

Agenda Item 4.0

PSPC Meeting 278

August 19, 2010

Assumptions for Calculating Installed Capacity Requirement (ICR) & Related Values for the 2014/15 Forward Capacity Auction (FCA5)

Objective

- Provide a high level overview of the FCA5 ICR and Related Values assumptions to be developed beginning in the September 2010 timeframe

FCA5 ICR Values Schedule

- PSPC review of all assumptions – **November 2010**
- PSPC review of ISO recommendation of ICR values – **December 2010**
- RC review/vote of ISO recommendation of ICR values – **January 2011**
- PC review/vote of ISO recommendation of ICR values – **February 2011**
- File with the FERC – by **March 4, 2011**
- FCA 5 – **June 6, 2011**

Modeling the New England Control Area

The New England ICR will be calculated using the GE MARS Model

- Internal transmission constraints are not modeled. All loads and resources are assumed to be connected to a single electric bus.
- Internal transmission constraints are addressed through Local Sourcing Requirements and Maximum Capacity Limits.

Overview of Assumptions for the 2014/15 ICR Values

- *Load Forecast*
 - Load Forecast distribution
- *Resource Data*
 - Existing Qualified Generating Capacity Resources
 - Existing Qualified Intermittent Power Capacity Resources
 - Existing Qualified Import Capacity Resources and Known Sales
 - Existing Qualified Demand Resources (DR)
- *Resource Availability*
 - Generating Resources Availability
 - Intermittent Power Resources Availability
 - Demand Resources Availability
- *Transmission Transfer Capability*
 - Connecticut Import
 - NEMA/Boston Import
 - Maine-New Hampshire Interface
- *Load Relief from OP 4 Actions*
 - Tie Reliability Benefits
 - HQICCs
 - Maritimes
 - New York
 - 5% Voltage Reduction

Load Forecast Data

- **Load forecast assumption from the 2010 CELT Report Load Forecast**
- **The load forecast weather related uncertainty is represented by specifying a series of multipliers on the peak load and the associated probabilities of each load level occurring**
 - derived from the 52 weekly peak load distributions described by the expected value (mean), the standard deviation and the skewness.

Capacity Resource Data

- **Existing Qualified Capacity Resources for FCA5**
 - **Generating Capacity Resources**
 - **Intermittent Power Capacity Resources**
 - **Import Capacity Resources and Known Sales**
 - **Demand Resources (DR)**

Availability Assumptions - Generating Resources

- **Forced Outages Assumption**

- Each generating unit's Equivalent Forced Outage Rate on Demand (non-weighted EFORd) modeled
- Based on the most recent 5-year average of generator submitted Generation Availability Data System (GADS) data
- NERC GADS Class average data will be used for immature units

- **Scheduled Outage Assumption**

- Each generating unit weeks of Maintenance modeled
- Based on the most recent 5-year average of each generator's actual historical average of planned and maintenance outages scheduled at least 14 days in advance
- NERC GADS Class average data will be used for immature units

- **Intermittent Capacity Resources to be modeled as 100% available since their outages are incorporated into their ratings**

Transmission Transfer Capability Used in Calculating LSR and MCL (MW)

Interface	Limit
CT Import	2,500
NEMA/Boston Import	4,900
Maine-New Hampshire	1,575

- Assumption developed using 2010 Load Forecast presented here. Will not be updated if 2010 Load Forecast is used to calculate LSR and MCL for FCA5.

OP 4 Assumptions - Tie Reliability Benefits

- Individual tie line tie benefit values to be calculated using the methodology resulting from the on going Tie Benefits Stakeholder Methodology Process

OP 4 Assumptions - Tie Reliability Benefits

Interface Limit Assumptions

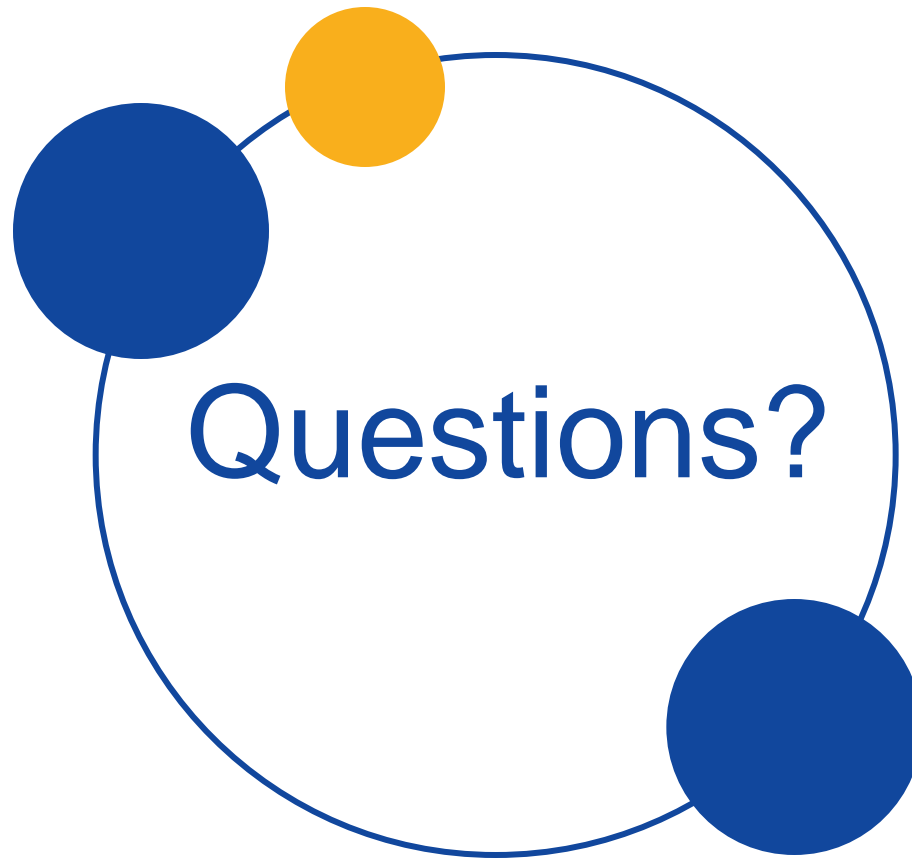
Interface	Limit (MW)
Hydro-Quebec to New England (Highgate)	200
Hydro-Quebec to New England (Phase II)	1,400
New Brunswick to New England	?
New York to New England (AC Interface)	1,400
New York to New England (Cross Sound Cable DC Interface)	?

- Modeled with Forced Outage assumptions of 3% for Québec, 1% for Maritimes, and 0% for New York due to tie line availability.

OP 4 Assumptions - Action 6 and 8

Voltage Reduction

- Use 1.5% OP 4 Appendix A assumption developed by ISO Operations
- Calculated as $(\text{Peak Load MW} - \text{Passive DR MW}) * 1.5\%$



Questions?