



IESO Staff Recommendation to Panel on Exemption Application (General)

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.

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>Market Participant Name:</i> Hydro One Networks Inc.</p> <p><i>Location/Site:</i> Windsor Area</p> <p><i>Exemption Application ID:</i> 1359 <i>Market Participant ID:</i> 102007</p> <p><i>Description of Exemption Requested:</i> Hydro One Networks Inc. (“Hydro One”) requests exemption from sections 7.1 and 7.2 in Ontario Resource and Transmission Assessment Criteria (ORTAC)</p> <p><i>Date Exemption Application Received:</i> October 27th, 2020</p> <p><i>Date all relevant application information supplied by exemption applicant:</i> October 27th, 2020</p> <p><i>Management Approvals Obtained:</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>Are there any outstanding disputes, compliance actions, or pending market rule amendments involving the subject matter of this exemption application?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><i>Are there any outstanding disputes, compliance actions, or pending market rule amendments involving the exemption applicant?</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><i>Section of the Exemption Application and Assessment Procedure under which the exemption application is made:</i></p> <ul style="list-style-type: none">• Section 1.4 “Application for Exemption – General” <p><i>Market Rule(s) or related Market Manual(s) from which exemption is requested:</i> Sections 7.1 and 7.2 in ORTAC</p> <p><i>Third Party Submissions Received:</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p><i>Supplemental Assessment Information Attached:</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p><i>Related Historical Exemption Application(s) or Related Exemption Application(s) in Process:</i></p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Note: If YES, list history of exemption applications:</p> <p style="padding-left: 40px;">This application replaces application # 1355</p>

PART 1 – GENERAL INFORMATION

Role of *exemption applicant* in the market as it relates to this *exemption application*: **Connection Applicant and Transmitter**

PART 2 – RECOMMENDATION

Recommendation: The IESO recommends that the exemption be granted on the following basis:

- 1- The exemption from the load security criteria (section 7.1 in ORTAC) and the load restoration criteria (section 7.2 in ORTAC) allows up to 358 MW of load anxiously awaiting grid supply in the Leamington area to be connected before the required system upgrades in (2) below, come in-service.
- 2- The exemption is granted until system upgrades in the form of Lakeshore Switching Station (SS) and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS come in-service. These facilities are scheduled in-service for Q3, 2022 and Winter 2025/2026, respectively. Until this time, Hydro One has ensured its customers understand they will be connected at a lower level of reliability than normally prescribed by ORTAC as a result of this exemption.
- 3- Granting the exemption does not adversely impact the ability of the IESO to direct operations and maintain the *reliability* of the IESO-controlled grid.

Criteria Used in Assessment of General Exemption Applications (Section 1.4.2 of Exemption Application and Assessment Procedure):

(If X appears in a box, the criterion is applicable to this *exemption application* and is evaluated in Part 3 - Details of Assessment; if X does not appear in a box, the criterion is not applicable to this *exemption application*.)

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*; or
- 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

PART 2 – RECOMMENDATION

standard, the nature of the <i>exemption application</i> and the anticipated impact of non-compliance by the <i>exemption applicant</i> in terms of the elements referred to above;	<input checked="" type="checkbox"/>
The adequacy of the <i>exemption plan</i> submitted by the <i>exemption applicant</i> ;	<input checked="" type="checkbox"/>
Where the <i>exemption applicant</i> is the <i>IESO</i> , the identification of the benefit to <i>market participants</i> 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;	<input type="checkbox"/>
Where the <i>exemption applicant</i> is the <i>IESO</i> , the manner in which it proposes to operate in the <i>IESO-administered markets</i> or direct the operations and maintain the <i>reliability</i> of the <i>IESO-controlled grid</i> during the period in which the <i>exemption</i> would be in effect;	<input type="checkbox"/>
Whether the <i>facility</i> or equipment that is the subject-matter of the <i>exemption application</i> :	
<ul style="list-style-type: none"> was in service or was returned to service on the date on which the obligation or standard to which the <i>exemption application</i> relates came into force; 	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> was ordered by the <i>exemption applicant</i> on or prior to the date on which the obligation or standard to which the <i>exemption application</i> relates came into force; or 	<input type="checkbox"/>
<ul style="list-style-type: none"> was in the process of construction on or prior to the date on which the obligation or standard to which the <i>exemption application</i> relates came into force; and 	<input type="checkbox"/>
The capability of the owner of the <i>facility</i> to operate the <i>facility</i> consistent with the terms of the proposed <i>exemption</i> .	<input type="checkbox"/>

PART 3 – DETAILS OF ASSESSMENT
IESO’s assessment on impact on the ability of the IESO to direct the operations and maintain the reliability of the IESO-controlled grid:
SUMMARY
Sections 7.1 and 7.2 of the ORTAC specify the following criteria for load security and restoration, respectively:
Section 7.1:

- With one element out of service, not more than 150 MW of load may be interrupted by configuration and by planned load curtailment or load rejection, excluding voluntary demand management. Planned load curtailment or load rejection, excluding voluntary demand management is permissible only to account for local generation outages
- With two elements out of service, planned load curtailment or load rejection exceeding 150 MW is permissible only to account for local generation outages. Not more than 600 MW of load may be interrupted by configuration and by planned load curtailment or load rejection, excluding voluntary demand management.

Section 7.2:

- All loads must be restored within approximately a target of 8 hours. When the amount of load interrupted is greater than 150 MW, the amount of load in excess of 150 MW must be restored within approximately a target of 4 hours. When the amount of load interrupted is greater than 250 MW, the amount of load in excess of 250 MW must be restored within a target of 30 minutes.

Requirement # 1 in the SIA report and requirement # 1 in the SIA Addendum report for CAA 2018-633 required Hydro One to obtain an exemption from satisfying section 7.1 load security criteria in ORTAC, for the new loads supplied by Leamington Transformer Station (TS) under the following system conditions:

- Following the loss of any of the 230 kV circuits C21J or C22J as identified in finding # 1a in both reports;
- During either C21J or C22J outages as identified in finding # 2a in both reports;
- During either C21J or C22J outages and following the loss of a single unit at Brighton Beach CGS or the entire plant as identified in finding # 2b in both reports.
- During C21J and C22J outages as identified in finding # 5 in the Addendum report;

Requirement # 2 in the SIA report and requirement # 2 in the Addendum report for CAA 2018-633, requirement # 1 in the transmitter's requirements in the SIA report for CAA 2018- 638, and requirement # 1 in the transmitter's requirements in the SIA report for CAA 2018-642 required Hydro One to obtain an exemption from satisfying section 7.2 load restoration criteria in ORTAC, for the new loads supplied by Leamington TS, Aphria Customer Transformer Station (CTS) and Mastron II CTS.

ASSESSMENTS**Assessment of requirement #1 in the SIA report and requirement #1 in the Addendum report for CAA 2018-633:**

With all transmission elements in-service and with Brighton Beach Customer Generation Station (CGS) out-of-service, under peak load conditions and with no transfers on J5D, the new load increase at Leamington TS could result in thermal overloads and voltage criteria violations following the loss of C21J or C22J. Up to 251 MW of the new load would need to be rejected by the Leamington contingency-based Special Protection System (SPS) to prevent ORTAC thermal and voltage criteria violations. However, under these system conditions, rejecting more than 150 MW of new load is a violation of the ORTAC load security criteria.

During either C21J or C22J outages and with Brighton Beach CGS in-service, under peak load conditions and with no transfers on J5D, the new load increase at Leamington TS could result in pre-contingency under voltages and voltage stability margin violations at Leamington TS. 66 MW of the new load would need to be curtailed to address voltage criteria violations. However, under these system conditions, interrupting any load is a violation of the ORTAC load security criteria. Under those same pre-contingency conditions, the load increase at Leamington TS could result in thermal overloads on C22J following the loss of a single Brighton Beach CGS unit or for the loss of the entire Brighton Beach CGS

plant, and excessive low voltages at Leamington TS, Aphria CTS and Mastron II CTS following the loss of the entire Brighton Beach CGS. The issues could be mitigated by rejecting up to 251 MW of the new load through arming of the Leamington contingency-based SPS. However, under these system conditions, interrupting any load is a violation of the ORTAC load security criteria.

Hydro One's latest load forecast submitted for Leamington TS, Aphria CTS and Mastron II CTS, which was received by the IESO in May, 2020, results in the potential for up to 608 MW of load along the Chatham to Keith corridor to be interrupted with C21J and C22J simultaneously out of service. However, under these system conditions, interrupting more than 600 MW of load is a violation of the ORTAC load security criteria.

Planned outages to either C21J or C22J are expected to be restricted under peak load conditions to reduce the need for load curtailment and rejection.

Forced outages to either C21J or C22J are expected to occur with a rate of 1.7 times per year, and simultaneous forced outages to C21J and C22J are expected to occur with a rate of less than 0.72 times per year as indicated in Hydro One exemption application. As the forced outages must coincide with peak load conditions and Brighton Beach CGS out-of-service to cause the violations for ORTAC load security criteria, the violations are expected to occur with a rate significantly lower than 1.7 times per year and 0.72 times per year. Moreover, load curtailment and rejection at these conditions does not adversely impact the ability of the IESO to direct the operations and maintain the *reliability* of the IESO-controlled grid. Furthermore, Hydro One has ensured its customers understand they will be connected at a lower level of load security than normally prescribed by ORTAC as a result of this exemption.

The total amount of load rejection required for this new load is expected to be within ORTAC load security criteria when system upgrades in the form of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS come in-service. These facilities are scheduled to come in-service for Q3, 2022 and Winter 2025/2026, respectively.

Assessment of requirements:

- #2 in CAA 2018-633 SIA and Addendum reports,
- #1 for the transmitter in CAA 2018- 638 SIA report, and
- #1 for the transmitter in CAA 2018-642 SIA report

After the new load increase at Leamington TS, Aphria CTS and Mastron II CTS, up to 608 MW of load along the Chatham to Keith corridor could be interrupted with C21J and C22J out of service. ORTAC requires all load in excess of 250 MW be restored within 30 minutes, the load in excess of 150 MW be restored within 4 hours, and the total load needs to be restored within 8 hours. Hydro One has indicated that these restoration target cannot be met for the new load. In particular, Hydro One indicated that it cannot restore up to 358 MW (i.e. load in excess of 250 MW) of load in 30 minutes in all situations.

As planned outages for either C21J or C22J will be restricted under peak load conditions to reduce the need for load curtailment and rejection, only simultaneous forced outages for C21J and C22J will put both these circuits out of service. The forced outage that are longer than one minute and as such require a manual restoration effort have rates of 0.5 and 0.3 per year for C21J and C22J, respectively, as indicated in Hydro One exemption application. Thus, simultaneous forced outages that are longer than one minute for both circuits are expected to occur with a rate of less than 0.15 times per year.

Moreover, the inability to meet ORTAC's restoration targets does not adversely impact the ability of the IESO to direct the operations and maintain the *reliability* of the IESO-controlled grid. Hydro One has

ensured its customers understand they will be connected at a lower level of load restoration than normally prescribed by ORTAC as a result of this exemption.

The restoration targets for the new load are expected to be met when system upgrades in the form of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS come in-service. These facilities are scheduled to come in-service for Q3, 2022 and Winter 2025/2026, respectively.

Impact the ability of the IESO to ensure non-discriminatory access to the IESO-controlled grid:

The exemption may impact the ability of the IESO to ensure non-discriminatory access to the IESO controlled grid in situations where the IESO must cut loads via manual rotational load shedding schemes. Under Section 2.7.8. of Market Manual 7.4, the IESO is obligated to, among other things, shed loads equitably across the IESO-controlled grid in certain emergency circumstances. This exemption, if granted, would provide the IESO with discretion to shed new loads supplied by Leamington Transformer Station (TS) in preference to other loads, without regard to all of the equitable considerations set out Section 2.7.8. of Market Manual 7.4.

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:

Granting Hydro One an exemption from the load security criteria (section 7.1 in ORTAC) and the load restoration criteria (section 7.2 in ORTAC) until system upgrades in the form of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS come in-service in Q3, 2022 and Winter 2025/2026, respectively, avoids a delay of about 6 years to connect up to 358 MW of load to Leamington TS. Therefore, pursuance of this exemption is reasonable given the impact of non-compliance does not adversely impact the ability of the *IESO* to direct operations and maintain the *reliability* of the *IESO-controlled grid*.

The adequacy of the *exemption plan* submitted by the *exemption applicant*

Hydro One plans to require the exemption until system upgrades in the form of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS come in-service. These facilities are scheduled in-service for Q3, 2022 and Winter 2025/2026, respectively. Furthermore, Hydro One has indicated that the Environmental Assessment for Lakeshore SS and the two 230 kV transmission circuits was completed on January, 2020, and the Connection Assessment and Approval process for Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS had started on September, 2019.

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;

DESN # 2 at Leamington TS was placed in-service in September, 2019 prior to submission of Hydro One's latest load forecast which was received by the IESO in May, 2020, and prior to issuing the final SIA Addendum report for CAA 2018-633 in November, 2020. The latest load forecast shows the Leamington TS DESN #2 peak load forecast will increase by 41 MW, which results in larger amounts of load that could be rejected and violation of the 600 MW threshold in section 7.1 of ORTAC as identified above. This required Hydro One to obtain a new exemption from satisfying sections 7.1 and 7.2 in ORTAC.

PART 4 – TERMS AND CONDITIONS

Effective Date of Exemption (or event causing <i>exemption</i> to become effective)	December 8 th , 2020
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 <i>exemption</i> to immediately expire. 	March 19 th , 2026 System upgrades in the form of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS are expected to come in-service for Q3, 2022 and Winter 2025/2026, respectively.
Market Rule(s) or related Market Manual(s) from which the <i>Exemption</i> is granted.	Section 7.1 and section 7.2 in ORTAC
Restrictions on the manner of operation and/or additional obligations to be met during the term of the Exemption, if any.	Planned outages on the 230 kV circuits C21J or C22J will be restricted under peak load conditions to mitigate the need for load curtailment and rejection at Leamington TS.
Monitoring Information Required Information required to be provided by the <i>exemption applicant</i> for monitoring by the <i>IESO</i> .	An update every six months starting from the effective date of the exemption on the progress of Lakeshore SS and the two 230 kV transmission circuits from Chatham SS to Lakeshore SS projects
Payment of Costs <ul style="list-style-type: none"> • Processing costs (when introduced) • Incremental <i>exemption</i> costs • <i>Settlement amounts</i> to be withheld or repaid. 	N/A
Reconsideration/Removal <ul style="list-style-type: none"> • Date on which the <i>exemption</i> will be reconsidered (if applicable). • Circumstances under which the <i>exemption</i> will be reconsidered (if applicable) other than unforeseen future change in circumstances. 	March 19 th , 2026

PART 4 – TERMS AND CONDITIONS

Transferability <ul style="list-style-type: none">List the terms and conditions that need to be met to allow for a transfer of this <i>exemption</i> to be approved by <i>IESO</i> staff.	This exemption is not transferrable.
Other:	N/A