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BY COURIER

January 15, 2019

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

Dear Ms. Walli:

EB-2018-0257 – Hydro One Networks Inc.'s Section 92 – Côté Lake Mine Connection Project – Interrogatory Responses

As per Procedural Order No. 1, please find attached Hydro One Networks Inc.'s ("Hydro One") responses to interrogatory questions received in regards to the above-noted proceeding.

An electronic copy of these interrogatory responses has been filed using the Board's Regulatory Electronic Submission System (RESS).

Sincerely,

ORIGINAL SIGNED BY JOANNE RICHARDSON

Joanne Richardson

OEB Staff Interrogatory # 1

Reference:

Exhibit B, Tab 1, Schedule 1, Attachment 1, p. 1-2
EB-2018-0191, Exhibit B, Tab 1, Schedule 1, Attachment 1

Interrogatory:

Preamble:
In the current application, Hydro One Networks Inc. (HONI) has applied to the Ontario Energy Board (OEB) for leave to construct the upgrade (in this case, the re-conductoring) of approximately 115 km of an idle 115 kV circuit, called T2R, as part of providing service to an open pit gold mine (Mine) approximately 200 km northwest of Sudbury (Project). The Mine is being developed by IAMGOLD Corporation (IAMGOLD). On December 6, 2018, the OEB granted IAMGOLD leave to construct approximately 44 km of 115 kV transmission line and associated facilities to serve the Mine. The IAMGOLD transmission line will be fed by the Project.

In its application, IAMGOLD provided a map that shows a 230 kV transmission line between the City of Timmins and the vicinity of the Mine.

Question:
Did Hydro One consider using the 230 kV transmission line as part of providing service to the Mine? If not, why not? If so, please explain why this alternative was ruled out.

Response:

The 230 kV transmission line shown in the map in EB-2018-0191, Exhibit B, Tab 1, Schedule 1, Attachment 1, is a routing option that was explored by IAMGOLD in early feasibility stages of IAMGOLD's mine connection project. IAMGOLD elected not to build a new greenfield 230kV line, as indicated on their map, but rather to utilize the existing 115kV Hydro One infrastructure (T2R) for connection and supply to its mine facilities. The 230 kV transmission line shown in IAMGOLD Application's map is not an existing transmission line, and as such was not considered a viable option by Hydro One when determining the preferred option for Hydro One's connection Project.

OEB Staff Interrogatory # 2

Reference:

Exhibit B, Tab 1, Schedule 1, pp. 2-3
Exhibit B, Tab 11, Schedule 1

Interrogatory:

Preamble:
In concert with the T2R upgrade, for efficiency, Hydro One will also refurbish circuit T61S – a 115 km 115 kV circuit that shares the same towers as T2R and currently serves HONI distribution and industrial / mining customers. Through laboratory testing, T61S has been confirmed to be at end of service life and at increased risk of failure.

The proposed in-service date for the Project (i.e., T2R upgrade) is August 2020, assuming the initiation of procurement activities in March 2019 and construction commencement in September 2019. The refurbished T61S circuit is planned to be in service in June 2021.

Question:
What are the risks associated with this interdependent project timeline, and what are the potential financial impacts on the overall T2R project budget?

Response:

As mentioned, the T61S refurbishment will not proceed until the currently idle T2R circuit is upgraded and energization is complete, therefore any delays to the completion of T2R will impact the commencement of work for T61S and thus may impact its in-service date. Since the lines share common tower structures, there are efficiencies achieved for the T61S refurbishment as a result of the work already being undertaken for circuit T2R. For instance, in order to complete the T2R upgrade there will be an arm extension for the T2R side of the tower. The tower will need to be balanced on the T61S side to maintain structural integrity. Combining the projects actually achieves benefits for both IAMGOLD and Ontario ratepayers by mitigating redundant work. Consequently, any increased risk due to the interdependencies of the two projects is offset by construction cost benefits which ultimately will reduce costs to ratepayers.

OEB Staff Interrogatory # 3

Reference:

Exhibit B, Tab 1, Schedule 1, p. 1
Exhibit E, Tab 1, Schedule 1, p. 1

Interrogatory:

Preamble:
Pursuant to the *Ontario Energy Board Act, 1998,* (OEB Act) HONI has applied under section 92 for leave to construct the Project and section 97 approval of the forms of land use agreement offered or to be offered to affected landowners.

The existing transmission corridor crosses an estimated 35 patented parcels of land, which consist of:

- Hydro One fee simple ownership
- Easement corridor over privately-owned and municipally-owned properties
- Lands under the jurisdiction of the MNRF
- Crossings over Municipal roads and highways [emphasis added]

Questions:

a) Please explain why Hydro One is not also seeking approval under section 101 (1) of the OEB Act for the proposed upgrade of T2R and refurbishment of T61S that will involve crossing roads and highways?

b) Please provide an update on negotiations for road crossing permits.

Response:

a) Section 101 (1) of the *OEB Act* refers to the authority to work on, under or over a highway. Given Hydro One's legislated occupation rights under Section 41 of the *Electricity Act, 1998*, it does not require consent of the owner or any other person having an interest in public streets or highways to locate its proposed project corridor Right Of Way. Hydro One will, however, engage with representatives from the City of Timmins having jurisdiction over the public roads that are crossed by the T2R/T61S line to ensure compliance with section 41(9) of the *Electricity Act, 1998*. Hydro One will obtain necessary encroachment permits with the City of Timmins as required for installation of rider poles associated with the construction

and stringing of the T2R/T61S transmission lines within municipal road allowances, including Pine Street, Sunset Boulevard, Dalton Road and Kenogamissi Falls Road.

b) Hydro One anticipates the acquisition of encroachment permits with the City of Timmins to take about one month. As such, acquisition of permits will begin in the Summer of 2019 for the anticipated Fall 2019 construction.

OEB Staff Interrogatory # 4

Reference:

Exhibit B, Tab 3, Schedule 1, p. 1

Interrogatory:

Preamble:

To upgrade T2R, Hydro One will use the smallest standard size of conductor suitable for this range of application: 411 kcmil Aluminum Conductor Steel Reinforced (ACSR). This will provide supply capacity and will minimize the scope of any tower modifications required to accommodate the new conductor.

Questions:

a) What is the difference in capacity between the existing and proposed conductor?

b) Does the proposed conductor provide sufficient capacity for any future increases in load that maybe required to meet the supply needs of the Mine or new customer connections along the 115 Km of the T2R circuit?

c) Is Hydro One aware of any proposed customer connections along the 115 km of the T2R circuit?

Response:

a) The existing idle 115 kV T2R circuit currently consists of a 336 kcmil Aluminium Conductor Steel-Reinforced ("ACSR") conductor with a summer ampacity rating of 290A at a maximum operating temperature of 60 degrees. The proposed new conductor is 411 kcmil ACSR and will be designed to have a summer ampacity rating of 480A at a maximum operating temperature of 80 degrees.

b) The proposed transmission line design uses HONI's minimum standard transmission conductor size (411 kcmil ACSR) for a 115 kV line and will provide an additional 30 Amps ("A") over the supply requirement for IAMGOLD. The thermal ampacity of the conductor can range from 380A to 600A depending on the maximum conductor operating temperature. Should other customers propose to connect, or IAMGOLD requires additional capacity in the future, Hydro One will assess any increased supply requirements and modify the line design as and when required.

c) At this time, Hydro One is not aware of any customer connections along the T2R circuit.

OEB Staff Interrogatory # 5

Reference:

Exhibit B, Tab 6, Schedule 1, p. 2

Interrogatory:

Preamble:

By energizing T2R first, the subsequent T61S refurbishment work will have an alternate conductor to transfer load to, thereby minimizing the number and length of necessary outages to customers while re-conductoring work is completed. Additionally, other potential costs that would otherwise need to be incurred during construction will be avoided, such as the construction of a bypass line or installing diesel generation to maintain customer load requirements, had the T2R line not been energized beforehand.

Questions:

a) The preamble above suggests that T2R will be in-service and supplying load while the refurbishment work on T61S is underway. Is this correct? Please explain. Will outages of T2R be required to do work on T61S?

b) What has been Hydro One's experience with scheduled outages during construction of similar projects in this area of the province? If there have been delays or cancellations of scheduled outages, what were the repercussions on both schedule and final costs?

c) After the upgrade of T2R and the refurbishment of T61S, does Hydro One expect to use T61S as an alternative supply during planned or unplanned outages of T2R? If not, please explain Hydro One's outage management plan when T2R must be removed for service for planned or unplanned outages.

d) Similarly, does Hydro One expect demand supplied by T61S to be able to use T2R as an alternative supply path during planned or unplanned outages of T61S?

Response:

a) Yes, T2R will be energized and supplying load while T61S refurbishment work is underway. To allow for a safe refurbishment and construction process, the load on T61S will be transferred to the energized T2R circuit, and then the T61S line will be de-energized. Once the T61S refurbishment work is complete, the line will be re-energized and the load

transferred back from T2R to T61S. Outages on the T2R circuit are not anticipated during the T61S circuit refurbishment.

b) Outages are common occurrence on many transmission projects in the province of Ontario. Hydro One crews plan work carefully and consider the risks and time sensitivity of outages in concert with the IESO. Most of the outage delays and cancellations are caused by inclement weather that poses an unsafe work environment. The outages are then rescheduled to a later date depending on outage management and restrictions. The repercussions of outage delays and cancellations depend on the specific circumstances surrounding the outage and the next availability of that outage. The cost impact depends on the scope of the outage related work and how well in advance the outage is cancelled. For example, if there is sufficient time before outage cancellation, crews can reorganize the work with minimal impact. If the outage is cancelled due to inclement weather close to the outage date, the cost impact varies depending on the rented equipment, number of scheduled resources and plan revisions.

c) HONI's T61S circuit will be reconductored with the same conductor size, 411 kcmil Aluminium Conductor Steel-Reinforced ("ACSR") cable, and will have the same ampacity rating as the adjacent T2R circuit which will be strung on the same tower structures. The capacity of circuit T61S will be sufficient to provide supply to the existing Hydro One customers and it can be used as an alternate supply to IAMGOLD during planned or unplanned outages of the T2R circuit.

d) Yes.

OEB Staff Interrogatory # 6

Reference:

Exhibit B, Tab 7, Schedule 1, pp. 2-3

Interrogatory:

Preamble:

The cost estimate and schedule assumes a Class EA Screening process of approximately eight months; however, there is a risk of the screening process to exceed that duration and the Project may be subject to a full Class EA.

Questions:

a) What factors would result in the Class EA Screening process being bumped up to a full Class EA?

b) If the Class EA Screening process were bumped up to a full Class EA, what would be the impact be on the project schedule, costs and in-service date for T2R? Could a bump up result in a delay in getting power to the Mine?

Response:

a) If an interested or affected party, during the Class EA Screening Process, identifies potential direct or indirect effects that cannot be addressed and the screening criteria cannot be met (as per Section 3.3.3 of the *Class Environmental Assessment for Minor Transmission Facilities, 2016* ("Class EA Document")), the proponent will subject the project to the Full Class EA Process as described in the Class EA Document. Should the concern be later resolved, the proponent may revert back to the Class EA Screening Process.

   The Class Environmental Assessment for Minor Transmission Facilities can be found here http://www.hydroone.com/Projects/ClassEA_Amendment/Pages/Default.aspx

b) If it is determined that a Full Class EA is required, the impact could be a four to twelve month delay in the Class EA schedule. If the risk materializes there could be a correlated effect on the in-service date and project costs. At this time HONI anticipates this risk is minimal.

OEB Staff Interrogatory # 7

Reference:

Exhibit B, Tab 7, Schedule 1, p. 3

Interrogatory:

Preamble:

A budgetary estimate with AACE Class 4 (-30% / +50%) level of accuracy was completed at the time the leave to construct application was filed. Until a detailed line inspection and a number of studies and surveys are completed, there is a risk of scope changes, including structural and foundation refurbishment, resulting in increased cost and a delayed in-service date.

Questions:

a) When does Hydro One anticipate the line inspections, studies and surveys to be completed? If some or all have been completed, please summarize the findings to date.

b) Has Hydro One encountered these types of scope changes for projects in this or other areas of the province? Please explain.

c) Given the vintage of the circuits and towers, what is the probability of such an occurrence?

d) If these types of scopes changes have been encountered before, what were the impacts on project schedules and costs?

e) Please explain how IAMGOLD's contribution could change if actual costs are materially different than the current estimate.

Response:

a) The survey and study for the line are complete and the first stage of the detailed line inspection is done. The second stage of the line inspection will be completed during the project construction stage. Hydro One's findings to date show that the tower conditions are generally in good shape, with some towers in need of structural steel member replacements, foundation and other minimal repairs.

b) The current budget estimate is predicated on an AACE Class 4 (-30% / +50%). Since filing this Application HONI has subsequently completed detailed line inspections and a number of

studies and surveys, including geotechnical study and a LiDAR[1] survey. HONI does not foresee any material scope changes at this time.

c) Given the vintage of the circuits and towers, there is always the possibility that a scope change, due to new information discovered throughout the estimating process could be required. However, at this time, given the studies and surveys completed to-date, HONI does not foresee any material scope changes at this time.

d) Scope changes may differ from project to project and the impact of a specific scope change on a project will vary dependant on a number of factors such as; vintage of towers, site location and original refurbishment scope. However, given that the survey and study for the line are complete and the first stage of the detailed line inspection is done, Hydro One does not foresee significant scope changes occurring on this Project.

e) In accordance with the Economic Evaluation Procedure in Hydro One's Board-approved Transmission Connection Procedures (EB-2006-0189) and the Transmission System Code section 6.5.2., Hydro One will recalculate the customer's capital contribution based on actual costs as soon as these are known. This will result in the customer's capital contribution either being increased or decreased depending on the variance in the cost estimates. IAM Gold's contribution would be adjusted for this variance. There is no materiality threshold for this recalculation as per the Transmission System Code and this process is completed by Hydro One for all Connection Cost Recovery Agreements.

[1] LiDAR is an acronym of Light Detection and Ranging, which is a surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor.

OEB Staff Interrogatory # 8

Reference:

Exhibit B, Tab 9, Schedule 1, pp. 1-2

Interrogatory:

Preamble:

The Mine was determined to meet the risk classification of a medium-high connection. Therefore, a 10-year discounted cash flow (DCF) analysis of both the line connection pool and network pool work was conducted consistent with the economic evaluation requirements of the Transmission System Code (TSC) to determine whether a capital contribution is required. The risk classification was determined in accordance with the methodology and requirements set out in Appendix 4 of the TSC and the Customer Risk Classification section of Section 2.5 Economic Evaluation Procedures of Hydro One's Transmission Connection Procedures.

For the Line pool, the DCF results show that this capacity enhancement project will have a negative net present value of $23.4 million and will require a capital contribution of $27.7 million from IAMGOLD. This DCF analysis is based on the incremental estimated initial cost of $31.7 million, plus the assumed impact on the future capital cost allowance and Hydro One corporate income tax.

Questions:

a) Please explain why the Mine was determined to meet the risk classification of a medium-high connection.

b) If the Mine was instead determined to be high risk and subject to a 5-year discounted cash flow analysis, what would the increase in capital contributions be for the line connections? Would there still be no need for a network connection capital contribution?

c) In the event the Mine's risk level changed from medium-high to high risk during the 10 year economic evaluation period, does Hydro One have any measures in place to mitigate the economic or financial impact on the connection and network pools?

d) In the event the mine should become insolvent during the 10-year economic evaluation period, how would Hydro One seek to recover the balance of the Mine's required capital contribution?

Response:

a) The customer who will be entering into the Connection Cost Recovery Agreement ("**CCRA**") with Hydro One for the connection of the mine is the mine owner, IAMGOLD Corporation (the "**customer**" or "**IAMGOLD**"). In accordance with the Economic Evaluation Procedure in Hydro One's Board-approved Transmission Connection Procedures (EB-2006-0189), Hydro One assigned the customer a medium- high risk classification based on the customer's bond rating from Moody's, a known bond rating agency.

b) If the customer was determined to be high risk and subject to a 5-year discounted cash flow analysis, the Line Capital Contribution would increase by $2M to $29.7M and the Network Pool would still not require any capital contribution. However, utilizing this risk profile could be considered discriminatory treatment as it would not be treating the customer in the same manner as other customers, including other mining companies, as it would not be following Hydro One's Board-approved Transmission Connection Procedures (EB-2006-0189).

c) The risk classification is an input to the initial economic evaluation and is not adjusted during the true up phase as per section 6.5.4 of the Transmission System Code which provides:

> "a transmitter shall use the same methodology used to carry out the initial economic evaluation, **and the same inputs except for load,** which will be based on the actual load up to the true-up point and an updated load forecast for the remainder of the economic evaluation period used."

A change in the risk classification would not have an impact on the connection and network pools as long as IAMGOLD meets its load commitments in the CCRA or makes the required true up payments in accordance with the terms of the CCRA.

d) The customer/party to the CCRA with Hydro One is IAMGOLD, not the mine owned by IAMGOLD. In the unlikely event IAMGOLD becomes insolvent and is unable to meet both the load and true up obligations under the CCRA, Hydro One could seek recovery on behalf of rate payers by making a claim in the particular insolvency proceeding or process applicable to IAMGOLD.

OEB Staff Interrogatory # 9

Reference:

Exhibit C, Tab 2, Schedule 1, Attachments 1-3

Interrogatory:

Preamble:
Hydro One provided a map indicating the geographic location of the T2R and T61S circuits. The Mattagami First Nation (Mattagami Indian Reserve No. 71) is located adjacent to a portion of the circuits.

Question:
Is Hydro One required to conduct any indigenous consultations regarding the Project and, if so, what is the status of the consultations?

Response:

Yes, Hydro One is required to conduct Indigenous Consultation under Section 4 of the Class EA for Minor Transmission Facilities (Hydro One, 2016) which outlines the consultation principles, methods and techniques. Section 4.1.1 specifically addresses consultation with First Nation and Métis communities.

The Class EA for Minor Transmission Facilities document can be found here:
http://www.hydroone.com/Projects/ClassEA_Amendment/Pages/Default.aspx

Hydro One's Indigenous Consultation process for the proposed project was initiated on August 7, 2018 by sending project notification letters via mail, and email, to Indigenous communities in the project area including Mattagami First Nation. Follow-up phone calls were undertaken on August 27, 2018 to confirm receipt of the letters and for further discussions. Indigenous Consultation is currently on-going for this project, which is consistent with Hydro One's regular indigenous consultation process.

OEB Staff Interrogatory # 10

Reference:

Exhibit E, Tab 1, Schedule 1, pp. 1-3

Interrogatory:

Preamble:

The Project will require additional right-of-way width for tapping structures. The connection will be on Ministry of Natural Resources and Forestry (MNRF) Crown land, and the additional width will be added to Hydro One's master Land Use Permit for Transmission.

Temporary construction needs, such as temporary work headquarters, off corridor access, material staging and laydown areas, will be licensed from landowners as needed to facilitate the refurbishment of the transmission line and connection to the Mine. Temporary rights will be acquired by Hydro One at mutually agreeable terms with the impacted property owners.

Questions:

a) Please provide an update on the status of land use permits from MNRF.

b) Please provide an update on negotiations with private land owners or claim holders impacted by the Project.

c) Please identify and explain any land use requirements for the T61S refurbishment work that are not also required for the T2S upgrade work.

Response:

a) Hydro One will be applying for an addition to its MNRF master Land Use Permit in Q1 2019 based upon the final line design and demarcation point. Should final design dictate that Hydro One will not own any equipment outside its current permit area no addition will be required for the T2R customer connection. From past experience an addition to the Land Use Permit takes four to six months which will provide Hydro One with the required permit rights prior to the planned construction start.

b) Hydro One has contracted Colliers International to provide an independent study of land rates along the transmission line. The report is to be delivered in late-January 2019 and will form the basis of the easement offers to impacted property owners. Offers to impacted

owners will be delivered in Q1 2019. Hydro One is prepared to make easement offers to land owners that reflect 100% of market value.

c) The T61S refurbishment work does not require any rights that are not a necessity of the T2R upgrade. The real estate rights are the same for both circuits as they are strung on the same double circuit towers. The acquisition of registered easements will clarify Hydro One's right of way for the double circuit line and would be completed regardless of refurbishing one or both circuits. The MNRF Land Use Permit addition is a result of the IAMGOLD connection tap to the T2R circuit only, and would otherwise not be required to strictly refurbish the existing transmission circuits.

OEB Staff Interrogatory # 11

Reference:

EB-2018-0191, Exhibit F, Tab 1, Schedule 1, Attachments 1

Interrogatory:

Preamble:

Several requirements in the Final System Impact Assessment (SIA) for IAMGOLD's transmission line are applicable to Hydro One rather than IAMGOLD.

Question:

Please confirm that Hydro One is aware of the SIA's requirements and is taking actions to address them.

Response:

Confirmed. Hydro One is aware of the SIA's requirements and will be addressing them.