

August 16, 2019

RESS, EMAIL & COURIER

Ontario Energy Board
P.O. Box 2319
27th Floor, 2300 Yonge Street
Toronto, ON M4P 1E4

Attention: Ms. K. Walli, Board Secretary

Dear Ms. Walli:

**Re: Wataynikaneyap Power LP (EB-2018-0190)
- Post-Approval Design Modifications**

We are legal counsel to Wataynikaneyap Power GP Inc. and Wataynikaneyap Power LP (together, "WPLP"). On April 1, 2019 the Ontario Energy Board (the "Board") issued (and on April 29, 2019 revised) its Decision and Order in the above-referenced proceeding, granting WPLP leave to construct certain transmission lines and related facilities, as well as approving certain code exemptions and a cost recovery and rate framework (the "Decision"). On August 8, 2019, the Board confirmed as immaterial a minor change to the project relating to a small shift in the location of the Wataynikaneyap Switching Station. This letter informs the Board of an opportunity that WPLP is considering for a further design enhancement to the project by using primarily lattice steel transmission line structures for the 230 kV and 115 kV line segments. In WPLP's view, for the reasons set out below, this change is immaterial and does not require further review or approval from the Board. WPLP is therefore seeking confirmation, by no later than September 4, 2019, that the OEB considers the change to be immaterial.

Background

The project, as contemplated in the Decision, consists of approximately 1,732 km of transmission and interconnection facilities, comprised of (1) a 230 kV line, approximately 303 km in length, from the Wataynikaneyap SS near Dinorwic to the Wataynikaneyap TS in Pickle Lake (the "Line to Pickle Lake"), (2) 115 kV, 44 kV and 25 kV lines, approximately 890 km in combined length, running from the Wataynikaneyap TS north to connect distribution systems serving 10 remote First Nations (the "Pickle Lake Remote Connection Lines"), and (3) 115 kV and 25 kV lines, approximately 531 km in combined length, running from the Red Lake TS north to connect distribution systems serving 6 First Nations (the "Red Lake Remote Connection Lines").

The physical design as described in the application contemplated the use of H-frame wood pole structures for the 230 kV Line to Pickle Lake, as well as for most 115 kV segments in the Remote Connection Line portions of the project, with single-pole wood structures for the 44 kV and 25 kV segments. That preliminary design, as explained in Exhibit D-3-1 of the Application, was based

on empirical evaluations of comparable projects and advice from independent engineering consulting firms, which indicated that the use of H-frame wood pole structures for the 230/115 kV segments would provide the most economical means of meeting the project requirements. In addition, the October 13, 2016 IESO Scope Report identified the use of H-frame wood pole structures as the 'default' recommended/supported design. While the advantages of using lattice steel structures were known to the project team, it was assumed based on the foregoing that lattice steel would not be economically feasible. As such, project development and preliminary design continued to contemplate the use of H-frame wood structures for the 230/115 kV segments.

That said, the application also explained in Exhibit C-8-1 that the final engineering, procurement of equipment and materials, as well as construction, would be completed through an Engineering, Procurement and Construction ("EPC") contract, using a competitive process to select a qualified contractor, and was therefore subject to changes as a result of the EPC contracting process. WPLP also noted that it engaged an Owner's Engineer to provide support during that process. As explained in WPLP's Semi-Annual Report on the Wataynikaneyap Transmission Project, filed on July 15, 2019 in EB-2016-0262, WPLP received proposals in response to its EPC RFP process in April 2019 and substantially completed its selection and award process in Q2 2019. The result of this process is that WPLP expects to negotiate one or more final EPC contracts in Q3 2019.

Through the competitive EPC contracting process, it became evident to WPLP that the use of steel structures would not cost substantially more than wood. While WPLP could complete the contracting process on the basis of the H-frame wood pole design, it has the option of completing the process on the basis of primarily using lattice steel structures (which, like the H-frame wood pole structures, would be guyed) for the 230 kV and 115 kV components of the project (the "Potential Design Enhancement"). No changes would be needed to conductor, insulators or other design elements. The Potential Design Enhancement offers a number of important advantages, including cost savings, reduced schedule risk, reliability benefits and reduced land disturbance.

To avoid impacting the project schedule and incurring additional costs, WPLP needs to make a final determination on whether to pursue the Potential Design Enhancement by September 6, 2019. To enable WPLP to make this determination, it requests that the Board confirm that the change in structure design for the 230 kV and 115 kV line segments is not material, and therefore requires no further review or approval by the Board, by no later than September 4, 2019.

OEB Review of Post-Approval Project Modifications

Section 4.3.3.1 of Chapter 4 of the OEB's *Filing Requirements for Electricity Transmission Applications* states that "[a]ny material deviations to the approved route following Board approval requires further review by the Board. In the course of detailed design and construction some minor deviations from the original route may be required, and the applicant is obligated to advise the Board, which will decide if such changes are of sufficient significance to warrant further examination. Generally, changes will be significant if new or existing landowners or public land are affected."

The use of lattice steel structures, as contemplated in the Potential Design Enhancement, would be based on the same transmission line routing as approved in the Decision and can be accommodated within the ROW widths contemplated therein. As such, it does not affect any new landowners or public lands and does not constitute a deviation to the approved route. WPLP is therefore not providing this letter for the purposes of section 4.3.3.1 of the *Filing Requirements*.

As a condition of approval in the Decision, the OEB requires WPLP to “advise the OEB of any proposed material change in the Project, including but not limited to changes in: the proposed route, construction schedule and cost, the necessary environmental approvals, and all other approvals, permits, licences, certificates and rights required to construct the proposed facilities.”

As noted, the change in structure type for the 230 kV and 115 kV segments of the project do not require any changes to the proposed route. Moreover, as discussed below, this change will have no impact on the overall construction schedule, will result in a relatively small cost reduction and is not expected to have any material impacts on environmental or other approvals or rights required to construct the proposed facilities. As such, it is WPLP’s view that the change in structure type does not represent a material change in the project. Consequently, WPLP has no obligation to advise the Board or to obtain further approval for this change. WPLP nevertheless wishes to notify the Board and asks the Board to confirm its view that the change is not material within the requested timeframe. To assist the Board in confirming same, a summary of the rationale and impacts of the change is as follows.

Rationale and Impacts

The Potential Design Enhancement provides a number of important advantages relative to the wood pole H-frame design that was contemplated in the application.¹ These include the following:

- **Cost Savings:** The engineering, procurement and construction costs of the Potential Design Enhancement would be approximately \$580K lower as compared to the design contemplated in the Decision. In addition, it is well established that annual maintenance costs for steel structures are lower than for wood structures. This is on account of a number of factors, including that fewer structures would be needed due to longer spans, as well the resistance of steel structures to bird and insect damage. In addition, lattice steel structures have a significantly longer life expectancy than wood pole H-frame structures, thereby further reducing operating costs. For example, the July 8, 2010 Asset Depreciation Study prepared for the Board by Kinectrics indicates that the Typical Useful Life (TUL) for a fully dressed wood structure is 45 years, whereas the TUL for a fully dressed steel structure is 60 years.² If these TULs are applied to WPLP, based on the increased amortization period for steel structures WPLP’s depreciation expense recoverable in rates would be expected to be approximately \$1.25M lower per year.
- **Schedule:** Assuming WPLP is able to make a determination on proceeding with the Potential Design Enhancement by September 6, 2019, there would be no expected impact on the completion date for the project.³ One reason for this is that, whereas wood pole assembly and installation would need to be performed on the ROW almost exclusively during the approximately 3-month winter construction period, lattice steel structures

¹ Appendix ‘A’ hereto includes illustrations of the H-frame wood and lattice steel structure types.

² See <https://www.oeb.ca/oeb/Documents/EB-2010-0178/Kinectrics-418033-OEB%20Asset%20Amortization-%20Final%20Rep.pdf>

³ It is expected that, under the Potential Design Enhancement, three communities would be connected up to 8 months later and three communities would be connected up to 8 months sooner as compared to the use of H-frame wood structures, but the completion dates for each of the Line to Pickle Lake, the Pickle Lake Remote Connection Lines and the Red Lake Remote Connection Lines, as well as for the overall project, would be unaffected.

could be assembled year-round in centralized locations near communities. Once foundations have been installed, the lattice steel towers can then be flown from the assembly yards to their permanent locations by helicopter at any time of the year.

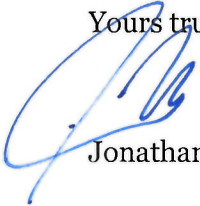
- **Reliability:** Unlike wood structures, there is in most cases little to no impact on the structural integrity of steel structures as a result of forest fire. Lattice steel structures are also more resilient and less susceptible to damage from extreme wind storms or heavy ice conditions. In addition, they reduce the risk of service disruption because their greater height minimizes exposure to hazard/danger trees and the structural steel and guy wires provide improved grounding performance relative to wood structures. Also, in the event of failure, lattice steel towers can be replaced more quickly than wood structures because pre-assembled spares can be flown in and erected on existing foundations whereas wood structures may require relocation, re-drilling and aerial framing.
- **Land:** As compared to wood H-frame structures, fewer lattice steel structures are required due to the increased span lengths (approximately 1.75 times greater span length). The reduced number of structures minimizes land disturbance and access requirements. In addition, because lattice steel tower installation can be accomplished using helicopters, the impact of heavy equipment from travel along the ROW will be reduced.
- **Environmental:** The longer spans result in fewer structures when using lattice steel structures, thereby reducing land disturbance. In addition, because the towers can be assembled in centralized yards and flown to site for installation, there would be less vegetation/species impact at the installation site. Another important factor is that the use of lattice steel structures enables WPLP to more effectively deal with its limited ability to access the ROWs outside of frozen conditions, and to manage the construction schedule around wildlife and bird constraints. This is because the assembly of lattice steel towers can take place year-round in areas that have good access and are without wildlife constraints. When access and wildlife conditions permit, the pre-assembled lattice towers can be flown to their permanent locations and installed within a relatively short period. In addition, whereas wood structures require the use of preservatives that over time pose a risk of contamination to soils and water, there are no such risks associated with lattice steel structures. WPLP is informing the Ministry of the Environment, Conservation and Parks of the Potential Design Enhancement so as to confirm that this change can be accommodated within the approved environmental assessments.
- **Electrical Performance:** The change in structure type itself has no impact on the 230 kV and 115 kV line ratings, which are based on the type and size of conductor selected, and were compared to the IESO's required line ratings in Exhibit C-5-1 of the Application. However, the greater heights above grade for the conductors when using lattice steel towers is expected to have an immaterial, though measurable, impact on some electrical parameters. For example, protection settings may need to change slightly because of minor changes to line impedances. WPLP is notifying the Independent Electricity System Operator (IESO) of the Potential Design Enhancement to determine if the IESO has any concerns or requires updates to the project System Impact Assessments (SIAs). However, it is not expected that such updates, if needed, would materially change the SIA results.

Timing and Process

As noted, to avoid impacting the project schedule and incurring additional costs, WPLP needs to make a final determination on whether to pursue the Potential Design Enhancement by September 6, 2019. Therefore, to make this determination, it requests that the Board confirm that the change in structure design is not material, and therefore requires no further review or approval from the Board, by no later than September 4, 2019. This would provide WPLP with at least one day following the OEB's confirmation to finalize its decision on this aspect of project implementation.

Please let me know if you require any further information.

Yours truly,



Jonathan Myers

cc: Ms. Margaret Kenequanash, WPLP
Mr. Duane Fecteau, Watay PM
Mr. Charles Keizer, Torys LLP

APPENDIX 'A'

ILLUSTRATIONS OF STRUCTURE TYPES

