Feedback Form

Northern Ontario Connection Study

Webinar #1, May 7th, 2025

Feedback Provided by:

Name: Linda Heron

Title: Chair

Organization: Ontario Rivers Alliance

Email: [redacted]

Date: 15 May 2025

To promote transparency, submitted feedback will be posted on then Northern Ontario Connection Study engagement webpage, unless otherwise requested by the sender.

The Independent Electricity System Operator (IESO) is seeking feedback following the May 7, 2025 Northern Ontario Connection Study webinar. A copy of the presentations as well as recordings of the sessions can be accessed from the **engagement web page**.

Please submit feedback to engagement@ieso.ca May 28, 2025.

Northern Ontario Connection Study

Topic	Feedback
What other information should be considered in the study scope and the examination of the potential options?	See General Comments below.
What feedback do you have regarding the study findings?	See General Comments.
What additional information should be provided in future engagements to help share perspectives and insights?	N/A

General Comments/Feedback

Other information/options to be considered:

Why is the IESO even considering procuring new hydropower in the north when the IESO and Ontario government's own reports provide an abundance of powerful reasons why it would be unwise?

For instance: A 27 January 2015, IESO/Ontario Power Authority North of Dryden Integrated Regional Resource Plan[1] (NDIRRP) determined that building a run-of-river facility is often not cost-effective on smaller rivers because of the high cost of construction and the small amount of power that would be produced as a result of low and unreliable flows, as low as 15 to 30% of Installed Capacity.

The daily, seasonal and annual flow variations of small hydro operations are intermittent and therefore unreliable. The electricity produced by small hydro is unreliable because it peaks during the high flows of spring when power is in low demand and produces at its lowest during the hot summer months when consumption and demand are highest. During the low flow season of summer or during drought conditions, many run-of-river and even some peaking facilities, especially on smaller rivers, cannot operate efficiently and often have to be shut down.

To further highlight this point, the same analysis determined that “Northern hydroelectric generation is an energy-limited resource known to have significantly reduced output and availability during drought conditions of the river system supplying these generating units." [1]

In fact, the NDIRRP recommended that the best means of connection of remote First Nation communities, and enabling forecasted growth to the Ring of Fire, was to build new and upgraded transmission lines. New hydropower was rejected because of its intermittent and unreliable nature during drought conditions. “These recommendations are the most cost-effective options that can be implemented in a timely manner and provide flexibility for meeting a broad range of long-term forecast scenarios.” [1]

A cost/benefit analysis would be necessary to determine whether these types of projects are environmentally and/or economically sustainable and viable.

The intensity and frequency of drought conditions have increased since 2015, and the best predictions are that extreme rain and drought conditions will continue to increase as the climate warms.

In addition, in January 2023, Ontario commissioned a Provincial Climate Change Impact Assessment and Technical Report[2] (Report) using historical climate data, information about the consequences of extreme weather events, and projections of future climate trends. Accurate projections/assessments are crucial to ensure that hydroelectric projects will be a viable and reliable resource by the time construction is completed.

For instance, “changes in Ontario’s climate are expected to continue at unprecedented rates… and it will pose indirect threats to things like water availability and water quality.” [2] For instance, “by the 2080s, northern Ontario, which experiences on average 4 extreme heat days annually, is projected to see upwards of 35 such days each year. Whereas “southern, central and eastern Ontario will average 55 to 60 such extreme heat days per year—a fourfold increase from the current annual average of about 16 days.”[2] This will have devastating effects on water quality and water quantity; however, it will have serious negative impacts on hydroelectric generation.

There are already many rivers in Canada having issues. A July 2024 article reported that “a drought has forced Canada, which traditionally relies on hydroelectric energy for 60% of its total electricity, to reverse its energy trading relationship with the United States. Not only has Canada cut the amount of energy it sends to the US, but U.S. energy exports to Canada have outpaced its imports… With the rivers and streams that supply Canada’s hydroelectric capacity drying up across the country, authorities have been forced to cut back exports.” [3]

“Canada’s increasing struggle with hydropower is an ill omen representing a wider global problem. Climate change and droughts are threatening hydropower supplies everywhere, and as severe weather events become increasingly common due to climate change, the future of the world’s leading renewable energy source is vulnerable. The greatest problem is not just the severity of any drought but the persistence of drought conditions over an extended period of time. The Yale Climate Connection argues that the link between climate change and increasing drought conditions worldwide is demonstrable, and things are getting worse. Global hydropower generation dropped significantly in the first half of 2023, resulting in an overall increase in fossil-fuel power production to make up for the deficit.” [3]

“Climate change poses risks to water sources, which affect supply and quality. Dry conditions and extreme hot temperatures change water balances and cause disruptions to the water flow regulation service, leading to reduced surface and groundwater levels, changes in intra-annual patterns of water availability, loss of available freshwater supplies for human use, wetland drying and loss, changes in distribution and abundance of animal and fish species and altered ecosystem function over a long term…” [2]

“Electrical power generation can be impacted by climate change in a variety of ways, and in part, depends on energy sources. For example, low water flow due to drought conditions can reduce hydroelectric power generation. This Level 2 category was evaluated against high and extreme temperatures (e.g. Extreme Hot Days and Cooling Degree Days) and extreme precipitation events (e.g. longer-term accumulated precipitation). Extreme precipitation was found to be the greatest driver of risk for this Level 2 category. Water damage and impacts from overland flows and flooding may cause severe damage to equipment and shorten the useful life of electrical power generation infrastructure.” [2]

Extreme rain may be the greatest risk to hydropower identified in this report because dam failure can impact life and property; however, extreme drought comes a close second when you consider that water scarcity places hydropower in the intermittent and unreliable category.

The extremes of climate change are reported to be a high risk in all regions of Ontario, and this Report outlines the linkages between climate risks and energy security. Climate change will present several risks to provincial energy systems, including hydroelectric, where water availability is crucial.

Of course, policies, programs and regulations aimed at protecting water supply and quality such as the Environmental Protection Act (1990), the Electricity Act, Ontario Water Resources Act (1990), provincial land use planning statutes including the Planning Act (1990), Ontario’s Clean Water Act (2006) are all in the process of being exempted/ gutted by the province, with the intent of cutting red tape, excluding the public and Indigenous communities from consultation and engagement in what is left of the environmental assessment and permitting processes.

This province-generated report also claims hydroelectric power is a “zero-carbon resource;” however, ORA has previously provided numerous independent, peer-reviewed studies debunking that blatant greenwashing.

Feedback regarding study findings:

ORA is in full agreement with IESO’s preliminary study findings that the most effective way to achieve these goals is via a North-South option consisting of a double circuit 230 kV transmission line connecting to the existing East-West Tie Line near Nipigon Bay. New and upgraded transmission lines are the most reliable and cost-effective choice for bringing electricity to northern communities over the short and long term. It also allows for future expansion.

So, why is the IESO planning to procure additional hydropower when its future looks so bleak and the resulting stress on river ecosystems would have devastating effects on aquatic life and communities?

ORA is opposed to procuring new hydropower when we should be improving the resilience of our lakes and rivers in the face of a warming climate, which will bring all the stresses that will impact water quality, water quantity, fisheries, and local and Indigenous communities.

Thank you for this opportunity to comment!

Linda Heron
Chair, Ontario Rivers Alliance
LindaH@OntarioRiversAlliance.ca

Endnotes :

[1] *North of Dryden Integrated Regional Resource Plan – January 27, 2015, by OPA/IESO. P-56 (Table 7) & 124. Online: http://www.noma.on.ca/upload/documents/north-of-dryden-report-2015-01-27.pdf*
[2] *Ontario Provincial Climate Change Impact Assessment | Ontario.Ca." Accessed October 20, 2023. http://www.ontario.ca/page/ontario-provincial-climate-change-impact-assessment.*
[3] *Is Hydropower's Potential Drying Up? by Ariel Cohen, Forbes, July 05, 2024.*