

APPENDIX A: Excerpts from K2 Wind response to OEB Staff Interrogatories in EB-2012-0458

Interrogatory 4: General Organizational Capability

Reference:

Exh. B/ Tab 1/ Sch. 1/ § 2-4

Preamble:

With respect to the Applicant's experience, the reference discusses the experience of the three partners in acquiring, developing, operating, and maintaining renewable generation, and manufacturing solar and wind equipment, but does not give further information on constructing, operating and maintaining transmission facilities.

Question/Request:

- i. What is the Applicant's experience in constructing and operating a transmission infrastructure in Ontario or in other jurisdictions in Canada?
- ii. Please indicate what corporate organizational capabilities exist to complete the applied-for transmission facilities. Where applicable, please provide information on:
 - Project Management;
 - Design and Construction;
 - Operation and Maintenance; and
 - Examples of similar projects that have been undertaken.
- iii. Please indicate what human resources, if any, will be pooled from any of the three participating partners and assigned to the project? Please specify the percentage time committed solely to the transmission aspect of this project.

Responses:

- i. K2 Wind, through Capital Power (formerly EPCOR), has construction and operational experience with several relevant facilities, a selection of which are outlined in the table on the following page.

Facility Name	Location	Description	Year Built
Genesee Unit 1	Genesee, Alberta	500 kV substation	1989
Genesee Unit 1	Genesee, Alberta	500 kV substation	1988
Genesee Unit 3	Genesee, Alberta	500 kV substation	2004
Kingsbridge 1 Wind Operation	Kingsbridge, Ontario, Township of Ashfield-Colborne-Wawanosh	27.6 kV above/below ground collection lines (95 km), (2) 27.6 kV substations	2005-2006
Castle Downs Substation – Victoria Substation Connection	Edmonton, Alberta	230 kV underground transmission line (12 km)	2008
Keephills Unit 3	Keephills, Alberta	500 kV substation	2010
Quality Wind Project	Tumbler Ridge, British Columbia	230 kV substation, 230 kV transmission line (22 km), 35 kV above/below ground collector lines (44 km)	2012
Halkirk Wind Project	Halkirk, Alberta	230 kV substation, 35 kV below ground collector lines (80 km)	2012
Port Dover and Nanticoke Wind Project	Haldimand and Norfolk Counties, Ontario	230 kV substation, 35 kV below ground collector lines (100 km)	under construction

Capital Power has 25 years of experience developing generation facilities and associated electrical infrastructure as both owner and as prime contractor. Capital Power's dedicated Project Management Department was responsible for recent substation and transmission installations in B.C., Alberta and Ontario. Design and construction of substation and transmission facilities have generally

been executed under an EPC arrangement with an electrical prime contractor whereby Capital Power engineers and/or consultants develop specifications and review detailed design for compliance. However, the recent Genesee Unit 3,500 kV substation and the Clover Bar Energy Center ("CBEC") substation upgrades were designed in-house and constructed with Capital Power as the prime contractor.

Capital Power was formerly part of EPCOR which was responsible for development, operation and maintenance of all City of Edmonton owned transmission and distribution infrastructure. Following the divestiture of Capital Power from EPCOR, Capital Power retained the capability required to support the development and installation of new facilities. Capital Power currently operates and maintains 12 substations ranging from 26.7 kV to 500 kV throughout North America in compliance with applicable North American Electric Reliability Corporation standards.

Capital Power employs an Electrical Safety Codes Officer on staff, because Capital Power has been granted Accredited Corporation status by the Standards Council of Alberta. This status allows Capital Power to administer its own code and regulatory compliance requirements in regards to the installation of electrical equipment and systems. The corporate Safety Codes Officer has the ability and has been given the power through legislation to inspect, approve and accept overhead and underground installations for distribution and transmission systems. Although Alberta is the only jurisdiction providing this level of self-regulation, Capital Power employs its Safety Codes Officer for code compliance oversight across its Canadian fleet.

The corporate organization capabilities of Pattern Energy Group LP ("PEG") are as follows: Pattern K2 LP Holdings LP is a wholly-owned subsidiary of PEG, one of North America's leading independent wind and transmission companies. It is PEG's mission is to provide customers with clean, renewable energy by developing, constructing, owning and operating generation and transmission projects. PEG has projects totaling over 1,155 MW in operation and has many years of experience developing, managing construction and operating both High Voltage AC and DC transmission lines. This includes the 52 mile Trans-Bay Cable, a 400 MW DC undersea transmission project serving approximately 40% of the load in the city of San Francisco. The PEG team has developed, permitted, financed, constructed and operated over one hundred miles of high voltage AC transmission lines associated with PEG-developed wind farms. In addition, PEG has a development pipeline that includes over 4,000 MW of wind power and multiple transmission projects in the United States, Canada and Latin America.

PEG is a U.S.-based company led by a committed and seasoned management team whose members, each with over 20 years of experience in the energy

industry, have worked together for nearly 10 years. As a team they have developed, financed and managed more than \$4 billion of energy assets. PEG has an office in Toronto and a project office in Blenheim, Ontario.

The senior management team is supported by a deep and talented team of scientists, engineers, financial experts, and construction and operations specialists who bring expertise and a rigorous analytical perspective to all aspects of the business.

- ii. K2 Wind will rely on both internal corporate organizational capabilities (of its related companies) and on external/contracted capabilities to complete the applied for transmission facilities. Its internal corporate organizational capabilities will consist of project management and construction management capabilities. Engineering/design, construction and operations and maintenance capabilities will be contracted from third-parties.

K2 Wind expects to select an Ontario-based contractor to design and build the Proposed Facilities. The electrical contractor will be selected on the basis of its experience in the design and construction of high voltage power transmission lines for electric utilities, municipalities and private enterprises throughout Ontario and Canada.

- iii. The K2 Wind partners will assign engineering and construction management staff to oversee the design and construction of the Proposed Facilities, or, if qualified staff cannot be obtained from the partners, engage them under contract. A third party engineering firm will act as the quality assurance/quality control (QA/QC) manager for the Proposed Facilities. K2 Wind's on-site staff will act as landowner and community liaison for the Proposed Facilities during the construction period. K2 Wind will assign or engage additional staff as required. An independent engineer representing Project lenders may also be involved in the Proposed Facilities to provide an independent engineering review.

Interrogatory 5: Project Management

Reference:

Exh. H/ Tab 1/ Sch. 1/ Project Description Report/ Appendix B (p.3)

Preamble:

Board staff note that in assessing the quality of service, additional operational detail may be beneficial.

The Project Description Report at the reference mentions in the context of the environmental assessment an "Emergency Response and Communications Plan" that would be developed by K2 Wind and/or the operation and maintenance contractor.

Question/Request:

- i. Please indicate whether the Applicant intends to make use of contractors for the transmission facilities. If so, please tabulate the various functions covered by these third party contractors for construction, operation and maintenance activities and please provide a summary of their experience in regards to their area of expertise.
- ii. Please confirm that K2 Wind will retain ultimate responsibility and accountability for the quality and the reliability of the electricity service provided by the proposed transmission facilities.
- iii. Please indicate whether the Emergency Response and Communications Plan establishes protocols to ensure that local stakeholders,(ie. municipality, first responders and the public) are kept informed during emergency situations involving the transmission facilities. Would potential contractors have any responsibilities under this emergency plan?
- iv. Please file a human resource plan/organizational chart to illustrate the transmission project organizational structure and, where applicable, distinguish contracted from project personnel.

Responses:

- i. K2 Wind's approach is to assign the various roles for design, construction, operations, and maintenance to qualified companies with a specialty in their designated area, while retaining overall oversight, responsibility and accountability for the quality and safety of all related activities and constructed works.

K2 Wind will retain a qualified EPC contractor, who will then in turn hire a group of specialized contractors and engineering consultants to complete final detailed design and construct the Project, including the transmission facilities. K2 Wind has utilized an experienced Ontario-based design consultant, AMEC Americas Ltd. ("AMEC"), for the preliminary design of the transmission line specifications and routing. AMEC's team has assessed applicable codes and standards, as well as the site specific conditions and created a final design based on these constraints.

K2 Wind has not selected an EPC contractor as yet and is currently developing a Request for Proposals for such a contractor that is expected to be issued later in March 2013. This contract award is scheduled to take place by September 2013. The selected contractor (and any subcontractors) will be required to have experience in wind power projects and high voltage substations and transmission infrastructure.

The K2 Wind partners expect to operate and maintain the Project, including the electrical facilities and will engage specialized contractors to provide specific maintenance services for the high voltage equipment, as necessary. Decisions about the allocation of partner resources to the K2 Wind operations team will be made in the second half of 2013. Engagement of any operations and maintenance service contractors will not take place until nearer to the commercial operation date, likely in late 2014.

Please refer to the below summary of all design, construction, operation and maintenance activities related to the K2 Transmission Line.

Activity	Assigned Party	Current Status
Preliminary design	AMEC	complete
Selection of EPC contractor	K2 Wind	target September 2013
Detailed design of the K2 Transmission Line	specialized engineering consultant	will be hired by EPC Contractor
Construction of K2 Transmission Line	specialized sub-contractor	will be hired by EPC Contractor
Determine the allocation of responsibility between K2 Wind partners for operations	K2 Wind	second half of 2013
Select specialized operations and maintenance contractors as required	K2 Wind operating partner	late 2014

3/1/2014

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"The project team has come together to build and operate a 270-megawatt wind power farm in Ashfield-Colborne-Wawanosh."

PARTNERSHIP

K2 Wind Ontario is a limited partnership between [Capital Power LP](#), [Samsung Renewable Energy Inc.](#) and [Pattern Renewable Holdings Canada ULC](#). The project team has come together to build and operate a 270-megawatt wind power farm in the Township of Ashfield-Colborne-Wawanosh.

THE PROJECT

K2 Wind Ontario is planning to build and operate a 270-megawatt (MW) wind power project in the

<http://www.k2wind.ca/about-us/>

1/4

3/1/2014

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"Stay informed about important upcoming events and key dates in the ongoing approvals process."

CONTACT US

Meet the K2 Wind Team

Meetings with the K2 Wind Team are available upon request. Contact us for more details.

K2 Wind Ontario

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1/4