Ontario/Quebec Capacity Sharing Agreement

Backgrounder, November 12, 2015

Please refer to the following link for background information on the Ontario-Quebec Capacity Sharing Agreement: http://www.ieso.ca/Documents/corp/Summary-Capacity-Sharing-Agreement-Ontario-Quebec.pdf.

1. **Please provide more details on a "last resort reliability product".**

The IESO will only call on Quebec capacity when we expect that all normal market actions will have been exhausted to mitigate an energy or operating reserve shortfall. Specifically, we will make a reliability declaration for Quebec capacity when the Ontario system is:

- expected to be deficient in 30-minute operating reserve for 4 hours or more; or
- expected to be deficient in 10-minute operating reserve for 1 hour or more; or
- experiencing a global or local area energy shortfall.

The IESO will update the applicable Market Manual[1] to add a process step where we will issue a reliability declaration calling on Quebec capacity in the Summer Period (June 1 to September 30).

2. **Please provide details on when Hydro Quebec would make a reliability declaration? What constitutes "normal market actions" for Hydro Quebec?**

Hydro Quebec TransEnergie (HQT) are in the best position to describe the conditions under which they will make a reliability declaration for Ontario capacity in the Winter Period (December 1 to March 31), and what constitutes "normal market actions" for Hydro Quebec.

3. **How quickly can Hydro Quebec call upon Ontario capacity, within 1 hour? 2 hours? Do both Ontario and Quebec have to adhere to the 2-hour scheduling window when they request the capacity?**

The jurisdiction (Ontario or Quebec) requesting capacity must make a reliability declaration and will qualify for the receipt of firm energy:

- if the reliability declaration is received at least 4 hours prior to the requested dispatch hour; or
- on a best-efforts basis from the sending jurisdiction if the reliability declaration is first received, or modified, less than 4 hours prior to the requested dispatch hour.

In all scenarios, the existing 2-hour mandatory scheduling window for submission of dispatch data in the Ontario market shall continue to apply.

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[1] Market Manual 7.1, Appendix E.1 Actions in Advance of and During the IESO Controlled Grid Emergency Operating State.

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4. **Will this be done in the market (e.g., is Hydro Quebec being treated like any other market participant)? Under what conditions?**

   The Capacity Sharing Agreement will schedule energy through existing IESO market mechanisms. Following a reliability declaration, Hydro Quebec Energy Marketing (HQEM) is responsible for submitting an energy export bid during the Winter Period or an energy import offer during the Summer Period. The energy export bid/energy import offer ("HQEM Transaction") may be submitted at any price from negative maximum market clearing price ($MMCP) to positive $MMCP on the Hawthorne-Outaouais interface, and will be evaluated economically by the IESO[2] against all other energy transactions.

5. **Is the 500 MW capacity permanently reserved on the Hawthorne-Outaouais interface? Is priority given to Hydro Quebec as a result of this MOU?**

   No capacity is reserved on the Hawthorne-Outaouais interface as a result of this agreement.

6. **How will this be reflected in the bid/offer stack? How will it impact HOEP? Will this impact congestion and Transmission Rights revenues?**

   HQEM Transactions associated with this agreement will be treated by the IESO the same as any other bid/offer in the stack; and will impact HOEP, dispatch schedules, congestion and Transmission Rights revenues accordingly.

7. **How will this be visible to the market?**

   The IESO will issue a System Status Report (SSR) when making a reliability declaration for Quebec capacity, or when Hydro Quebec issues a reliability declaration for Ontario capacity.

   If scheduled, HQEM Transactions associated with this agreement will form part of the net schedule on the Hawthorne-Outaouais interface that is published on the IESO public website.

8. **What conditions may allow for out-of-market actions to enable energy flows?**

   The IESO expects that the majority of the time the Dispatch Scheduling and Optimization tool (DSO) will economically schedule the required amount of energy on the Hawthorne-Outaouais interface to satisfy the terms of the Capacity Sharing Agreement. However there may be times when the DSO fails to schedule the required amount and out-of-market actions may be required.

   For the Winter Period, the IESO may take out-of-market actions in the pre-dispatch timeframe to increase the net schedule on the Hawthorne-Outaouais interface to the MW bid quantity of the HQEM Transaction if:

   - the HQEM Transaction is bid at $MMCP, and
   - the net schedule on the Hawthorne-Outaouais interface is less than the MW bid quantity of the HQEM Transaction, and
   - there is sufficient transmission capacity on the interface.

[2] Using the *Dispatch* Scheduling and Optimization (DSO) tool, as described in Market Manual 4.3 Real-Time Scheduling of the Physical Markets

For example, the IESO may reduce $MMCP export bids on other interfaces (NYISO, MISO, etc.) to increase the net schedule on the Hawthorne-Outaouais interface and satisfy the terms of the Capacity Sharing Agreement.

For the Summer Period, the IESO may take out-of-market actions as described in the applicable Market Manual[3] to mitigate an energy or operating reserve shortfall, including increasing imports on the Hawthorne-Outaouais interface associated with the Capacity Sharing Agreement.

Delivery of energy under the Capacity Sharing Agreement will be measured as the net schedule on the Hawthorne-Outaouais interface regardless of the market participant responsible for the scheduled transaction (i.e. the HQEM Transaction does not have to be scheduled for the sending entity to be meeting its firm energy obligation, if other transactions deliver an equivalent amount of energy).

At all times, including the scenarios described above, delivery of energy under the agreement is subject to curtailment provisions described in Questions 12 & 13 below.

9. **Please provide more details on what constitutes "limited curtailment rights".**

The Capacity Sharing Agreement specifies curtailment provisions whereby the sending jurisdiction may curtail firm energy, if the delivery of that energy results in:

- a violation of voltage, stability, or thermal transmission limits, and/or
- an equal or more severe state than the jurisdiction receiving firm energy.

The IESO will amend the applicable Market Manual[4] to reflect the curtailment provisions in the agreement in the December 2015 baseline.

10. **Does the IESO provide the power even if we are short of capacity/reserves ourselves?**

Consistent with existing interconnection agreements, the IESO will deliver exports that are supplying non-dispatchable load in deficient neighbouring jurisdictions when Ontario is short of operating reserve[5].

As a result of this Capacity Sharing Agreement, the IESO will curtail load on a pro-rata basis to deliver exports to Quebec such that we equalize the firm load loss in both jurisdictions. The applicable Market Manual[6] will be updated to reflect this provision.

11. **500MW of capacity – does the IESO anticipate having more units on standby/30-min OR/gas warming etc. to provide Hydro Quebec the power when called upon short notice?**

No. Energy delivered under this agreement (and the corresponding supply) will be scheduled through existing market mechanisms.

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[3] Market Manual 7.1, Appendix E.1 Actions in Advance of and During the IESO Controlled Grid Emergency Operating State.

[4] Market Manual 7.1, Appendix E.2 Emergency Operating State Actions (IESO and External Control Area Deficiency).

[5] See Footnote 4.

[6] See Footnote 4.

12. **If Ontario calls on capacity from Quebec in the Summer, is Hydro Quebec still allowed to be exporting back out of Ontario to NYISO or MISO/PJM?**

    Exports out of Ontario arranged by Hydro Quebec or any other marketing entity can be scheduled at any time. However given the conditions under which the IESO will call upon capacity from Quebec, it is unlikely that exports out of Ontario will be economically scheduled.

13. **If Hydro Quebec and Ontario do not use the capacity in winter and summer respectively – is it then available to the market? How is this shown?**

    The capacity being provided by Ontario to Quebec is considered system-backed capacity, and is not associated with a particular resource. Because of this, during periods when this capacity has not been called upon by Hydro Quebec, it is available to be scheduled in the Ontario market.

    Hydro Quebec is in the best position to comment on what happens to their unused capacity in the Summer Period.