SOP-OUTSCH.0060.0001
Perform 21-Day Energy Security Assessment

Contents

1. Objective

The objective of this procedure is to define the process for the development and reporting of the 21-Day Energy Security Analysis.

2. Background

The 21-Day Energy Security Assessment provides ISO-NE and its stakeholders with the necessary awareness to better understand energy availability based on the dispatch of Resources throughout each interval of the study period. The analysis considers various constraints that impact the availability of Resources, including planned outages, limitations of fuel inventory and replenishment mechanisms, as well as forecasted output of non-dispatchable Resources, system demand, and reserve requirements. Results of the analysis are reported in terms of the required emergency actions expected to be used throughout the study period, and are posted to the ISO-NE external website.

Definitions:

- FMLCC – 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
- FEEA1 – 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
- FEEA2 – 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
- FEEA3 - 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

3. Responsibilities

1. The Energy Security Analyst (or designee) is responsible for executing all aspects of this procedure related to energy security analysis, which includes the preparation, review and report generation of the 21-Day Energy Security Analysis.
2. The Forecaster is responsible for producing the 21-Day Load Forecast.
3. The TSO Administrator is responsible for posting the public report to the ISO-NE external website.

4. The Manager, Forecast and Scheduling (or designee) is responsible for communicating a forecasted Energy Emergency Alert or Energy Emergency Condition to ISO Vice President, System Operations & Market Administration or their designee.

4. Controls

- The Forecaster (or designee) uses the most recent 21-day weather forecast to produce a load forecast.
- The Energy Security Analyst (or designee) uses the most recently updated version of the analysis tools to perform the analysis and produce the final report.
- The Energy Security Analyst (or designee) produces a public report on the schedule specified in Operating Procedure 21 (Operational Surveys, Energy Forecasting & Reporting, and Actions During an Energy Emergency) ("OP-21")
- The TSO Administrator (or designee) publishes the results of the most recent 21-day energy security analysis to the ISO-NE external website in accordance with approved work instructions.

5. Instructions

5.1 Create Load and Temperature Forecasts

1. The on-shift Forecaster (or designee) shall generate both the load and temperature forecasts daily. The Operations Forecast Analyst (or designee) shall distribute the results of the load and weather forecasts generated as needed. The distributed data is a blend of the models previously run and requires additional steps as defined in work instructions.

5.2 Develop 21-Day Energy Security Analysis

The Energy Security Analyst (or designee) shall perform the actions of this step at the periodicity in OP-21.

1. Conduct the 21-Day Energy Security Analysis

   A. Create a folder to store all inputs for the current case. The following documents are required:
      1) 21-Day Weather Forecast generated by the Operations Forecast Analyst (or designee
      2) 21-Load Forecast generated by the Operations Forecast Analyst (or designee)
      3) 7-Day Load Forecast generated by the on-shift Forecaste
      4) The current and previous Seven-Day Wind Power Forecast, found on the ISO-NE external website Seven-Day Wind Power Forecast
      5) Generation Unit Restrictions as identified in the current Outage Scheduling Software

   B. Record variables and/or import documents into the case input file
      1) Import BTMPV current forecast
      2) Import Fuel Survey collected by the Energy Security Analyst (or designee)
      3) Identify any pipeline restrictions and update as needed
      4) Identify any reductions in net imports from adjacent areas using the Outage Scheduling Software
      5) During the winter months, review cold weather outages as noted in the current results of the Winter Readiness Survey

6) Review Day Ahead unit commitments and intended fuel burn

7) Review LNG shipping traffic

C. Run 21-Day Simulator

D. Compile and review the 21-Day Simulator results

1) Review charts, tables and datasets in the 21-Day Energy Security Assessment

2) Print the 21-Day Energy Security Assessment to PDF

2. Distribute results of the analysis to appropriate stakeholders in accordance with the periodicity specified in OP-21.

A. Internal Report

1) Distribute the Internal 21-Day Energy Emergency Forecast and Report to the defined distribution list

B. Public Report

1) Distribute the Public 21-Day Energy Emergency Forecast and Report via email

2) The report shall be posted to the ISO-NE external website by the on-shift TSO Administrator

5.3 21-Day Energy Security Results

In accordance with OP-21, one of the following conditions shall represent results of the 21-Day Energy Security Analysis: Normal, Energy Alert, or Energy Emergency.

NOTE

The decision to declare an Energy Alert will be made by the ISO Vice President, System Operations & Market Administration or their designee.

To the extent possible, Energy Alerts will be declared on a daily boundary.

1. Normal Conditions

A. Normal conditions exist at any time that neither an Energy Alert nor an Energy Emergency has been declared.

1) Reporting frequency shall follow the outlined OP-21 guidelines

a. Weekly, in the months of December through March

b. Bi-weekly, in the months of April through November

2. Energy Alert

A. An Energy Alert exists when either a Forecast Energy Emergency Alert Level 1 ("FEEA1) or a Forecast Energy Emergency Alert Level 2 ("FEEA2) take place in days 6 through 21 of the Energy Security Assessment.

1) During an Energy Alert, to the extent possible, the reasoning for the alert should be included in the results.

2) Generator Fuel and Emissions Surveys shall be distributed on a daily basis.

3) Energy Security Analysis shall be performed based on available data, which includes information obtained through the Fuel Emission Survey.

4) Results of the updated Energy Security Assessment shall be published daily on the ISO-NE external website.

3. Energy Emergency

A. An Energy Emergency exists when either a FEEA2 or FEEA3 take place in days 1 through 5 of the Energy Security Assessment, or, if shedding of firm load under OP-7 is occurring or anticipated to occur due to an actual energy deficiency.

1) During an Energy Emergency, to the extent possible, the reasoning for the emergency should be included in the results.

2) Generator Fuel and Emissions Surveys shall be distributed on a daily basis. However, frequency of surveys is subject to change due to results and system conditions.

3) Energy Security Analysis shall be performed based on available data, which includes information attained through the Fuel Emission Survey.

4) Results of the updated Energy Security Assessment shall be published on the ISO-NE external website.

6. Performance Measures

None

7. References

- ISO New England Operating Procedure No. 21 – Operational Surveys, Energy Forecasting & Reporting and Actions During an Energy Emergency
- 21-Day Fuel Security Analysis Job Aid

8. Revision History

Rev. No.	Date	Reason	Contact
0	06/01/22	Initial SOP	Thomas Knowland
1	03/01/24	Cold Weather Parameters	Thomas Knowland

9. Attachments

None.