



May 13, 2023

ONTARIO MINISTRY OF ENERGY

To Whom it May Concern:

Re: ERO 019-6647 IESO Pathways to Decarbonization Study

On behalf of Steep Rock Energy, the developer of the Steep Rock Energy Storage Project, we are pleased to submit comments on the IESO Pathways to Decarbonization Study (P2D). Steep Rock Energy is owned by Boundary Waters Anishinaabeg Development LP (a 100% indigenous owned entity); 4 Treaty 3 First Nations (Couchiching First Nation (FN), Mitaanijigamiing FN, Nigigoosiminikaaning FN and Seine River FN); and SCI Investments Inc.

Our comments reflect our experiences seeking approvals for the Steep Rock Energy Storage project. To recap, the Steep Rock project is a major pump storage project located on the site of the abandoned Steep Rock mine, north of Atikokan, Ontario. An energy storage proposal was submitted to the IESO in June 2021, under the IESO's unsolicited proposal process. The proposal is well aligned with both P2D, and the IESO's ongoing E-LT1 and LT1 RFP objectives and criteria, as it offered the following features:

1. 20-year contract
2. In-service date before 2027
3. Long duration service (840 MW for 10 hours)
4. Majority indigenous ownership
5. Local community support.

A key element of our proposal is the completion of the environmental restoration of the mine site in conjunction with development of the energy storage facility. Environmental restoration of the Steep Rock mine is currently being carried out by the Ontario Ministry of Natural Resources and Forestry (MNR), with a reported estimated cost of nearly \$750 million, and completion by 2065. As such, our proposal expedites the mitigation of an environmental liability, at no cost to taxpayers.

Development of the Steep Rock project will also provide a key piece of infrastructure that will support additional imports and exports of power with both the MISO through Minnesota, and Manitoba to the west.

Our proposal is currently under consideration by the Minister of Energy and waiting to move into Gate 2 of the IESO's unsolicited proposal process. Feedback received to date from the IESO identified that it offered considerable capacity, energy arbitrage and operating reserve value (we were told a range of \$0.9B– 2.6B).

However, it should be noted that the IESO's analysis of our proposal neither recognized the additional savings to Ontario taxpayers resulting from environmental restoration costs being included in the capital cost of the energy storage facility, nor did it attribute any value to expediting the mine restoration.

A request to lease the land required for development of the energy storage project was made to MNRF in January 2022. Unfortunately, MNRF policy dictates that IESO agreements must be in place before leases can be negotiated and hence, no progress on this key part of the project has been made. As well, MNRF have not released information on their restoration program.

Failure to advance both the lease, and a storage agreement with the IESO, has delayed financing and hence progress on the project. This experience is reflected in our responses to the 9 specific questions included in the request for comment, as follows:

- 1. The IESO's Pathways Study recommends streamlining regulatory, approval and permitting processes, citing that it can take five to 10 years to site new clean generation and transmission infrastructure. What are your thoughts on the appropriate regulatory requirements to achieve accelerated infrastructure buildout? Do you have specific ideas on how to streamline these processes?**

A thorough regulatory process is necessary to ensure both appropriate community consultation, and mitigation of environmental impacts.

For the Steep Rock project, consultation with local First Nations, the Town of Atikokan and other stakeholders was initiated in 2016. Resolutions of support were received from both Grand Council Treaty 3 and the Town of Atikokan in 2021.

Our 2021 proposal to the IESO identified that the Steep Rock project could be developed within a 54-month approvals, design and construction schedule, and hence could have been operational in 2026. Regulatory approvals are not overly onerous, as much of the civil construction required for the project (basically earthworks and civil works required to both ensure the integrity of the two reservoirs, and control inflows and outflows) is being carried out under the current environmental restoration program, which is permitted under a Class Environmental Assessment through MNRF.

Rather, as mentioned above, the two obstacles in advancing the project, have been obtaining a lease for the site from MNRF, which is contingent upon getting a storage agreement in place with the IESO. Having access to land is critical to both obtaining financing and initiating detailed environmental studies and engineering.

Our proposal has remained in Gate 1 of the IESO unsolicited proposal process for nearly 2 years now, and hence advancement of a lease with MNRF has not proceeded. As such, our recommendations on streamlining the regulatory process are as follows:

1. Put a defined timeline in place for the IESO to deal with proposals.
2. Allow MNRF to advance lease negotiations in parallel with the IESO proposal process.

2. The IESO's Pathways Study recommends beginning work on planning and siting for new resources like new long-lived energy storage (e.g., pump storage), nuclear generation and waterpower facilities. What are your expectations for early engagement and public or Indigenous consultations regarding the planning and siting of new generation and storage facilities?

Our experience has demonstrated both the time required to carry out both public and indigenous consultations, and the benefits of thorough consultation. As noted above, starting in 2016, the development team has consulted extensively with the local community including the Grand Council Treaty #3 First Nations (which represents the 28 First Nations) and the Town of Atikokan. The process has been successful as letters of support for the project have been obtained from both the Town of Atikokan and Grand Council Treaty 3.

3. The IESO's Pathways Study shows that natural gas-fired generation will need to continue to play an important role in the system for reliability in the short to medium term. The IESO's assessment shows that most of the projected Ontario demand in 2035 can be met with the build out of non-emitting sources, but some natural gas will still be required to address local needs and provide the services necessary to operate the system reliably. Do you believe additional investment in clean energy resources should be made in the short term to reduce the energy production of natural gas plants, even if this will increase costs to the electricity system and ratepayers? What are your expectations for the total cost of energy to customers (i.e., electricity and other fuels) as a result of electrification and fuel switching?

Development of the Steep Rock Energy Storage project will mitigate the requirement for natural gas-fired generation, while reducing costs to the electricity system, ratepayers and taxpayers for the following reasons:

- *The storage rate offered in our proposal will reduce the spread between peak and off-peak power rates. Recall that the IESO concluded that development of the project will result in \$0.9 – 2.6B in capacity, energy arbitrage and operating reserve value.*
- *Development of the project will facilitate upgrading the 230 kV Ontario – Minnesota intertie (connecting the Ontario and MISO systems), which will allow for increased imports of low-cost renewables being developed in Minnesota, as well as exports to the US. Similar opportunities could exist with Manitoba to the west.*
- *Synergies between the environmental restoration and construction of the pump storage facility will result in overall construction cost savings and hence savings for both taxpayers and ratepayers.*

4. The IESO's Pathways Study highlights emerging investment needs in new electricity infrastructure due to increasing electricity demand over the outlook of the study. The IESO pathway assessment illustrates a system designed to meet projected

demand peaks almost three times the size of today by 2050, at an estimated capital cost of \$375 billion to \$425 billion, in addition to the current system and committed procurements. Are you concerned with potential cost impacts associated with the investments needed? Do you have any specific ideas on how to reduce costs of new clean electricity infrastructure?

As noted above, we believe that development of the Steep Rock project will in fact result in savings to both ratepayers and taxpayers.

- 5. The IESO's Pathways Study recommends that for a zero-emissions grid by 2050, investment and innovation in hydrogen (or other low-carbon fuels) capacity could be required to replace the flexibility that natural gas currently provides the electricity system. Do you have any comments or concerns regarding the development and adoption of hydrogen or other low-carbon fuels for use in electricity generation? What are your thoughts on balancing the need for investments in these emerging technologies and potential cost increases for electricity consumers?**

Production of green hydrogen requires access to water, and a readily available supply of low-cost, renewable electricity. As the Steep Rock facility will have access to both water and low cost, off-peak renewable power, co-development of green hydrogen production facilities, and blending of the produced hydrogen into the local natural gas system could further assist in reducing natural gas requirements.

- 6. The IESO's Pathways Study recommends greater investment in new non-emitting supply, including energy efficiency programs. Following the end of the current 2021-2024 energy efficiency framework how could energy efficiency programs be enhanced to help meet electricity system needs and how should this programming be targeted to better address changing system needs as Ontario's demand forecast and electrification levels grow?**

As noted above, development of green hydrogen production facilities in the vicinity of the Steep Rock project using off peak power, would allow for the cost-effective production of green hydrogen, which would reduce the needs for power for electric heating.

- 7. The IESO's Pathways Study includes a scenario for over 650 MW of new large hydroelectric capacity to meet system needs in 2050. A recently released assessment estimates that there may be potential to develop 3,000 to 4,000 megawatts of new hydroelectric generation capacity in northern Ontario and 1,000 megawatts in southern Ontario. What are your thoughts on the potential for development of new hydroelectric generation in Ontario by private-, Indigenous- and government-owned developers? While the capital costs for hydroelectric generation may be higher than nuclear, wind, solar, and natural gas, do you support investing in large scale hydroelectric assets that may operate for over a hundred years?**

Development of the Steep Rock project aligns with the development of additional hydroelectric development in the north.

- 8. The IESO's Pathways Study suggest that significant transmission capacity will be needed to help balance intermittent sources of electricity (e.g., wind and solar) and to ensure cost-effective supply can be delivered to meet growing demands from electrification and economic growth. Transmission will also be required to balance intermittent supply with dispatchable supply (such as natural gas and energy storage) and meet demand in regions with retiring assets. What steps should be taken to ensure that transmission corridors can be preserved and lines can be built as quickly and cost effectively as possible?**

Opportunities exist to import and export power into the adjacent MISO and Manitoba systems. In particular, renewable development in Minnesota offers potential supply to Northern Ontario assuming that adequate storage is available (hence synergy with the Steep Rock Energy Storage project). Upgrading of the existing 230 kV intertie will be required to facilitate this and hence, inter-regional planning, consultation and coordination should be initiated.

- 9. Do you have any additional feedback on the IESO's "no-regret" recommendations?**

In addition to participating in the IESO unsolicited proposal process, we also participated in the recent Northwest Regional Electricity Planning consultation. Our comments on these two processes address a number of the "no-regret" recommendations and are presented below. While there is some repetition between them, and our responses presented above, we felt it was important to re-state them.

Unsolicited Proposal Process

- The IESO unsolicited proposal process is a lengthy one with no specified timelines. As previously noted, placing defined timelines on processing these proposals would be beneficial in advancing projects such as Steep Rock which appear to be aligned with both the objectives of P2D and the IESO E-LT1 and LT1 RFP process. As previously noted, had our proposal been expeditiously advanced, an indigenous-led project which aligns with the P2D study recommendations, could be under construction.*
- Obtaining project financing is critical to advancing regulatory, environmental studies and engineering, and hence expediting P2D projects, particularly for indigenous led projects like Steep Rock. Lack of coordination between the IESO, the Ministry of Energy and MNR, has resulted in delays to advancing lease negotiations and hence financing for the project. Financing in both the private marketplace, as well as with the federal government (eg. Through the Smart Renewables and Electrification Pathways Program) have been delayed, because of not having a lease. As previously mentioned, allowing MNR to advance lease negotiations in parallel with IESO reviews, could mitigate these delays.*

- Similarly, IESO facilitated financing opportunities for proponents in the E-LT1 and LT1 RFP process, with the Canada Infrastructure Bank (CIB). Unfortunately, these were not made available to Steep Rock as the CIB cited requirements for advancing past Gate 2 to be eligible for their instruments. Coordination between the unsolicited proposal process and other procurements could have mitigated this.

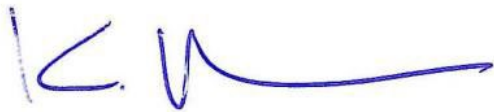
Northwest Regional Electricity Planning Consultation

- This consultation, while well managed, did not consider long term opportunities for capacity and storage development in the Northwest region, and hence opportunities for inter-regional connections. A presentation on the Steep Rock project was provided to the IESO regional team, but the scope of the study was too narrow to allow for its consideration in a regional plan.

We would be pleased to review this with you at your convenience. Should you have any questions, or require any additional information, please do not hesitate to contact the undersigned.

Yours truly,

SCI Investments Inc.



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