



# Zonal Modeling For FCA-10

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*Power Supply Planning Committee*

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# Purpose

- Provide the results of the Capacity Zone modeling calculations for import-constrained zones for the tenth Forward Capacity Auction (FCA-10)



# RSP15 – Capacity Zone Boundary Definitions: Objective Criteria Testing for FCA-10

- The following boundaries are evaluated using the import-constrained zonal modeling objective criteria
  - Connecticut import
  - Southeast New England import
- The following boundary is to be evaluated using the export-constrained zonal modeling objective criteria
  - Northern New England export
- The remaining Load Zones are not evaluated using the zonal modeling objective criteria
  - These will be merged into the Rest-of-Pool Capacity zone



# Timeline

- Reliability Committee
  - Reviewed and voted on the zonal boundaries to be evaluated (April 2015)
- Filed the proposed boundaries at FERC (accepted by FERC on May 29, 2015)
- **Power Supply Planning Committee**
  - **Conduct the calculations of the objective criteria using the latest FCA-10 data**
    - Identify those zones that will be separately modeling in FCA-10
  - **Calculate LSR/MCL requirements for separately modeled zones**
- Reliability Committee
  - Review and vote on the zonal modeling and requirements calculations (in September 2015)
- File at FERC the modeled zones and associated requirements in the Installed Capacity Requirements filing (in November 2015)
- RSP15
  - Document the findings in RSP15

# IMPORT CONSTRAINED ZONE MODELING CALCULATIONS

# Market Rule 1, Section III.12.4(b)

- The ISO shall model in the Forward Capacity Auction, as separate import-constrained Capacity Zones, those zones identified in the most recent annual assessment of transmission transfer capability pursuant to ISO Tariff Section II, Attachment K, for which:
  - the second contingency transmission capability results in a line-line Transmission Security Analysis (TSA) requirement, calculated pursuant to Section III.12.2.1.2 and pursuant to ISO New England Planning Procedures, that is greater than the Existing Qualified Capacity in the zone, with the largest generating station in the zone modeled as out-of-service
- Each assessment will model out-of-service all Non-Price Retirement Requests (including any received for the current FCA at the time of this calculation) and Permanent De-List Bids as well as rejected for reliability Static De-List Bids from the most recent previous Forward Capacity Auction and rejected for reliability Dynamic De-List Bids from the most recent previous Forward Capacity Auction

# Connecticut

## FCA #10 TSA Requirement for Connecticut

2015 Sub-area 90/10 Load (including PV forecast)
Reserves (Largest unit or loss of import capability)
<b>Sub-area Transmission Security Need</b>
Existing Resources (not including Millstone Station)
Assumed Unavailable Capacity
Sub-area N-1 Import Limit
<b>Sub-area Available Resources</b>

## Line-Line (Milestone 2&3 Out-of-Service)

8327
1200
<b>9527</b>
7717
-790
2950
<b>9876</b>

## TSA "Requirement" with Millstone Station out-of-service

**7328**

Existing Capacity Details	2015 Derating Factors (%)	2019-2020 MW Amounts
Regular Generation (not including Millstone Station)	8.565	5441.670
Intermittent	0	172.684
ICUs	20	1521.802
Active DR (Excluding RT-EG)	17.04	77.374
Passive DR	0	450.252
RT-EG	12.81	52.941



# Southeast New England

## FCA #10 TSA Requirement for Southeast New England

Sub-area 2015 90/10 Load (including PV forecast)
Reserves (Largest unit or loss of import capability)
<b>Sub-area Transmission Security Need</b>
Existing Resources (not including Mystic station)
Assumed Unavailable Capacity
Sub-area N-1 Import Limit
<b>Sub-area Available Resources</b>

## Line-Line (Mystic 7, 8, 9 & Jet Out-of-Service)

13342
1100
<b>14442</b>
9202
-875
5700
<b>14027</b>

## TSA "Requirement" with Mystic Station out-of-service

**9660**

FCA-10 Existing Capacity Details	2015 Derating Factors (%)	2019-2020 MW Amounts
Regular Generation (not including Mystic Station)	10.066	7253.156
Intermittent	0	157.858
Peaking	20	533.460
NEMA Active DR (Excluding RT-EG)	17.01	67.329
RI Active DR (Excluding RT-EG)	16.59	60.362
SEMA Active DR (Excluding RT-EG)	22.45	51.987
Passive DR	0	1038.750
NEMA RT-EG	10.41	10.439
RI RT-EG	9.18	15.720
SEMA RT-EG	17.15	12.722





# Conclusion

- The Southeast New England zone has less Existing Qualified Capacity than the line-line TSA with the largest station out of service
  - This zone will be modeled as an import-constrained Capacity Zone for FCA-10
- The Connecticut zone will be merged into the Rest-of-Pool Capacity Zone for FCA-10



# EXPORT CONSTRAINED ZONE CALCULATIONS

# Market Rule 1, Section III.12.4(a)

- The ISO shall model in the Forward Capacity Auction, as separate export-constrained Capacity Zones, those zones identified in the most recent annual assessment of transmission transfer capability pursuant to ISO Tariff Section II, Attachment K, for which:
  - the Maximum Capacity Limit is less than the sum of the existing qualified capacity and proposed new capacity that could qualify to be procured in the export constrained Capacity Zone, including existing and proposed new Import Capacity Resources on the export-constrained side of the interface



# Northern New England

- The calculation of an indicative MCL using FCA-10 assumptions is currently underway
  - Including the related tie-benefits calculations for Highgate and New Brunswick
- The ISO is reviewing the new resources that could qualify for FCA-10
- The ISO will complete the determination of the Northern New England zonal modeling for FCA-10 by August 2015

# Next Steps

- Finalize Northern New England export determination
- Reliability Committee
  - Review and vote on the zonal modeling and requirements calculations (in September 2015)
- File at FERC the modeled zones and associated requirements in the Installed Capacity Requirements filing (in November 2015)



# Questions

