Enabling Capacity Exports

Technical Panel

August 14, 2018

ieso
Connecting Today.
Powering Tomorrow.

Agenda

1. Recap
2. Stakeholder engagement update
3. Transmission Outages - Overview of proposed market manual changes and illustrative examples
4. Next steps

Recap

- Market rule amendments are proposed to implement design features not yet in place and to specify certain IESO and market participant rights and obligations
- TP presentations:
  - March 6 – General informational presentation on the Enabling Capacity Exports project
  - May 22 - Informational presentation walked through design elements, overview of proposed market rule changes and corresponding manual content for:
    - MR-00420-R00: Capacity Exports in the IESO-Administered Markets;
    - MR-00420-R01: Capacity Exports and Settlements
  - June 26 – Vote to Post. Presentation focussed on MR-00420-R02: Transmission Outages

Transmission Outages: Chapter 5

- The proposed market rule would allow the IESO to reject or revoke planned outages which would render a Capacity Resource unable to deliver electricity through its connection point(s) to the IESO controlled grid (i.e. grid incapable) if:
  - The generator has committed capacity to an external control area
  - The external control area has determined that its area faces a resource adequacy shortfall in the planning timeframe if the outage proceeds as scheduled, and
  - The Capacity Seller can demonstrate that it has made best efforts to reschedule the planned outage with the transmitter as outlined in the appropriate market manual

Transmission Outages: Chapter 5

- The proposed market rule does not cover:
  - Forced outages
  - Urgent outages
  - Recalling a planned outage after it has started
  - Planned outages to equipment which constrain a capacity resource
- If the planned outage is required for a reason related to Ontario reliability and cannot be rescheduled, the IESO will not reject or revoke the outage

Market Manual References and Content

	Section	Market Rule Content	Market Manual Content
Chapter 5	6.4.4A.3 & 6.4.9.3.2	Market participant obligation to demonstrate to the IESO that it has made best efforts to reschedule the planned outage with the transmitter	Description of how market participants can demonstrate that they have communicated with the transmitter, including steps taken in an attempt to reschedule the planned outage with the transmitter

Technical Panel Comments

- Summary of TP member comments at the June 26th meeting:
  - CMSC should be limited, versus not paid at all for called capacity exports
  - There is a need to see market manual content prior to a TP vote to recommend

CMSC

- The IESO does not believe that any CMSC should be paid for Called Capacity Export transactions
  - These transactions are fundamentally different than other energy exports
- The purpose of CMSC is to keep MPs whole by compensating them in certain circumstances where they are scheduled in such a way that they lose operating profit due to a difference between the bid price and the market clearing price

CMSC (cont'd)

- Called Capacity Exports are already ineligible for CMSC under most circumstances given current rules
  - Because Called Capacity Exports have to be bid at MMCP to receive related curtailment treatment, there is no circumstance under which they would be required to pay a price to export that is higher than their bid price - As such, constrained on CMSC cannot apply
  - If any energy export, including a Called Capacity Export, is constrained off by the DSO scheduling engine in the last pre-dispatch before the hour due to congestion on the intertie, no CMSC is payable (as per Chapter 9, section 3.5.10 of the market rules)

CMSC (cont'd)

- An energy export can also be constrained off if an IESO Control Room Operator reduces its schedule to manage the grid
  - The IESO believes that no CMSC should be payable for Called Capacity Exports in this circumstance as well (which is the reason for the proposed Market Rule amendment)
- By choosing to export capacity, the MP is accepting the commitment that it has made to the external jurisdiction to export when called regardless of whether the export itself is economic. Therefore, compensation for lost operating profit (through CMSC) is not appropriate for such transactions

CMSC (cont'd)

- Called Capacity Export transactions are similar to linked wheel-through transactions in that the export must be bid at a prescribed price in order to receive related curtailment treatment
  - Linked wheels also do not receive CMSC under any circumstances, including if they are constrained off by IESO Operator action (refer to Ch 9, section 3.5.8)

CMSC (cont'd)

- OPG cites an existing example of partial payments in the Market Rules (Ch 9, section 3.5.6A). This provision applies to regular export transactions in order to limit CMSC when exports are bid at negative prices and are subsequently constrained on.
  - This concept is also not relevant to Called Capacity Exports, as the latter are not regular export transactions

Stakeholder Engagement Update

- Continued engagement with Hydro One concerning outage planning and management
- Informed generators who attended the Stakeholder Engagement meetings about proposed new processes to ensure coordination of outages and capacity exports and sought comment

Market Manual Content re Transmission Outages

Coordination Prior to Submitting a Capacity Export Request to the IESO for Evaluation

- Manual will outline pre-commitment coordination and screening prior to the IESO approving a Capacity Export Request.
  - Will specify the requirement for market participants to communicate with transmitters: (1) prior to submitting a capacity export request, (2) while a request is pending approval from the IESO (in the event that there are changes, e.g., to the resource being offered by the seller or the transmitter's outage plan).

Market Manual Content re Transmission Outages

IESO Review of Capacity Export Request

- Manual will outline the IESO's evaluation of Capacity Export Requests concerning generator and transmission outages. The Request will be denied if planned transmission/generation outages would render the resource unavailable for more than 5% of peak hours during the proposed commitment period

Communication Prior to a Commitment

- Manual will specify requirement that the Capacity Seller notify transmitter if they change the resource associated with an approved Capacity Export Request prior to a commitment

Market Manual Content re Transmission Outages

Actions once a Capacity Export is Committed

- Manual will outline practices once a capacity export has been committed, including Capacity Seller's responsibility to use best efforts to reschedule certain grid incapable outages:
  - The Capacity Seller's responsibility to inform the transmitter of a commitment and discuss potential transmission outages that may render the Capacity Resource grid incapable.
  - The requirement that the Capacity Seller work with the transmitter to reschedule discretionary outages which render a committed Capacity Resource grid incapable.

Market Manual Content re Transmission Outages

Actions once a Capacity Export is Committed

- Manual will outline processes associated with the IESO's authority to reject or revoke planned outages (not forced or urgent) which render a Capacity Resource grid incapable if:
  - The IESO is advised by the Capacity Seller that the external control area operator had determined that their area faces a resource adequacy shortfall in the planning timeframe if the outage proceeds as scheduled;
  - The Capacity Seller can demonstrate as outlined in the applicable Market Manual that they have made best efforts with the transmitter to reschedule the outage.

Market Manual Content re Transmission Outages

Actions once a Capacity Export is Committed

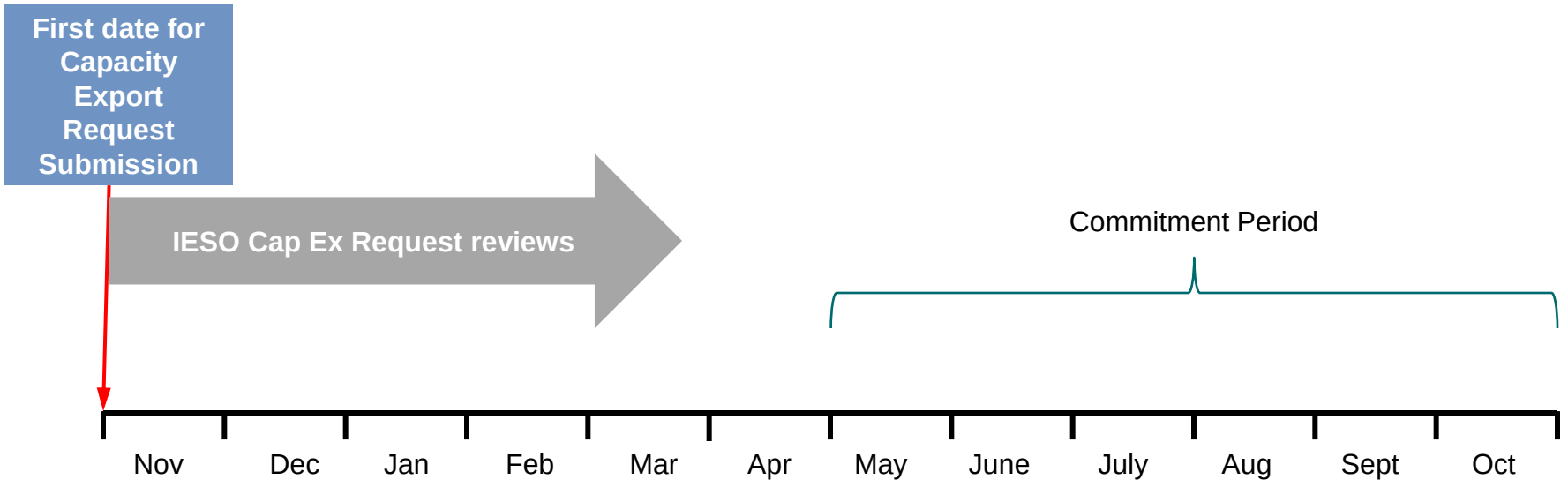
- Manual will identify that the IESO will determine if a transmission outage is required for reliability purposes consistent with the Chapter 11 definition of reliability. It will also outline the following examples of transmission outages required for reliability (this is not an exhaustive list as the IESO will evaluate on a case by case basis):
  - Transmission outages that would prevent a future forced outage from occurring. E.g. a generator connected via a single transformer or line that would be forced out of service due to equipment concerns
  - Transmission outages that would leverage opportune generation and load profiles.
  - Transmission outages that would restore instantaneous protections and respective communication mediums.
- IESO will not reject or revoke planned outages in the examples noted above

Market Manual Content re Transmission Outages

Actions once a Capacity Export is Committed

- Ultimately, if there is no reliability concern, the IESO may reject or revoke the planned outage
- Section 6.4.9.3 of Chapter 5 does not authorize the IESO to reject or revoke forced or urgent outages (impacting safety equipment, or applicable law) or outages that may bottle a resource's output

Example Timeline - Illustrative



Gen will have consulted with Transmitter prior to Gen submitting Cap Ex Request

Gen will have informed Transmitter of any changes before the resource is committed. Gen may change resource (if at same facility) or cancel request. Transmitter may decide not to proceed with an outage. Parties can request the IESO join the discussions if agreement cannot be found

Gen discuss any required outages during the Commitment Period with Transmitter. Transmitter may either not proceed with outages or may submit them if the outages are for reliability reasons or if they accept that the outages may be rejected/revoked

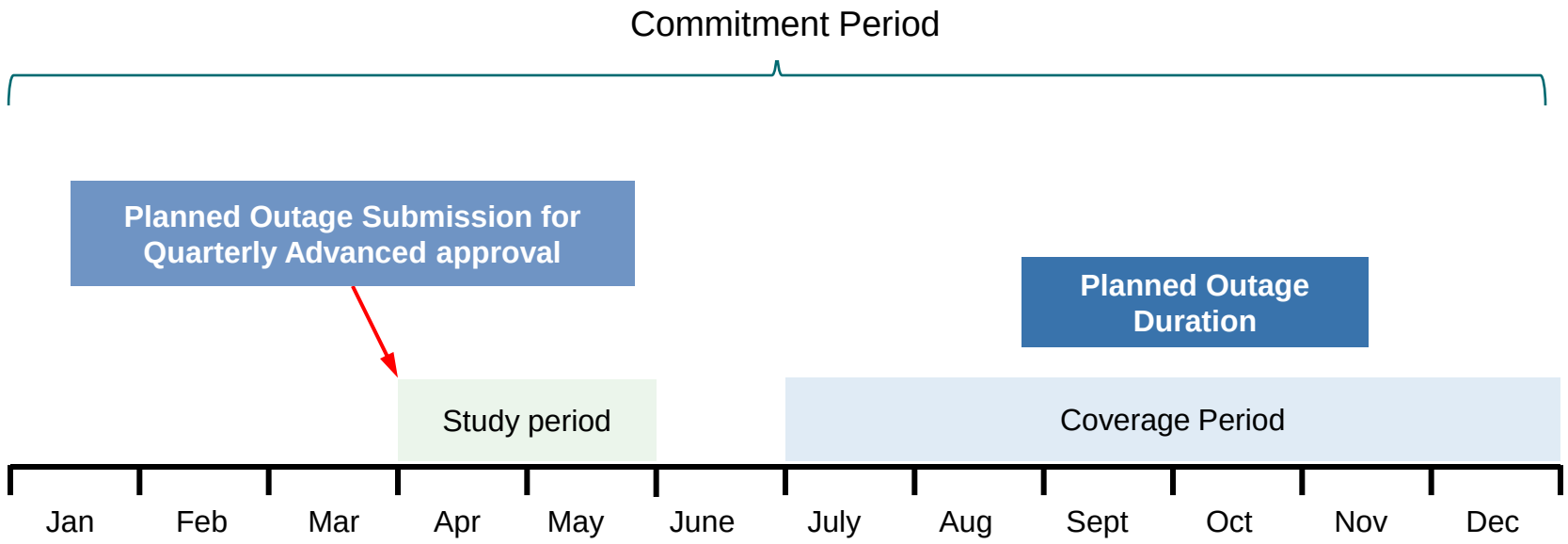
Simplified example provided for illustrative purposes only.

ieso
Connecting Today.
Powering Tomorrow.

Example Timeline During a Commitment

- The example on the next slide uses a 12 month Commitment Period. Please note that this can only currently happen under a very limited set of circumstances (i.e., a Load Serving Entity contract in NYISO) which have not happened to date
- Currently the longest Commitment Period is 6 months
  - All planned outages submitted within a 6 month timeframe would be considered as Urgent and would be approved
- Illustrative example represents quarterly advanced approval process. There are several other timelines

Example Timeline - Illustrative



Transmitter submits a planned outage to the IESO during the Commitment Period after discussions with the generator. Either the outage is for reliability reasons, or the transmitter has accepted the possibility that it could be rejected

IESO will follow all standard outage processing timelines and procedures when assessing the planned outage. Unless informed otherwise by the Capacity Seller, the IESO will assume that the outage is approved by the external jurisdiction

If the IESO is informed by the Capacity Seller that the external jurisdiction has rejected the outage, provided all communication protocols have been followed and the outage is not for reliability reasons, the outage may be rejected (if not approved yet) or revoked (if it has)

Outages already in progress will not be recalled by the IESO as a result of a rejection by the external jurisdiction

Simplified example provided for illustrative purposes only.

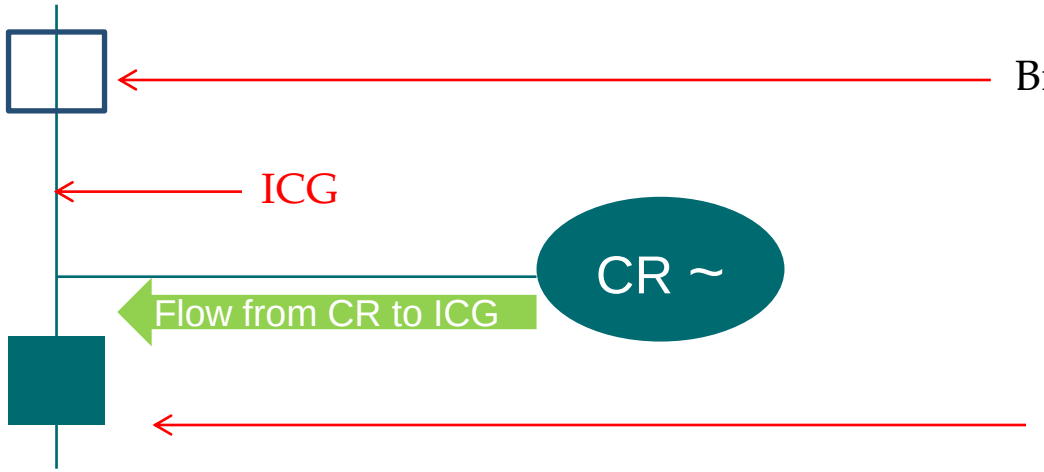
Grid Incapable

- Grid incapable denotes a state where the Capacity Resource cannot inject to the *IESO-controlled grid*.

- This may include (but is not limited to), outages to the switches, step-up transformer, radial transmission line which connect the Capacity Resource to the system thus removing the Capacity Resource by configuration.

Example 1 – Capacity Resource Grid Incapable: Open Breaker

This example depicts a radial line with a line breakers open.



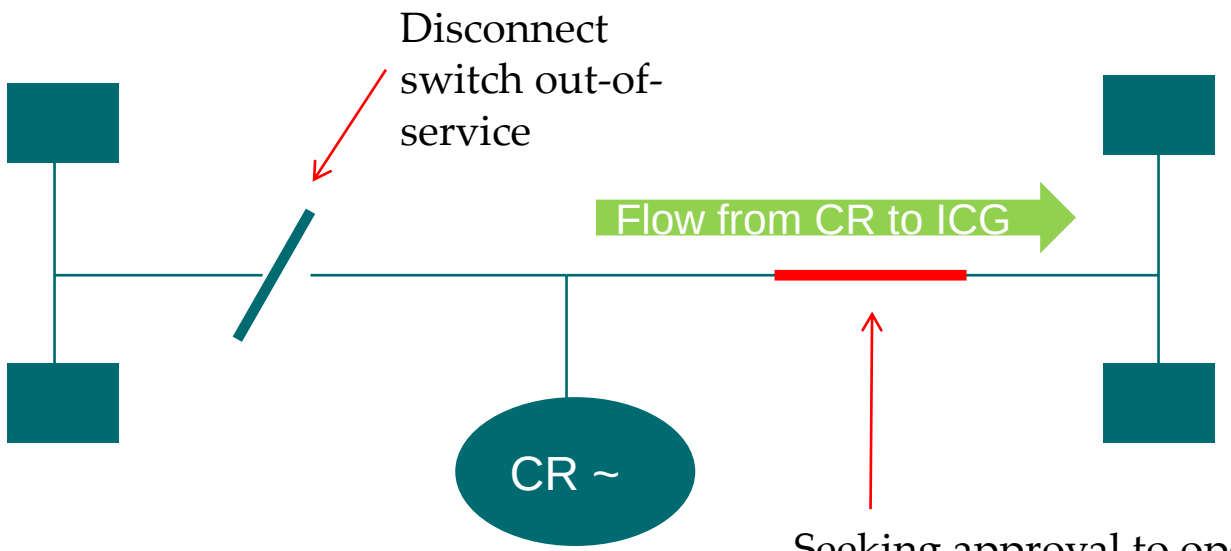
Seeking approval to take this breaker out of service would render the capacity resource grid incapable

Note : This is applicable to a station connection.

Simplified example provided for illustrative purposes only.

Example 2 – Capacity Resource Grid Incapable: Open Disconnect Switch

This example depicts a line corridor with an existing disconnect switch open



Simplified example provided for illustrative purposes only.

Next Steps

- May 22 – Information item – reviewed proposal (R00/R01) - complete
- June 26nd TP – Vote to post for stakeholder comment (R00-R02) - complete
- August 14th TP – Vote to recommend to IESO Board (R00-R02)
- August 29th IESO Board – pending Aug 14th TP discussions, target Board consideration of R00-R02