB85

HWY 402

21

22

23

18

KERWOOD RD

Legend

- New Project Area (120m Buffer)
- Previous Project Area (120m Buffer)
- Additional Project Location
- Additional Collector System
- Turbine
- Project Location
- Access Road
- Collector System
- Existing Transmission Line
- Highway
- Primary Road
- Secondary Road
- Watercourse
- Open Aquatic
- Non-Water Body
- Water Body

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1230
Date: January 10, 2014

NAD83 - UTM Zone 17
Scale: 1:6,000 (11x17")

0 100 200 300 400 Metres

N

Path: X:\1230_AdelaideWindFarm\NRSI_1230_AddendumVI_Fig1_LayoutModification_6K_2014_01_09_MAW.mxd