

# ISO-NE Post Summer 2016 Review



---

*Electric/Gas Operations Committee*

Mark Babula

SYSTEM PLANNING



# Table of Contents

- Forecast & Actual Summer 2016 Peak Demands
- Summer 2016 OP-4 Highlights
- Summer 2016 System Operations
  - August



# Forecast & Actual Summer 2016 Peak Demands

## Forecast Peak Demands:

- 50/50 Reference Net Summer 2016 Peak Forecast = 26,704 MW
- 90/10 Extreme Net Summer 2016 Peak Forecast = 29,042 MW

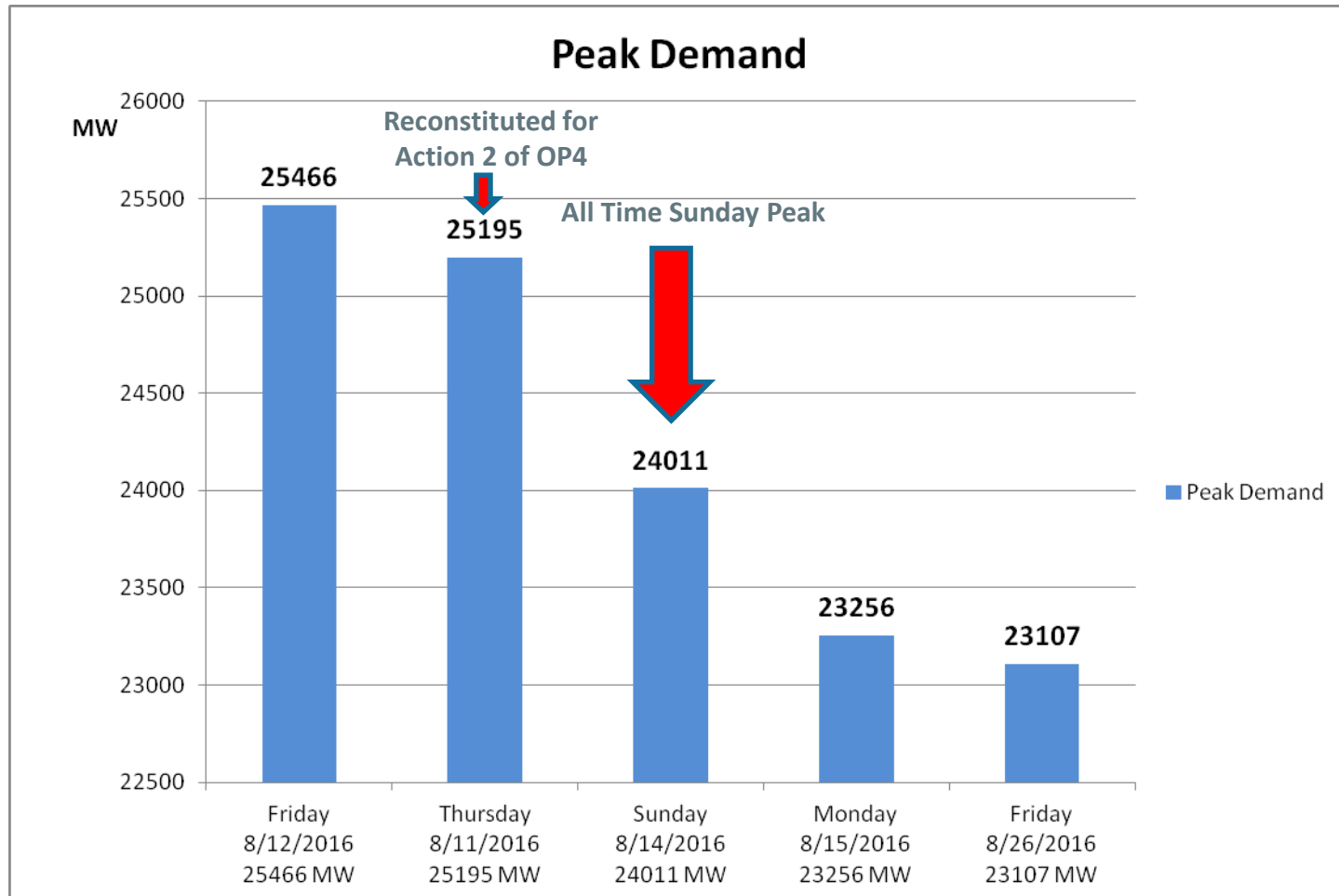
## Actual Peak Demands:

- June actual peak load of 19,905 MW occurred on June 29 at HE17
  - At a 8-city, weighted average temperature of 81 °F at 60 °F Dew Point
- July actual peak load of 24,322 MW occurred on July 22 at HE17
  - At a 8-city, weighted average temperature of 94 °F at 65 °F Dew Point
- August actual peak of 25,521 MW occurred on August 12 at HE15
  - At a 8-city, weighted average temperature of 93 °F at 72 °F Dew Point
- August peak demand is Summer 2016 peak demand



# Five Highest August 2016 Demand Days

*The highest demand days so far this year on the ISO New England system were in the middle of August 2016.*



# OP-4 EVENT

# OP-4 Summary

- On Thursday, August 11, 2016, ISO New England implemented Operating Procedure #4 (OP#4), Action During a Capacity Deficiency, to manage a deficiency in Thirty Minute Operating Reserve
- ISO entered M/LCC 2, Abnormal Conditions Alert at 10:30 due to forced generator outages, approximately 1,425 MW
- On Thursday morning the operating reserve projection was a surplus of 324 MW, based on a forecast peak load of 25,100 MW
- Peak hour forced outages and reductions total was 4,294 MW compared to 2,266 MW value from the morning report
- The actual imports total during the peak was 3,462 MW versus the 2,995 MW value from the morning report.
- Real Time Demand Resources were dispatched except for Maine, which was not dispatched due to a transmission export constraint

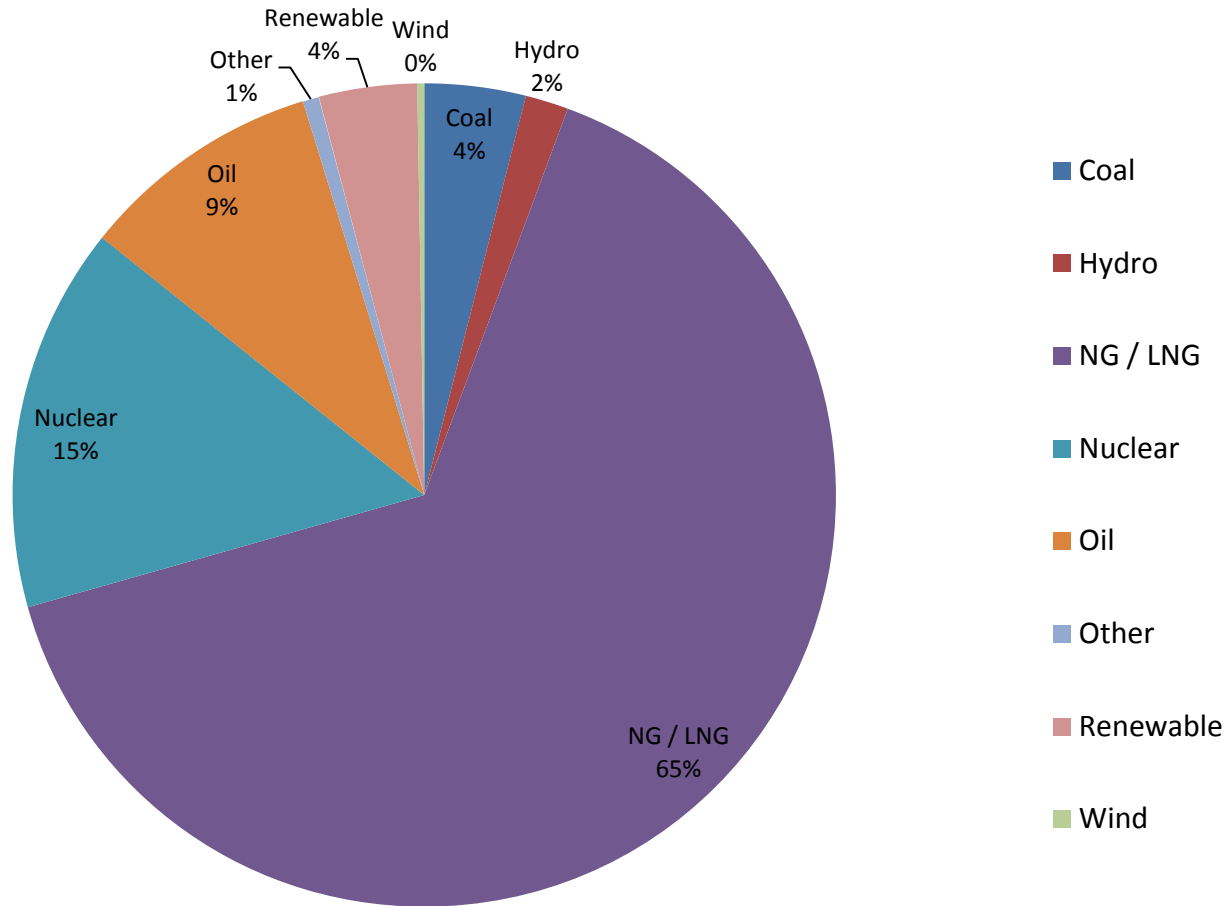


# Timeline of Significant Events

- Thunder and lightning storms entered the Connecticut region during the morning of August 11<sup>th</sup> resulting in transmission line 'trips and reclosings' starting at 09:30 and continuing until just before 10:00
- 09:58 - Loss of a significant generator
- 10:30 - M/LCC 2 was declared for All of New England
- 13:50 - OP-4 Action 1 was implemented for All of New England
- 14:22 - Additional generation totaling 200 MW trips offline
- 14:25 - OP-4 Action 2 was implemented for NH, VT, RI, CT, MA
  - Orrington South and local western Maine 115kV line constraints did not allow for full DR dispatch in Maine
- 18:30 - OP-4 Action 2 was terminated
- 19:30 - OP-4 Action 1 was terminated



# Fuel Diversity – August 11, 2016 HE 18





# SYSTEM OPERATIONS

# System Operations – August 2016

<b><u>Weather Patterns</u></b>	Boston	Temperature: Above Normal (4.0°F) Max: 98°F, Min: 61°F Precipitation: 1.72" – Below Normal Normal: 3.37"	Hartford	Temperature: Above Normal (3.9°F) Max: 99°F, Min: 52°F Precipitation: 4.29" – Above Normal Normal: 3.98"
--------------------------------	--------	---	----------	---

<b><u>Peak Load:</u></b>	25,466 MW	August 12, 2016	16:00 (Hour ending)
--------------------------	-----------	-----------------	---------------------

<b><u>MLCC2:</u></b> 08/11/2016	Capacity Deficiency	Declared – 8/11/16 10:30 Cancelled – 8/13/16 23:45
<b><u>OP-4 :</u></b> 08/11/2016	Actions 1 and 2	Declared – 8/11/16 13:50 Cancelled – 8/11/16 19:30

<b><u>NPCC Simultaneous Activation of Reserve Events:</u></b>		
Date	Area	MW
08/11/2016	ISONE	844
08/24/2016	IESO	540
08/31/2016	PJM	1,000

<b><u>Minimum Generation Warnings &amp; Events:</u></b>		
Minimum Generation Warning	8/14/16, 04:00 – 8/14/16, 07:00	Self Schedules Denied Interchange Cuts



# Questions

