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July 29, 2013

## **DELIVERED BY ELECTRONIC MAIL AND POST**

Manager, Electricity Facilities and Infrastructures Ontario Energy Board P.O. Box 2319 2300 Yonge Street, 27<sup>th</sup> Floor Toronto, ON M4P 1E4

Dear Manager,

Re: Dufferin Wind Power Inc. - EB-2012-0365 - Construction Plan & Schedule

Further to Condition of Approval 2(c) in the Board's Decision and Order in the above-referenced proceeding, dated July 5, 2013, please find attached Dufferin Wind Power's construction plan and detailed construction schedule. In addition, please accept this letter as notification of the commencement of the Project's construction on August 12<sup>th</sup>, 2013.

Please feel free to contact me with any questions or if I can be of assistance.

Sincerely

John Craig

Project Manager

Office: 416-519-7788 Mobile: 416-543-9732

Cc: Jonathan Myers, Torys LLP



Dufferin Wind Power Inc. Transmission Line and Associated Facilities Construction Plan EB-2012-0365

27 July 2013

11-5199

#### 1.0 Introduction

The Dufferin Wind Power transmission line and associated facilities (the "Project") involves the construction of a 34.5 kV/230kV intermediate transformer station at the Dufferin Wind Farm site in Melancthon, Ontario, a 230kV switching station adjacent to Hydro One Networks Inc.'s ("Hydro One") existing Orangeville Transformer Station in the Township of Amaranth, Ontario, approximately 47 kilometers of a primarily overhead 230 kV three phase, single-circuit transmission line running from the wind farm site to the switch station thru the Township of Melancthon, the Town of Shelburne, and the Township of Amaranth, and a 100 m 230 kV interconnection that will connect the switching station to the Orangeville Transformer Station.

The Project is being developed by Dufferin Wind Power Inc. (Dufferin Wind), an entity owned by Longyuan Canada Renewables Ltd. (Longyuan Canada) and Farm Owned Power (Melancthon) Ltd. (FOPM).

## 2.0 Project Constructors

Construction of the Project will be overseen by Dufferin Wind Power Inc. and constructed by two primary Constructors:

<u>K-Line Maintenance & Construction Limited ("K-Line")</u> will construct the transmission line, switching station, and interconnection to Hydro One's Orangeville Transformer station. The K-Line Group of companies constructs, maintains, and repairs power transmission and distribution lines for electric utilities, municipalities and private enterprise throughout Canada. The company operates one of the largest fleets of equipment and specialized vehicles in Ontario for transmission line and substation construction and is a leader in high-voltage substation and transmission line construction.

Mortenson Canada Corporation ("Mortenson") will construct the 34.5 kV/230 kV intermediate transformer station at the Dufferin Wind Farm site. Mortenson Construction is recognized as one of North America's principal full-service wind power contractors and is the leader in renewable energy construction. With over 100 wind farms successfully constructed, Mortenson Construction brings significant expertise and experience in the construction commissioning of intermediate transformer stations and utility-scale wind farms.

#### 3.0 Temporary Construction & Laydown Areas

Prior to construction activities, DWP and its contractors will establish temporary construction offices and a laydown area at, and adjacent to, the project station location. These facilities will be used to coordinate and manage construction activities, for parking, and for the temporary storage of power poles, cables, associated materials, and support equipment. Additional temporary storage facilities will be located in the Township of Melancthon. At the completion of these activities these temporary facilities will be removed and the area that was used will be restored.

The primary construction office for transmission line construction will be located at the project switch station at 9 Shannon Court (Lot 7) in the Township of Amaranth. This facility may include a temporary construction trailer, parking facilities, and laydown area for switch station equipment and materials awaiting construction. The existing parking lot located on Lot 5 Shannon Court will be used as a temporary laydown area for transmission line construction. Both the switch station and transmission

line laydown area will be accessed via County Road 11. Please see the Project Location Map in Appendix A for more details.

## 4.0 Materials & Construction Equipment Brought To Site

Materials and construction equipment will be brought to the project site using light motor vehicles, flatbed trucks, dump trucks, water trucks, concrete trucks, standard eighteen-wheel delivery trucks, and authorized oversize vehicles (e.g. power pole deliveries). This material will include, but not be limited to concrete, aggregate, building supplies, power poles, electrical equipment, a modular control building, power and fiber optic cable, and water. Construction equipment brought to the site will include, but not be limited to bulldozers, cranes, backhoes, front-end loaders, graders, excavators, pile driving equipment, bucket/utility trucks, directional drilling equipment, and other miscellaneous support vehicles.

Additional information on the estimated materials brought to site and construction equipment to be used including the estimated number of vehicles and delivery volumes can be found in the tables below:

Indicative List of Materials and Construction Equipment Brought to Site		
Activity	Required Materials & Equipment	Estimated Deliveries / Vehicles
34.5 kV / 230 kV Intermediate Transformer Station	<ul> <li>2 Excavators</li> <li>1 Loader</li> <li>4 Dump Trucks</li> <li>1 Compactor</li> <li>1 Grader</li> <li>2 to 3 Trenching Machines</li> <li>1 to 2 boom trucks</li> <li>1 to 2 HDD Rigs</li> <li>3 to 4 HDD Support Vehicles</li> </ul>	<ul> <li>1 oversized transport vehicle (MPT) delivery</li> <li>16 to 20 Construction vehicles and support equipment</li> <li>65 to 70 concrete trucks</li> <li>15 to 20 flatbed truck deliveries (MPT/PMTs)</li> <li>30 to 35 flatbed truck deliveries (power cables)</li> <li>30 to 40 flatbed truck deliveries (equipment, rebar, materials)</li> <li>15 to 20 light trucks, multiple trips</li> <li>Fuel trucks as required</li> </ul>

Indicative List of Materials Brought to Site and Construction Equipment (Continued)			
Activity	Required Materials & Equipment	Estimated Deliveries / Vehicles	
230 kV, Single-Circuit, Three Phase, Transmission Line	<ul> <li>1 Backhoe (JD 310*)</li> <li>1 Zoom Boom</li> <li>2 Excavators (JD 330* / CAT 330/345*)</li> <li>2 Bulldozers (700H*)</li> <li>1 Loader (655)</li> <li>1 Long Reach Excavator</li> <li>Multiple Dump Trucks</li> <li>Concrete Trucks</li> <li>Tractor and Float (equip transport)</li> <li>5 Light Trucks (pick-up)</li> <li>1 40t Crawler Crane</li> <li>1 Hydro Vac Truck</li> <li>3 Drill Rigs (pole holes)</li> <li>2 to 3 Cable reel trailers</li> <li>1 to 2 HDD Drill Rigs (DW2720 or DD6)</li> <li>1 to 2 pole trailers</li> <li>3-100' Bucket Trucks</li> <li>3 RBDs*</li> <li>2 - 30t Cranes</li> <li>Land clearing equipment</li> <li>Approx. 144 km of power cable</li> <li>Approx. 1,200 electrical insulators</li> <li>350 wood / 51 steel power poles</li> <li>Steel pole foundations</li> <li>Concrete, rebar, aggregate</li> </ul>	<ul> <li>67 to 75 pole truck deliveries</li> <li>60 flatbed deliveries (foundations)</li> <li>Approx. 100 deliveries for equipment, granulars, and other materials (standard weight tractor trailer w/ tri-axle highboy and lowboy trailers)</li> <li>10 to 14 flatbed truck deliveries (power cable)</li> <li>Approx. 15% of materials delivered to Shannon Ct laydown and 85% delivered to Strada laydown</li> <li>15 to25 light trucks, multiple trips</li> <li>Fuel trucks as required</li> <li>At time of construction, materials will be transported from storage and staged along transmission line route using equivalent delivery volumes</li> </ul>	
230 kV Switching Station	<ul> <li>4-5 light trucks</li> <li>1 Grader</li> <li>2 Excavators</li> <li>1 Loader</li> <li>3 to 4 Dump Trucks</li> <li>1 Marooka Conveyor sander or CAT FEL</li> <li>1 Compactor</li> <li>Auxiliary transformers</li> <li>Metering equipment</li> <li>Circuit protection / Isolation Equipment</li> <li>Modular control building</li> <li>1 construction trailer</li> <li>Grounding &amp; Safety Equipment</li> </ul>	<ul> <li>8 to 10 Flatbed truck deliveries</li> <li>Approx. 140 dump truck deliveries (aggregate)</li> <li>2 to 4 utility trucks, multiple visits</li> <li>10 to 15 light trucks, multiple trips</li> <li>Fuel trucks as required</li> </ul>	

#### 5.0 Overview of Construction Activities

The following information provides a general summary of construction activities for the Project:

## 5.1 Construction of the 34.5 kV / 230 kV Intermediate Transformer Station

Construction of the 34.5 kV / 230 kV Intermediate Transformer Station will involve delivering materials (e.g. electrical equipment, modular control building, power cables, concrete, reinforcing steel, fencing, aggregate, etc.,) to the intermediate transformer station, excavating and grading civil works, installation of foundations and conduit, installing electrical equipment, and terminating the transmission line and interconnection cables to the intermediate transformer station.

#### 5.2 Construction of the Transmission Line

Dufferin Wind will construct a single-circuit, three phase, 230 kV overhead transmission line on a single wood pole line (with some steel poles and underground sections). The transmission line will run approximately 47 kilometers from the 34.5 kV / 230 kV intermediate transformer station in the Township of Melancthon, through the Town of Shelburne, and terminate to the 230 kV switching station to be built in the Township of Amaranth adjacent to Hydro One's existing Orangeville Transformer Station.

The transmission line will be constructed primarily overhead, using wood-poles in general with steel poles used at certain locations for greater strength. Electrical transition stations will be constructed to transition overhead sections of the transmission line underground and then back to overhead where required and as per the approved design.

Construction of the transmission line will involve delivering materials (e.g. power poles, steel foundations, cable, insulators, aggregate, etc.,) along the transmission line route, clearing brush from sections of land, excavating foundation holes, installing foundations, framing, erecting the power poles, and stringing the conductors.

At the time of construction, power poles will be transported from their temporary storage locations to their designated locations along the transmission line. Construction crews will excavate and install pole foundations using tracked augers, pile-driving equipment, and cranes and then frame and set the power poles. Once complete, cable crews will come behind and string and terminate the cables to the 34.5 kV/230 kV intermediate transformer station and switch station.

The underground sections of the transmission line will either be directional drilled or trenched and the cables will then be either pulled through the installed conduit or laid out in the trench from cable reels brought onto the site in intervals to ensure minimal traffic disruption.

Trenching is expected to be performed with a large excavator (e.g. Cat 330/345); sanding and limestone fill for pole foundations will be completed with a Marooka conveyor sander or a CAT front end loader. Cable reels will be individually supported with a spreader assembly and will be transported along trench lines using the excavator to lift the reels. Alternately the reels will be mounted on flatbed trailers and transported along the trench line with a suitably sized bulldozer. A concrete cap will be placed by a ready-mix concrete truck, and backfill operations will be performed with bulldozers and/or front end loaders. It is expected that a Ditch-Witch 2720 or a DD6 direction drilling machine along with a tandem

water truck and 8 ton flat deck with crane will be used for directional drilling those sections of the transmission line. It is possible that two drill rigs are deployed simultaneously along the underground sections of the transmission line in order to reduce/minimize time on site and disruption to normal trail activities.

Construction of the electrical transition stations will involve delivering materials and equipment (e.g. cable, electrical structures, conduit, aggregate, construction equipment, etc.,), directional drilling or trenching underground cable runs, cable pulling, splicing activities, backfilling, installation of pole structures and foundations, and cable termination activities.

# 5.3 Construction of the Electrical Switch Station

Construction of the electrical switch station will involve delivering materials (e.g. electrical equipment, modular control building, power cables, concrete, reinforcing steel, fencing, aggregate, etc.,) to the switch station site, excavating and grading civil works, installation of foundations and conduit, installing electrical equipment, and terminating the transmission line and interconnection cables to the switch station. Approximately 170 vehicle trips are expected to be required for this work.

Detailed design specifications on the intermediate transformer station, transmission line, and switch station can be found in Dufferin Wind Power's Leave To Construct (LTC) application. A copy of which can be found at local municipality offices and on the Project's web site <a href="https://www.dufferinwindpower.ca">www.dufferinwindpower.ca</a>.

#### 6.0 Project Schedule

Project construction is expected to commence August 12<sup>th</sup>, 2013 and to take approximately eight months to complete. A summary Gantt chart of the project's schedule is provided in Appendix B.

### 7.0 Summary

In summary, the project is preparing to commence construction and shall construct the transmission line and associated transmission facilities as defined in Decision and Order EB-2012-0365 (the "Project") and in accordance with its Leave To Construct application and evidence and undertakings, except as modified by the Board's Decisions and Order and by the Conditions of Approval, and in accordance with applicable laws, codes, and standards. In addition:

- 1) Dufferin Wind will comply with the requirements of the Renewable Energy Approval and any amendment thereto.
- 2) Dufferin Wind will satisfy the Independent Electricity System Operator ("IESO") requirements as reflected in the System Impact Assessment Final Addendum Report dated August 31, 2012, and such further and other conditions which may be imposed by the IESO.
- 3) Dufferin Wind will satisfy the Hydro One Networks Inc. ("Hydro One") requirements as reflected in the Final Customer Impact Assessment Report dated August 31, 2012.
- 4) Dufferin Wind will advise the Board's designated representative of any proposed material change in the Project, including but not limited to material changes in the proposed route, construction techniques, construction schedule, restoration procedures, or any other material

impacts of construction. Dufferin Wind will not make a material change without prior approval of the Board or its designated representative. In the event of an emergency the Board shall be informed immediately after the fact.

- 5) Dufferin Wind will obtain and comply with all necessary approvals, permits, licences, certificates and easement rights required to construct, operate and maintain the Project, and shall provide copies of all such written approvals, permits, licences and certificates upon the Board's request.
- 6) Dufferin Wind will obtain all necessary easements and other instruments relating to individual parcels of land before commencing construction of the Project upon those lands.
- 7) Dufferin Wind will comply with the laws of Ontario (including the laws of Canada applicable in Ontario).

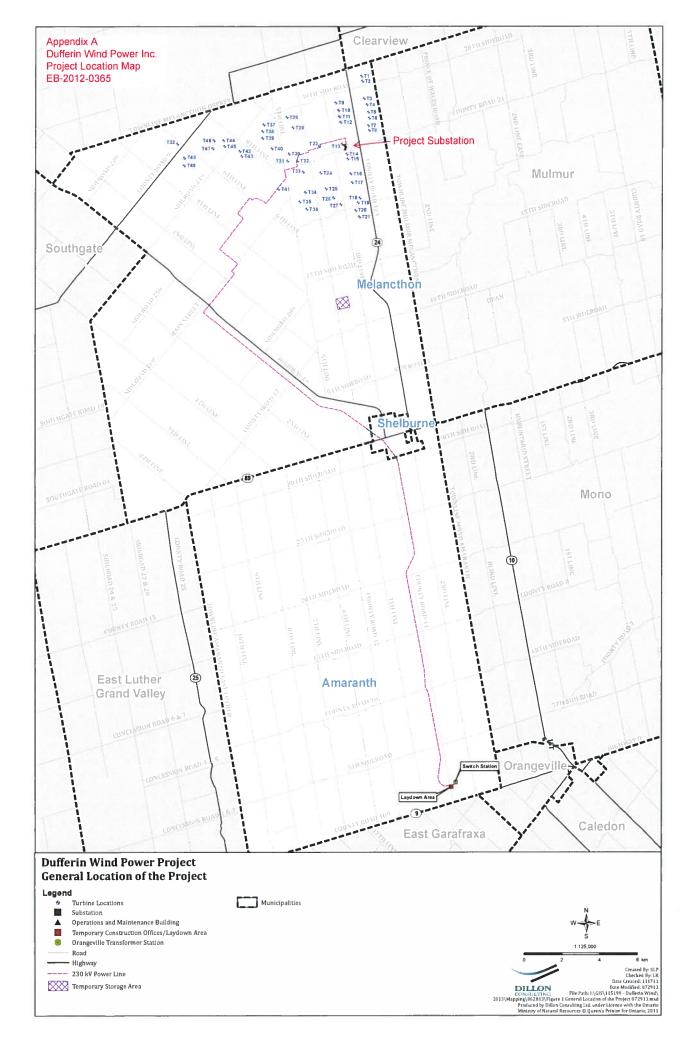
### **Appendices**

Appendix A.

Dufferin Wind - Project Location Map - 28 July 2013

Appendix B.

Project Construction Schedule - 28 July 2013



Appendix B
Dufferin Wind Power Inc.
Project Construction Schedule
EB-2012-0365

