Feedback Received and IESO Response

Bulk Study Updates (South and Central Ontario and Northern Ontario) – July 10, 2024

The IESO hosted a public webinar on July 10, 2024, to provide an update for the South and Central Bulk Study and Northern Ontario Bulk Study. Following the July 10, 2024, webinar, the IESO invited Indigenous communities to provide feedback on the topics discussed during the webinar.

Each presentation and the recording of the webinar are available on the following engagement pages South & Central Bulk Study and Northern Ontario Bulk Study.

Note on Feedback Summary and IESO Response

The IESO appreciates the feedback received from Indigenous communities. The following tables respond to the feedback received and are organized by each topic.

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Northern Ontario Bulk Study

Feedback / Common Themes	IESO Response
a) Work with Grand Council Treaty #3 (GCT3) to facilitate engagements with communities in Treaty #3 to allow the opportunity for full participation and to provide input on community needs. Communicate and coordinate information sharing with Treaty #3 communities that have Community Energy Champions (CEC) or similar. Ensure meaningful engagement is recurring throughout the duration of the study, and First Nation communities in Treaty #3 stay informed on updates as they come. Open communication and engagement early on will ensure Treaty #3 communities have all needs included and considered throughout the study.	**a)** Thank you for this feedback. A member of IESO's Indigenous relations team will reach out to Grand Council Treaty #3 to discuss opportunities for better coordination and information sharing with Treaty #3 communities. The IESO remains committed to engaging with Indigenous communities early in its processes. These opportunities will include formal outreach, targeted webinars and individual meetings, as needed. The IESO encourages you to stay informed by signing up to receive information about key initiatives and engagement opportunities most relevant for your community.

Feedback / Common Themes	IESO Response
b) Increased population and growth of First Nation communities in Treaty #3; Increased mining activity (i.e. new mines) in Treaty #3; increased need and access to high-speed internet across Treaty #3; increased electricity growth as phase-out of carbon-based power continues to occur in Treaty #3.	**b)** Regional planning captures trends at the local level, while taking into account assessments of industrial facilities (System Impact Assessments) and more global trends. This helps inform the IESO's annual planning outlook and bulk studies, including the Northern Ontario Bulk Study. The trends mentioned in this comment would be assessed in the Northwest regional planning process. The Northwest regional planning area includes: the area roughly bounded by Lake Superior to the south, the Marathon area to the east, and the Manitoba border to the west. It includes the districts of Kenora, Rainy River and Thunder Bay. The Northern Ontario Bulk Study specifically determines bulk needs based on a demand forecast that incorporates increased mining activities and electrification.
c) Ensure that IESO is following Manito Aki Inaakonigewin (MAI) at all times regarding any work or potential development in Treaty #3. Through consultation GCT3 will ensure the Anishinaabe in Treaty #3's right to meaningful engagement is being followed, and any potential effects on the environment are considered. Following MAI creates a meaningful and beneficial relationship between proponents and the Anishinaabe in Treaty #3.	**c)** Thank you for your feedback. Guided by our Corporate Indigenous Peoples Policy, one of IESO's key priorities is building respectful and collaborative relationships with Indigenous peoples, rooted in mutual trust, accountability, and understanding, and respect for Indigenous rights.

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d) What is meant by this statement - near term "no regrets" recommendations? Please explain what no regrets means.	**d)** The goal of this assessment is to produce a recommendation that will address both growing demand in Northern Ontario and the potential need to site additional resources in Northern Ontario. "No regrets" refers to actions that would be low risk to undertake, regardless of whether demand growth takes place at a faster or slower pace. One foundational principal of a "no regrets" action is the ability to scale the plan upwards or adjust as needed. For example, consider a scenario where: 1. The short term requires one circuit to be built between two stations and the long term requires a second circuit to be built between the same two stations. 2. Given that the second circuit is only potentially required in the long-term timeframe, there is less certainty now around whether it is needed and there is more time to make a final decision on whether to build it. A "no regrets" recommendation in this scenario would be to build one circuit for the short term and ensure the right of way could be widened for the second circuit should the need materialize as expected for the long term. This allows for minimizing risk associated with the uncertainty of long-term planning, while preserving the option to undertake the second circuit if needed. Please note that the above scenario is an example for illustrative purposes only and is not intended to convey an approach that is recommended pursuant to the Northern Ontario Bulk Study.

e) Please explain the correlation of the Northern Ontario Bulk Study and Ontario's Critical Mineral Strategy? How will the study support the Critical Mineral Strategy and / or vice versa?	**e)** Ontario's Critical Mineral Strategy intends to increase the number of mineral extraction and processing operations in Ontario. Mines and their accompanying processing facilities can be a large consumer of electricity with unique characteristics and profiles. In addition to new industrial facilities, other sectors such as residential and commercial are also experiencing load growth. The effect of the increased demand for electricity throughout Northern Ontario is to require more power to flow across elements (circuits and transformers) within the transmission system. Different parts of the transmission system have different capabilities in terms of the amount of power that can flow across the elements at any given time without having an adverse impact on the transmission system, such as equipment damage or a blackout. In the context of Northern Ontario Bulk Study, new mines and industrial facilities in Northern Ontario will require more power flowing north on the 500kV circuits between Sudbury and Essa (X503E/X504E) and the 230kV circuit along the Ottawa River (D5H). It is important to note that the IESO has recently recommended several major projects to strengthen the transmission system from Sudbury all the way to Dryden with the goal of creating a more resilient system and enabling demand growth. Please see the Northeast Ontario Bulk Planning and Waasigan Transmission Line reports for these recommendations. Once the above recommendations have been implemented, the section of the transmission system between Sudbury and Essa (X503E/X504E) and the 230kV circuit along the Ottawa River (D5H) will become the next

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	limiting link in the chain, resulting in the need to assess the capability of that portion of the transmission system.
f) Please tell us (GCT3) how we can get involved in the study mentioned below. To the best of our knowledge, we have not been consulted with. We would also like copies if the study final reports once available. 1. Northern Ontario Connection Study Background Information: "Transmission alternatives to enable connection of remote First Nation communities and prospective mining developments in remote northwestern Ontario will be considered through the Northern Ontario Connection Study. The study will evaluate socio-economic and environmental benefits of the proposed connection options and explore opportunities to connect new hydroelectric generation to the transmission system." (p.57 of APO, March 2024).	**f)** The IESO is engaging with Indigenous communities regarding the draft technical findings of the Northern Ontario Connection Study (NOCS) for the purpose of gathering community input and feedback that are relevant to the Study's findings. Following the conclusion of the NOCS, should a decision be made to proceed with any of the transmission solutions canvassed in the Study, consultation with potentially impacted Indigenous communities would be conducted as part of the regulatory processes for the transmission project. The IESO encourages you to stay informed by signing up to receive information about key initiatives and engagement opportunities most relevant for your community. The IESO offers engagement opportunities regarding the studies to facilitate questions and seek clarifications. More information about engagements can be found on this page. Please email us at Indigenousrelations@ieso.ca with any questions that you may have or if you wish to schedule a one-on-one meeting.

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g) GCT3 needs to be involved in the Ontario-Manitoba Intertie End-of-Life Joint Study moving forward as this work directly affects our Treaty #3 communities. Background Information: "5.5 Interties with Ontario's Neighbouring Jurisdictions: A second study is underway to assess major equipment at the Ontario-Manitoba intertie, including two PARs and two step-up transformers that are approaching end of life. A joint study was initiated between the IESO, Manitoba Hydro and Minnesota Power to create a plan to replace and/or upgrade this critical intertie equipment." (p.58 of APO, March 2024).	**g)** The IESO plans to engage with Indigenous communities about the results of the Ontario-Manitoba Intertie End-of-Life Joint Study for the purpose of understanding Indigenous concerns and interests that are relevant to the Study's findings. The Focus of the study is to look at end of life of critical Ontario-Manitoba intertie equipment. Following the conclusion of the Study, should a decision be made to proceed with any work on the intertie that has the potential to impact Indigenous rights, consultation with potentially impacted Indigenous communities would be conducted as part of the regulatory processes for that work. The IESO encourages you to stay informed by signing up to receive information about key initiatives and engagement opportunities most relevant for your community. The IESO offers engagement opportunities regarding the studies to facilitate questions and seek clarifications. More information about engagements can be found on this page. Please email us at Indigenousrelations@ieso.ca with any questions that you may have or if you wish to schedule a one-on-one meeting.

h) Can you please explain this statement in more detail explain how the expansion of new non-emitting resources would strain the grid?

Can you also explain how increasing demand in the north could stress the interface during periods of low hydroelectric production?

"The potential for expansion of new non-emitting resources including wind, solar and hydroelectricity in the north could strain the grid's capability to deliver the additional flows from the resources to customers in southern Ontario across the Flow South interface. Conversely, increasing demand in the north could stress this interface during periods of low hydroelectric production." (p.56 of APO, March 2024).

h) The interface in question consists of two 500kV circuits between Sudbury and Essa (X503E/X504E) and the 230kV circuit along the Ottawa River (D5H).

Northern Ontario has approximately 4000 MW of hydroelectric generation. However, many of these generating facilities have limited ability to store water and can only run for a certain number of hours before they must shut down to manage water upstream and downstream. This typically happens overnight and during the later summer months.

This results in power flowing Northward on said circuits. Like all circuits in the province, these circuits can only carry a certain amount of power, which if exceeded can result in adverse impacts like equipment damage and blackouts.

Therefore, adding additional demand in Northern Ontario could result in a transmission system that cannot supply power to Northern Ontario at all hours without exceeding the capability.

Hydroelectric production is quite high during evenings and in particular during the spring and early summer timeframe due to melting snow. This causes power to flow south on the aforementioned circuits.

As demand in all of Ontario is expected to grow over the next 25 years coupled with the goal of moving towards reduced reliance on carbon-emitting resources there will be a need for more renewable energy and storage based resources. Only a finite amount of renewable energy can be located in any given region before requiring investments in the transmission system in the area. For example, if wind and solar were built out in Northern Ontario without investing in the transmission system, on days where it is both sunny and windy, the system might not be

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	able to transfer this power southwards, especially in times of high hydroelectric production. (Please see Appendix A for a plot showing hydroelectric production in Northern Ontario for part of 2024. Please note the daily and seasonal fluctuations.) Therefore, these are a need to assess the capability of this interface for Northward transfers and Southward transfers.
i) Would First Nation community energy projects be considered in the Northern Ontario Bulk Study? If so, how would they be analyzed?	**i)** Community energy plans and First Nation community building retrofit programs are important aspects of local planning and energy efficiency. Demand reductions from these plans will be included as part of local demand forecasting by the Local Distribution Company (LDC). LDC forecasts are used to inform the demand forecast used by the IESO's Bulk and Regional studies. Additionally, any generation projects that are part of a IESO generation contract (FIT, CHP, RESOP, etc.) are also incorporated into IESO forecasts for the region.

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j) Some First Nation communities have renewable energy projects in which they create and store electricity and sell it back to Ontario (the grid). Is this considered to be a "growth assumption?"	**j)** To inform the Northern Ontario Bulk Study, the IESO produced both a firm and a potential forecast, each of which is informed by regional planning forecasts, the annual planning forecast, mining forecasts as well as site specific assessments for new facilities (system impact assessments). These demand forecasts were used to determine needs, based on the assumptions that no additional generation resources will be built in Northern Ontario and that carbon emitting resources may exit the market following the expiration of contracts. In addition to these scenarios, the Barrie to Sudbury portion of the transmission system was assessed to determine how much power could flow in the Southward direction with the existing system as well as with any potential expansions. When the performance of the transmission system was assessed in the above demand forecast scenarios, it was determined a significant need is present in the amount of >1000 MW. A resource option was compared to a transmission option to then determine what would best address the need. Given the size of the need it is expected that renewable energy resources would not be able to meet this need in lieu of transmission. However, energy projects with the right technical characteristics could be beneficial in deferring future transmission needs as well as in aiding Ontario in meeting its province-wide energy needs. The IESO is currently in the process of procuring a significant amount of energy under its long-term procurement program (LT2).

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k) What IESO or Energy related training and education is currently available? Please provide detailed information on training and education opportunities for Treaty #3 First Nation community leadership and staff, as well as for GCT3 staff.	**k)** The IESO offers funding for a range of purposes through the Indigenous Energy Support Program, including promotion of broad equitable participation in Ontario's energy sector by supporting community capacity building, including energy planning and renewable energy development, as well as the building of energy knowledge and awareness, and skills related to energy projects. The IESO provides an extensive training program for market participants and those interested in learning more about Ontario's electricity markets and related programs. The IESO Indigenous Relations Team encourages Indigenous communities to reach out with any questions that they may have regarding the Indigenous Energy Support Program at Indigenousrelations@ieso.ca. The IESO First Nations Energy Symposium is another opportunity that brings communities and leaders from across the province for two days of cultural celebration, discussion and collaboration.
l) Please try and make the information presented at the Indigenous Virtual Information Sessions as easy as possible to understand. Sometimes it feels as if we need a degree in an energy related field to understand the IESO topics. If you want "meaningful" comments and recommendations, then you need to empower your audience with knowledge that they can comprehend and understand. Using more examples and tying them to the northwestern Ontario would be a great start.	**l)** The IESO is committed to meaningful engagement and will work with Indigenous communities to help ensure the sharing of information and ongoing dialogue is achieved through a mutually agreeable and understandable manner. The IESO Indigenous Relations Team encourages Indigenous communities to reach out with any questions that they may have at Indigenousrelations@ieso.ca. Visit the learn tab on the IESO website at www.ieso.ca, for more information on the IESO and the electricity market in Ontario.

Appendix A- Plot showing hydroelectric production in Northern Ontario for part of 2024. Please note the daily and seasonal fluctuations