

Market Manual 13: Capacity Exports

Part 13.1: Capacity Export Requests

Issue 4.0

This procedure provides information to market participants on the submission and IESO assessment of *Capacity* Export *Requests*.

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This market manual may contain a summary of a particular market rule. Where provided, the summary has been used because of the length of the market rule itself. The reader should be aware, however, that where a market rule is applicable, the obligation that needs to be met is as stated in the "Market Rules". To the extent of any discrepancy or inconsistency between the provisions of a particular market rule and the summary, the provision of the market rule shall govern.

Document ID PRO-357

Document Name Part 13.1: Capacity Export Requests

Issue 4.0

Reason for Issue Issue released in advance of Baseline 45.0. Updated to include electricity storage

participation.

Effective Date February 26, 2021

Document Change History

Issue	Reason for Issue	Date
1.0	Initial release in advance of Baseline 40.1	November 14, 2018
2.0	Issue released in advance of Baseline 44.0	June 29, 2020
3.0	Updated to meet accessibility requirements pursuant to the Accessibility for Ontarians with Disabilities Act.	December 2, 2020
4.0	Issue released in advance of Baseline 45.0. Updated to include electricity storage participation.	February 26, 2021

Related Documents

Document ID	Document Title

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Reference	Description of Change
Throughout	Updated to meet accessibility requirements pursuant to the <i>Accessibility for Ontarians with Disabilities Act.</i>
Throughout	Added reference to electricity storage participation where required.

Market Manuals

The *Market Manuals* consolidate the market procedures and associated forms, standards, and policies that define certain elements relating to the operation of the *IESO-administered markets*. Market procedures provide more detailed descriptions of the requirements for various activities than is specified in the "Market Rules". Where there is a discrepancy between the requirements in a document within a *Market Manual* and the *Market Rules*, the *Market Rules* shall prevail. Standards and policies appended to, or referenced in, these procedures provide a supporting framework.

1. Introduction

Market participants with Ontario-based generating capacity that the IESO has determined to be surplus to Ontario's reliability and planned resource adequacy requirements have the opportunity to export their surplus capacity to designated external control areas during specified periods of time. These market participants (referred to as Prospective Capacity Sellers) are required to secure IESO approval before they can participate in a Capacity Export Opportunity.

All Ontario-based *generation units*¹ and the injecting component of *electricity storage units* registered in the *IESO-administered markets*, except for *variable generation* resources, are eligible to participate in Capacity Export Opportunities.

1.1 Purpose

This market manual provides details on the capacity export request that market participants must submit to the IESO and the assessments subsequently conducted by the IESO to determine whether a capacity export request will be approved or denied.

1.2 Scope

This *market manual* is intended to provide Prospective Capacity Sellers with a summary of the assessment processes used by the *IESO* to determine whether a *capacity export request* will be approved or denied, in accordance with <u>Market Rules Chapter 7</u>, Section 20 and applicable *IESO* policies and standards.

This market manual addresses the:

Processes for Prospective Capacity Sellers' communication with *transmitters* prior to and following the submission of a *capacity export request*,

Information to be included in a capacity export request,

IESO processes for assessing a capacity export request, and

Criteria for assessing and approving or denying a capacity export request.

This manual does not address real time scheduling and operations, *outage* management (during the Commitment Period), or *settlement processes*. These topics are addressed in the *market manuals* listed on the <u>References</u> page of this manual.

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¹ A generation facility owner or electricity storage participant who intends to pursue capacity export opportunities (either as a Prospective Capacity Seller or a Capacity Seller) must register as an Energy Trader, or arrange for another Energy Trader to act on their behalf. For registration procedures, refer to Market Manual 1.5: Market Registration Procedures.

1.3 Defined Terms and Section References

Capitalized terms in this *market manual* are defined in <u>Appendix A: Glossary of Capacity Export Terms</u>. Italicized terms and acronyms are defined in <u>Chapter 11 of the *market rules*</u>. Unless otherwise specified, references to "sections" herein apply to sections of this market manual.

1.4 Contact Information

Changes to this *market manual* are managed via the <u>IESO Change Management process</u>. Stakeholders are encouraged to participate in the evolution of this *market manual* via this process.

To contact the *IESO*, you can email IESO Customer Relations at <u>customer.relations@ieso.ca</u> or use <u>telephone or mail</u>. IESO Customer Relations staff will respond as soon as possible.

2. Eligible Capacity Export Opportunities

To facilitate the export of surplus Ontario-based capacity, the *IESO* has negotiated a *capacity export agreement* with New York (New York Independent System Operator). Capacity may only be exported to a *control area* with which the IESO has a *capacity export agreement* or as authorized by the IESO. *Capacity export agreements* may be revised, amended, or terminated from time to time, and any such revisions, amendments, or terminations may affect the ability of Ontario *market participants* to export capacity.

Subject to the *market rules*, this *market manual* and *IESO* approval, Prospective Capacity Sellers may participate in the Capacity Export Opportunities defined in Sections 2.1 and 2.2 with New York².

2.1 Capacity Auctions

The New York Independent System Operator (NYISO) conducts various types of capacity auctions (e.g. strip auctions, monthly auctions, and spot auctions). If a Prospective Capacity Seller intends to *offer* capacity to NYISO in the Monthly or Spot auctions, they will be asked to indicate a period of up to six months over which they may commit capacity.

2.2 Capacity Contracts

Prospective Capacity Sellers may choose to respond to a capacity-related contract with external load-serving entities in NYISO.

2.3 External Control Area Registration Requirements

If the external *control area operator* requires potential Capacity Resources to test their maximum output as part of the external *control area*'s registration process, to fulfil this request the Propsective Capacity Sellers will need to *offer* into the *IESO*'s real-time *energy market* such that they are scheduled to their maximum output for the period required for the test. Prospective Capacity Sellers can thereafter request that *revenue meter* data from the IESO be provided to the external *control area* as proof of the Capacity Resource's output during the test.

The process for requesting this data from the *IESO* is as follows:

- The Prospective Capacity Seller must email <u>IESO Customer Relations</u> with the following information:
 - Name of the organization as registered with the IESO
 - Name of the facility as registered with the IESO

² Prospective Capacity Sellers with contracts with the *IESO* to provide *black start capability* may submit a *capacity export request*. However, during an event requiring *black start capability*, the Capacity Resource will be unavailable to external *control areas* if it is required for Ontario restoration.

- Name of the specific generation unit(s) or electricity storage unit(s) at the facility for which they require data
- Delivery point IDs for the specific generation unit(s) or electricity storage unit(s) for which they require data
- Period of the test Start date and time (EST) and End date and time (EST)
- Name, phone number and email address of the external system operator contact who should receive a copy of the data
- The IESO will confirm whether the request:
 - Contains all of the required information
 - Was made by a person registered with the *IESO* for one or more of the following roles with regard to the Capacity Resource:
 - Primary Contact
 - Authorized Representative
 - Applicant Representative
 - Rights Administrator
 - Revenue Metering Data

If the aforementioned is confirmed, after the data has been processed for *preliminary settlement* statements, the *IESO* will respond to the Prospective Capacity Seller via email, copying the appropriate external *control area* contact with the data in a protected file.

3. Capacity Seller Requirement to Coordinate with Transmitters

Transmission element *outages* can render a Capacity Resource Grid-incapable and thereby unable to respond to a *called capacity export*.

Should a *planned outage* to transmission facilities arise whereby a Capacity Resource would be rendered Grid-incapable during a Commitment Period, the *IESO* may reject or revoke the *planned outage* provided certain conditions are met, including the Capacity Seller having demonstrated that it has made best efforts to work with the *transmitter* to reschedule the *planned outage*. In order to demonstrate to the *IESO* that best efforts have been made in the event such circumstances arise, among other things, a Prospective Capacity Seller (or a Capacity Seller, as applicable) must communicate with the applicable *transmitter* prior to any such circumstances arising to ensure that transparent communication and coordination is in place to address any such circumstances. In particular, a Prospective Capacity Seller must communicate the following to the applicable *transmitter*:

- Prior to submitting a capacity export request to the IESO:
 - o The intent to submit a capacity export request
 - The Capacity Resource, and
 - The start and end dates of the proposed Commitment Period
- **Following submission** of a capacity export request to the IESO:
 - An update indicating that a capacity export request has been submitted to the IESO
 - Any changes to the details provided prior to submitting the capacity export request
- Following approval or denial of a capacity export request from the IESO:
 - An update indicating whether the capacity export request has been approved or denied by the IESO
 - If approved or partially approved, any changes to the details previously provided in respect of the capacity export request
- Following a capacity export commitment to an external control area:
 - An update indicating that the capacity has been committed to the external control area
 - Any changes to the details previously provided

The following explains the general process that the Prospective Capacity Seller should follow with the *transmitter* to ensure that transparent communication and coordination is in place and to demonstrate to the *IESO* that best efforts have been made to reschedule a *planned outage* should such circumstances arise:

1. Schedule a meeting (or multiple meetings, if necessary) in which it notifies the applicable transmitter of the status of any capacity export request and determines if there are existing planned outages (unapproved or approved) that would render the Capacity Resource Grid-incapable at any time during the proposed Commitment Period.

- 2. Submit an *outage* request (visible to the applicable *transmitter*) to the *IESO*'s CROW system with an information priority code as per <u>Market Manual 7.3</u>, Table 2-2, indicating the status of the particular *capacity export request* (i.e., intended request, submitted request, or approved request for a specified period) and the date(s) the *transmitter* was notified of the *capacity export request*.³
- 3. Check with the *transmitter* by, among other things, monitoring the CROW system, to determine if there are any *planned outages* during the proposed Commitment Period that would render the Capacity Resource Grid-incapable.
 - a. Should there be *planned outages* during the proposed Commitment Period that would render a Capacity Resource Grid-incapable for, work with the *transmitter* to address the conflict, for instance:
 - i. The Prospective Capacity Seller may choose a different Capacity Resource to participate in the *capacity export request*.
 - ii. The transmitter may agree to reschedule the planned outage.
 - iii. The Prospective Capacity Seller may choose to cancel the capacity export request.
 - iv. The *transmitter* may accept the risk of potential rejection or revocation of the *planned outage* in the event that it is determined that the *planned outage* will, during the Commitment Period, pose an unacceptable risk of an *adequacy* shortfall to the external *control area*.
- 4. Whenever applicable, update the applicable *outage* request with the information priority code indicating any changes or new information, including changes to a *capacity export request* or the status of a *capacity export request*, or the resolution of any conflicting *outages* that may arise.

- End of Section -

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³ To setup Third Party Viewership in CROW which makes *outage* requests visible to the applicable *transmitter*, the Equipment Registration Specialist (ERS) must follow the steps outlined in the <u>Online IESO Guide for all Contract</u> Roles.

4. Capacity Export Request Submission Requirements

Prospective Capacity Sellers wishing to export capacity to an external *control area* must submit a *capacity export request* to the *IESO* via Online IESO no earlier than six months prior to the first day of the proposed Commitment Period, and no later than 15 weeks prior to the Closing Date of the Capacity Export Opportunity.

Capacity export requests must be submitted in Online IESO by an <u>Applicant Representative</u> from the Prospective Capacity Seller. A capacity export request number is assigned by Online IESO when a capacity export request is submitted. This number must be referenced in all communications with the IESO until the IESO issues its written decision in respect of the capacity export request.

Online IESO will require the Applicant Representative to enter the following:

Submission Requirement	Description
Type of Capacity Export Opportunity being pursued	Specify which type of Capacity Export Opportunity the <i>market</i> participant wishes to pursue (e.g., one or more strip, monthly or spot auctions in New York, a contract resulting from a Request for Proposals in Quebec or a bilaterally negotiated contract with an eligible control area operator).
Capacity Resource(s) to be offered	Specify the Capacity Resource(s), which may be an individual generation unit or an aggregate of two or more generation units if they are registered as a single resource with the IESO. For electricity storage units, specify the injecting units, or an aggregate of two or more injecting units if they are registered as a single resource with the IESO.
	Note: Resources with fuel supply dependencies must ensure that they submit appropriately (e.g., if intending to <i>offer</i> capacity from a combined cycle facility that has two gas turbines and one steam turbine registered with the <i>IESO</i> as separate <i>generation units</i> , the Applicant Representative must specify each generation unit being offered for the particular capacity <i>export request</i>).
Quantity (MW) of capacity being offered to the external control area	Specify the total capacity (in MW) from the Capacity Resource, or from each of the Capacity Resources if more than one, that the market participant wishes to export to an external control area.
	Note: Resources with fuel supply dependencies must ensure that they submit appropriately (e.g., if intending to <i>offer</i> capacity from a combined cycle facility that has two gas turbines and one steam turbine registered with the <i>IESO</i> as <i>generation units</i> , the Applicant Representative must specify the MW quantity to be offered from each generation unit in the particular capacity <i>export request</i>).

Submission Requirement	Description
External control area	Specify the external <i>control area</i> to which the capacity would be committed
	Note : New York is currently the only permissible <i>control area</i> .
Counterparty to which the Capacity will be committed	Specify the proposed counterparty to the Capacity Export Opportunity. If the <i>capacity export request</i> is:
	 An external auction, the counterparty is the control area operator conducting the auction.
	 A contractual arrangement (such as a response to an RFP), resulting from a Request for Proposals or otherwise, the counterparty is the entity that is the proposed buyer of the capacity
	Note: As part of its review of the capacity export request, the IESO will confirm that any capacity approved to be exported would only be called on a reliability basis by the external control area's balancing authority and/or reliability coordinator. If the counterparty is not the external control area operator, the IESO may require additional confirmation from the Prospective Capacity Seller or the external control area operator.
Commitment Period	Specify the start and end dates of the proposed Commitment Period, which must be no more than one calendar year apart.
Partial commitments	Specify whether the Prospective Capacity Seller is willing to accept <i>IESO</i> approval for a portion of the requested MW quantity or part of the Commitment Period, or both (i.e., a partial approval)
Closing Date of the Capacity Export Opportunity	Specify the Closing Date of the Capacity Export Opportunity (e.g., the date of completion of each auction or the date when capacity contract is expected to be signed).
Exporter identification	Specify the exporter (i.e., a market participant who has the capability to export energy through a boundary entity and who is responsible for submitting dispatch data) who will be responsible for submitting required intertie transactions

The Online IESO system will produce an error message if the Application Representative attempts to input incorrect information e.g.:

- Capacity export request is more than six months prior to the start of the Commitment Period,
- Capacity export request is less than 15 weeks prior to the Closing Date,
- Proposed Commitment Period is greater than 12 calendar months, and/or
- Specified Capacity Resource has not fully completed the facility or market registration processes.

4.1 Request for Changes while the IESO Decision is In-Progress

Following submission of a *capacity export request*, but prior to the *IESO* issuing its decision with respect to the *capacity export request*, a Prospective Capacity Seller may submit a request via Online IESO to change the *generation unit*(s) or injecting *electricity storage unit*(s) identified in the *capacity export request*. The new *generation unit*(s) or injecting *electricity storage unit*(s) must be at the same *generation facility* or *electricity storage facility* as the *generation unit*(s) or injecting *electricity storage unit*(s) designated in the original *capacity export request*. Initially identified in the *capacity export request*. As well, the requested capacity export MWs must be the **same or less** than those originally entered in the *capacity export request*.

Note that any requested changes to the information provided in a *capacity export request* may affect the time for review by the *IESO* of the *capacity export request*.

For further details, refer to Online IESO guide regarding using Online IESO to process resource change requests.

- End of Section -

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⁴ See Section 6 for requests for changes once an *IESO* decision has been made.

5. Review of a Capacity Export Request

Once the Prospective Capacity Seller has submitted their *capacity export request* the *IESO* will assess the request in accordance with the assessment criteria described in Sections 5.1 through 5.6. The potential outcome of the IESO's assessment of a *capacity export request* is a full approval, partial approval, or a denial, as further described below.

In the event that a *capacity export request* does not clear a particular assessment, the *capacity export request* will be denied and no subsequent assessments will be conducted.

In the event that a *capacity export request* passes a step in the assessment, the *capacity export request* will progress to next step of in assessment described in Sections 5.1 through 5.6.

In the event that a *capacity export request* does not pass a step in the assessment, if the Prospective Capacity Seller has indicated that it is willing to accept a partial approval, the *IESO* may consider whether the *capacity export request* is able to pass the step with a reduction in the requested quantity (MW) or Commitment Period or both. If the *capacity export request* passes the step with such a reduction considered by the IESO, rather than the *capacity export request* being denied as indicated below, it may progress to the next step of the assessment, and all remaining assessments will consider the reduced quantity (MW) or Commitment Period or both. Subject to the foregoing, in the event that a *capacity export request* does not clear a step in the assessment, as submitted, or with any reductions considered by the IESO, if applicable, the *capacity export request* will be denied and no subsequent steps in the assessment will be conducted.

5.1 Congestion Screen

This step in the *capacity export request* assessment determines whether the proposed Capacity Resource is in a historically congested area of the *IESO-controlled grid*.

Congestion on the *IESO-controlled grid* may result in additional costs to the market. Therefore, the IESO will conduct an initial congestion screen for all *capacity export requests* to identify if a Capacity Resource included in the *capacity export request* is located in an area of the province that has a history of congestion⁵.

The review considers unconstrained *market schedules, intertie* schedules, and Ontario *demand* data for up to the five previous years during periods corresponding to the proposed Commitment Period of the *capacity export request*. For example, if the proposed Commitment Period is from May through October, the historical data from May to October periods will be used for this assessment. Using unconstrained market and intertie schedules allows for a comparison of the *energy* flows that would result from resources' economic schedules to the actual capability of the *transmission system* to accommodate those flows.

For the purposes of this review, the first major transmission interface (as defined in the Ontario Transmission System (OTS) document) between the Capacity Resource and the applicable external

⁵ This is in addition to the detailed congestion review, discussed in Section 5.6.

control area will be considered to be congested when the sum of all unconstrained flows across that interface exceeds its system operating limit (SOL) more than 5% of the time during the peak hours. In this event, the capacity export request will be denied and no further assessment will be performed.

If the SOL is not exceeded more than 5% of the time, the *capacity export request* will pass this step in the assessment unless the congestion is projected to be close to the threshold (e.g., 4.95%), in which case the *IESO* may undertake further assessment, adding additional parameters to the review. If, this further assessment shows that the SOL is likely to be exceeded more than 5% of the time, the *capacity export request* will be denied and no further assessment will be performed.

If the further assessment shows that the SOL will not likely be exceeded more than 5% of the time in each applicable congestion screen assessment, the *capacity export request* will pass this step in the assessment.

5.2 Resource and Connecting Transmission Outage Reviews

This step in the *capacity export request* assessment will determine whether the Capacity Resource will be unavailable to support any capacity calls for a material period of time during the Commitment Period.

This step looks at *planned outages* and derates that can impact the ability of the Capacity Resource to supply *energy* to the *IESO-controlled grid* (ICG) during the Commitment Period. This includes review of *transmitter's planned outages* that render the Capacity Resource Grid-incapable for all or part of the Commitment Period.

If this assessment indicates that the Capacity Resource will be wholly unavailable or derated more than 5% of the peak hours⁶ during the proposed Commitment Period, the *capacity export request* will be denied unless the Capacity Seller is willing to accept a partial commitment.

If the Prospective Capacity Seller indicates in its *capacity export request* a willingness to accept a partial approval and the originally proposed Commitment Period, some or all of the proposed capacity may pass this step in the assessment for some or all of the proposed Commitment Period, as follows:

The *capacity export request* may pass this step in the assessment for any individual months of the proposed Commitment Period for which the *IESO*'s review did not indicate that the Capacity Resource would be wholly unavailable or derated for more than 5% of peak hours.

The *capacity export request* may pass this step in the assessment for all of the proposed capacity for any months of the proposed Commitment Period for which the *IESO's* review did not indicate that the Capacity Resource would be wholly unavailable or derated for more than 5% of peak hours and pass this step in the assessment for a portion of the proposed capacity for any months of the proposed Commitment Period for which the IESO's review indicated that the Capacity Resource would be available but derated for more than 5% of peak hours.

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⁶ Hour ending (HE) 07 to 21. - Weekdays

5.3 Intertie Review

This step in the *capacity export request* assessment will determine whether all capacity exports over the Commitment Period could be delivered to the applicable *control area* simultaneously if required.

The *IESO* will limit the total approved capacity *export requests* to ensure that the total of any simultaneous *called capacity exports* can reasonably be expected to be delivered. Therefore, the IESO will set limits on total exportable capacity, and review the total of approved and potential capacity exports against these limits.

5.3.1 IESO-NYISO Intertie Review

For the NYISO *intertie*, the limit (expressed in MW) for capacity that may be exported will be determined as follows:

- 1. The *IESO* will identify the *planned outages* that affect the interface during the proposed Commitment Period.
- 2. The IESO will calculate the limit for the interface as follows:

All in service Total Transfer Capability (TTC)

Less: The Transmission Reliability Margin (as defined by NERC Standard MOD-008)

Less:

- The effect of the single most critical element out-of-service, or
- The total of overlapping planned outages, which affect the ability to export energy over the intertie as long as this lower limit is in effect cumulatively for more than 5% of peak hours during the proposed Commitment Period

This calculated limit will be used in the assessment of capacity export requests, as will the following:

- All capacity export commitments that have been approved by the *IESO* and committed to an external *control area* and for which Commitment Information has been submitted to and approved by the IESO and the IESO has issued a RAN (i.e., approved commitments),
- All capacity export commitments for which Commitment Information has been submitted to but not yet approved by the IESO and the IESO has not yet issued a RAN (i.e., pending commitments), and
- Capacity export requests that have been approved by the IESO but for which Commitment Information has not been submitted to the IESO and the Commitment Notification Date has not yet passed (i.e., "approved requests").

If the total of the above plus the MW amount of the current <i>capacity export</i> request is	Then
Less than the limit	The capacity export request will pass the intertie review.
More than the limit based on either: 1. approved commitments, or 2. approved commitments, plus pending commitments and/or "approved requests", and The Prospective Capacity Seller indicated a willingness to accept a partial approval	The capacity export request may be reduced in MW or months, or both, depending on the amount needed to not exceed the limit.
More than the limit based on either: 1. approved commitments, or 2. approved commitments, plus pending commitments and/or "approved requests", and The Prospective Capacity Seller did not indicate a willingness to accept a partial approval	The capacity export request will be denied, and no further reviews will be conducted. The Prospective Capacity Seller will be notified in writing.
More than the limit based on pending commitments and "approved requests" (i.e., there no approved commitments)	The capacity export request will pass this intertie review. Note: The current request is not reduced at this point, since some "approved requests" may not be submitted as approved or pending commitments, lowering the total MW attempting to export. In this case, the IESO will conduct a second intertie review if any pending commitments or "approved requests" become approved commitments.

5.4 Electricity Supply Procurement Contract Impact Assessment

This step in the *capacity export request* assessment is only applicable to *capacity export requests* that relate to a Capacity Resource that is the subject of an *IESO* electricity supply procurement contract with a contract term that coincides with all or part of the proposed Commitment Period. For such *capacity export requests*, IESO Contract Management will determine whether there are any issues with the *capacity export request* related to the applicable contract and, if so, whether any such issues have been addressed to the satisfaction of IESO Contract Management. Discussions between IESO Contract Management and the Prospective Capacity Seller relating to any such issues are not part of the *capacity export request* assessment process and any determination from IESO Contract Management in this regard will not constitute an approval, in whole or in part, of the *capacity export request* under the *market rules* or this *market manual*.

Capacity export requests that do not relate to a Capacity Resource that is the subject of an IESO electricity supply procurement contract with a contract term that coincides with all or part of the proposed Commitment Period will automatically pass this step in the assessment. IESO Resource Adequacy Assessment

5.5 IESO Resource Adequacy Assessment

This step in the *capacity export request* assessment will determine whether resource *adequacy* planning requirements will be satisfied during the proposed Commitment Period without reliance on the capacity proposed to be exported from the Capacity Resource.

The *IESO* may assess the impact of a proposed capacity export using the most recent <u>Reliability</u> Outlook assessment results, or results from more recent assessments.

The IESO will utilize the following guidelines for this resource adequacy assessment:

The firm resource scenario will be used.

The extreme weather scenario will be used.

Firm capacity imports will be included, as will any firm exports secured by mechanisms other than the capacity export process (e.g., system-backed exports secured directly with external *control areas*).

Planned outages submitted by generators, electricity storage participants, and transmitters will be taken into account (planned outages will not be re-scheduled by the IESO in order to allow approval of a capacity export request).

Prospective Capacity Sellers will not be permitted to use replacement *energy offers*⁷ to support an *outage* as a way to modify overall supply so as to influence the approval of a *capacity export request*.

If multiple *capacity export requests* are received for the same Capacity Export Opportunity, the *IESO* will assess resource *adequacy* based on the lowest of the:

Total amount of capacity that Prospective Capacity Sellers want to export, or Maximum amount of capacity that the external *control area* will allow to be satisfied by Ontario exports, or

Maximum amount of capacity that the *IESO* will allow to participate.

In the event that the maximum amount of capacity that the *IESO* will allow to participate based on its resource *adequacy* assessment is less than the maximum amount of capacity the external *control area* will allow to be satisfied by Ontario exports, the date stamp order of the multiple *capacity export requests* will be used to determine which pass this step of the assessment, if any.

5.5.1 Resource Adequacy Criteria

The Reserve Above Requirement (RAR)⁸ will be used to determine if planned *adequacy* is expected to be sufficiently maintained if the Capacity Resource is removed from supply assumptions for the Commitment Period. For this purpose, the following criterion will be applied.

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⁷ For more information, refer to <u>Market Manual 7.3: Outage Management</u>, Section 5.5: Replacement Energy to Support Planned Outages

⁸ As defined by the Reliability Outlook.

Capacity export requests from resources not included as 'firm' resources in the RAR assessment will automatically pass this step in the capacity export request assessment regardless of the level of the RAR.

A capacity export request for a Capacity Resource that is included in the 'firm' resource scenario and has fully completed the facility or market registration processes will pass this step in the capacity export request assessment if the RAR is at an acceptable level.⁹

5.6 Congestion Review

A detailed congestion review will be conducted to consider the potential for congestion on the *transmission system* path between the Capacity Resource and the applicable external *control area*.

While the assessment in Section 5.1 focuses on assessing the impact of congestion on the first major interface between the capacity resource and intended external *control area*, this assessment will focus on all impactive interfaces that include both major and other internal interfaces, including but not limited to the Transmission Interfaces listed in Appendix E of Market Manual 7.2: Near-Term Assessments and Reports.

A congestion review will be conducted in two parts:

- A Power System Analysis (PSA) will be used to assess the anticipated transmission capability between the proposed Capacity Resource and the applicable external *control area*, in order to identify internal interfaces that could be congested and restrict electricity delivery for the duration of the proposed Commitment Period during the most restrictive conditions.
- 2. A Production Simulation Study (PSS) will be used to assess expected transmission congestion frequency between the Capacity Resource and the intended external *control area*. Where applicable, constraints identified by the PSA will also be considered.

5.6.1 Power System Analysis (PSA)

The objective of the PSA is to study any possible congestion resulting from the operations of the Capacity Resource under the most restrictive expected conditions. As such, the PSA would consider:

All planned transmission, generation, and electricity storage *outages* that may affect transmission paths between the Capacity Resource and the applicable external *control area*. Any normal control actions used in real-time operations to support *energy* flows.

Any firm capacity imports and exports already committed during the proposed Commitment Period, and any other approved *capacity export requests* that have not yet reached their Commitment Notification Dates.

The PSA will use the current methodology for determining the total transfer capability of internal interfaces to identify any transmission constraints that could be expected to manifest when the Capacity Resource is supporting a capacity call under extreme conditions. ¹⁰ Identified constraints include pre- or post-contingency system performance criteria violations. If no such transmission constraints are identified, the *capacity export request* will pass this assessment and the Production

⁹ Approved but not committed *capacity export requests* will not be considered when assessing resource *adequacy*. Only committed capacity exports will reduce the total supply assumed for resource *adequacy* assessments.

¹⁰ As per the Reliability Outlook definition

Simulation Study will not be required. If issues are identified, a chronological congestion analysis (i.e., Production Simulation Study) over the proposed Commitment Period will be conducted, which will include consideration of any limits provided from the PSA study.

5.6.2 Production Simulation Study (PSS)

This assessment will assess the impact of *energy* flows associated with a proposed *capacity export* request on major and internal interfaces¹¹ between the Capacity Resource and the applicable external *control area*.

The PSS will simulate unconstrained flows on interfaces between the capacity resource and the intended external *control area* using a combination of historical data and *planned outages*.

Historical data for up to the last five years for unconstrained *generator* or *electricity storage participant* schedules, historical *intertie* schedules, and Ontario *demand* corresponding with the proposed Commitment Period will be utilized. The assessment will also account for applicable planned transmission, generation, and electricity storage *outages* during the proposed Commitment Period and their impact as identified in the PSA.

The interfaces on the path between the Capacity Resource and the intended external *control area* will be deemed to be congested when the sum of all unconstrained flows across that interface exceeds its system operating limit (SOL) for more than 5% of the time during the peak hours of the proposed Commitment Period. The SOL will be adjusted for any applicable *planned outages*.

If the SOL is exceeded more than 5% of the time during the peak hours of the proposed Commitment Period, the *capacity export request* will be denied and no further assessment will be performed.

If the SOL is not exceeded more than 5% of the time, the *capacity export request* will pass this stage of the assessment, unless the congestion is projected to be close to the threshold (e.g., 4.95%), in which case the *IESO* may undertake further assessment, adding additional parameters to the review. If further assessment shows that the SOL is likely to be exceeded more than 5% of the time, the *capacity export request* will be denied and no further assessment will be performed. If the further assessment shows that the SOL will not likely be exceeded more than 5% of the time, the *capacity export request* will pass this step in the assessment.

¹¹ As defined in the Ontario Transmission System (OTS) document.

6. IESO Approval/Denial of the Capacity Export Request

Based on the final results of all of the assessments, a capacity export request may be:

The final decision will be provided to the Prospective Capacity Seller in writing, as described in Section 6.1.

Request	Final Results
Approved	If the <i>IESO</i> determines that, with no reduction in the requested quantity (MW) or Commitment Period or both, it passes all steps in the assessment (and further assessments or reassessments, if applicable) detailed in Section 5.
Partially Approved	If the Prospective Capacity Seller indicates a willingness to accept a partial approval, and The IESO determines that, with a reduction in the requested quantity or Commitment Period or both, it passes all steps in the assessment (and reassessments, if applicable) detailed in Section 5.
Denied	If the Prospective Capacity Seller does not indicate a willingness to accept a partial approval and the <i>capacity</i> export request does not pass one or more of the steps in the assessment, or
	If the Prospective Capacity Seller indicates a willingness to accept a partial approval, and the <i>capacity export request</i> does not pass one or more of the steps in the assessment as submitted, or with any reductions in requested quantity (MW) of capacity or Commitment Period considered by the <i>IESO</i> .

6.1 Confirmation of IESO Decision

Provided that a *capacity export request* is submitted in the manner and within the timelines prescribed herein and no change requests are submitted in respect of the *capacity export request*, the *IESO* will use reasonable efforts to provide its determination with respect to the *capacity export request* no later than two weeks prior to the Closing Date of the Capacity Export Opportunity, as identified in the *capacity export request*.

A written approval or partial approval will specify:

The Capacity Resource(s) approved.

The external *control area* to which the approved capacity sale may be made.

The Commitment Period for which the approval applies, including start and end dates. If the capacity export request is approved for only part of the requested Commitment Period, the approved months will be indicated.

The maximum MW quantities approved for export. If the *capacity export request* is approved for only part of the requested MW quantity, the approved MW quantity in each month of the proposed Commitment Period will be indicated.

That the *IESO* may revoke approval at any time up to and including the day before the Closing Date of the Capacity Export Opportunity.

Any other information or limitations on the approval that may be determined by the *IESO*. The approval or partial approval will also confirm that the *IESO* will remove up to the Capacity Resource's approved exportable MW quantity from *adequacy* assessments for the proposed Commitment Period should the Capacity Resource be successful in the Capacity Export Opportunity. This initiates the Market Registration process, which is explained in Section 6.6 Commitment Information Submission.

If the IESO denies the *capacity export* request, in whole or in part, the IESO will provide reasons for the denial.

6.2 Capacity Export Approval Revocation

Prior to the day before the Closing Date of the Capacity Export Opportunity, the *IESO* may revoke any *capacity export request* approval if:

The IESO considers it necessary to maintain system reliability or

A planned outage is submitted in respect of the Capacity Resource or the connection facilities connecting the Capacity Resource to the IESO-controlled grid that would cause the capacity export request to fail any of the assessments detailed in Sections 5.2 or 5.6, or

The *IESO* is notified or becomes aware of any event or circumstance occurring that would cause the *capacity export request* to fail any of the reviews detailed in sections 5.1 to 5.6.

If multiple revocations are required, they will be done in reverse date order, with approvals for *capacity export* requests submitted later being revoked prior to approvals for *capacity export* requests submitted earlier.

If the *IESO* revokes an approval of a *capacity export request*, the Prospective Capacity Seller will be notified in writing.

6.3 Changes to Approved Capacity Resources

A Capacity Seller may submit a resource change request if it would like to replace a *generation unit(s)* or injecting *electricity storage unit(s)* specified in an existing approved *capacity export request* with another *generation unit(s)* or injecting *electricity storage unit(s)* at same the *facility* for the same or smaller quantity (MW). If such a change request is submitted, the *IESO* will review on a reasonable efforts basis and may require the full 15 weeks as described in Section 3.2.

6.4 Prospective Capacity Seller Submission of a Revised Capacity Export Request

A Prospective Capacity Seller may, following the IESO's denial of a *capacity export request* in whole or in part, submit a revised *capacity export request* based on a material change in circumstances, for example:

A planned or *forced outage* to the capacity resource has been completed Material change in global *energy* supply and/or *demand* forecasts over the proposed Commitment Period, which would change the outcome of the Resource Adequacy Assessment explained in Section 5.5.

Material change in *generator*, *electricity storage participant*, or *transmitter planned outages* that would allow the *capacity export request* to now pass the assessments explained in Section 5.2 and 5.6.

Submissions of a revised capacity export request must include a rationale in the Opportunity Description screen in Online IESO explaining the material change in circumstances that is the basis for the revised submission. Given that a reassessment of a revised capacity export request may be time-consuming, the IESO will not guarantee that it will be able to reassess and respond prior to the Closing Date of the Capacity Export Opportunity. The reassessment will be conducted on a reasonable efforts basis.

Capacity Seller Cancellation of a Previous Approval

A Capacity Seller may cancel an approved *capacity export request* in Online IESO at their discretion at any time prior to submitting Commitment Information.

Cancelling an approved *capacity export request* will remove it from consideration when evaluating any subsequently submitted *capacity export requests*.

6.5 Capacity Seller Cancellation of a Previous Approval

A Capacity Seller may cancel an approved *capacity export request* in Online IESO at their discretion at any time prior to submitting Commitment Information.

Cancelling an approved *capacity export request* will remove it from consideration when evaluating any subsequently submitted *capacity export requests*.

6.6 Commitment Information Submission

After a *capacity export request* has been approved or partially approved, the Capacity Seller must submit Commitment Information through <u>Online IESO</u> no later than the Commitment Notification Date. Commitment Information must comply with the terms and conditions of the approval or partial approval of the *capacity export request*.

Failure to submit Commitment Information by the Commitment Notification Date may result in the *IESO* revoking its approval of the *capacity export request*.

The *IESO* will review the Commitment Information and, if it is approved, will issue a Registration Approval Notification (RAN) to the Capacity Seller and will update the commitment status to "Registered". The submitted Commitment Information will become registered data in Online IESO.

Appendix A: Glossary of Capacity Export Terms

Term	Definition	
Capacity Export Opportunity	A capacity export auction, request for proposal (RFP) process, or capacity contract that a <i>market participant</i> may pursue with an entity in an external <i>control area</i> .	
Capacity Resource	The generation unit(s) or injecting electricity storage unit(s) in Ontario from which a market participant either wishes to commit capacity to an external control area, or from which it has committed capacity to an external control area, as applicable.	
Capacity Seller	A market participant that owns a Capacity Resource, has received approval from the IESO to participate in a Capacity Export Opportunity, and has committed capacity to an external control area in accordance with the approval from the IESO and the market rules and market manuals.	
Closing Date	The date upon which a Capacity Export Opportunity is, or will be, concluded such that all capacity that will be committed through the Capacity Export Opportunity is committed for the applicable Commitment Period, i.e.:	
	 The date on which the external auction is or will be completed, or The date the RFP process is or will be concluded and any applicable contract is or will be executed, or 	
	The date when any other capacity contract is or will be executed.	
Commitment Information	The details required to be provided by the Capacity Seller to the <i>IESO</i> concerning success in a Capacity Export Opportunity. These include: • The external <i>control area</i> to which the capacity has been committed,	
	The Capacity Resource,	
	The Commitment Period,	
	The quantity (MW) of capacity committed, and	
	Documentary evidence of the commitment (e.g., a system screenshot or confirmation letter).	
Commitment Notification Date	The date by which the <i>IESO</i> must be notified of whether a Prospective Capacity Seller has committed capacity to the external <i>control area</i> through the Capacity Export Opportunity, as approved by the IESO, which is, as applicable, three <i>business days</i> following a NYISO Strip or Monthly auction, three business days following the Closing Date of a	

Term	Definition
	capacity contract or noon the day after the NYISO Spot auction results are posted.
Commitment Period	The period of time (from a defined start date to a defined end date) that a Capacity Resource is committed to an external <i>control area</i> and during which period the capacity cannot be counted towards the resource <i>adequacy</i> of Ontario.
Grid-incapable	A condition under which the Capacity Resource cannot inject <i>energy</i> into the ICG. This could include (but is not limited to) conditions caused by <i>outages</i> to the switches, step-up transformer, or radial transmission line which connect the Capacity Resource to the ICG, thus removing the Capacity Resource by configuration.
Prospective Capacity Seller	A market participant that owns and/or operates a Capacity Resource and intends to (or has) submitted a capacity export request to the IESO to participate in a Capacity Export Opportunity.

References

Document ID	Document Title
MDP RUL 0002	Market Rules for the Ontario Electricity Market
PRO-408	Market Manual 1.5: Market Registration Procedures
MDP PRO 0027	Market Manual 4.2: Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets
IMP PRO 0034	Market Manual 4.3: Real Time Scheduling of the Physical Markets
PRO-324	Market Manual 4.6: Real-Time Generation Cost Guarantee Program
MDP PRO 0033	Market Manual 5.5: Physical Markets Settlement Statements
MDP PRO 0040	Market Manual 7.1: IESO-Controlled Grid Operating Procedures
IMP PRO 0035	Market Manual 7.3: Outage Management
IESO MAN 0080	Market Manual 9.5: Settlement for the DACP
	Ontario Transmission System (OTS) document

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