ISO new england

January 3, 2023 – January 23, 2023

21-DAY ENERGY ASSESSMENT:

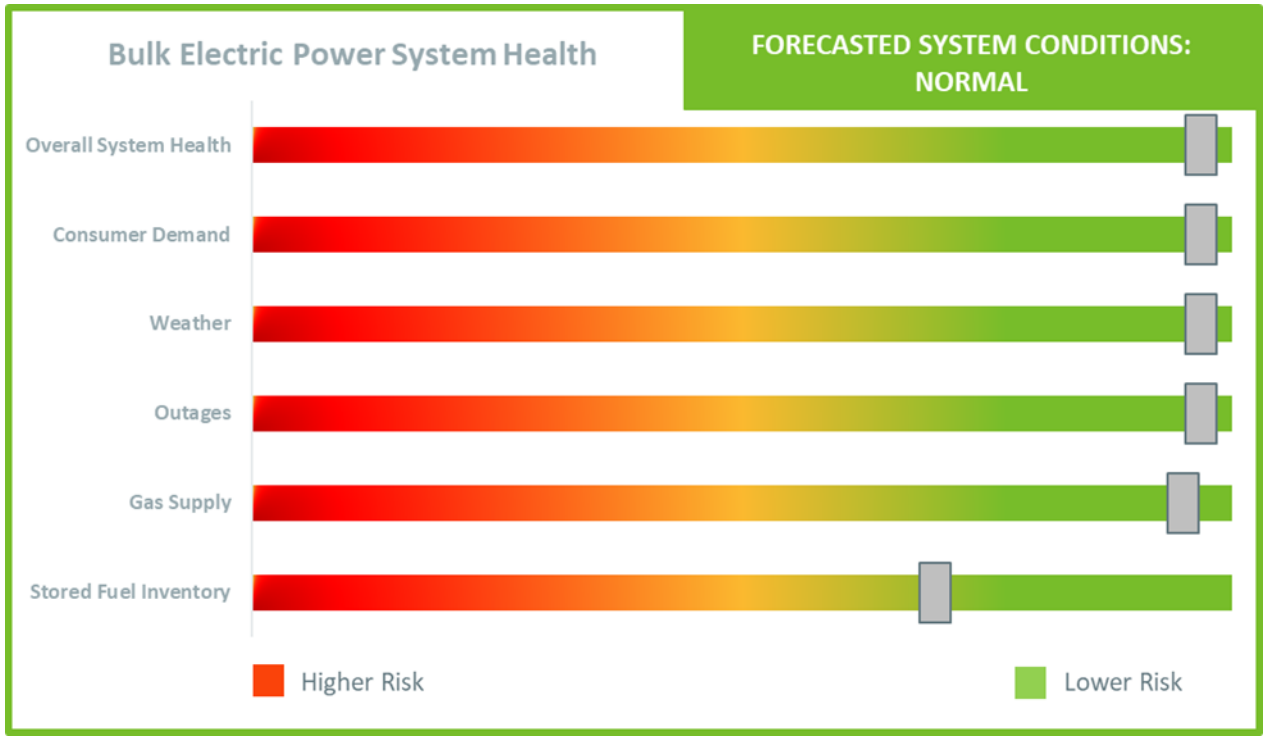
NORMAL CONDITIONS

Published: Jan 4, 2023
Next Publication: Jan 11, 2023

21-Day Energy Assessment
January 3rd, 2023 – January 23rd, 2023

Bulk Electric System Health

The graph below shows the expected overall health of New England's bulk electric system over the 21-day study period. *Overall System Health*[1] refers to the 21 day energy surplus above what is needed to meet anticipated consumer demand and required operating reserves. *Consumer Demand*[2] refers to forecasted system demand. *Weather*[3] refers to daily average forecast temperatures. *Outages*[4] refers to the amount of generation that is expected to be unavailable during the study period. *Pipeline Natural Gas Supply*[5] refers to the expected availability of pipeline natural gas for generation. *Stored Fuel Inventory*[6] refers to current oil and coal supplies in New England, based on surveys of generators who use these fuels. Each category can be reviewed in greater detail in the subsequent pages of this report. See Appendix A for defined thresholds.



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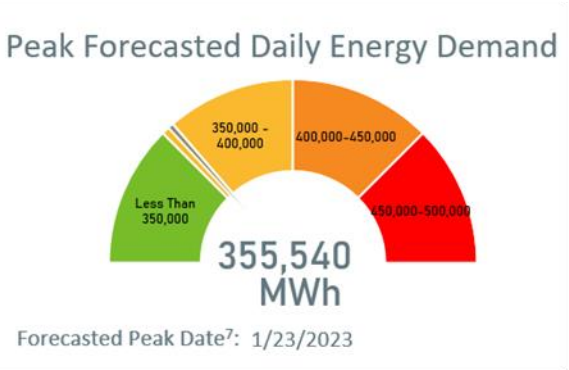
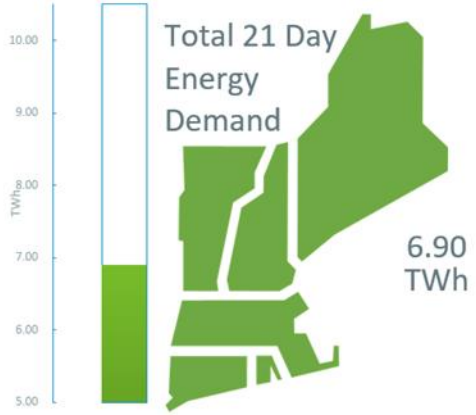
Alert Threshold	Start	Through

Emergency Threshold	Start	Through





Status Summary
Normal Conditions – No emergency actions forecasted.

21-Day Energy Assessment

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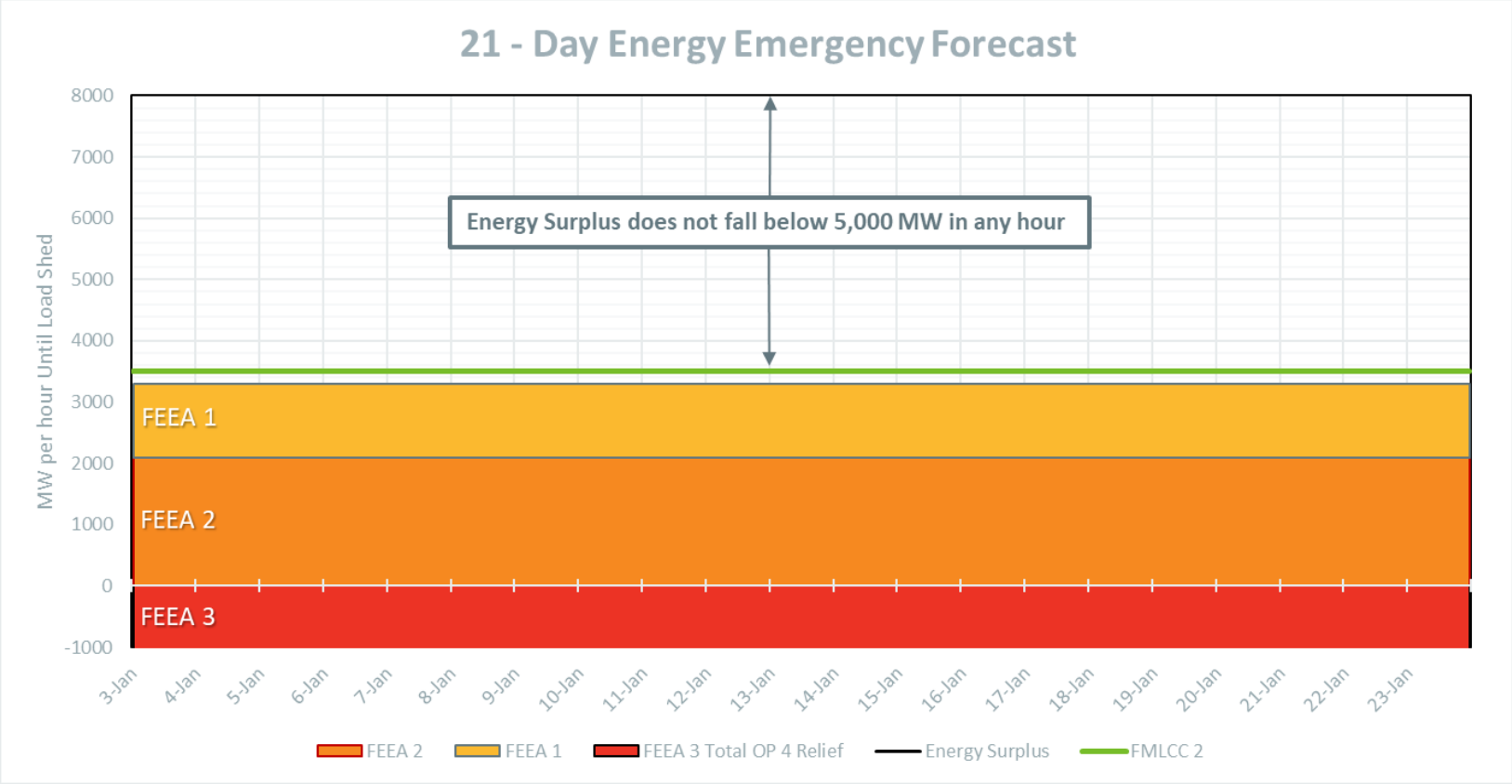
21 – Day Energy Emergency Forecast

The graph below shows the hourly energy surplus over the 21 – day forecast horizon. The black line represents the amount of energy surplus after demand has been met and reserves have been withheld. This line will not be visible on the graph unless the energy surplus falls below 5,000 MW. FEEA 1 (yellow shaded area) and FEEA 2 (orange shaded area) represent an estimated combination of load relief achieved through OP4 actions and held reserves. FEEA 3 (red shaded area) represents OP7 actions (load shed).



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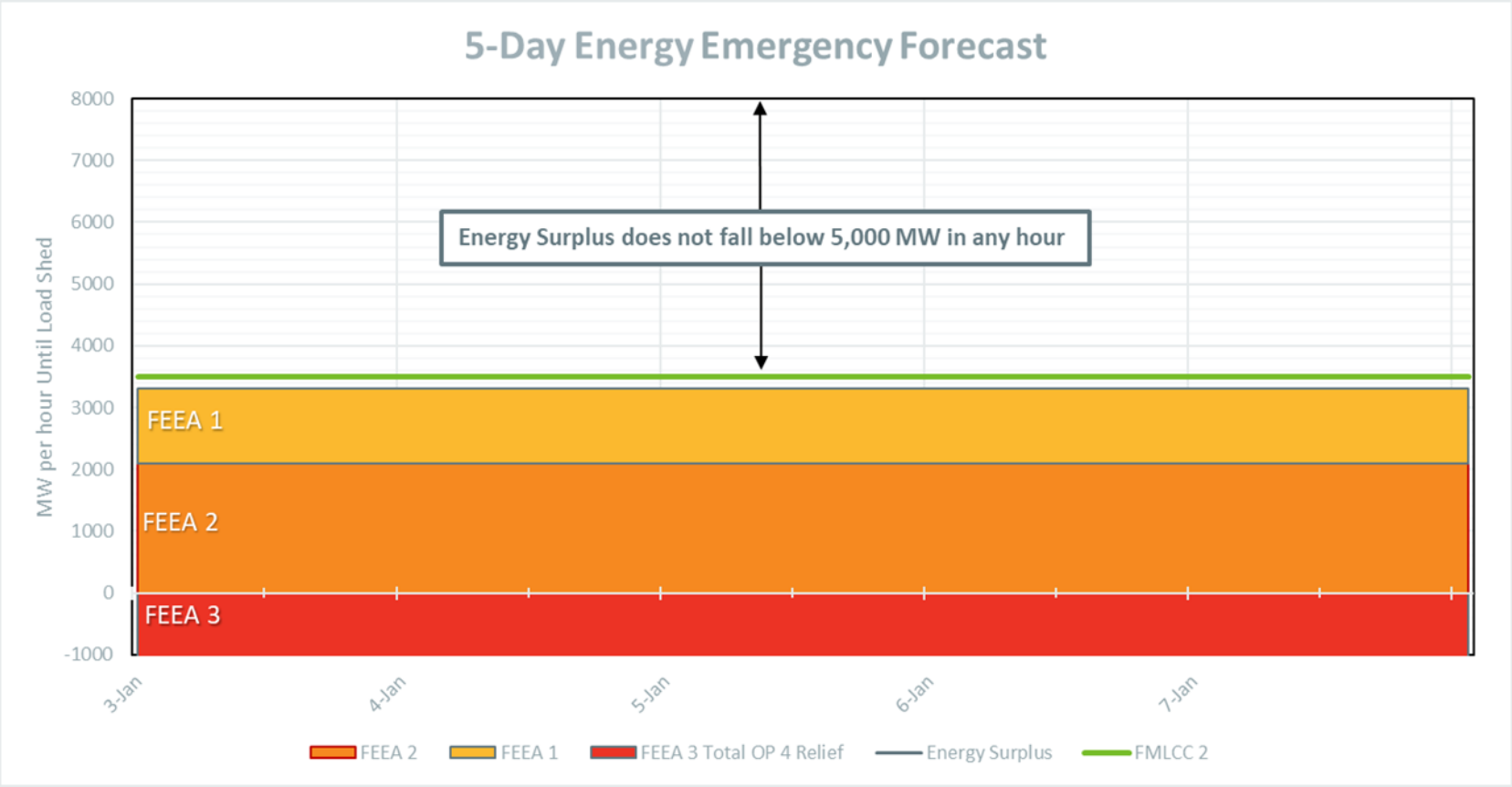
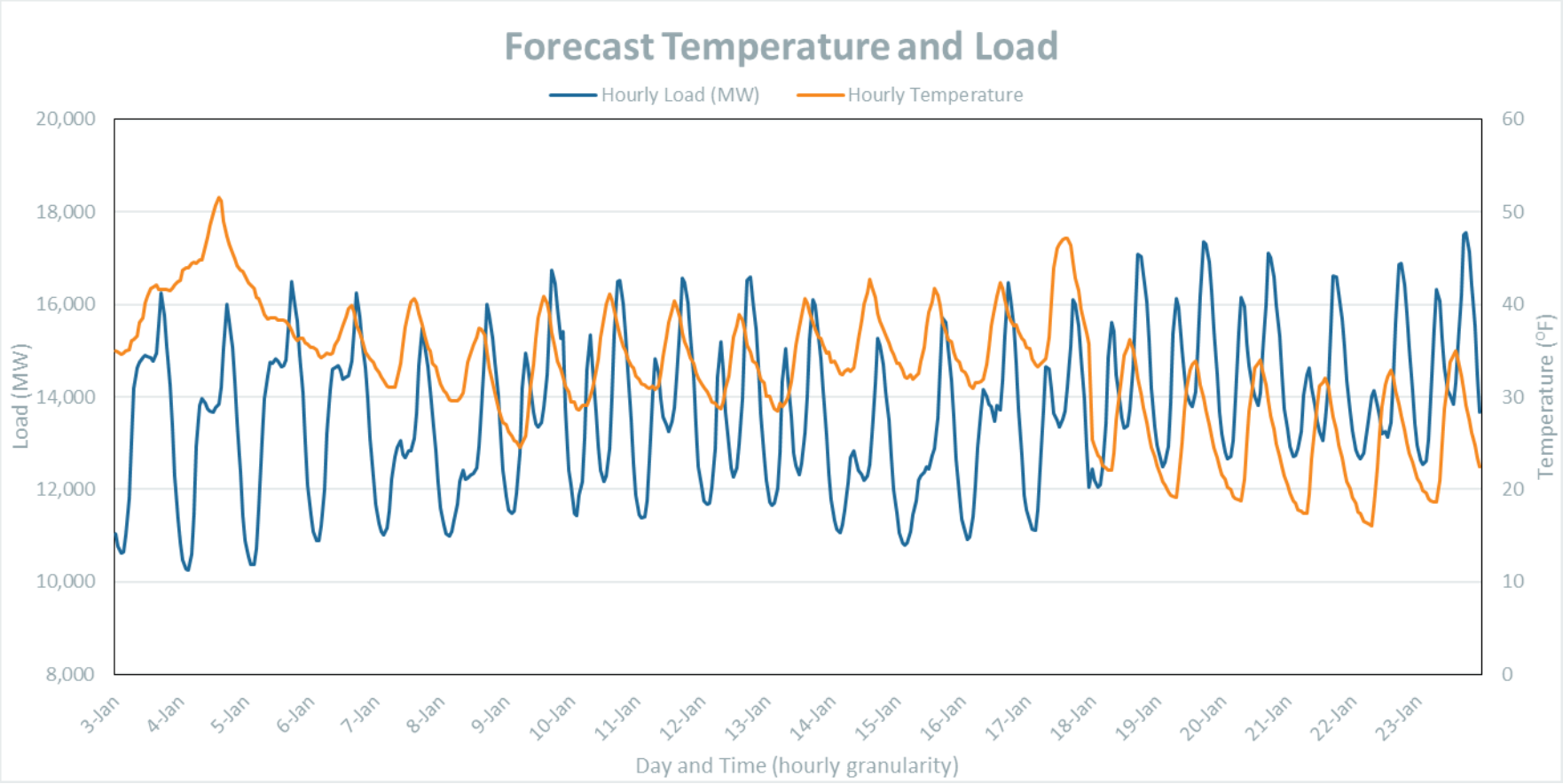
5 – Day Energy Emergency Forecast

The graph below shows the hourly energy surplus over the 5 – day forecast horizon. The black line represents the amount of energy surplus after demand has been met and reserves have been withheld. This line will not be visible on the graph unless the energy surplus falls below 5,000 MW. FEEA 1 (yellow shaded area) and FEEA 2 (orange shaded area) represent an estimated combination of load relief achieved through OP4 actions and held reserves. FEEA 3 (red shaded area) represents OP7 actions (load shed).



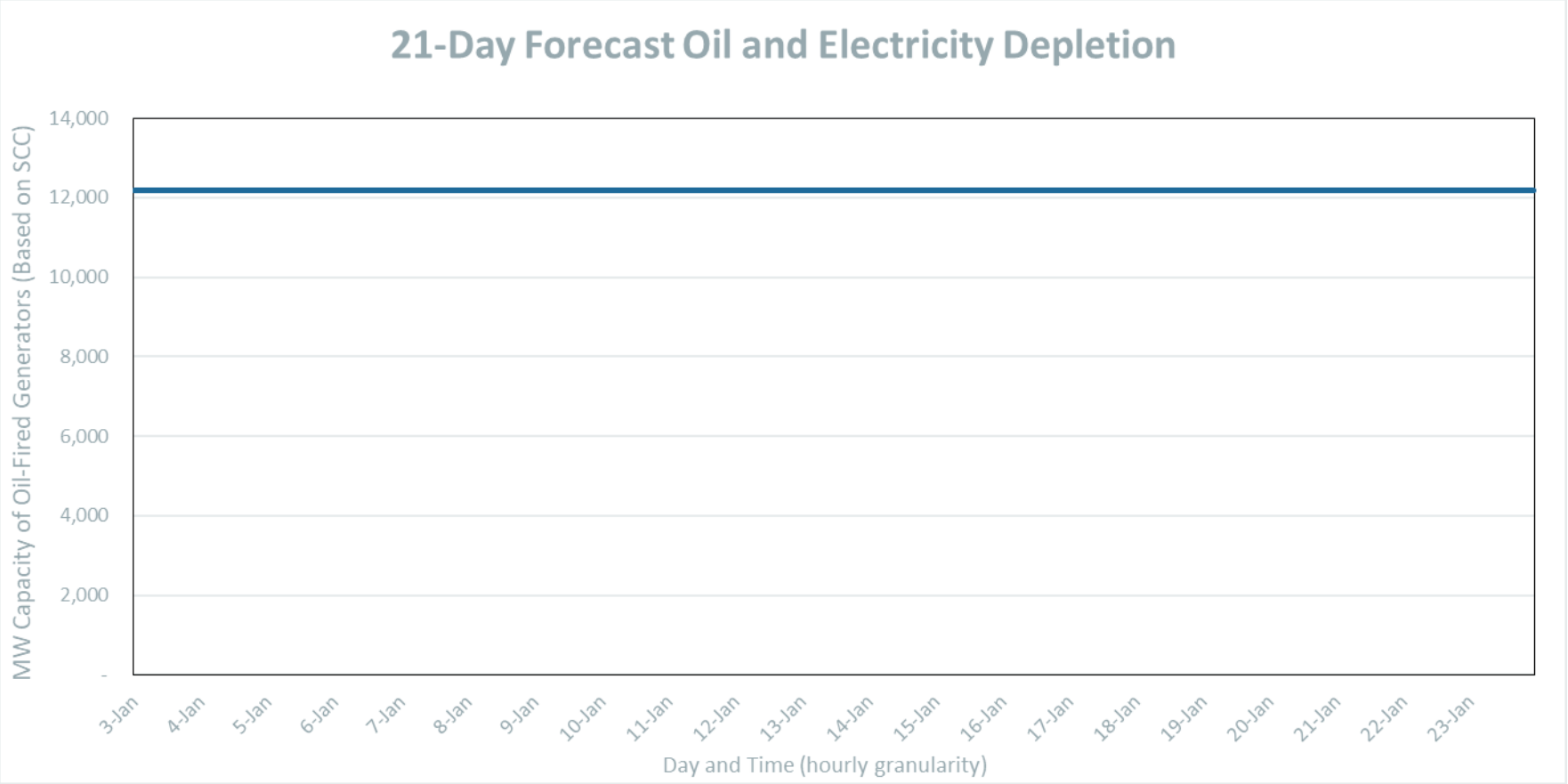
Forecast Temperature and Load

The graph below shows the 21 – day hourly load forecast (blue line using left vertical axis) and the 21 – day hourly temperature forecast (orange line using the right vertical axis).



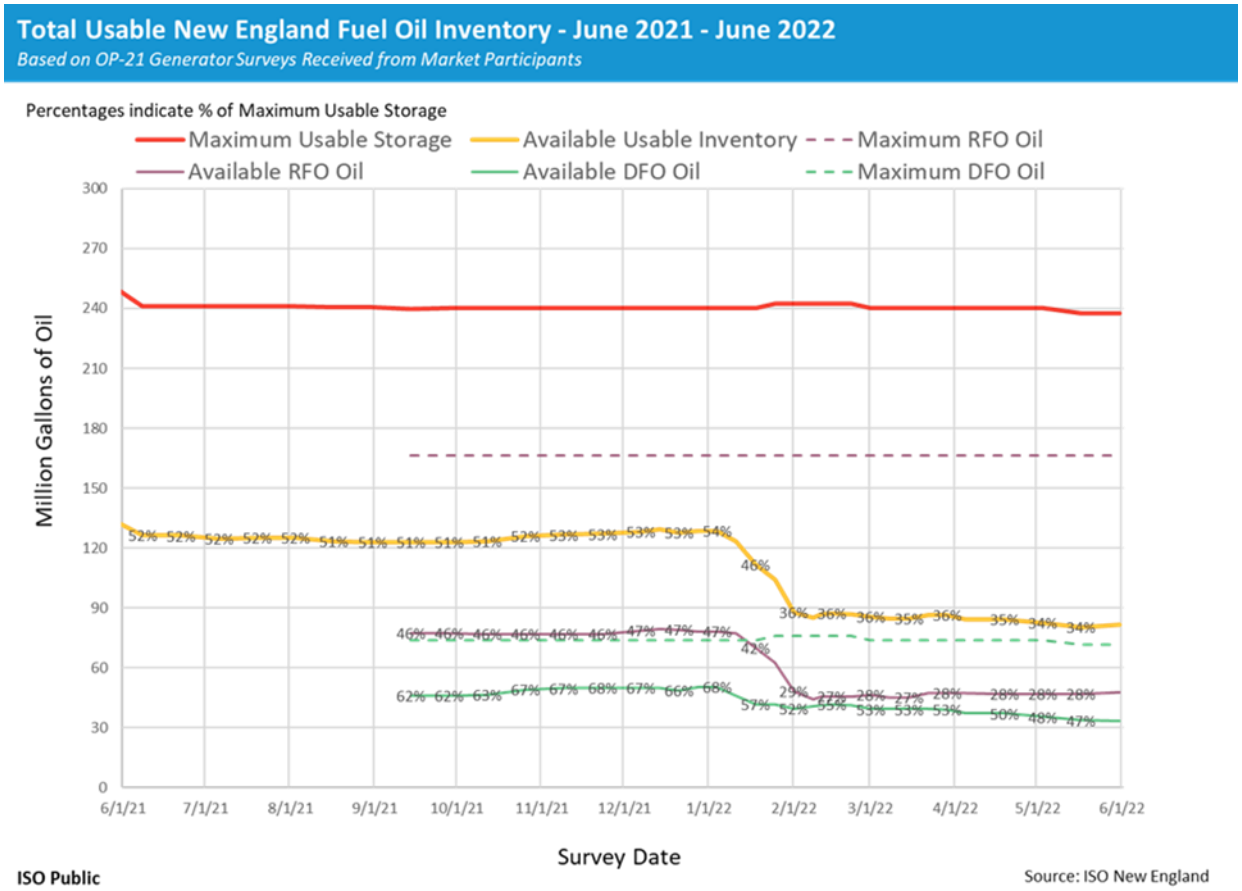
Forecast Oil and Electricity Depletion

The graph below represents the forecast depletion of available oil-fired capacity based on stored oil inventory. As a unit empties its oil tanks, its SCC is subtracted from the total available SCC.



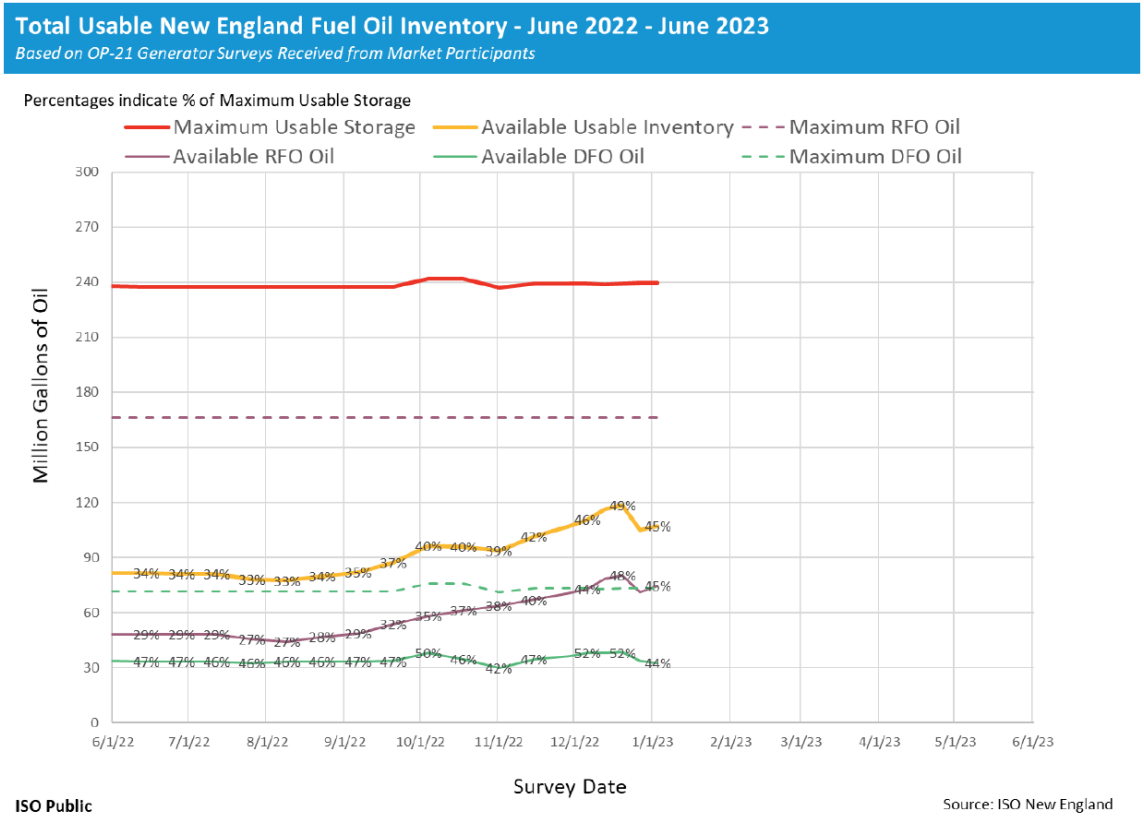
Forecast Oil and Electricity Depletion

The graph below represents the total amount of usable fuel oil, in gallons and in barrels, at all generating stations in New England which utilize oil for their primary or secondary fuel. The maximum usable fuel oil and the percentage of maximum are also shown to clearly represent the state of the New England fuel supply.



Forecast Oil and Electricity Depletion Cont.

The graph below represents the total amount of usable fuel oil, in gallons, at all generating stations in New England which utilize oil for their primary or secondary fuel. The maximum usable fuel oil and the percentage of maximum are also shown to clearly represent the state of the New England fuel supply.



*Due to the timeline associated with the Total Usable Fuel Inventory, the graph above is a continuation of the previous page.

Oil Summary

The table below indicates the volume of oil consumed since the last fuel survey was distributed.

Oil Consumption Summary – December 27th – January 2nd	
Fuel Type	**Gallons Consumed**
Residual Fuel Oil	4,581,836
Distillate Fuel Oil	3,176,719
Total Consumption	**7,758,555**

About This Report

*Expected next report publication as of the release of the current report. ISO New England may release another report sooner should system conditions require.

Glossary

Forecast MLCC 2 (FMLCC2) - indicates that available Resources during any hour of the Operating Day are forecasted to be less than 200 MW above those required to meet Operating Reserve requirements.

Forecast Energy Emergency Level 1 (FEEA 1) - indicates that available Resources during any hour of the Operating Day are forecasted to be less than those required to meet Operating Reserve requirements, and that the implementation of OP-4 Actions 1 through 5 is being forecasted.

Forecast Energy Emergency Level 2 (FEEA 2) - indicates that available Resources during any hour of the Operating Day are forecasted to be less than those required to meet Operating Reserve requirements and that the implementation of OP-4 Actions 6 through 11 is being forecasted.

Forecast Energy Emergency Level 3 (FEEA 3) - indicates that available Resources during any hour of the Operating Day are forecasted to be insufficient to serve firm load requirements, and the implementation of firm load shedding under OP-7 is being forecasted.

Energy Alert – An Energy Alert is declared when FEEA 2 or FEEA3 are forecasted to occur in at least 1 hour on 1 or more consecutive days, in days 6 through 21 of this 21 Day Energy Assessment.

Energy Emergency - An Energy Emergency is declared when FEEA 2 or FEEA3 are forecasted to occur in at least 1 hour on 1 or more consecutive days, in days 1 through 5 of this 21 Day Energy Assessment or where firm load shed under OP-7 is occurring or anticipated to occur.

Appendix A

[1] **Overall System Health** – The overall system health represents the energy surplus in New England spanning the 21 day study period. The bounds to further define this status are, 10,000 MW, 5,000 MW and 2,300 MW. As surplus decreases, the weights associated with each threshold increases.

[2] **Consumer Demand** – Consumer demand represents hourly system load spanning the 21 day study period. The bounds to further define this status are, 19,000 MW, 22,000 MW and 24,000 MW. As hourly load increases, the weights associated with each threshold also increases.

[3] **Weather** – Weather represents the daily average temperature spanning the 21 day study period. The bounds to further define this status during the summer (April – November) are 80°F, 86°F, and 90°F. During the winter (December – March) the bounds are further defined as 32°F, 18°F, and 0°F. The weights associated with each threshold adjust based on the temperature and time of year.

[4] **Outages** – Outages is representative of generation forced outages throughout the 21 day study period. The bounds are further defined using the ISO-NE Op-Cap Analysis' most restrictive *Unplanned Outage MW Allowance*. Should the total forced outages achieve or exceed the identified allowance, the weight associated with the limits increase.

[5] **Pipeline Natural Gas Supply** – Gas supply represents the natural gas availability to generators and takes the Local Distribution Company (LDC) demand into consideration and spans the 21 day study period. The bounds are further defined by the daily Heating Degree Day (HDD), and are outlined as 40 HDD, 50 HDD and 60 HDD. As the daily HDD increases, the weights associated with each threshold also increases.

[6] **Stored Fuel Inventory** – Stored fuel inventory reflects the total usable fuel inventory in New England and is inclusive of oil coal. The position of the slider reflects the current capacity in the region based on weekly generator surveys.

[7] Summer peak daily energy demand of 561,878 MWh occurred on July 22, 2011. Winter peak daily energy demand of 434,214 MWh occurred on January 24, 2011