	© ISO New England Inc. 2024	Procedure: Perform Cold Weather Condition Operations
	Process Name: Perform Reserve Adequacy Commitment	
	Procedure Number: RTMKTS.0050.0007	Revision Number: 18.1
	Procedure Owner: Thomas Knowland	Effective Date: April 4, 2024
	Approved By: Director, Operations	Valid Through: April 4, 2026


SOP-RTMKTS.0050.0007

Perform Cold Weather Condition Operations

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1. Objective

The intent of this procedure is to ensure sufficient Resources are available to meet Capacity and Reserve Requirements for an Operating Day during Cold Weather Conditions.

Cold Weather Conditions exist when the following conditions are met simultaneously

- The Effective Temperatures are forecast to be ≤ 0 F for any single on-peak hour (i.e. hour ending 8 through hour ending 23)
- That day's Total Effective Heating Degree Days are forecast to be ≥ 65


2. Background

Severe cold weather in the New England Reliability Coordinator Area/Balancing Authority Area (RCA/BAA) can create issues with Resource availability, particularly natural gas-fired Resources. When Cold Weather Conditions exist in the New England RCA/BAA, natural gas supplies can become scarce, thus limiting the number of natural gas-fired Resources available to ISO New England (ISO) to commit to meet energy, capacity and reserve requirements.

This procedure addresses the coordination between ISO and Market Participants with natural gas-fired Resources and between ISO and the regional natural gas industry. With improved communications and coordination among these entities, ISO's ability to forecast and operate during Cold Weather Conditions is greatly improved.

3. Responsibilities

1. The Manager, Forecast & Scheduling, (or designee) is responsible for communicating with regional natural gas pipeline entities and natural gas Local Distribution Companies (LDCs) to obtain necessary information.
2. The Forecaster is responsible for:
 - A. Determining if Cold Weather Conditions exist.
 - B. Determining and declaring the following statuses of Cold Weather Conditions:
 - Cold Weather Watch
 - Cold Weather Warning
 - Cold Weather Event
 - No Cold Weather Condition applies

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NOTE

Cold Weather Watch, Cold Weather Warning, and Cold Weather Events are posted to the ISO-NE website¹ by an automated process that is initiated when the pertinent log entries are made in the Control Room Event Logserver.

- C. Entering Cold Weather Watch, Cold Weather Warning, and Cold Weather Event log entries into the Control Room Event Logserver.
- 3. The Operations Shift Supervisor (or designee) is responsible for:
 - A. Notifying each Northeast Power Coordinating Council, Inc. (NPCC) Reliability Coordinator/Balancing Authority (RC/BA) of anticipated capacity deficiencies associated with a Cold Weather Event.
 - B. Notifying each Local Control Center (LCC) of the status of Cold Weather Conditions.


NOTE

An email to the “Control Rm Emergency Event Rpt” email distribution list is automatically sent following the entry into the logserver to inform ISO staff of Cold Weather Conditions.

4. Controls

None.

¹ <https://www.iso-ne.com/markets-operations/system-forecast-status/seven-day-capacity-forecast/>

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5. Instructions

5.1 Determine Cold Weather Event Status

5.1.1 Determine Cold Weather Temperatures

NOTE

The forecasted temperatures for New England will be the weighted average temperature throughout the New England RCA/BAA as described in SOP-OUTSCH.0040.0010 - Create Demand Forecast.

1. Each day, the Forecaster shall determine, for the next six days, the forecasted temperatures (Effective Temperature and Effective Heating Degree Days) for the New England RCA/BAA using the temperature information obtained in SOP- OUTSCH.0040.0010 - Create Demand Forecast.
2. The Forecaster shall declare Cold Weather Conditions when, for any calendar day, both of the following conditions are met simultaneously:

NOTE

Effective Temperature =
Dry bulb temperature - [windspeed X (65- dry bulb temp) / 100]

Effective Heating Degree Days =
68 - (average of max and min Effective Temperature of the day)


- The Effective Temperatures are forecast to be ≤ 0 F for any single on-peak hour (i.e. hour ending 8 through hour ending 23)
 - That day's Total Effective Heating Degree Days are forecast to be ≥ 65
3. Whenever Cold Weather Conditions are forecasted, the Forecaster shall perform the temperature analysis on a daily basis and shall update the status of Cold Weather Conditions.

5.1.2 Determine Status of Cold Weather Conditions


NOTE

Due to the uncertainty of long-range weather forecasting, ISO will only declare a Cold Weather Watch, Cold Weather Warning, or a Cold Weather Event for Day 2 or Day 3 of the Seven Day Forecast. Day 1 is **not** part of the Seven Day Forecast.

1. If Cold Weather Conditions exist, the Forecaster shall determine the need to declare a Cold Weather Watch, a Cold Weather Warning or a Cold Weather Event.

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2. Prior to declaring a Cold Weather Watch, Cold Weather Warning or Cold Weather Event, the Forecaster shall obtain approval from the Manager, Forecast & Scheduling.
3. The Forecaster shall use the Capacity Margin determined in SOP-OUTSCH.0040.0020 - Create Seven-Day Capacity Margin Forecast.
4. If Cold Weather Conditions are forecast to exist and the 7-Day Capacity Margin Forecast indicates a Capacity Margin greater than or equal to 1,000 MW, the Forecaster shall declare a Cold Weather Watch for that day(s) and proceed to Section 5.2.
5. If Cold Weather Conditions are forecast to exist and the 7-Day Capacity Margin Forecast indicates a Capacity Margin less than 1,000 MW, the Forecaster shall declare a Cold Weather Warning for that day (unless the day has already been declared a Cold Weather Event day) and proceed to Section 5.3.
6. If Cold Weather Conditions are forecast to exist and the 7-Day Capacity Margin Forecast indicates a Capacity Margin less than or equal to 0 MW two (2) days prior to the Operating Day, the Forecaster shall declare a Cold Weather Event for the Operating Day in accordance with Section 5.4.
7. If a Cold Weather Watch, Cold Weather Warning or Cold Weather Event has been declared, evaluate status each day until **no** Cold Weather Conditions apply:
 - A. The Forecaster shall review and update the Cold Weather Watch, Cold Weather Warning or Cold Weather Event by comparing the temperatures and Capacity Margins for the designated day(s), using the following information below and that gathered in Section 5.1.1 above:
 - (1) Information from regional natural gas pipeline/LDC notices, bulletins, or direct communication with gas control and communication from individual natural gas-fired Resources in determining the Capacity Margin.
 - (2) Information on which dual-fuel Generators have switched from natural gas to a secondary fuel source.


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NOTE

The term “Redeclaration” is defined in ISO New England Manual for Definitions and Abbreviations Manual M-35 (Manual 35) as “A restatement of a resource’s availability, limits, or other Offer data except price, submitted by a Market Participant to the ISO to reflect a change in the status or capability of the resource or changed by the ISO based upon the resource’s actual performance”.

The term Redeclaration and/or abbreviated forms of this term (e.g., Redec, Redeced, Redeclare, etc.) are used in this SOP.

- B. The Forecaster shall **not** Redeclare any Resource operating limits based on the information gathered in Section 5.1.2.6.A (above) unless requested by the Resource Designated Entity.
- C. If conditions warrant, the Forecaster shall upgrade, reaffirm or cancel the condition as necessary and proceed to the appropriate section for actions.

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5.2 Perform Actions during a Cold Weather Watch

NOTE


A Cold Weather Watch will exist when Cold Weather Conditions are forecast to exist and the 7-Day Capacity Margin Forecast indicates a Capacity Margin greater than or equal to 1,000 MW.

1. The Operations Shift Supervisor (or designee) shall notify each LCC that a Cold Weather Watch has been declared.

NOTE

The “Control Rm Emergency Event Rpt” email distribution list is used to inform the ISO staff of the Cold Weather Watch.

2. The Forecaster shall enter a separate “Cold Weather Watch” log entry in the Control Room Event Logserver for each date that the Cold Weather Watch is declared. The details of the log entry shall be fully completed within five minutes of entry creation.

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5.3 Perform Actions during a Cold Weather Warning

NOTE


Declaring a Cold Weather Warning is required when Cold Weather Conditions are forecast to exist and the 7-Day Capacity Margin Forecast for Day 2 or Day 3 indicates a Capacity Margin less than 1,000 MW.

- The Operations Shift Supervisor (or designee) shall notify each LCC that a Cold Weather Warning has been declared.

NOTE

The “Control Rm Emergency Event Rpt” email distribution list is used to inform the ISO staff that a Cold Weather Warning has been declared.

- The Forecaster shall enter a separate “Cold Weather Warning” log entry in the Control Room Event Logserver for each date that the Cold Weather Warning is declared. The details of the log entry shall be fully completed within five minutes of entry creation.
- The Forecaster shall request all (permits allowing) dual-fuel Generators (primary fuel: natural gas) to take necessary steps to prepare to voluntarily switch to operation on the fuel source that is not in short supply in anticipation of Cold Weather Event day(s) being declared.

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5.4 Perform Actions during a Cold Weather Event

NOTE

Declaring a Cold Weather Event is required when Cold Weather Conditions exist and the 7-Day Capacity Margin Forecast for Day 2 or Day 3 indicates a Capacity Margin less than or equal to 0 MW for an Operating Day.

NOTE


State Regulators, the Electric/Gas Operations Committee (EGOC), members of the Markets, Reliability and Participants Committees, Load Response Market Participants, Lead Participants and Designated Entities are notified when a Cold Weather Event Notice is posted to the ISO external website.

1. The Operations Shift Supervisor (or designee) shall notify each NPCC RC/BA that a Cold Weather Event has been declared and that potential capacity shortages may exist.
2. The Operations Shift Supervisor (or designee) shall notify each LCC that a Cold Weather Event has been declared.

NOTE

The “Control Rm Emergency Event Rpt” email distribution list is used to inform the ISO staff of the Cold Weather Event.

3. The Manager, Forecast & Scheduling shall consult with the Operations Shift Supervisor and Manager, Control Room Operations to establish a time to implement Master/Local Control Center Procedure No. 2 - Abnormal Conditions Alert (M/LCC 2) per CROP.25011 Implement Operations During Abnormal Conditions.
4. The Forecaster shall enter a separate “Cold Weather Event Declared” log entry in the Control Room Event Logserver. The details of the log entry shall be fully completed within five minutes of entry creation.
5. The Forecaster shall request all permitted and equipped dual-fuel Generators (primary fuel: natural gas) to voluntarily switch to operation on the fuel source that is not in short supply.
6. The Tariffs, Schedules and OASIS (TSO) Administrator shall follow-up with communications to verify if dual-fuel Generators have switched or are planning to switch to secondary fuel.
7. When the Cold Weather Event has been cancelled, the Forecaster shall enter a “Cold Weather Event Cancelled” log entry in the Control Room Event Logserver.

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6. Performance Measures

None.

7. References

ISO New England - ISO New England Inc. Transmission, Markets, and Services Tariff, Attachment D - ISO New England Information Policy

ISO New England Operating Procedure No. 4 - Action During a Capacity Deficiency (OP-4)

ISO New England Operating Procedure No. 7 - Action in an Emergency (OP-7)

ISO New England Operating Procedure No. 21 – Operational Surveys, Energy Forecasting & Reporting and Actions During An Energy Emergency (OP-21), Appendix B - Electric/Gas Operations Committee’s (EGOC) Operations Communications Protocol (App B)


Master/Local Control Center Procedure No. 2 - Abnormal Conditions Alert (M/LCC 2)

SOP-OUTSCH.0040.0010 - Create Demand Forecast

SOP-OUTSCH.0040.0020 - Create Seven-Day Capacity Margin Forecast


SOP-RTMKTS.0050.0011 - Perform Electric Gas Coordination

CROP.25011 Implement Operations During Abnormal Conditions

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8. Revision History

Rev. No.	Date	Reason	Contact
--	09/24/14	For previous revision history, refer to Rev 14 available through Ask ISO	Thomas Knowland
14.1	09/24/14	Periodic review performed requiring no changes; Made required administrative changes to publish Minor Revision;	William Callan
15	09/22/16	Biennial review by procedure owner; Added required corporate document identity to all Footers; Section 2 modified 1 st paragraph; Section 3, replaced NOTE prior to step 3.2.C and step 3.2.C and modified NOTE prior to step 3.3.C; Section 5.2, Modified NOTE prior to step 5.2.3 and step 5.2.3, added new step 5.2.4; Section 5.3, Modified the NOTE prior to step 5.3.1, the NOTE prior to step 5.3.3 and step 5.3.3, added new step 5.3.4; Section 5.4, Modified the NOTE prior to step 5.4.1 and the NOTE prior to step 5.4.4, added new steps 5.4.6 and 5.4.9; Section 7 replace SOP-RTMKTS.0120.0010 with CROP 25011, deleted OP-8, SOP-RTMKTS.0050.0005 and SOP-RTMKTS.0050.0010, (none are referred to in this SOP) ; Truncated Revision History per SOP-RTMKTS.0210.0010 Section 5.6; Retired Attachment A, entire document contents now located in OP-21 App B;	Thomas Knowland
16	06/01/18	Biennial review by procedure owner; Global changes for PRD. “Generator” to “Resource”, etc.; 5.1.1: moved all Electric Gas coordination actions to new SOP; 5.1.2.NOTE: added note regarding notices beyond Day 3; 5.1.2.6.B, added NOTE defining “Redeclare”; 5.3.1 st NOTE: changed to reflect cold weather notices beyond day 3; 5.3.2 nd NOTE: removed reference to Load Response Market; 5.4.NOTE: changed to reflect cold weather notices beyond Day 3; References: added RTMKTS.0050.0011 - Perform Electric Gas Coordination	Thomas Knowland
17	05/31/19	3.2.NOTE: Changed website address to the specific location of the seven-day forecast and moved it to be a footnote; Removed references to the Emergency Notification System in the following paragraphs: 3.3, 5.2, 5.3, and 5.4 Modified NOTE prior to step 5.1.2.7.B to update the definition of “Redeclaration” to be consistent with a Manual 35 change (i.e., that add the term “...or, Demand Reduction Offer...”); Added clarification on the timeliness of log entry initiation to completion times in 5.2, 5.3, and 5.4;	Thomas Knowland
17.1	04/13/20	Periodic review performed requiring no changes; Made required administrative changes to publish Minor Revision;	Thomas Knowland


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Rev. No.	Date	Reason	Contact
18	04/05/22	Section 2: added 'energy' to background; 5.1.1.note: reworded for clarity; 5.1.1.2: defined on-peak hours as HE08 to HE23; 5.2.1.7.A.1: added communication with gas control; 5.3.4: reworded for consistency with OP-21; 5.3.5: reworded for consistency with OP-21	Thomas Knowland
18.1	04/04/24	Biennial review performed requiring no changes; Made required administrative changes to publish a Minor Revision.	Thomas Knowland

9. Attachments

Attachment A- Retired (09/22/16)

Attachment B - Retired (09/27/10)

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