MAY 28, 2025 | WEBEX

ISO New England Overview of Emergency Procedures and Communications Processes

Briefing for Government and Corporate Communications Contacts from New England's Local Control Centers and Transmission Companies

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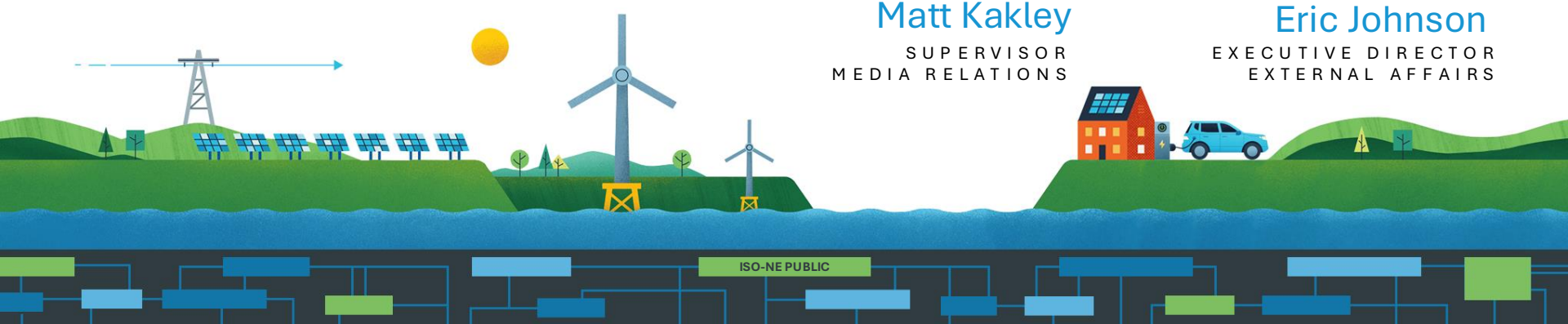


Technical Instructions for Today's WebEx

- All attendee lines are muted
- If you are experiencing technical issues or have a question to submit, send it via **Chat** to the **host**
- Questions will be addressed throughout the meeting

Outline of Presentation and Discussion

Key Takeaways

Summer Briefing 2025

- ISO-NE anticipates **adequate energy supply** to meet demand during a **warmer than normal summer**
  - Several concurrent days of hot and humid weather, loss of generation or other factors could cause periods of tight supply margins
  - If this happens, ISO New England will take steps to manage New England's electricity supply and demand and maintain power system reliability

Key Takeaways

Summer Briefing 2025

- New England is expected to have adequate resources to meet peak summer demand
  - Peak demand for normal summer weather: **24,803 MW**
  - Peak demand for warmer-than normal summer weather: **25,886 MW**
- New England has approximately **29,000 MW** of total capacity available this summer
  - Almost **1,750 MW** of peak reduction from behind-the-meter solar PV
- Instead of a mid-afternoon peak, as was common during summers before widespread solar panel installations, grid demand now peaks in the **early evening**
  - Approximately **7,800 MW** of BTM PV which effectively pushes the peak hour of grid demand later in the day, when the sun is lower in the sky and production from solar PV systems is reduced

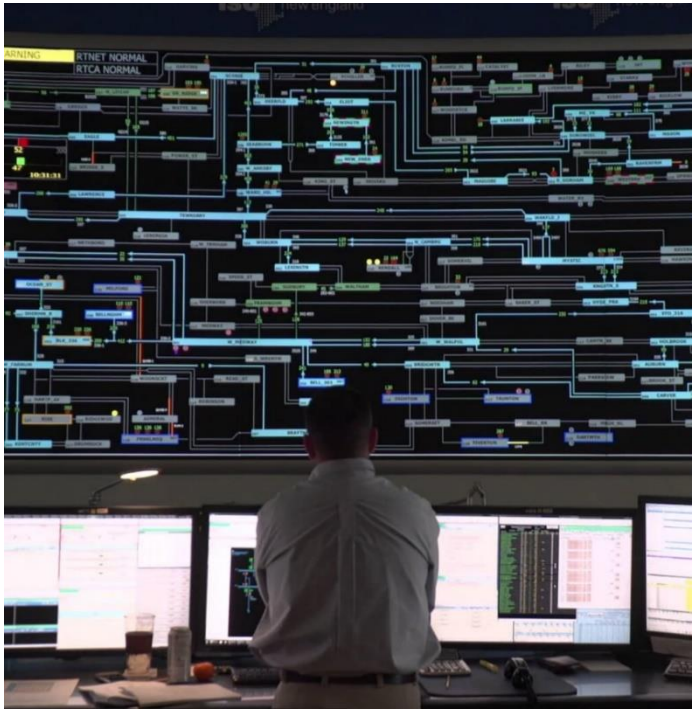
Summer Outlook Press Release: https://www.iso-ne.com/about/news-media/press-releases/

ISO NEW ENGLAND 2025 SUMMER OUTLOOK AND PREPARATIONS

One Goal Lies at the Heart of ISO New England's Mission: *Reliability*

ISO New England is:

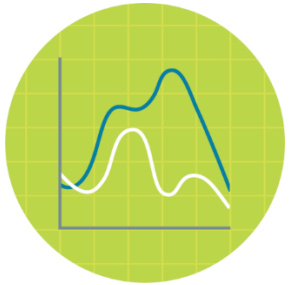
- **Regulated** by the Federal Energy Regulatory Commission (FERC)
- **Reliability Coordinator** for New England under the North American Electric Reliability Corporation (NERC)
- **Independent** of companies in the marketplace and **neutral** on technology



ISO-NE Is a Summer-Peaking System

- New England shifted from a winter-peaking system to a summer-peaking system in the early 1990s, largely due to the expansion of air conditioning and a decline in electric heating
  - Peak demand on a normal summer day typically ranges from 17,500 MW to 22,000 MW
  - Summer demand usually peaks on the hottest and **most humid** days
  - Region's all-time peak demand was **28,130 MW** on **Aug. 2, 2006**

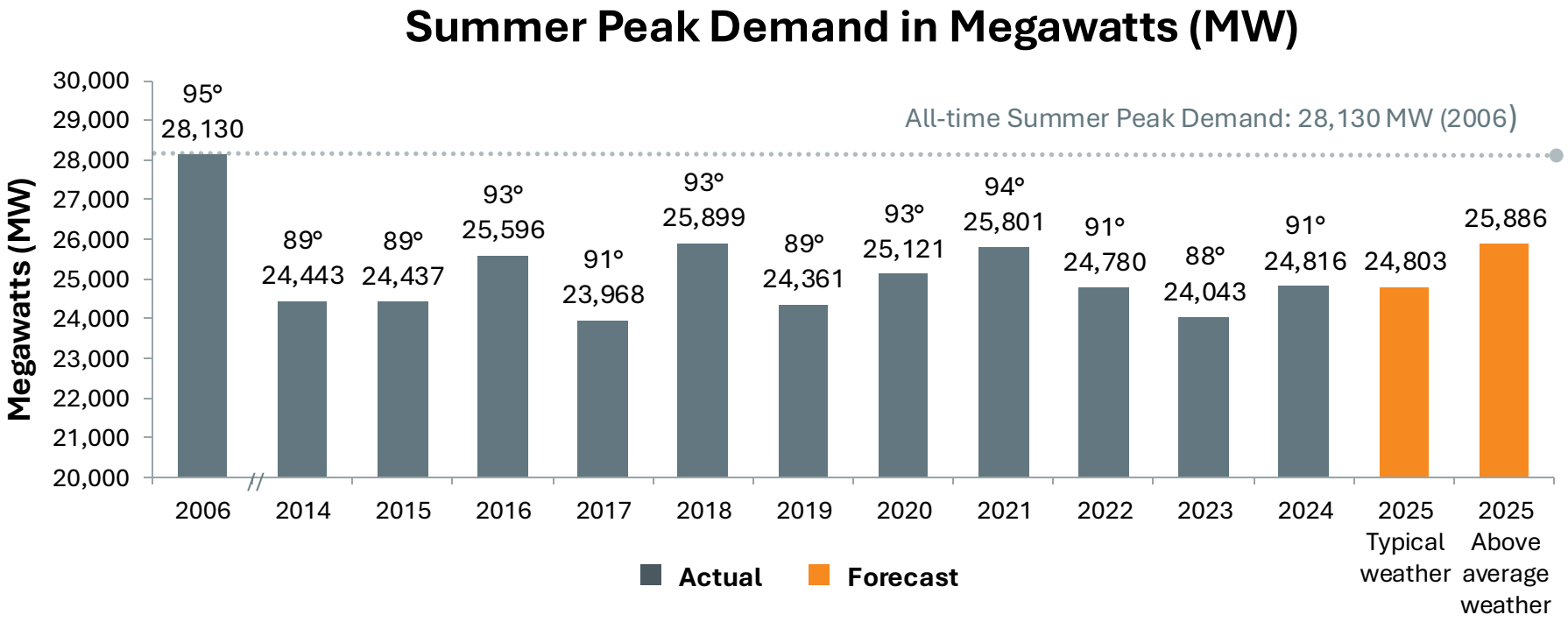
Preparations for Summer Peak Demand



- New England's peak summer demand period runs from **June 1** through **Sept. 30**
- In preparation for the summer, ISO New England will:
  - Forecast New England's demand for electricity and reserves
  - Evaluate the region's summer capacity outlook
  - Exercise the communications plan
- The ISO prepares **short-term forecasts** for the summer and winter seasons, taking into account estimated supplies for all resources; unplanned resource outages; imports from neighboring regions; resource retirements; and delays in commissioning new resources
- The purpose of the communications plan is to provide **timely**, **complete**, and **consistent** updates to key stakeholders on power system conditions

Weather Drives Summer Peak Demand

Historical and Projected Peak Demand in New England



Sources: ISO-NE Seasonal Peaks Since 1980, Net Energy And Peak Load Report, 2025 CELT Forecast

*Temperature is dry-bulb temperature in degrees Fahrenheit based on weighted average of eight New England weather stations.

COMMUNICATIONS OVERVIEW

The ISO Provides Information about Power System Emergencies to Various Stakeholders

- **External Affairs notifies:**
  - Governors' offices
  - State and federal regulators and staff
  - Emergency management agencies
  - Reliability councils
- **Corporate Communications notifies:**
  - Communication contacts from utilities
  - Public via the media and other channels

- **Control Room notifies:**
  - Local Control Centers
  - Generation station designated entities
  - Demand designated entities
- **Participant Support notifies:**
  - Market participants

ISO New England Communications with Government Officials & Utility Communications Contacts During Power System Emergencies

Who: **ISO-NE** External Affairs conducts outreach to 100+ **Government Contacts** at state and federal offices and agencies and reliability organizations, and to dozens of utility communications contacts

What: **Communications are triggered by ISO procedures** that require notifications to emergency contacts and/or appeals to the public for conservation

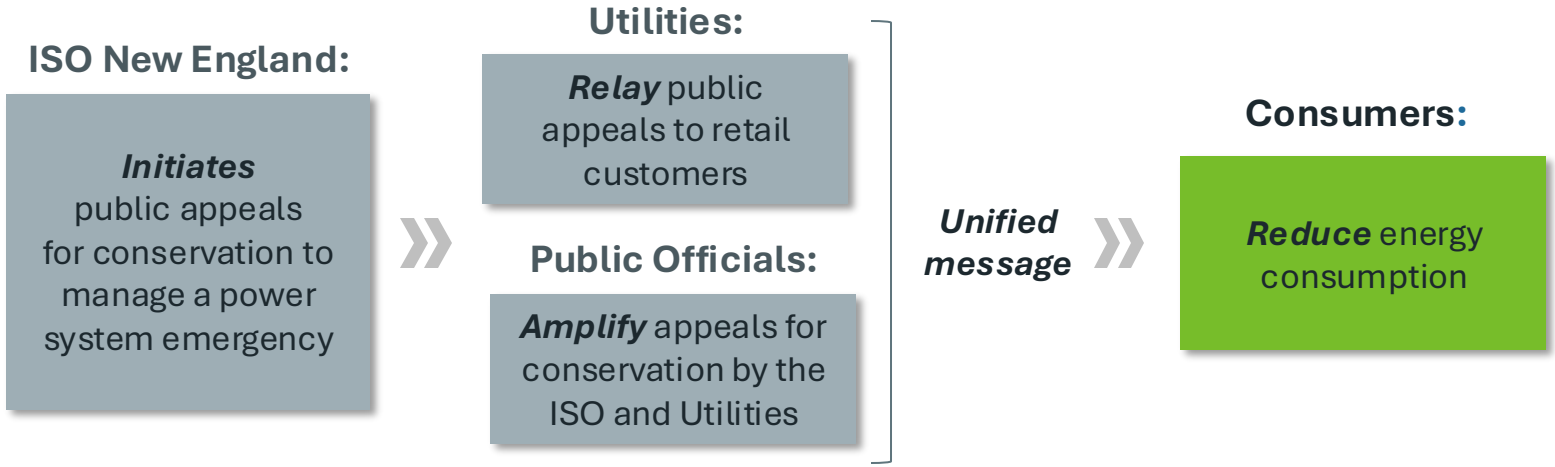
When:
- ISO implements **OP-4** or **OP-7** actions, or
- ISO declares an **Energy Alert** or **Energy Emergency** in the 21-day forecast, or
- During any other emergency affecting the reliability of the bulk power system

How: Automated alerts to emergency contacts via **phone**, **email and text message,** and **conference calls** to provide real-time updates on power system conditions; public updates via ISO website, Newswire, ISO to Go mobile app, X/Twitter and BlueSky

Why: To provide emergency contacts with **timely information** about system conditions

Under the ISO Information Policy, we will share system-level information during emergency communications; however, we will not release unit-specific information

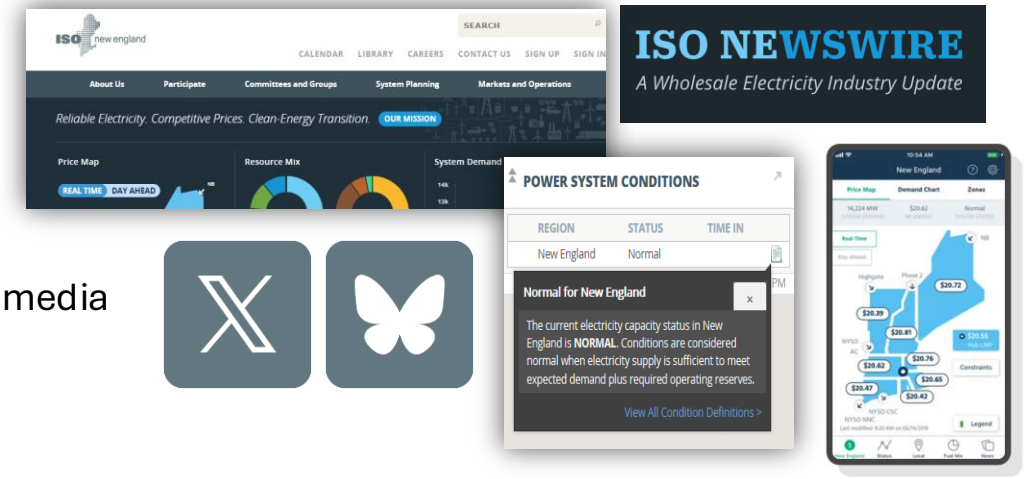
What Roles Do Public Officials and Consumers Play When Conservation Is Needed During a Power System Emergency?



Bottom line: Consumers can lessen the *depth* and *duration* of emergency actions by reducing their energy use – such as by *turning off* non-essential lighting, *adjusting* thermostat settings, and *turning off* and *unplugging* all non-essential electronic devices.

Digital and Social Media Communications Provide Real Time System Updates

- Visit ISO-NE homepage
- Visit *ISO Newswire* blog
- Visit ISO Express dashboard
- Follow @isonewengland on social media
- Download the ISO to Go App

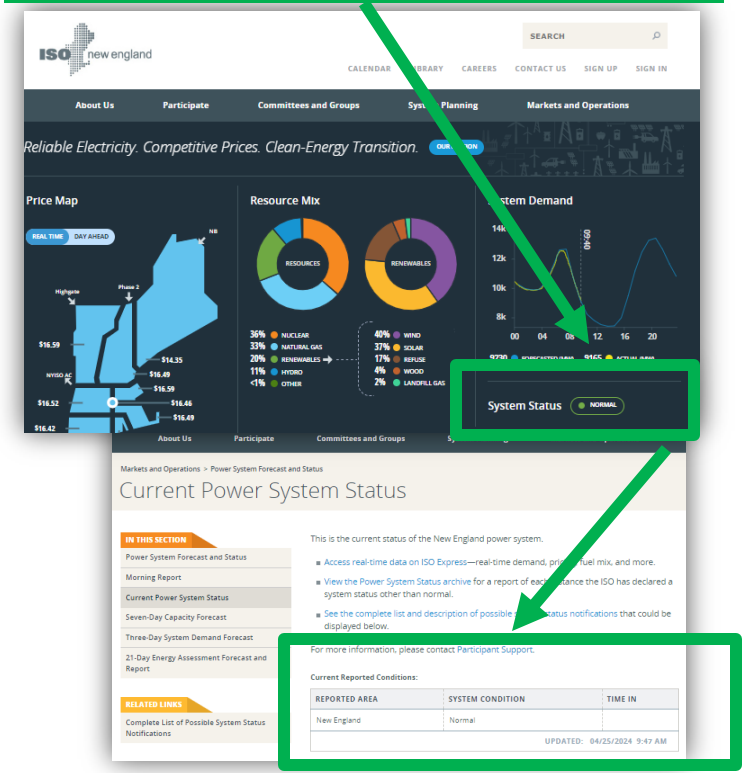


ISOAlert Enables Region-wide Quick Communication with Emergency Contacts

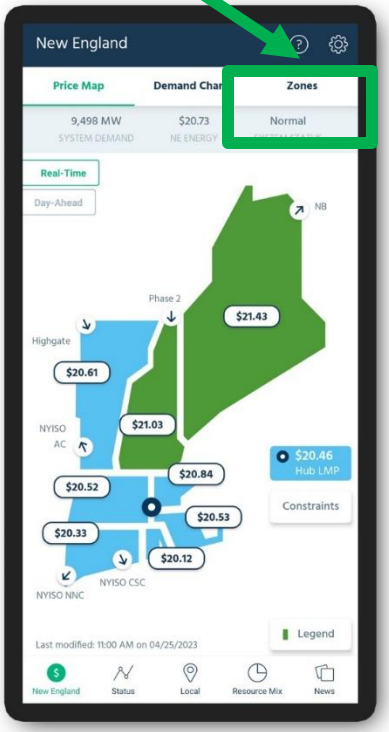
- *ISOAlert* tool triggers an automated email, phone call, and/or text message to all government and utility communications contacts
- Allows ISO-NE to communicate updates on system conditions, schedule briefings, and convene conference calls

Two Easy Ways to View Power Systems Conditions

Website Home Page



ISO to Go Mobile App



OPERATIONS OVERVIEW

Relevant ISO New England Operating Procedures

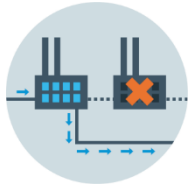
Abnormal Conditions Alert M/LCC 2

Action During a Capacity Deficiency (OP-4)

Action in an Emergency (OP-7)

Additional information can be found in the appendix

Reserve Requirements



- ISO New England carries operating reserves to maintain **reliable** power system operations in the event of a contingency on the system*
  - **Ten-Minute Reserve Requirement**
    - ISO maintains Ten-Minute Reserves adequate to recover from the loss of 120% of the largest source of supply
      - Normally 1,560 MW to 2,250 MW
  - **Thirty-Minute Reserve Requirement**
    - ISO maintains Thirty-Minute Reserves adequate to recover from the loss of 50% of the second largest source of supply
      - Normally 625 MW
- A contingency is an **unplanned disconnection** of a power system element, such as a transmission facility or a generator

* Governed by Northeast Power Coordinating Council (NPCC) requirements and ISO New England procedures

ABNORMAL CONDITIONS ALERT

Master/Local Control Center Procedure No. 2 (M/LCC 2)

Link: https://www.iso-ne.com/participate/rules-procedures/master-lcc-procedures

M/LCC 2 – Abnormal Conditions Alert

- What is an abnormal condition on the bulk power system?
  - Forecasted or actual deficiency of operating reserves requiring implementation of OP-4 and/or OP-7
  - Low transmission voltages and/or low reactive reserves
  - Inability to provide first contingency protection when an undesirable post-contingency condition might result (e.g., load shedding)
  - Geomagnetic Disturbance (GMD)
  - Cold Weather Event is declared
  - Operational staffing shortage impacting normal power system operations within New England
  - Any other credible threat to power system reliability and integrity (e.g., terrorism, sabotage, storms)

M/LCC 2 – Abnormal Conditions Alert, *continued*

- The purpose of M/LCC 2:
  - Alerts power system personnel and market participants of abnormal system conditions
  - Outlines steps to be taken, including:
    - Cancellation of maintenance on power system resources
    - Delineates which outages can and cannot be allowed
- M/LCC 2 may be issued systemwide or locally
- M/LCC 2 may be skipped – the ISO may move straight into OP-4 and/or OP-7, if necessary
- Typically, EA does not send M/LCC 2 notices to OP-4 contacts

ACTION DURING A CAPACITY DEFICIENCY

Operating Procedure No. 4 (OP-4)

Link: https://www.iso-ne.com/participate/rules-procedures/operating-procedures

OP-4 Is Implemented When One or More of the Following Occur:

- **Demand + reserves** cannot be met with available resources
- **Contingencies** (1 or more) result in an immediate deficiency in available capacity
- **Transmission** facilities in a subarea are loaded beyond established transfer limits
- **Manual load shedding** (OP-7) is needed, but OP-4 actions could avoid or reduce that need
- **Abnormal voltage** and/or **reactive conditions** in a subarea
- **To assist other NPCC control areas** that are experiencing a capacity deficiency (would reduce our reserves below required margin)
- **Other serious threat** to the bulk power system for which the ISO determines this procedure would mitigate the impact

Key Takeaways: OP-4 Implementation

11 actions can be implemented…

…to cover the **affected area**:

- New England-wide
- State(s)
- LCC(s), or
- A specific area

…in any **order**

…or, **skipped** if emergency actions are needed…

…and declaration of any OP-4 actions **trigger notifications** on website and mobile app

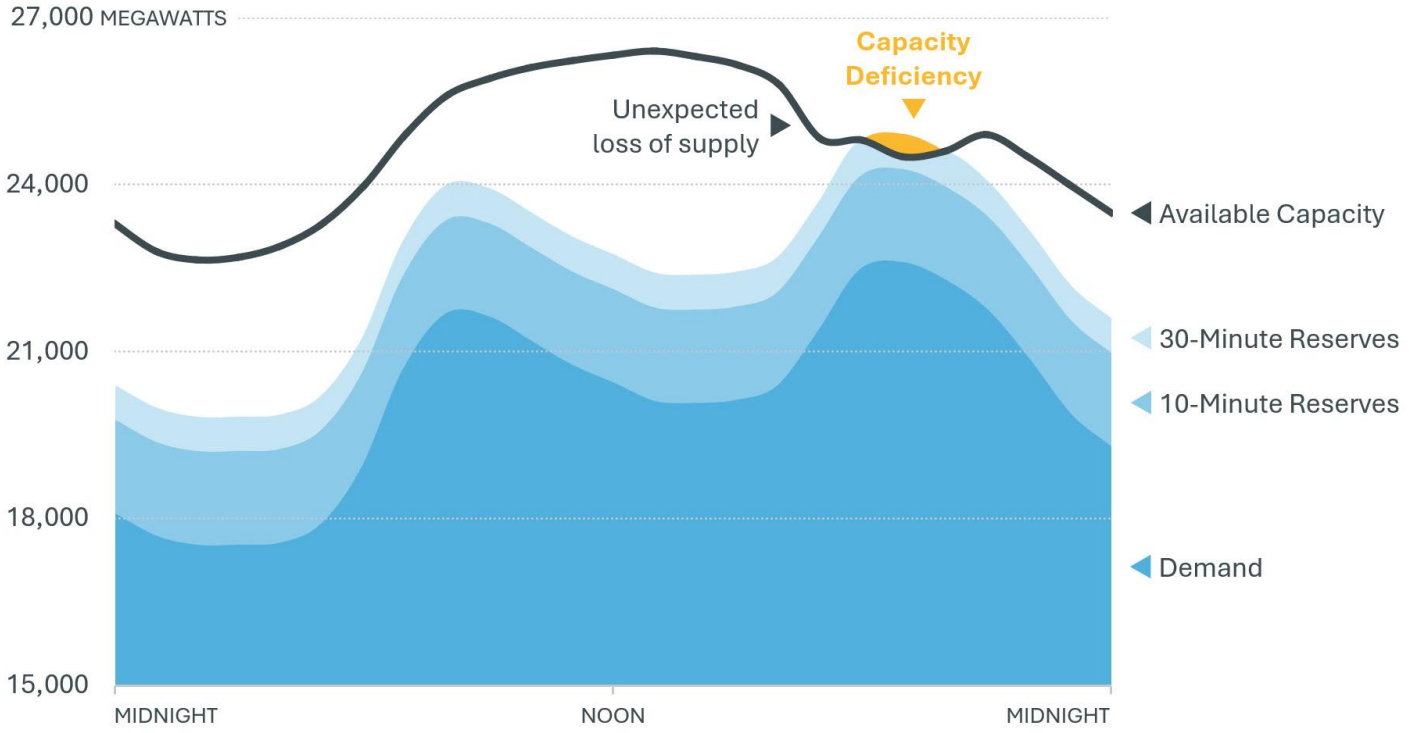
The ISO Uses OP-4 Actions to Increase Supply or Reduce Demand to Maintain Operating Reserves

1. Implement **Power Caution** and begin to allow depletion of 30-minute reserves
2. Declare Energy Emergency Alert (EEA) Level 1**
3. Request voluntary load curtailment of market participants' facilities
4. Implement **Power Watch**, a notification that additional OP 4 Actions may be taken; if conditions warrant, issue a public appeal for voluntary conservation
5. Schedule Emergency Energy Transactions and arrange to purchase energy and capacity from other control areas
6. Implement voltage reductions of 5% of normal operating voltage requiring more than 10 minutes

   Declare Energy Emergency Alert (EEA) Level 2**
7. Request resources without a capacity supply obligation to provide energy for reliability purposes
8. Implement a voltage reduction of 5% of normal operating voltage requiring 10 minutes or less
9. Request activation of transmission customer generation not contractually available to market participants during a capacity deficiency, and request voluntary load curtailment by large industrial and commercial customers
10. Implement **Power Warning** and issue urgent public appeal for voluntary conservation
11. Request state governors' support for ISO appeals for conservation

***These alerts do not trigger any additional communications with OP 4 contacts.*

Example of a Contingency Affecting Operating Reserves



Note: Available Capacity includes scheduled resources and those with response times under 30 minutes.

What Triggers OP-4 Notifications?

Action 1: Notice to market participants that an energy deficiency exists, but no public appeal for electricity conservation

Action 4: Public appeal for electricity conservation, if conditions warrant

Action 10: Urgent public appeal to immediately turn off all unnecessary power use

Governors' Appeal

Action 11: ISO requests Governors' support for Power Warning

What Emergency Communications Contacts Can Expect

- Activation of **ISOAlert** if the ISO implements OP-4
  - Will create automated emails, phone calls, and/or text messages to all government and utility communications contacts*
- Follow-up notification if the ISO implements additional OP-4 actions that trigger a **public appeal for conservation**
  - To streamline notifications, we do not plan to make separate notifications for all incremental OP-4 actions
  - If the ISO issues a public appeal for conservation, we will invite emergency contacts to a **conference call briefing** on system conditions
- **System status** updates on the ISO homepage and mobile app throughout an event
- Notification when actions are **cancelled**
- For **localized** events, ISO will prioritize notification for emergency contacts in the affected area

Steps Taken for Different OP-4 Actions

	Actions	Notification via email, text, or phone	Activate Conference call
Power Caution	1	●	
Power Watch	4	●	If ISO issues public appeal
Power Warning	10	●	●
Governors' Appeal	11	●	

* ISO maintains three tiers of contacts for each organization: primary, secondary and alternate contacts. ISOAlert notifies all three tiers simultaneously. If ISO needs to bypass ISOAlert, we will reach out to primary contacts first and we will only call secondary and alternate contacts if the primary contact is unreachable.

ACTION IN AN EMERGENCY

Operating Procedure No. 7 (OP-7)

Link: https://www.iso-ne.com/participate/rules-procedures/operating-procedures

Action in an Emergency (OP-7)

- If OP-4 actions are not adequate to manage a capacity deficiency, ISO will implement OP-7
  - OP-4 can be skipped to move into OP-7 immediately, if necessary
- OP-7 allows system operators to order the **disconnection** of firm customer load—frequently referred to as manual load shedding, load curtailment, controlled power outages, or rolling blackouts—as a means of maintaining the integrity of the bulk power system
- OP-7, like OP-4, can be called region-wide or locally
- When OP-7 actions are required, transmission and/or distribution companies disconnect customers at the direction of the ISO or the Local Control Centers (LCC)
  - ISO system operators do not have the ability to disconnect customers directly

Communications During OP-7

- Communications follow the **general framework** for OP-4 events
- Control Room will:
  - Notify LCCs, U.S. DOE, NERC, and NPCC
- Corporate Communications and External Affairs teams will:
  - Inform government officials and utility communications contacts of OP-7 implementation (prior to implementation, if possible)
  - Activate conference call bridgeline and conduct regular conference call updates when time permits
  - Issue Controlled Power Outage notice and, if necessary, conservation appeal (prior to implementation, if possible)

ISO Operating Procedures Are Designed to *Protect* System Reliability, *Avoid* Worsening Conditions, and *Expedite* Return to Normal System Conditions

Power System Conditions:	Normal	Shortage of Operating Reserves	Shortage of Energy	Systemwide Blackout
Operating Procedures and related actions:		Actions During a Capacity Deficiency (OP-4)*; load management	Actions in an Emergency (OP-7); controlled power outages	System Restoration Plan (M/LCC-18)
Objective:		Restore operating reserves	Avoid uncontrolled outages and a systemwide blackout	Restart electric grid

* The ISO may also implement OP-4 actions if it could reduce the need for emergency actions under OP-7.

NPCC 2025 Summer Reliability Assessment Summary

ISO New England Annual Pre-Summer Communications Training

Wednesday, May 28, 2025

NPCC, Inc.

The final report is expected to be posted by June 6, 2025
Seasonal Assessment (npcc.org)

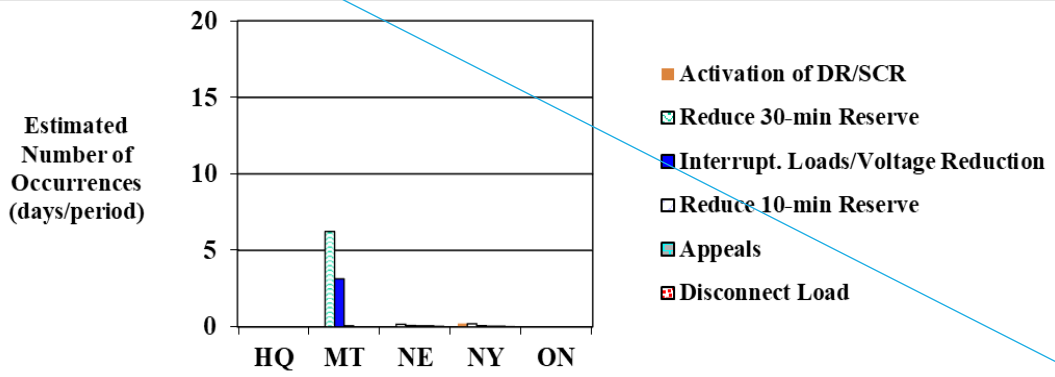
Summary of Major Findings

- The assessment is based on estimates of demand, resource and transmission project's availability reported as of May 1, 2025. NPCC's assessment indicates sufficient Area transmission capability and capacity margins available to meet the expected (50/50) peak demand and required operating reserve this summer.
- The regions' spare operable capacity (capacity over and above reserve requirements of ~9,000 MW) during the summer period (June 1 – September 1) is estimated to range from ~5,000 MW to ~11,400 MW.
- After accounting for transmission constraints, the minimum forecasted NPCC revised net margin is estimated to range from ~4,700 MW to ~10,000 MW.
- The sizeable estimate of NPCC spare operable capacity will help to counteract any adverse reliability impacts from the unavailability or inoperability of key facilities, such as resulting from equipment, fuel supply interruptions, deferred generation maintenance, and higher than expected demand.
- Established operating procedures are available to maintain reliability and keep electricity supplies and demand in balance.

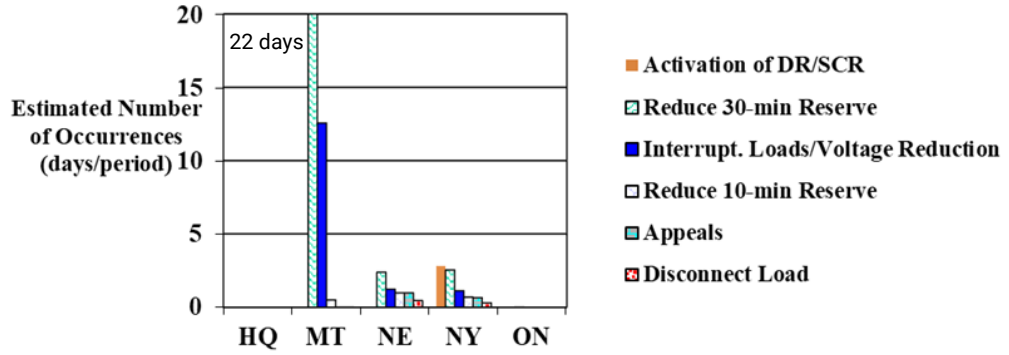
Summary – May - September 2025

Expected Use of Indicated Operating Procedures (days/period)

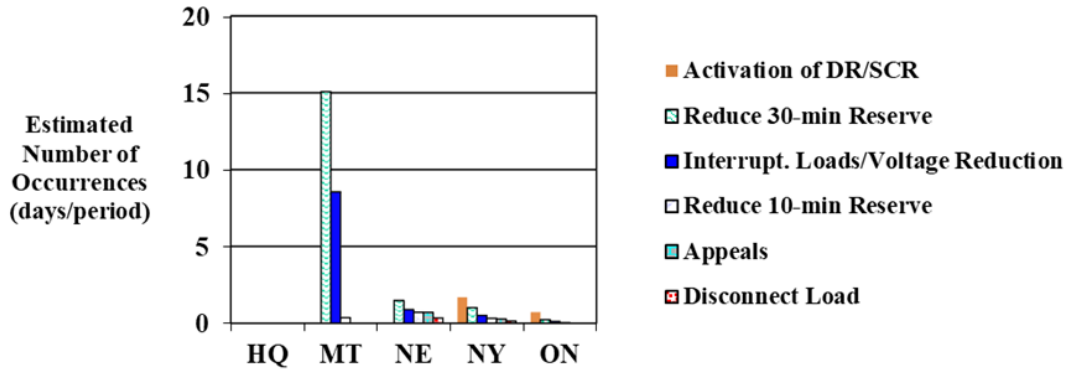
Expected – Low risk



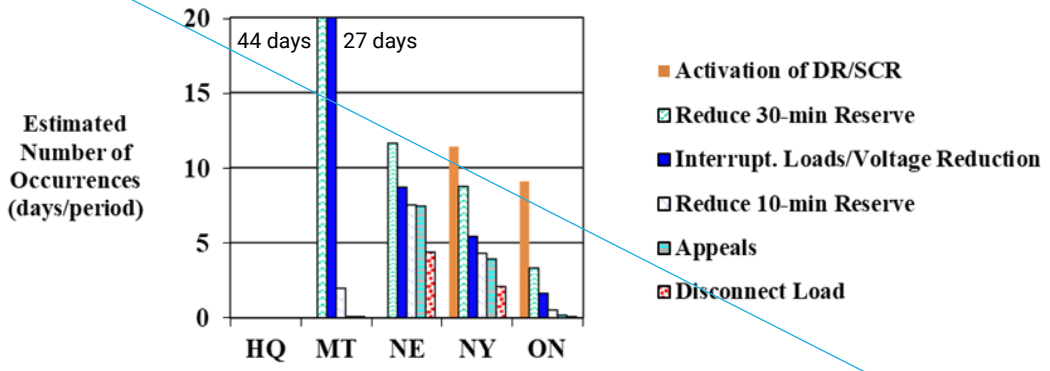
Base Case Assumptions – Expected 50/50 Load Level



Base Case Assumptions – Highest Load Level



Severe Case Assumptions - Expected 50/50 Load Level



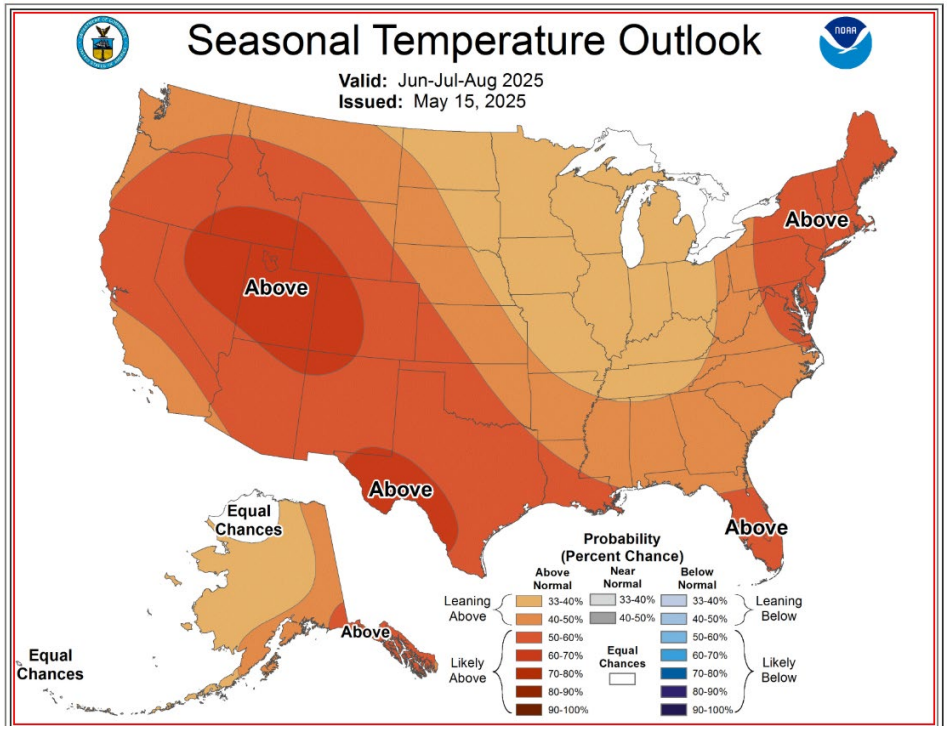
Severe Case Assumptions – Highest Load Levels

Severe – Higher Risk

NPCC Summer Readiness

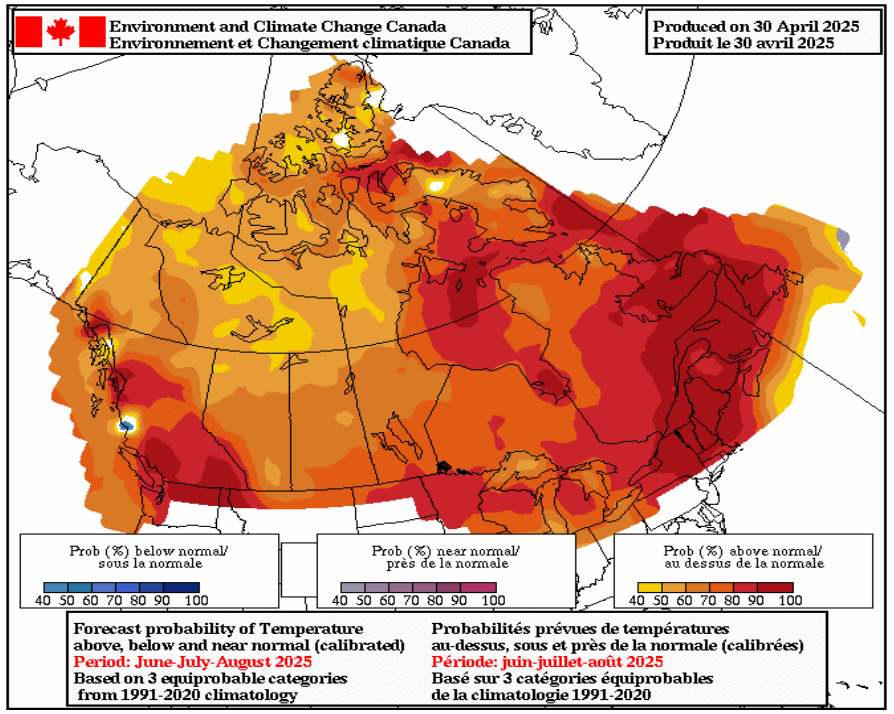
- Reliability Coordinator (RC) Communications:
  - Daily – discuss and alert NPCC and neighboring RCs of any potential or emerging problems.
  - Weekly – review a seven-day outlook for the Region, including contingencies, margins and weather, and to ensure future system changes (generation and transmission) outages are coordinated.
  - RCs continue to regularly conduct NPCC Emergency Preparedness Calls to review system conditions, if needed, prior to adverse weather.
- NPCC Task Forces and Working Groups support continued reliable operations through reviewing and assessing the performance of the bulk power system.
- Supports regional Electric-Gas Operations reliability coordination efforts promoting inter-sector communication, awareness and information sharing.

Summer 2025 Temperature Outlook



NOAA Climate Prediction Center

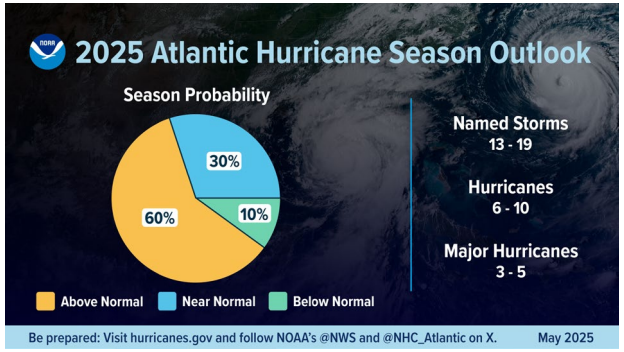
Link



Environment Canada

Link

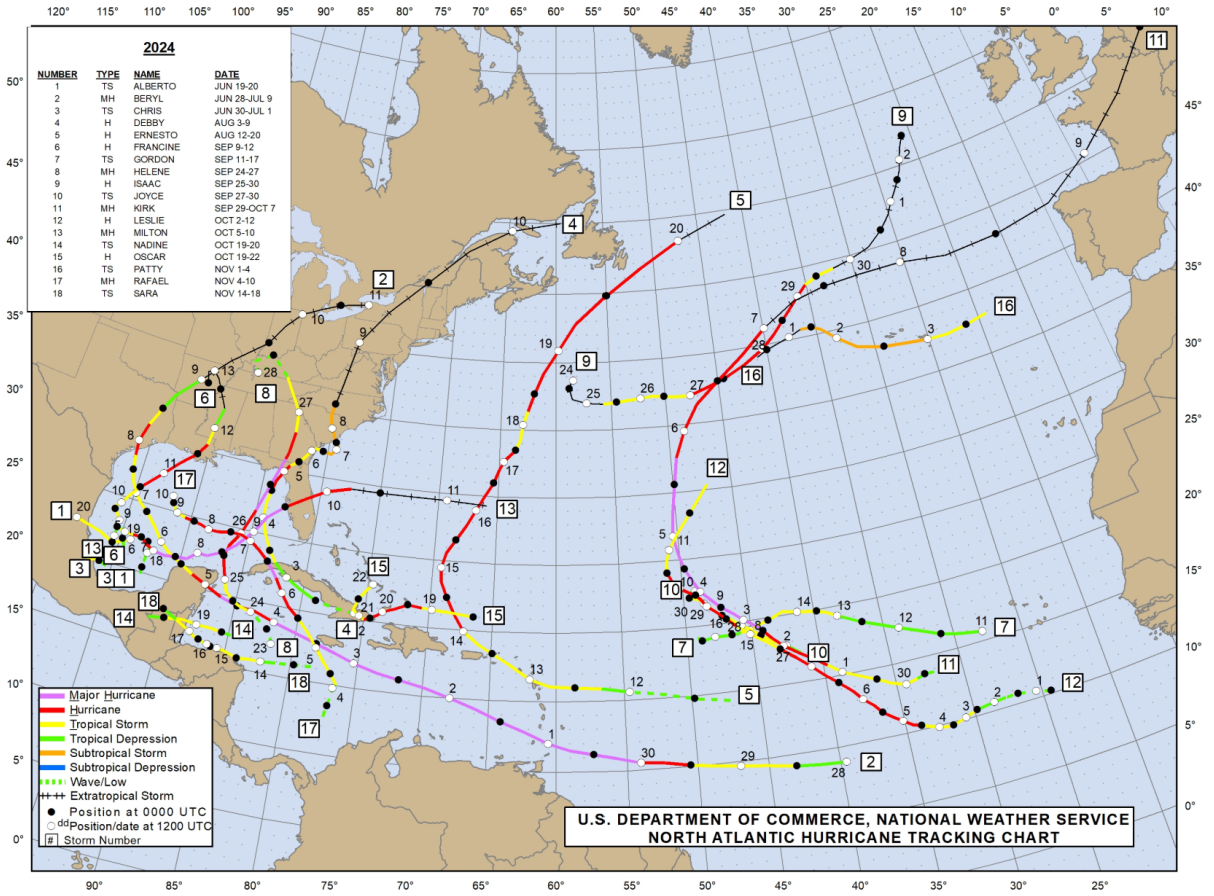
NOAA predicts above-normal 2025 Atlantic hurricane season



NOAA is forecasting a range of 13 to 19 total named storms (winds of 39 mph or higher). Of those, 6-10 are forecast to become hurricanes (winds of 74 mph or higher), including 3-5 major hurricanes (category 3, 4 or 5; with winds of 111 mph or higher). NOAA has a 70% confidence in these ranges.

The upcoming Atlantic hurricane season is expected to have above-normal activity due to a confluence of factors, including near-record warmer than average ocean temperatures, forecasts for weak wind shear, and the potential for higher activity from the West African Monsoon, a primary starting point for Atlantic hurricanes.

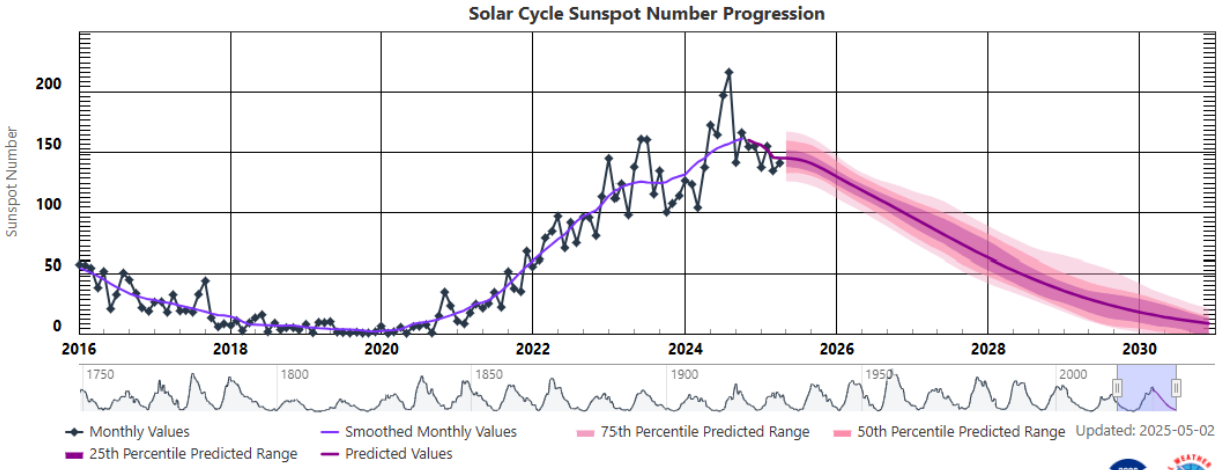
https://www.noaa.gov/news-release/noaa-predicts-above-normal-2025-atlantic-hurricane-season



https://www.nhc.noaa.gov/data/tracks/tracks-at-2024.png

Geomagnetic Disturbance (GMD) Forecast

- The geomagnetic activity cycle is transitioning to a more active and above-average state but not peaking until about two years from now.
- This summer, heightened activity is expected near beginning/end of each month, lasting 1-2 weeks.



Solar Cycle Progression | NOAA / NWS Space Weather Prediction Center

- Likelihood for a small number of more severe storms this summer.
- NPCC Procedure C-15 provides overview for actions and communications during a GMD event. Link

Questions?

Khatune Zannat
Manager, Probabilistic Assessment
Northeast Power Coordinating Council
Reliability Assessments and Performance Analysis
Contact Us | NPCC

Next Steps

- ISOAlert Test scheduled for **today – Wednesday, May 28** for government and utility contacts
- Available now:
  - 2025 Summer Seasonal Outlook Webpage
  - Pre-Summer Press Release
- Send updated contact information to the ISO:

Government Contacts:

External Affairs Department:
- (413) 535-4138
- Gae Warman-Gold
  gwarmangold@iso-ne.com

Utility Communications Contacts:

Corporate Communications/
Media Relations Department:
- (413) 535-4309
- Rebecca Meek
  rmeek@iso-ne.com

Questions

REFERENCE MATERIALS

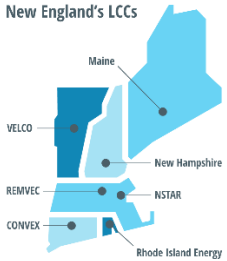
COMMUNICATIONS QUICK REFERENCES

Communications Paths During a Power System Emergency:

From ISO New England through to the Public

ISO-NE
Master Control Center

ISO-NE control room coordinates bulk power system operations with seven local control centers (LCCs) in New England



ISO-NE control room coordinates with ISO's External Affairs (EA) and Corporate Communications (CC) personnel to communicate with external audiences during power system emergencies

ISO-NE External Affairs

ISO-NE Corporate Communications

- Reliability Councils
- Federal Government
- State Government
- Elec. Utilities' Corp. Comm.
- Media
- ISO website, Newswire, App

Goal: *Unified message*

Public

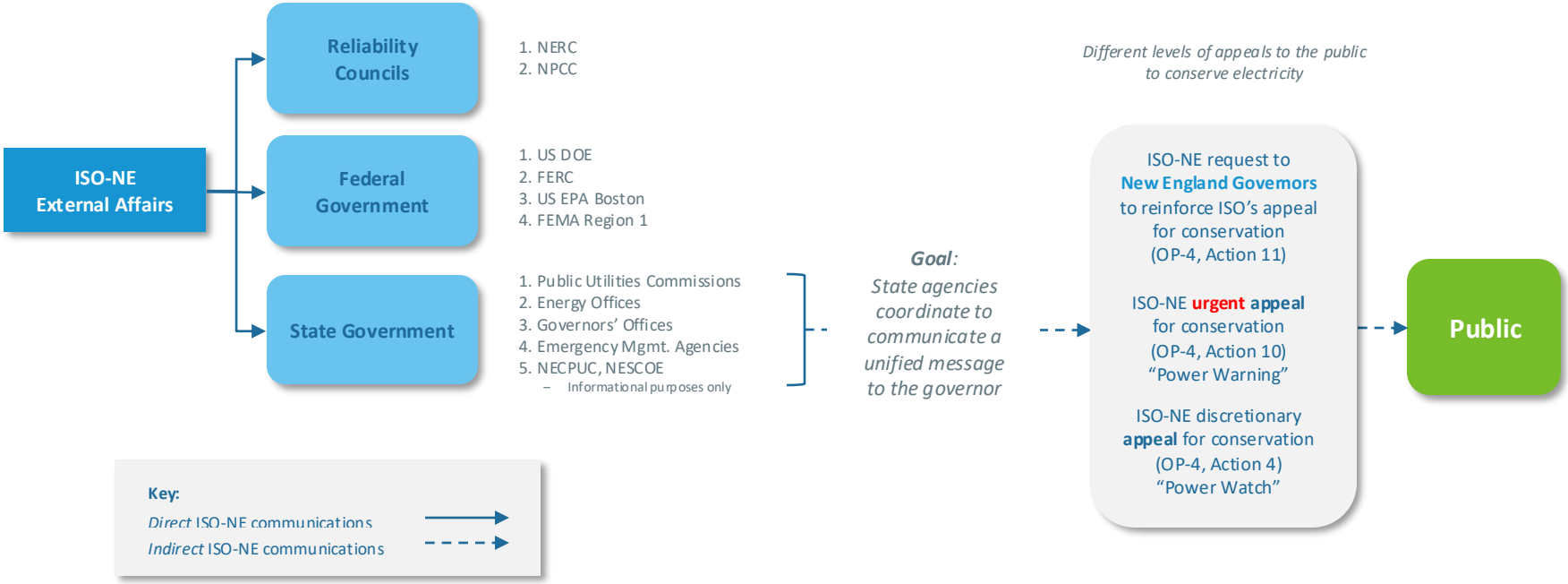
Key:

Direct ISO-NE communications

Indirect ISO-NE communications

Communications Paths During a Power System Emergency:

From ISO-NE External Affairs to State Agencies and the New England Governors through to the Public



External Affairs (EA) Contacts

Federal Government

- U.S. Department of Energy (DOE)
- U.S. Environmental Protection Agency (EPA Region I)
- Federal Energy Regulatory Authority (FERC)
- Federal Emergency Management Agency (FEMA)

State Public Utility Commissions and Energy Offices

- Connecticut PURA and DEEP
- Maine PUC and GEO
- Massachusetts DPU and DOER
- New Hampshire PUC and DOE
- Rhode Island PUC, DPUC and OER
- Vermont DPS and PUC
- NECPUC (as an FYI)
- NESCOE (as an FYI)

Governors' Offices (*or designee*)

- Connecticut Governor's Office
- *Maine Governor's Energy Office*
- Massachusetts Governor's Office
- *New Hampshire Department of Energy*
- Rhode Island Governor's Office
- *Vermont Department of Public Service*

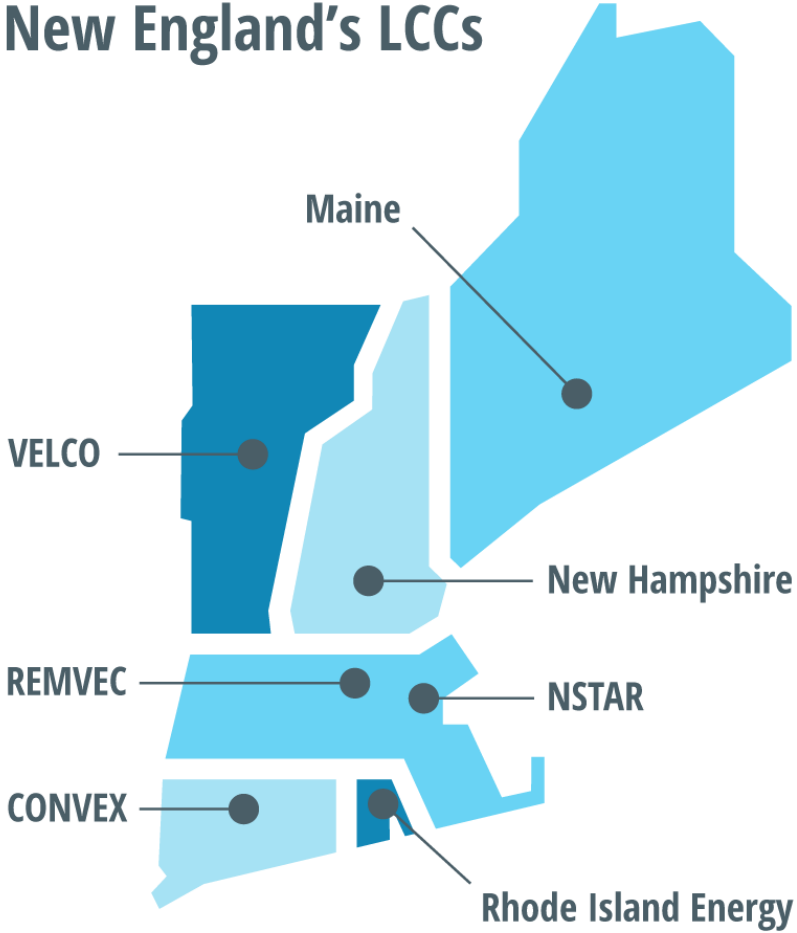
Emergency Management Agencies

- CT Emergency Management Division
- ME Emergency Management Agency
- MA Emergency Management Agency
- NH Bureau of Emergency Management
- RI Emergency Management Agency
- VT Emergency Management
- Northeast States Emergency Consortium

Reliability Councils

- North American Electric Reliability Corporation (NERC)
- Northeast Power Coordinating Council (NPCC)

Corporate Communications Utility Contacts



ABNORMAL CONDITIONS ALERT

Master/Local Control Center Procedure No. 2 (M/LCC 2)

Link: https://www.iso-ne.com/participate/rules-procedures/master-lcc-procedures

M/LCC 2 – Abnormal Conditions Alert

- What is an abnormal condition on the bulk power system?
  - Forecasted or actual deficiency of operating reserves requiring implementation of OP-4 and/or OP-7
  - Low transmission voltages and/or low reactive reserves
  - Inability to provide first contingency protection when an undesirable post-contingency condition might result (e.g., load shedding)
  - Geomagnetic Disturbance (GMD)
  - Cold Weather Event is declared
  - Operational staffing shortage impacting normal power system operations within New England
  - Any other credible threat to power system reliability and integrity (e.g., terrorism, sabotage, storms)

M/LCC 2 – Abnormal Conditions Alert, *continued*

- The purpose of M/LCC 2:
  - Alerts power system personnel and market participants of abnormal system conditions
  - Outlines steps to be taken, including:
    - Cancellation of maintenance on power system resources
    - Delineates which outages can and cannot be allowed
- M/LCC 2 may be issued systemwide or locally
- M/LCC 2 may be skipped – the ISO may move straight into OP-4 and/or OP-7, if necessary
- Typically, EA does not send M/LCC 2 notices to OP-4 contacts

ACTION DURING A CAPACITY DEFICIENCY

Operating Procedure No. 4 (OP-4)

Link: http://www.iso-ne.com/participate/rules-procedures/operating-procedures

Action 1

- Inform all resources that a capacity deficiency exists
  - Each resource with a Capacity Supply Obligation (CSO) should prepare to provide capability
  - "Settlement-Only" Resources with real-time obligations and CSOs need to monitor the status of reserve pricing and meet their obligations under "Capacity Scarcity Condition" definitions in the Tariff
- Begin to allow depletion of 30-minute operating reserve
- Implement a **Power Caution**
  - Notify government official and utility communications contacts
  - Does not involve public appeals for conservation

Action 2

- Declare Energy Emergency Alert (EEA)* Level 1

*Note: EEA levels are described in Attachment 1 to NERC Reliability Standard EOP-011 - Emergency Operations (https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-1.pdf).

Action 3

- Request voluntary load curtailment of Market Participants' facilities in New England

Action 4

- Implement a **Power Watch**
  - Notify government official and utility communications contacts
    - Communicate that additional OP-4 actions may be taken
- If conditions warrant, issue a public appeal for voluntary conservation
  - Activate conference call bridgeline and conduct regular conference call updates if public appeal is issued
  - Publicize conservation appeal

Action 5

- Implement Actions 5 and above to maintain 10-minute reserves
- Arrange to purchase available emergency capacity and energy, or energy only (if capacity backing is not available), from Market Participants or neighboring regions

Action 6

- Declare Energy Emergency Alert (EEA) Level 2*
- Implement a voltage reduction of 5% of normal operating voltage requiring more than 10 minutes to implement
  - Local Control Centers (LCCs) implement voltage reduction on distribution and sub-transmission systems

*Note: EEA levels are described in Attachment 1 to NERC Reliability Standard EOP-011 - Emergency Operations (https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-1.pdf).

Action 7

- Request generators and demand response resources not subject to a CSO to voluntarily provide energy for reliability purposes
  - Either on a forecast basis or in real time when ISO anticipates it will be unable to maintain 10-minute reserves

Action 8

- Implement a voltage reduction of 5% of normal operating voltage that is attainable within 10 minutes
  - LCCs implement voltage reduction on distribution and sub-transmission systems
- Declare Energy Emergency Alert (EEA) Level 2 if not already performed under an earlier action*

*Note: EEA levels are described in Attachment 1 to NERC Reliability Standard EOP-011 - Emergency Operations (https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-1.pdf).

Action 9

- Request activation of all customer generation not contractually available to Market Participants
- Request voluntary load curtailment by large industrial and commercial customers
- Request is made through Transmission and Distribution owners

Action 10

- Initiate appeals for voluntary load curtailment
  - Publicize conservation appeal via ISO-NE home page, Newswire, Mobile app, X/Twitter
- Implement a **Power Warning**
  - Notify government official and utility communications contacts via conference call bridgeline
  - Public appeals made when an immediate reduction in power usage is necessary to avert overload of the electrical system
  - Public appeals made when other efforts (e.g., emergency purchases, voluntary curtailment, contracted curtailment and voltage reductions) have been unsuccessful in bringing supply and demand back into balance
  - Conduct conference call updates via bridgeline
- Declare Energy Emergency Alert (EEA) Level 2 if not already performed under an earlier action*

Action 11

- Request New England governors to reinforce **Power Warning** appeals initiated in Action 10
  - Notify government official contacts
  - Request governors to make an urgent public appeal for conservation
- Declare Energy Emergency Alert (EEA) Level 2 if not already performed under an earlier action*

*Note: EEA levels are described in Attachment 1 to NERC Reliability Standard EOP-011 - Emergency Operations (https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-1.pdf).

Potential Relief Under OP-4

Roughly 1,145 – 4,020 MW of potential relief systemwide from 11 actions

OP-4 Action	Action Description (Page 1 of 3)	Possible Relief (MW)
1	Implement **Power Caution** and advise resources with a capacity supply obligation (CSO) to prepare to provide capacity and notify "Settlement-Only" generators with a CSO to monitor reserve pricing to meet those obligations Begin to allow depletion of 30-minute reserves	0[1] 600
2	Declare Energy Emergency Alert (EEA) Level 1	0[4]
3	Request voluntary load curtailment of Market Participants' facilities	40[2]
4	Implement **Power Watch**, a notification that further steps to manage capacity could affect the public	0
5	Schedule Emergency Energy Transactions and arrange to purchase Control-Area-to-Control-Area Emergency Capacity and Energy	Variable 0 – 1,000

Source: OP-4, Action During A Capacity Deficiency, Appendix A

Potential Relief Under OP-4, *continued*

Roughly 1,145 – 4,020 MW of potential relief systemwide from 11 actions

OP-4 Action	Action Description (Page 2 of 3)	Possible Relief (MW)
6	Implement a voltage reduction of 5% of normal operating voltage requiring more than 10 minutes Declare Energy Emergency Alert (EEA) Level 2	Variable 0 – 125[3] 0[4]
7	Request resources without a CSO to provide energy for reliability purposes	Variable 0 – 1,500
8	Implement a voltage reduction of 5% of normal operating voltage requiring 10 minutes or less Declare Energy Emergency Alert (EEA) Level 2 (if not already declared)	Variable 0 – 250[3] 0[4]
9	Request activation of transmission customer generation not contractually available to Market Participants during a capacity deficiency Request voluntary load curtailment by large industrial and commercial customers	5 200[2]

Source: OP-4, Action During A Capacity Deficiency, Appendix A

Potential Relief Under OP-4, *continued*

Roughly 1,145 – 4,020 MW of potential relief systemwide from 11 actions

OP-4 Action	Action Description (Page 3 of 3)	Possible Relief (MW)
10	Implement **Power Warning** and issue urgent public appeal for voluntary conservation Declare Energy Emergency Alert (EEA) Level 2 (if not already declared)	200[2] 0[4]
11	Request state governors' support for ISO appeals for conservation Declare Energy Emergency Alert (EEA) Level 2 (if not already declared)	100[2] 0[4]
	Total Relief (MW)	1,145 – 4,020

NOTES:

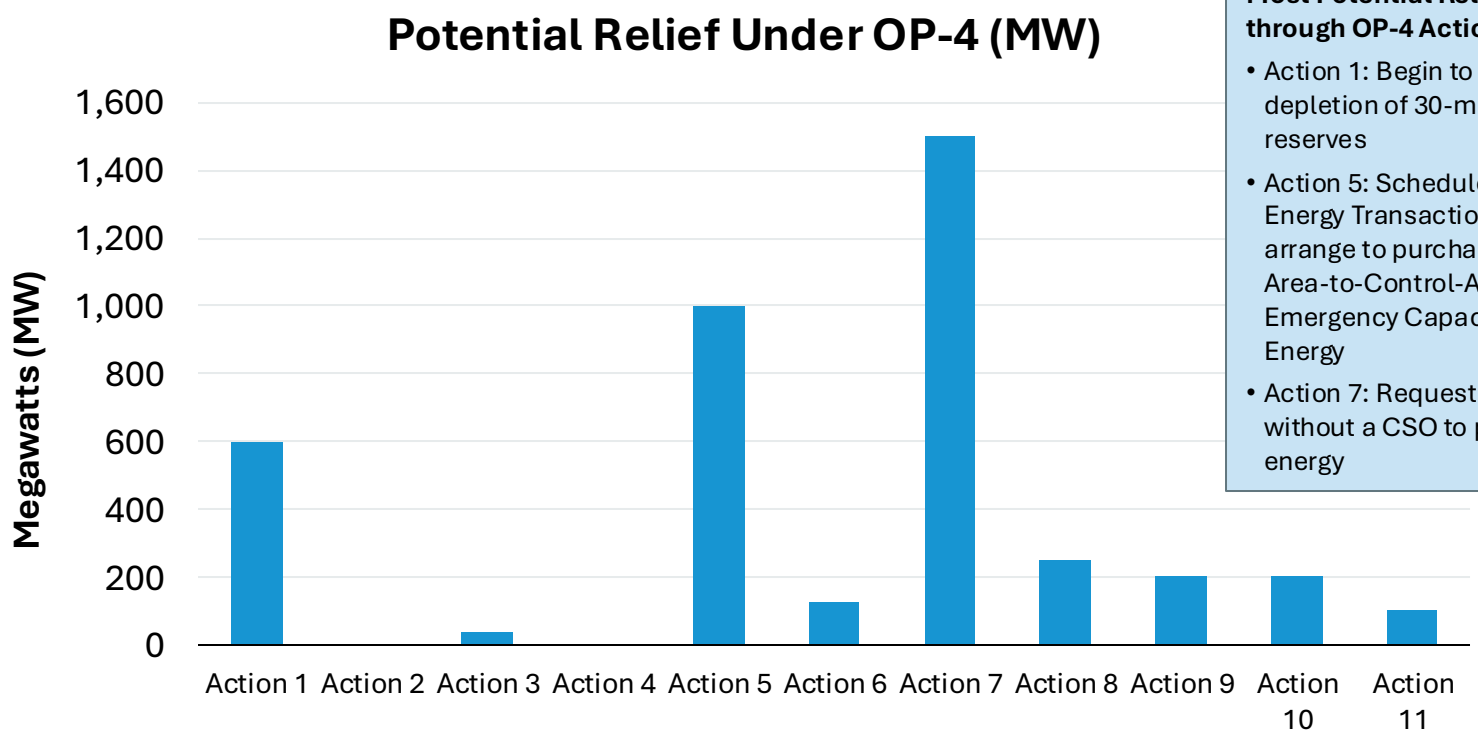
1. Based on Summer Ratings. Assumes 25% of total MW Settlement-Only units <5 MW will be available and respond.
2. The actual load relief obtained is highly dependent on circumstances surrounding the appeals, including timing and the amount of advanced notice that can be given.
3. The MW values are based on a 25,000 MW system load and verified by the most recent voltage reduction test.
4. EEA levels are described in Attachment 1 to NERC Reliability Standard EOP-011 - Emergency Operations (https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-1.pdf) and do not trigger additional communications with OP-4 contacts.

Source: OP-4, Action During A Capacity Deficiency, Appendix A

Potential Relief Under OP-4

Roughly 1,145 – 4,020 MW of potential relief systemwide from 11 actions

See Reference Section for more information on OP-4 Actions



Most Potential Relief Obtained through OP-4 Actions 1, 5 & 7:

- Action 1: Begin to allow depletion of 30-minute reserves
- Action 5: Schedule Emergency Energy Transactions and arrange to purchase Control-Area-to-Control-Area Emergency Capacity and Energy
- Action 7: Request resources without a CSO to provide energy

Source: OP-4, Action During A Capacity Deficiency, Appendix A

OP-4 Actions 2014-2025

Action	1	2	3	4	5	6	7	8	9	10	11
Date	Power Caution			Power Watch						Power Warning	Governor s' Appeal
9/28/2014	•										
12/4/2014	•										
9/9/2015	•										
8/11/2016	•	•									
9/3/2018	•	•	•	•	•						
12/24/2022	•	•	•		•						
7/5/2023	•	•									
6/18/2024	•	•									
8/1/2024	•	•									

ACTION IN AN EMERGENCY

Operating Procedure No. 7 (OP-7)

Link: http://www.iso-ne.com/participate/rules-procedures/operating-procedures

Action in an Emergency (OP-7)

- If OP-4 actions are not adequate to manage a capacity deficiency, the ISO will implement OP-7
  - OP-4 can be skipped to move into OP-7 immediately, if necessary
- OP-7 allows system operators to order the **disconnection** of firm customer load—frequently referred to as manual load shedding, load curtailment, controlled power outages, or rolling blackouts—as a means of maintaining the integrity of the bulk power system
- OP-7, like OP-4, can be called region-wide or locally
- When OP-7 actions are required, transmission and/or distribution companies disconnect customers at the direction of the ISO or the Local Control Centers (LCC)
  - ISO system operators do not have the ability to disconnect customers

Communications During OP-7

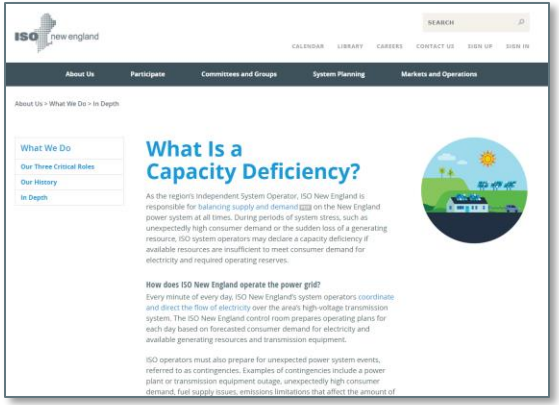
Communications follow the general framework for OP-4 events

- Control Room will:
  - Notify LCCs, U.S. DOE, NERC, and NPCC within the times prescribed by the various agencies
- CC and EA will:
  - Inform government officials and utility communications contacts of OP-7 implementation (prior to implementation, if possible)
    - Notification by phone and email
  - Activate conference call “bridge-line” and conduct regular conference call updates when time permits
  - Issue Controlled Power Outage notice and, if necessary, conservation appeal (prior to implementation, if possible)

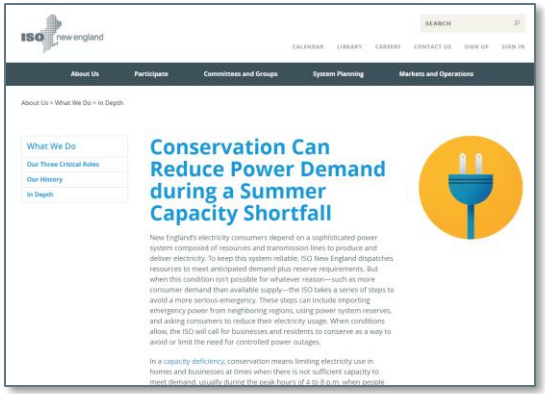
OTHER INFORMATION RESOURCES

Related Web Content

- Web pages to assist in the event emergency communications are needed:
  - *"What Is a Capacity Deficiency?"*
    - A high-level explainer of a capacity deficiencies and the steps ISO New England will take to manage them
  - *"Conservation Can Reduce Power Demand during a Summer Capacity Shortfall"*
    - An overview of the role of conservation in a capacity deficiency, including tips for consumers to reduce their energy use



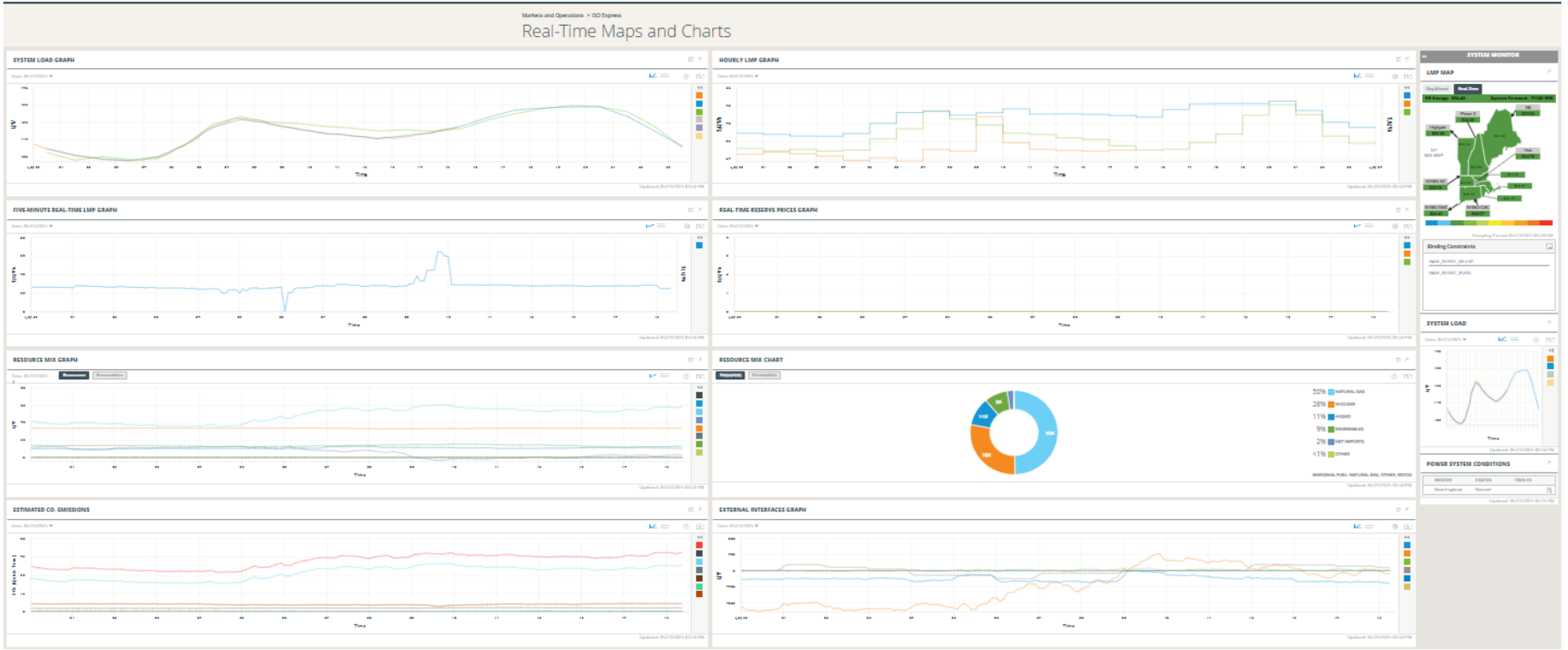
https://www.iso-ne.com/about/what-we-do/in-depth/capacity-deficiency



https://www.iso-ne.com/about/what-we-do/in-depth/summer-conservation

For a Quick Look at Power System Conditions…

Visit the System Monitor on ISO Express

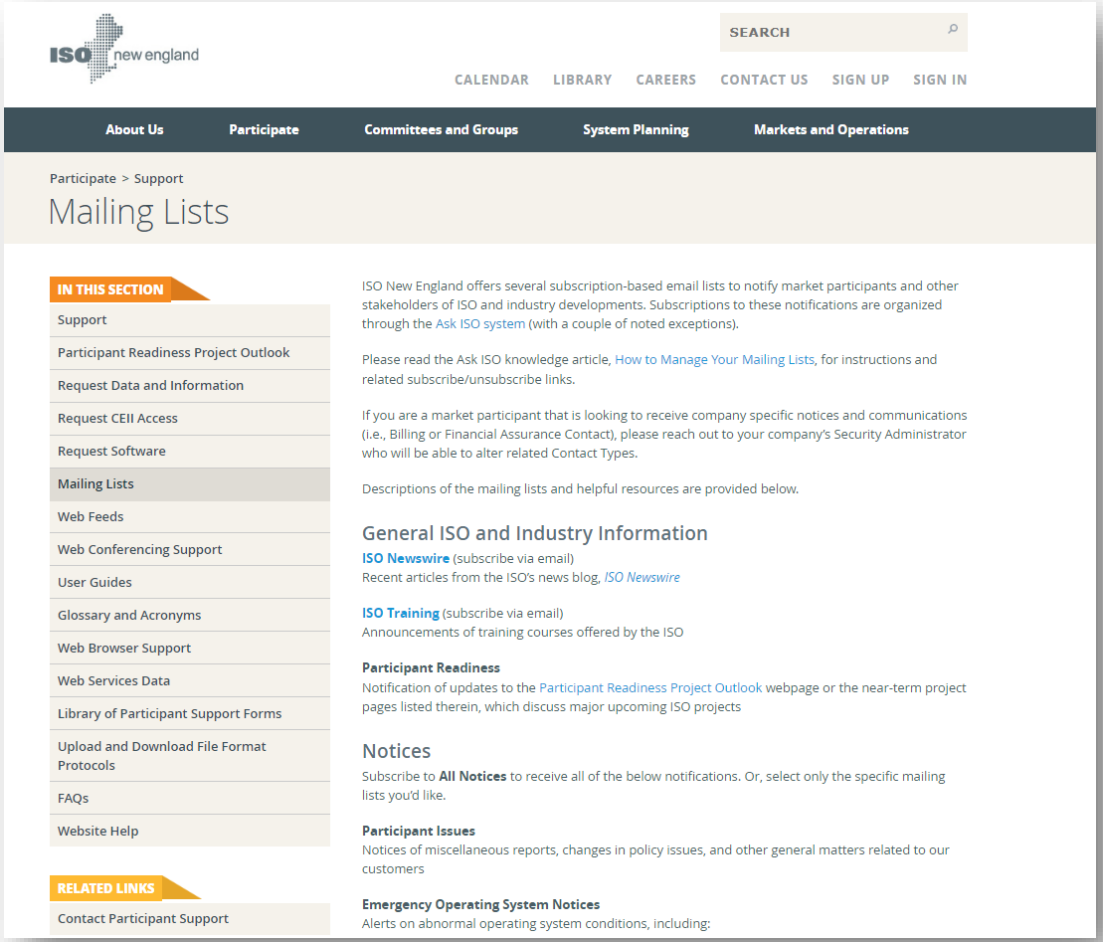


ISO Express is available at: http://www.iso-ne.com/isoexpress/

Options to Subscribe to ISO New England Email Lists

Subscribe to receive All Notices, Emergency Operating System Notices, and others

Subscribe here: http://www.iso-ne.com/participate/support/mailing-lists



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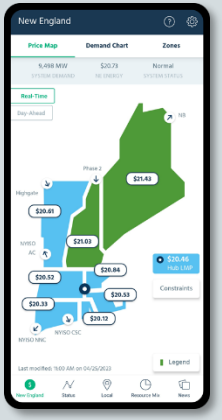
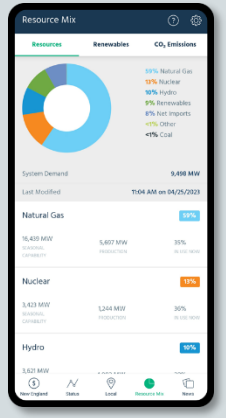
ISO to Go is a free mobile application that puts real-time wholesale electricity pricing and power grid information in the palm of your hand





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