



Winter Outlook 2021-2022

Electric/Gas Operations Committee

Mike Knowland

MANAGER, OPERATIONS FORECAST AND SCHEDULING



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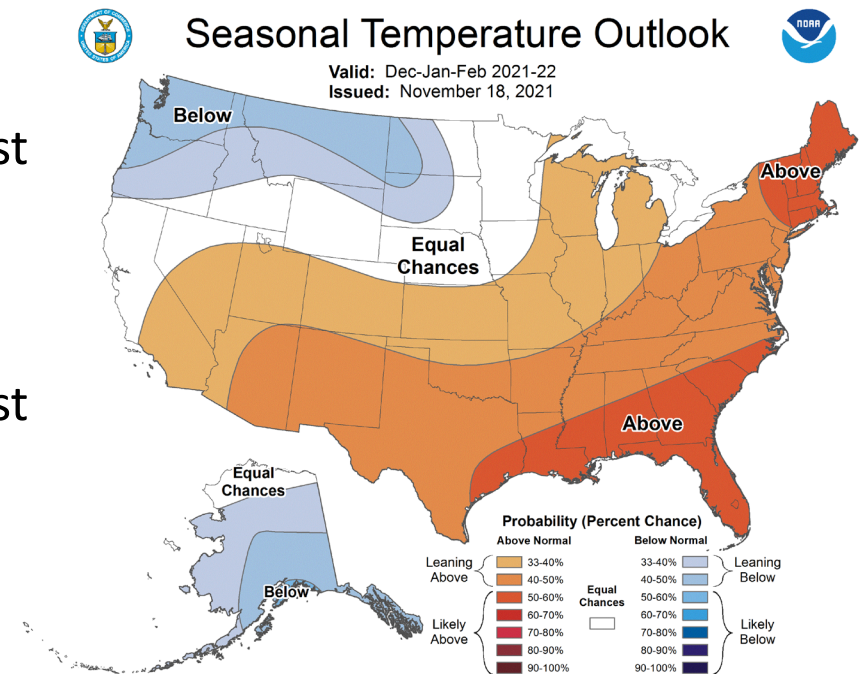
Winter Preparations

- Winter Readiness Seminar
 - Generator Winter Readiness Seminar with Market Participants on October 1, 2021 via WebEx
- Winter Generator Readiness Survey
 - Winter Generator Readiness Survey to all generating resources in the region with responses due by December 1, 2021.
 - Processing responses now
- ISO-NE will continue to perform a weekly 21-day energy assessment
- ISO-NE completed our annual Natural Gas Critical Infrastructure Survey process to ensure critical infrastructure is not part of automatic or manual load shed schemes

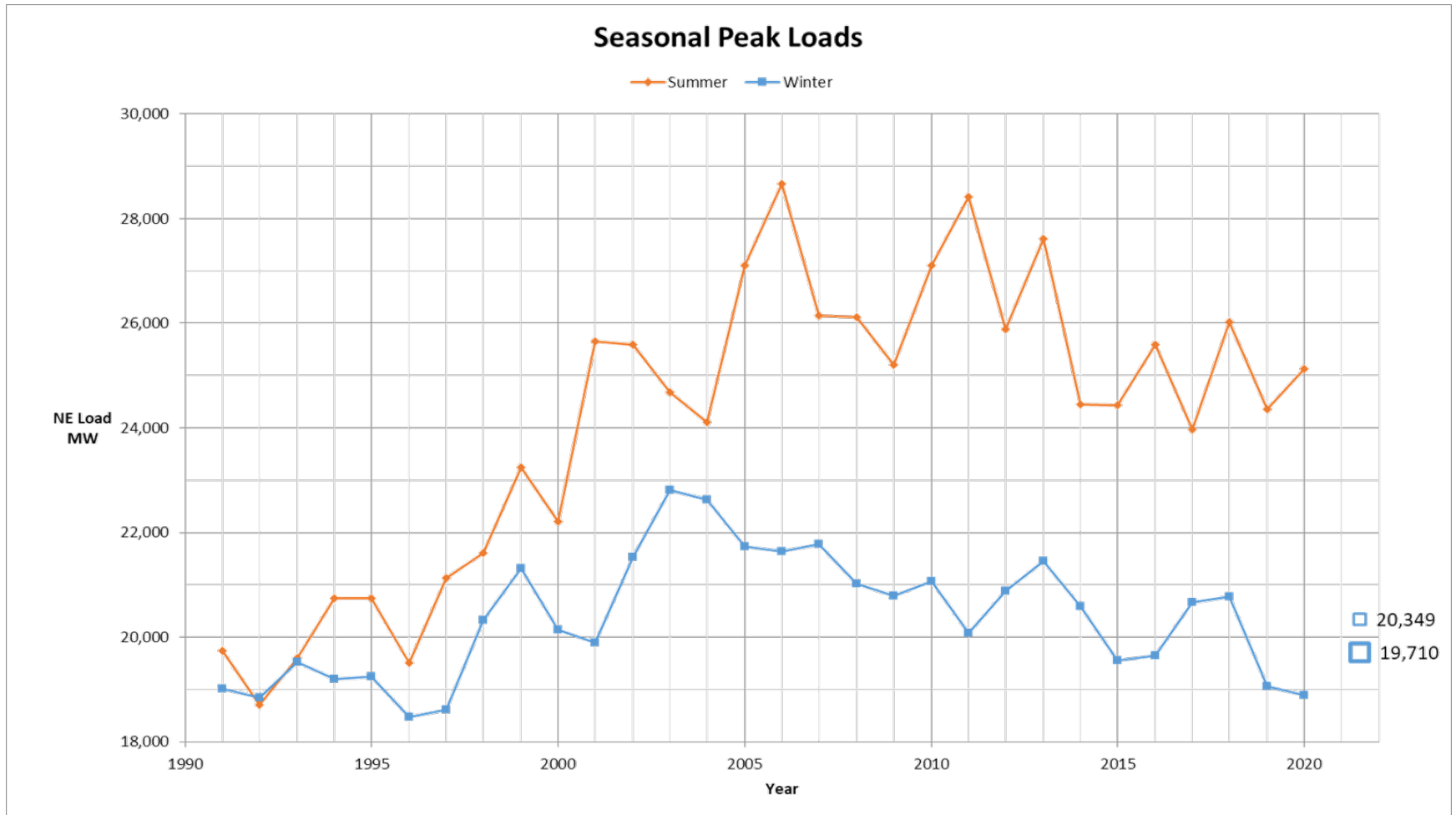


Weather and Load Forecasts

- Greater than average probability of a warmer-than-normal winter for New England
- Winter Demand Forecasts
 - 50/50 winter peak demand forecast of **19,710 MW**, which is 456 MW (2.3%) lower than the winter 2020-2021 forecast
 - 90/10 winter peak demand forecast of **20,349 MW**, which is 457 MW (2.2%) lower than the winter 2020-2021 forecast



ISO-NE Summer and Winter Peak Loads



Operable Capacity Analysis

- Surplus on both 50/50 and 90/10 forecasts
 - The lowest margins are projected for week of January 8, 2022
 - Extended periods of cold weather may rapidly deplete fuel inventories and our capacity outlook will be adjusted accordingly
- Updated and posted monthly to the ISO New England website



- Look for COO Report from each month

<input type="checkbox"/>	2020-10 COO Report Summary of System and Market Operations for current reporting period, including supporting data. Presentation by Vamsi Chadalavada, Executive Vice President and Chief Operating Officer, ISO New England.	09/29/2020	PDF	5.2MB
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Operable Capacity Analysis

90/10 Load Forecast	Jan. - 2022² CSO (MW)	Jan. - 2022² SCC (MW)
Operable Capacity MW ¹	29,784	32,086
Active Demand Capacity Resource (+) ⁵	541	399
External Node Available Net Capacity, CSO imports minus firm capacity exports (+)	1,135	1,135
Non Commercial Capacity (+)	40	40
Non Gas-fired Planned Outage MW (-)	318	423
Gas Generator Outages MW (-)	0	0
Allowance for Unplanned Outages (-) ⁴	2,800	2,800
Generation at Risk Due to Gas Supply (-) ³	4,546	5,217
Net Capacity (NET OPCAP SUPPLY MW)	23,836	25,220
Peak Load Forecast MW(adjusted for Other Demand Resources) ²	20,349	20,349
Operating Reserve Requirement MW	2,305	2,305
Operable Capacity Required (NET LOAD OBLIGATION MW)	22,654	22,654
Operable Capacity Margin	1,182	2,566

¹Operable Capacity is based on data as of **October 27, 2021** and does not include Capacity associated with Settlement Only Generators, Passive and Active Demand Response, and external capacity. The Capacity Supply Obligation (CSO) and Seasonal Claim Capability (SCC) values are based on data as of **October 27, 2021**.

² Load forecast that is based on the 2021 CELT report and represents the week with the lowest Operable Capacity Margin, week beginning **January 8, 2022**.

³ Total of (Gas at Risk MW) – (Gas Gen Outages MW).

⁴ Allowance For Unplanned Outage MW is based on the month corresponding to the day with the lowest Operable Capacity Margin for the week.

⁵ Active Demand Capacity Resources (ADCRs) can participate in the Forward Capacity Market (FCM), have the ability to obtain a CSO and also participate in the Day-Ahead and Real-Time Energy Markets.

Energy Assessments

- In order to identify and communicate potential reliability issues, ISO-NE performs a weekly 21-day energy assessment and posts the results on its public website
 - The energy assessment is based on latest responses to generator surveys, as well as planned outages, load & weather forecasts, and anticipated LNG injections
- ISO-NE's Operating Procedure #21 (OP-21) describes the thresholds for declaration of an Energy Alert or Energy Emergency
 - ISO-NE will declare an **Energy Alert** if the energy assessment indicates either the use of OP-4 Actions 6-11 (voltage reduction and conservation appeals) or OP-7 Action in at least **1 hour on 1 or more consecutive days in days 6 through 21**
 - ISO-NE will declare an **Energy Emergency** if the energy assessment indicates the use of OP-4 Actions 6-11 (voltage reduction and conservation appeals) or OP-7 Action in at least **1 hour on 1 or more consecutive days in days 1 through 5**

High Level Winter Assessment

- If the 2021/22 winter profile is similar to that of the 2020/21 winter, ISO-NE anticipates that the system can be operated reliably without the need for emergency procedures
 - Assumes no significant generation or transmission outages and limited fuel replenishment
- The 2020/21 winter was mild with the following characteristics:
 - Milder than normal with a few short periods of below normal temperatures
 - Average temperature departure from normal was +1.8°F degrees
 - Winter peak load of 18,756 MW
 - Natural gas was available as needed, fuel oil usage was minimal and fuel supplies remained steady
 - The total energy served during this period was 32,188 GWh



High Level Winter Assessment, cont'd

- If the 2021/22 winter profile is similar to that of the 2017/18 winter, ISO-NE anticipates that the system can be operated reliably, but may require the implementation of capacity deficiency procedures
 - Assumes no significant generation or transmission outages and limited fuel replenishment
- If the region has adequate fuel replenishment, ISO-NE anticipates that the system can be operated reliably without the need for emergency procedures
- The 2017/18 winter was milder than normal, except for a long cold spell, and with the following characteristics:
 - Milder than normal except for a two-week span of significantly below normal temperatures
 - Average temperature departure from normal was +0.5°F degrees
 - The region was impacted by an extended stretch of cold weather from December 25, 2017 through January 8, 2018; All major cities in New England experienced temperatures below normal for at least 13 consecutive days, of which 10 days averaged more than 10°F below normal
 - Winter peak load of 20,631 MW
 - The cold snap was marked by significant reductions in natural gas availability and price inversion contributed to high oil usage; several oil-fired resources were postured to maintain fuel reserves.
 - The total energy served during this period was 33,186 GWh

High Level Winter Assessment, cont'd

- If the 2021/22 winter profile is similar to that of the 2013/14 winter, with persistent below normal temperatures and several cold stretches, ISO-NE anticipates that it may require the implementation of all available emergency procedures
 - Assumes no significant generation or transmission outages and limited fuel replenishment
- If the region has adequate fuel replenishment, ISO-NE anticipates that the system can be operated reliably without the need for emergency procedures
- The 2013/14 winter characteristics:
 - Colder than normal and highlighted by a polar vortex event with significant stretches of cold weather in New England and surrounding regions
 - Average temperature departure from normal was -2.3°F degrees
 - The region experienced several cold weather stretches of four or more consecutive days, including a stretch of ten consecutive days at or below freezing
 - Winter peak load of 21,514 MW
 - High demand on both the electric and natural gas systems
 - The total energy served during this period was 35,509 GWh

Operating Procedures

- ISO-NE has Operating Procedures ready to provide the necessary load & capacity relief, if required:
 - Master/Local Control Center Procedure No. 2 – *Abnormal Conditions Alert, (M/LCC2)* is designed to alert power system operations, maintenance, construction and test personnel, as well as Market Participants, when abnormal conditions affecting the reliability of the power system are anticipated or exist
 - ISO-NE Operating Procedure No. 4 – *Actions During a Capacity Deficiency (OP4)*, is designed to provide the necessary load and capacity relief to mitigate reliability impacts when the available capacity is unable to meet anticipated demand plus operating reserves
- Regional Gas Control is notified when these procedures are being utilized

Questions

