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BY COURIER

October 12, 20148

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli:

**EB-2017-0364 – Hydro One Networks Inc.'s Section 92 – Lake Superior Link Project Application – Undertaking Response**

Please find enclosed response to undertaking JT4.1 from the Oral Hearing held October 9, 2018 in regards to the above noted proceeding.

This filing has been submitted electronically using the Board's Regulatory Electonice Submission System (RESS), and two (2) hard copies will be sent via courier.

Sincerely,

ORIGINAL SIGNED BY JOANNE RICHARDSON

Joanne Richardson

# ***UNDERTAKING – J4.1***

## ***Reference***

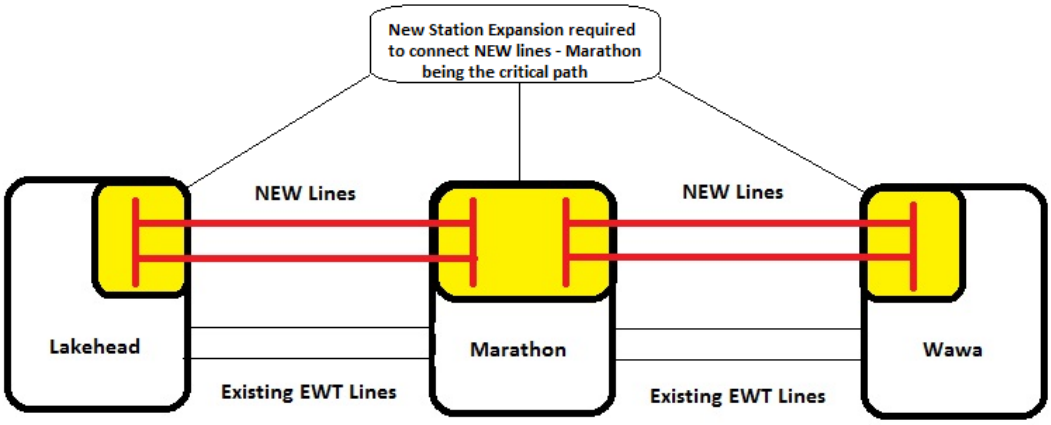
## ***Undertaking***

To make best efforts to provide updated construction schedules for Marathon, Lakehead and Wawa.

## ***Response***

Hydro One has reviewed the EWT Station Project schedule based on the latest information available as of October 10, 2018 and updated the start and finish dates of the major activities accordingly.

The schedule presented in this update is driven by the critical path activities identified at the Marathon TS. As seen in the representation below, the Marathon Station requires the largest infrastructure and land expansion to accommodate the NEW Line (EWT or LSL) connections and therefore, will dictate the overall schedule for in servicing the NEW Line project. The Wawa and Lakehead schedules are a subset of the overall schedule.




## ***Previous Schedule Updates and Associated Risks***

- Hydro One in their Section 92 application, EB- 2017-0194 Exhibit B, Tab 7 Schedule 1 titled "Apportioning Project Costs and Risks", provided a detailed schedule of approval, design and construction for the EWT Station Project as filed in Exhibit B, Tab 11, Schedule 1.
- In addition, as explained in 0EB Staff Interrogatory Response # 4 (Exhibit I, Tab 1 Schedule 4) dated January 25, 2018 item f) , Hydro One has completed a risk review titled "Risk Review Board Meeting" included in the IR response and

identified "Risks associated with schedule delays" at Marathon as follows: " ... Any delays due to section 92, building specification and tendering of reactors, breakers & capacitor banks can cause significant delays to the ISD" " The current schedule for Environmental permitting and sequencing with the new EA process is aggressive. Any delay will impact overall schedule delay by six months"

- The initial schedule as filed in the Section 92 application was based on an optimized schedule with a start date of May 2018 and In-Service by November 2020.
- Given the fact that MECP approval has tied the EWT Station Project to the EWT Line individual EA, HONI cannot submit any applications for permits until the individual EA is approved.
- Additionally, as part of the Class EA process for the Marathon TS Expansion, HONI has committed to undertaking the clearing of trees within prescribed windows to mitigate potential environmental effects.
- To minimize the impact of the new schedule at Wawa TS and Lakehead TS, some preparatory civil work commenced in areas within the existing Hydro One properties.
- Similarly, to minimize the impact of the new schedule at Marathon TS certain materials were procured.

***Updated Project Schedule***

The updated schedule below is based on the assumption that S92 approval would be granted before January 2019 and the EA process would be completed by March 1, 2019. Hydro One, has analyzed at a high level the possibilities that are available to reduce timelines. The schedule below takes into account the best estimates available today. This schedule, depending on the exact delivery of the EA and approvals, as well as favorable winter weather, may be reduced in the order of 4-6 weeks from the In-service date of September 23, 2021 detailed below. (Updated Oct 10, 2018 for Marathon TS - critical path)

| | Deliverable | Timeline | Additional Details |
|---|---|---|---|
| 1 | [1]NextBridge Individual EA approval and final Class EA Notice of Completion | March 01, 2019 | |
| 2 | Permitting applications (including drainage ECA typically 12 months and MNRF Forest Resource License typically 2-3 months) | March 01, 2019 to March 01, 2020 | These permits are expected to be issued after the Individual EA approval item # 1 |
| 3 | [2]Land Purchase from MNRF (for new diameter) | March 01,2019 to April 1, 2019 | This step is dependent on item # 1 |
| 4 | Install new 230kV control building – Critical Path | March 05, 2019 to May 07, 2020 | This step is dependent on item # 3 See note # 6 |
| 5 | [3]Early tree cutting opportunity (see 8,9,10) | April 01, 2019 to April 23, 2019 | This item is dependent on item # 3 See notes # 1 and 2 |
| 6 | Install concrete footings for structures | May 28, 2019 to September 21, 2020 | This step is dependent on item # 3 and 5. See notes # 3 and 4 |
| 7 | Install steel structures | September 03, 2019 to March 08, 2021 | This step is dependent on item # 6 See note # 5 |
| 8 | [3]Relocate Shack Lake trail | September 16, 2019 to October 21, 2019 | This step is dependent on item # 3 |
| 9 | [3]Clear trees in new 'diameter' | October 22, 2019 to November 06, 2019 | This step is dependent on item # 8 |
| 10 | [3]Site stripping of land (removal of 24" of soil) | November 07, 2019 to January 29, 2020 | This step is dependent on item # 9 |
| 11 | Install 230kV breakers and equipment | October 15, 2019 to December 15, 2020 | This step is dependent on item # 7 See note # 7 |
| 12 | Install cables between structures and insulators | March 25, 2020 to June 22, 2021 | This step is dependent on item # 7 and partially 11. See note # 7 |
| 12 | Commission all equipment – Critical path | May 07, 2020 to August 17, 2021 | This step is dependent on item # 4 and partially 11 and 12. See notes # 8 , 9 and 10 |
| 13 | Connect new transmission lines to station diameter | June 15, 2021 to August 25, 2021 | This step is dependent on items above activities and completion of the line |

| | | | |
|---|---|---|---|
| 14 | Final Staging Outages - New diameter In-Service | September 23, 2021[4] | |

[1] The Class EA process for Marathon met the requirements of the MNRF Class EA for Crown Land acquisition. This schedule assumes MNRF will provide final clearance on the Class EA immediately upon approval of the NextBridge Individual EA to allow submission of the Class EA Notice of Completion.

[2]HONI has previously obtained a Land Use Permit (LUP) which will allow for the construction/siting of the required expansion on the required MNRF subject lands. This estimated timeline represents the conversion from HONI LUP to Patented Purchase (Fee Simple acquisition by HONI) this does not impact the construction start date.

[3]To mitigate for birds, bats and caribou at Marathon TS, tree removal can only occur between Sept 15 - Nov 30 and April 1-23. HONI will seek the earliest opportunity to complete this work. However, an MNRF Forest license is required prior to cutting. Typically this would take 2-3 months to obtain; therefore it is unlikely that the early clearing window is feasible.

[4]The in-service date defined in this schedule relates to all undertakings in the EWT Station Project that are necessary for connecting the EWT (or LSL) Line Project. Some work will continue to be done on the three Hydro One stations into the Q4 2021.

***Additional Notes regarding the Marathon TS schedule***

1. Approvals are required before land clearing and major civil work (ex. Drainage, Spill containment)
2. Land clearing is required before site preparation can commence.
3. The site preparation, excavation, forming, setting of footings and concrete work precedes the initial steel work to the point that sufficient footings are available to commence steel installation. The initial activities including land prep, excavation, forming and pouring concrete takes approximately two months and the activities to allow the concrete to cure, strip, backfill and compact each area takes another additional month. This approximately three month initial period is required to prepare sufficient area for the steel work to begin immediately after. The same sequence would continue afterwards multiple times, for each installation.

4. The preparation for construction of the footings, cable tray and relay buildings civil work is sequenced to allow for efficiency of crews and work groups. Weather is a major consideration in this area affecting the timing of the work. The current schedule contemplates pausing during winter months (January/February) due to -35C temperatures and impact on the concrete work. Weather permitting work will continue during these months.
5. As the concrete work progresses, subsequent steel work and construction begins. Some of this work can occur in the winter months with the exception of inclement weather and heavy snowfall.
6. The New Control Building defines the overall critical path.
7. As structural work and building work progresses, yard equipment can be installed and connected. No cable work is planned for winter months due to the impact of cold temperature on conductors and difficulties in handling.
8. After equipment is installed and connected work can commence on the setup, verification and testing for breakers, switches, control equipment, protections, telecommunication and signals to the Control Centre etc.
9. As the work intensifies in the yard several disciplines will converge – station civil & station electrical construction, lines construction, protection & control and electrical maintenance. The associated activities need to be coordinated to ensure crowding and overlapping activities do not jeopardize safety.
10. Towards the end the final commissioning will verify all equipment, protection, control and telecommunication to ensure lines are safe to be energized and are properly protected to meet NERC PRC and NPCC standards.