

IESO Staff Recommendation on Exemption Application

All information submitted in this process will be used by the IESO solely in support of its obligations under the "Electricity Act, 1998", the "Ontario Energy Board Act, 1998", the *market rules* and associated policies, standards and procedures and its licence. All submitted information will be assigned the appropriate confidentiality level upon receipt in accordance with Market Manual 2.2.

Terms and acronyms used in this Form that are italicized have the meanings ascribed thereto in Chapter 11 of the *market rules*.

Part 1 – General Information

<p><i>Exemption Application</i> ID: <u>1360</u></p> <p><i>Exemption Applicant</i> Name: <u>NRStor Goderich CAES LP</u></p> <p>Date <i>Exemption Application</i> Received: <u>November 13, 2020</u></p> <p><i>Exemption Applicant</i> Name: <u>NRStor Goderich CAES LP</u></p> <p>Role of <i>Exemption Applicant</i> as it relates to the <i>Exemption Application</i>: <u><i>Electricity Storage Participant</i></u></p> <p>Description of <i>Exemption Application</i>: <u>Permit the NRStor Goderich facility to act as a <i>non dispatchable load</i> for the purposes of withdrawing energy for recharging.</u></p> <p>Market Rule(s) or related Market Manual(s) from which the <i>exemption</i> is requested: <u>Chapter 7, Section 21.2.4b</u></p> <p>Are there any outstanding disputes, compliance actions, or pending <i>market rule</i> amendments involving the <i>exemption applicant</i>?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Are there any outstanding disputes, compliance actions, or pending <i>market rule</i> amendments involving the subject matter of this <i>exemption application</i>?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Supplementary Information Attached:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Related Historical *Exemption Application(s)* or Related *Exemption Application(s)* in Process:

Yes No

Note: If yes, list history:

Part 2 – Recommendation

The IESO recommends that:

- After reviewing and considering the NRStor Goderich CAES LP (NRStor Goderich) exemption application, a modified exemption be granted for the following reasons:
 - This operational approach whereby NRStor Goderich does not need to submit bids to withdraw energy was agreed to by the IESO before the storage design project and this approach supports the business case for the project which was developed in response to an earlier procurement.
 - IESO staff do not support the exemption application to be registered as a non-dispatchable load as this would result in a differential in the settlement basis between its energy injections and withdrawals, contrary to the design outlined in the new interim energy storage design rules approved by the IESO Board in December 2020.
 - Instead, IESO staff propose that NRStor be registered as a dispatchable load for its withdrawals, and be exempted from the need to submit bids for its energy withdrawals. Specifically, NRStor will be exempted from the requirement to submit bids into the Day-Ahead Commitment Process and the requirement to submit bids for real-time energy withdrawals.
 - The requirement for NRStor Goderich to submit dispatch data for its injections of energy will continue.
- Therefore IESO staff recommend that the application by NRStor Goderich to be registered as a non-dispatchable load for its energy withdrawals be denied due to the differential in the settlement basis that would result between its injections and withdrawals (i.e. where injections are settled on the 5-minute Market Clearing Price (MCP) whereas withdrawals would be settled on the average Hourly Ontario Energy Price (HOEP)).
- Instead, NRStor Goderich will be required to register as a dispatchable load but be exempted from the requirement to submit price-quantity bids and follow dispatch instructions for the withdrawal of energy as required of dispatchable loads, so they can continue to effectively operate on a non-dispatchable basis in their withdrawals of energy.
 - NRStor Goderich will be registered as a dispatchable generation unit for its injections of energy.
- The reasons for IESO staff recommending the modified exemption are as follows:
 - The ability to operate without submitting bids for withdrawals is a result of a non-dispatchable load registration, a resource registration that was originally recommended by the IESO prior to the IESO having the opportunity to

develop its approach to the integration of storage resources through the Storage Design Project (SDP) and its resulting rules (MR-00446).

- Further, the IESO's original registration recommendation was made in the context of the former Ontario Power Authority (OPA) targeting the procurement of energy services from different types of energy storage technologies in an attempt to better understand the value such resources might provide. The recommendation to be registered as a dispatchable generator for energy injections but as a nondispatchable load for withdrawals was used to develop the business case needed to determine an appropriate bid price in response to the OPA's procurement. As such, IESO staff consider it reasonable for NRStor Goderich to be provided an accommodation relative to its operations so as to take into account the prior decisions made based on earlier IESO recommendations.
- By requiring NRStor Goderich to register as a dispatchable load but exempting them from bidding and dispatch requirements, NRStor will be permitted to continue to operate as a non-dispatchable load consistent with its business case assumptions while allowing for a uniform basis in settlement between withdrawals and injections; and
- The size of this project (injections of 1.8MW, withdrawals of 2.2MW and a total storage capacity of 7MWh) will limit any impacts that permitting such withdrawals might have on IESO's operations and on markets.

IESO Staff will check all boxes below that were evaluated as part of this staff recommendation. This list of criteria is found in Market Manual 2.2, Exemption Applications.

Whether the *exemption* that is the subject matter of the *exemption application* would, if granted, materially:

- Impact the ability of the *IESO* to direct the operations and maintain the *reliability* of the *IESO-controlled grid*
- Impact the ability of the *IESO* to ensure non-discriminatory access to the *IESO-controlled grid*
- Affect the ability of the *IESO* to operate the *IESO-administered markets* in an efficient, competitive and reliable manner
- Increase costs of *market participants*
- Increase costs of the *IESO*
- Whether the *exemption* that is the subject matter of the *exemption application* would, if granted, give the *exemption applicant* an undue preference in the *IESO-administered markets*
- Whether the cost or delay to the *exemption applicant* of complying with the obligation or standard to which the *exemption application* relates is reasonable, having regard to the nature of the obligation or standard, the nature of the *exemption application* and the anticipated impact of non-compliance by the *exemption applicant* in terms of the elements referred to above
- The adequacy of the *exemption plan* submitted by the *exemption applicant*

Where the *exemption applicant* is the *IESO*:

- The identification of the benefit to *market participants* of compliance with the obligation or standard relative to the financial and other resources required to achieve compliance within such deadlines as may be applicable
- The manner in which it proposes to operate in the *IESO-administered markets* or direct the operations and maintain the *reliability* of the *IESO-controlled grid* during the period in which the *exemption* would be in effect

Whether the *facility* or equipment that is the subject matter of the *exemption application*:

- Was in service or was returned to service on the date on which the obligation or standard to which the *exemption application* relates came into force
- Was ordered by the *exemption applicant* on or prior to the date on which the obligation or standard to which the *exemption application* relates came into force
- Was in the process of construction on or prior to the date on which the obligation or standard to which the *exemption application* relates came into force
- The capability of the owner of the *facility* to operate the *facility* consistent with the terms of the proposed *exemption*

Part 3 – Details of Assessment

Summary:

The following provides a summary of the IESO staff evaluation of the criteria indicated in Part 2 of this Exemption Recommendation.

The Goderich compressed air energy storage (CAES) facility consists of an induction generator of 1.8 MW for energy injections to the grid, an induction motor of 2.155 MW for withdrawals, and has a storage capacity of 7 MWh. It was developed in response to a Request for Proposal by the Ontario Power Authority in 2015, undertaken to support the province's efforts to better understand the integration of energy storage into Ontario's electricity system and market. The IESO approved the project for connection in January 2019.

Responses to above-listed evaluation criteria (relevant ones only) are provided below. Note responses are in reference to the modified exemption recommended by the IESO staff only.

- Impact the ability of the IESO to direct the operations and maintain the reliability of the IESO-controlled grid: Given the size of the facility, the exemption is not expected to impact the ability of the IESO to direct the operations and maintain the reliability of the IESO-controlled grid.
- Affect the ability of the IESO to operate the IESO-administered markets in an efficient, competitive and reliable manner: Given the size of the facility, the exemption is not expected to hinder the ability of the IESO to operate the IESO-administered markets in an efficient, competitive and reliable manner.
- Increase costs of market participants: This exemption is not anticipated to increase the costs for market participants.
- Increase costs of IESO: This exemption is not anticipated to increase the costs for the IESO.

- Whether the facility that is the subject matter of the exemption application was in service on the date on which the obligation to which the exemption application relates came into force: NRStor began the connection assessment process for this facility in March 2017, and it began commissioning in August 2019, well before the design for the participation of energy storage resources in the IESO-administered markets was developed and shared with stakeholders. The business case for this project was developed in a response to a procurement initiated in 2015, and this business case assumed revenue from the injection side of the resource for energy and operating reserve, but an ability to charge on a non-dispatchable basis as was recommended by the IESO at the time.
- The capability of the owner of the facility to operate the facility consistent with the terms of the proposed exemption: NRStor Goderich has confirmed that it is capable of operating within the terms of the modified exemption recommended by IESO staff.

The specific exemption recommended by IESO staff prescribes:

- That NRStor Goderich register the facility as a dispatchable electricity storage facility in accordance with Section 21.2.4 of Chapter 7 if the market rules and specifically as a dispatchable load for the purposes of withdrawing energy, as per Section 21.2.4b.
- That NRStor Goderich be exempted from the requirements to submit dispatch data for withdrawals of energy set out in Chapter 7, Sections 3.3A.2 and 3.3A.3 of the market rules. The requirements for NRStor Goderich to submit dispatch data for its injections of energy will be unaffected.
- That NRStor Goderich be exempted from the requirement for dispatchable electricity storage facilities to submit bids for real time energy withdrawals set out in Chapter 7, Section 3.4.1.2.

Part 4 – Proposed Terms and Conditions

Category	Terms and Conditions
Effective Date of Exemption (or event causing the exemption to become effective)	Immediately upon IESO Board approval
Date of Expiration of Exemption <ul style="list-style-type: none"> - If greater than 5 years, the Panel must be satisfied that the circumstances justify a later date - Circumstances which will cause the exemption to immediately expire 	<i>Exemption</i> to be reviewed when any of the <i>market rules</i> from which the <i>exemption</i> is granted are replaced or <i>amended</i> by the new <i>market rules</i> anticipated as a result of the Market Renewal Program.
Market Rule(s) or related Market Manual(s) from which the Exemption is granted	Chapter 7, Sections 3.3A.2 and 3.3A.3 Chapter 7, Section 3.4.1.2

Category	Terms and Conditions
<p>Restrictions on the manner of operation and or additional obligations to be met during the term of the exemption, if any.</p>	<p>The <i>exemption</i> from Chapter 7, Sections 3.3A.2 and 3.3A.3 pertains to the withdrawal side only. NRStor Goderich will continue to submit <i>dispatch data</i> for its injections according to Chapter 7, Sections 3.3A.2 and 3.3A.3.</p> <p>Withdrawals shall not be made while the facility is under an <i>operating reserve</i> activation on its injections.</p> <p>NRStor Goderich will be registered as a <i>dispatchable load</i> for the purposes of withdrawing energy, according to Chapter 7, Section 21.2.4b.</p>
<p>Monitoring Information Required</p> <p>Information required to be provided by the exemption applicant for monitoring by the IESO</p>	<p>No monitoring information is required.</p>
<p>Payment of Costs</p> <ul style="list-style-type: none"> - Processing costs (when introduced) - Incremental exemption costs - Settlement amounts to be repaid 	<p>N/A</p>
<p>Reconsideration/Removal</p> <ul style="list-style-type: none"> - Date on which the exemption will be reconsidered (if applicable) - Circumstances under which the exemption will be reconsidered (if applicable) other than unforeseen future change in circumstances 	<p>The <i>exemption</i> will be reconsidered if NRStor modifies the configuration of the facility resulting in an up-rate of its capacity to withdraw <i>energy</i>.</p>
<p>Transferability</p> <ul style="list-style-type: none"> - List the terms and conditions that need to be met to allow for a transfer of this exemption to be approved by IESO staff 	<p>No special conditions are necessary.</p>

Category	Terms and Conditions
Other:	