

Northern Ontario

Briefing Note

GENERAL KEY MESSAGES

- Ontario is well-positioned to meet provincial needs until the early-2020s, while continuing to adapt to significant change across the sector.
- Planning activities have been underway for a number of years in the Northwest, due to the high utilization of the transmission system and the need to coordinate with major industrial developments and other opportunities such as the connection of Remote Communities.
- The IESO is actively monitoring local developments and engaging with communities and local industries. Over the last couple of years, electricity demand has been relatively flat and demand growth is trending low.
- The IESO conducted a needs assessment for the East-West Tie which confirmed the need for the line. We understand that Hydro One has filed an application with the OEB to design, build and operate the East-West Tie transmission line. The IESO awaits the OEB hearing to see what the OEB determines.

KEY CONSIDERATIONS

- Industrial customers are major electricity consumers in this area and are sensitive to varying economic conditions. Often these factors can lead to material changes in their annual electricity demand and uncertainty in electricity demand forecast.
- The geography and long distances between population centres make it challenging and costly to develop and maintain infrastructure.
- Communities see highly utilized infrastructure as a barrier to growth and local development.
- Some communities experience frequent and prolonged power outages
- Many communities in this region, especially Indigenous communities, are engaging in community energy planning activities. Many Indigenous communities are seeking business opportunities in the electricity sector. There is a need to ensure better coordination between the energy and economic development planning processes.

KEY ISSUES

- 1) Lack of Transmission Capacity and Generation
- 2) East-West Tie
- 3) Thunder Bay GS and Atikokan GS
- 4) Connecting Remote Communities
- 5) Northwest Bulk Line

6) Greenstone-Marathon

1. Lack of Transmission Capacity and Generation

Lack of transmission capacity and generation is the primary issue in the northwest that all subsequent issues relate to. Common Voice Northwest (CVNW) and the Northwestern Ontario Municipal Association (NOMA) have been two vocal advocates.

The IESO is actively monitoring local developments and engaging with communities and local industries. Over the last couple of years, electricity demand has been relatively flat and demand growth is trending low.

2. East-West Tie

The East-West Tie is intended to maintain the long-term reliability of electricity supply in Northwestern Ontario, where industrial activities, particularly in the mining sector, are expected to drive electricity demand growth in the coming decade.

On December 1, 2017, the IESO submitted to the Minister of Energy an updated need assessment for the East-West Tie Expansion project. This report confirms the rationale for the project based on updated information and study results. This project continues to be the IESO's recommended option to maintain a reliable and cost-effective supply of electricity to the Northwest for the long term.

Hydro One has filed an application with the OEB to design, build and operate the East-West Tie transmission line, calling it the Lake Superior Link. This application competes with the application currently before the OEB from NextBridge, the designated transmitter to undertake the development work for this project. The IESO awaits the OEB hearing to see what the OEB determines.

CVNW and others in the northwest are strong supporters of the East-West Tie as a way to enable economic growth. They are also supportive of additional generation in the northwest - which is not necessarily enabled by the east-west tie project.

The IESO's demand forecasts for the region do not always align with expectations of stakeholders in the northwest (i.e. The IESO load forecast is more modest/conservative). However, CVNW and large direct connect customers were engaged with during the load forecasting process.

3. Thunder Bay GS and Atikokan GS

OPG and regional stakeholders often tout the value of Thunder Bay GS and Atikokan GS, often pointing to the local economic development value. These contracts are expiring in the coming years and the IESO has not made a commitment about their future.

About Atikokan GS – from the West of Thunder Bay IRRP

- This facility currently is contracted with the IESO until 2024 and has the capacity to generate up to 200 MW. Based on the current contract terms, the facility purchases up to 90,000 tonnes of biomass fuel annually. The forecast fuel availability will limit energy production to 140 GWh per year and may limit the amount of hours it can operate at the maximum capacity. For the purpose of this IRRP, it is assumed that Atikokan facility may operate as a merchant facility upon expiration of the contract. There are currently two merchant biomass generation facilities near Dryden and Fort Frances.
- The existing 230 kV bulk transmission system is adequate today, assuming generation at Atikokan is available. Currently, there is approximately 150 MW of supply margin remaining to support growth in the West of Thunder Bay and North of Dryden Sub-regions. If the Atikokan generation is unavailable, either because of biomass fuel limitations or contract termination (in 2024), the supply margin may be further reduced.
- The factors for Atikokan to come online are predominantly based on economics (in relation to their offers) but it can also be dispatched online occasionally for reliability concerns.

About Thunder Bay GS

- Thunder Bay GS currently operates one 150MW unit on advance biomass that is shipped from Norway. The contract is set to expire in 2019.
- Thunder Bay GS was studied in the IESO's IRRP for the Thunder Bay area.
- Due to fuel restrictions and a slow start-up time, the facility was considered unable to provide firm supply capacity to the Thunder Bay sub-region for the purposes of the IRRP.
- Ultimately, the study concluded that the Thunder Bay Sub-region is adequate for the next decade, even without Thunder Bay GS, and recommended no action at this time

Will the IESO renew these generators?

For the purpose of the West of Thunder Bay IRRP, it is assumed that Atikokan facility may operate as a merchant facility upon expiration of the contract. There are currently two merchant biomass generation facilities near Dryden and Fort Frances.

The IESO is also working with stakeholders to procure future resources through competitive capacity auctions to ensure the lowest cost to ratepayers.

Does the IESO see value in these generators?

These generators currently have contracts with the IESO. In a few years, the IESO expects to begin procuring resources through competitive capacity auctions to ensure the lowest cost to ratepayers.

4. Connecting Remote Communities

As a result of the high cost for diesel-generated electricity supply, there is an economic case for connecting up to 21 of 25 remote communities in northwest Ontario to the provincial electricity grid.

On March 22, 2018 the federal and provincial governments announced that they are partnering to provide funding for Wataynikaneyap Power to connect 16 remote First Nations communities in Northern Ontario to the provincial power grid.

Wataynikaneyap Power is a transmission company that is 51% owned by 22 First Nation communities in Northwest Ontario. The federal government committed \$1.6 billion dollars to this project and Ontario committed ongoing support through the Rural and Remote Rate Protection subsidy program to fund transmission connection.

When complete in 2023, the Wataynikaneyap Power Grid Connection Projects will be the largest Indigenous-led and Indigenous-owned infrastructure project in Ontario history. It will mean thousands of people will no longer have to rely on diesel fuel to meet their energy needs.

Throughout the past few years, the IESO has provided considerable support for this project through capacity-building meetings with communities and tribal councils, developing planning reports, providing technical support in funding discussions between governments, and funding through the energy support programs

5. Northwest Bulk Line

The Northwest Bulk line is needed to support growth and maintain a reliable electricity supply to areas west of Atikokan and north of Dryden. The project will proceed in phases:

Phase One, a line from Thunder Bay to Atikokan, should come into service as soon as is practical, and no later than 2024.

Phase Two, a line from Atikokan to Dryden, should come into service by 2034 unless the IESO's outlook on the demand forecast suggests an earlier date.

Phase Three, a line from Dryden to the Manitoba border, could be needed after 2035 (or earlier if recommended by the IESO) to enable the better integration of provincial electricity grids. Development work for Phases One and Two will proceed at the same time.

6. Greenstone-Marathon

The Greenstone-Marathon IRRP identifies that the system supplying Greenstone currently meets the Ontario Resource and Transmission Assessment Criteria (ORTAC) and North American Standards; the forecast demand from Greenstone Gold Mines (GGM) and TransCanada Energy (TCE) are the sole drivers for the need for additional system enhancements.

As per the Ontario Planning Outlook, the need for incremental system generation for the province's needs is not expected until the mid-2020s. The IESO does not contract generation facilities on behalf of individual customers, and therefore GGM or a third party would need to pursue the IESO's recommended enhancements independently, as these facilities are not needed for the provincial power system.

As per the Ontario Energy Board's (OEB) Transmission System Code, cost allocation is based on a "beneficiary pay" principle. Therefore the IESO expects that GGM and TCE will need to establish cost recovery agreements with their future transmission service provider to ensure that the future transmitter can recover costs for developing and building a new 230 kV line and 115 kV connections to supply GGM and TCE. Based on existing regulation and the nature of the needs forecast for Greenstone, the IESO cannot direct transmitters to build these facilities as they are not required for the reliability of the interconnected provincial power system.

OTHER ISSUES

1. IESO Accounting and Fair Hydro Plan

- The IESO adopted new accounting policies in 2017 related to rate regulation and market accounts that allow for greater transparency into the value of transactions facilitated through the IESO-administered market. The IESO considered these accounting changes carefully, and on their own merits.
- Although the Auditor General disagrees with the application of these new accounting policies, the changes are in accordance with Canadian Public Sector Accounting Standards and consistent with six of eight North American independent system operators. This is confirmed by the audit opinion we received from KPMG, our independent third-party auditor, on our 2017 financial statements.
- These changes were made after extensive discussions and deliberations with external professional advisors, the management team, and the IESO Board of Directors.

- While there is a difference of opinion on this issue, the IESO supports the Auditor General's review and is already hard at work to implement recommendations included in her recent special audit report. We are also committed to working cooperatively with the Auditor General and her office.

2. Surplus Baseload Generation Key Messages

- Generators produce energy when they successfully offer into Ontario's electricity market, and they do not produce when their offers are not economic relative to other sources of energy.
- Ontario's electricity system is built to meet the peak demand for the year. Like any other jurisdiction, this means that not all power is needed at all times.
- When surplus conditions occur, the excess power must be managed in order to maintain system reliability. Exports are an effective way to deal with short periods of surplus electricity – something other jurisdictions also do, allowing Ontario to benefit at times from lower priced electricity.
- Looking ahead – as Ontario's nuclear units undergo phased refurbishments, and Pickering reaches its end of life, we expect surplus baseload generation will decrease.
- There are opportunities to better utilize our existing assets. The IESO is pursuing these through its Market Renewal program, which is considering foundational electricity market changes.
- The Market Renewal benefits case estimates the project as a whole will result in approximately \$3.4 billion in cost savings over ten years, reinforcing the project's value.

3. Exports

- Electricity trade with neighbouring jurisdictions provides Ontario with operational and planning flexibility on a daily basis, enhancing the reliability and the cost-effectiveness of Ontario's electricity system.
- Imports compete with domestic generation in Ontario's electricity market, where the lowest cost resources available are scheduled to meet demand.
- Exporting electricity allows the IESO to bring in revenue that helps reduce fixed system costs that would otherwise need to be paid for by Ontario's ratepayers. Exports also provide access to external markets for Ontario-based suppliers, providing additional revenue for generators and helping to lower the Global Adjustment Ontarians pay.