



Operating Procedures

ISO New England Operating Procedure No. 4

Action During a Capacity Deficiency

Effective Date: June 1, 2010

Revision No. 9

ISO New England Operating Procedure No. 4 Action During A Capacity Deficiency

Effective Date: June 1, 2010

REFERENCES:

NERC Standard EOP-002 - Capacity and Energy Emergencies
NERC Standard COM-002 – Communications and Coordination
NPCC Emergency Operation Criteria A-03
NPCC Operating Reserve Criteria A-06
NPCC Procedures During Abnormal Operating Conditions C-20
ISO New England Operating Procedure No. 7 - Action in an Emergency (OP 7)
ISO New England Operating Procedure No. 8- Operating Reserve and Regulation (OP 8)
ISO New England Operating Procedure No. 9 – Scheduling and Dispatch of External Transactions (OP 9)
ISO New England Operating Procedure No. 10 – Analysis and Reporting of Power System Emergencies (OP 10)
ISO New England Operating Procedure No. 14 – Technical Requirements for Generators, Demand Resources and Asset Related Demands (OP 14)
Master/Local Control Center Procedure No. 2 - Abnormal Conditions Alert (M/LCC 2)
ISO New England Manuals

Local Control Center Instructions:

CONVEX:	Operating Instruction 0004 - Action During A Capacity Deficiency
MAINE:	Operating Procedure No. 4 - Action During A Capacity Deficiency
NEW HAMPSHIRE:	Operating Procedure No. 4 - NHSOP #4 - Capacity Deficiency Actions
NSTAR	OP-4 Action During a Capacity Deficiency
REMVEC II	Operating Procedure 4, Action During A Capacity Deficiency
VELCO:	VELCO Operating Procedure OP-4

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Appendix A - Estimates Of Additional Generation And Load Relief From System Wide Implementation Of Actions In ISO New England Operating Procedure No. 4

PART I - INTRODUCTION

This Procedure establishes criteria and guides for actions during capacity deficiencies, as directed by the ISO and as implemented by the ISO and the Local Control Centers (LCCs). This Procedure may be implemented any time one or more of the following events, or other similar events, occur or are expected to occur:

- The Resources available to the New England Control Areas / Balancing Authority (CA/BA) outside of OP 4 are insufficient to meet the anticipated load plus Operating Reserve Requirements. It will not be utilized to maintain Replacement Reserve Requirements.
- One or more contingencies have occurred resulting in an immediate deficiency in the New England CA/BA's available capacity resources required to meet the load plus Operating Reserve Requirements.
- Transmission facilities into a sub area of the New England CA/BA are loaded beyond established transfer capabilities.
- A sub area of the New England CA/BA is experiencing abnormal voltage and/or reactive conditions.
- The need to implement manual load shedding as required by ISO New England Operating Procedure No. 7 – ‘Action In An Emergency’ (OP 7) is imminent but load shedding may be avoided, or reduced in magnitude, by application of this Procedure.
- Another NPCC Area, or a remote system or pool, is experiencing a capacity deficiency and has requested assistance from the ISO, which, if provided, will reduce the New England CA/BA's actual Operating Reserve below the required levels.
- Any other serious threat to the integrity of the bulk power system for which the ISO determines that this Procedure will mitigate the impact.

Appendix A contains an estimate of the additional generation and load relief, which will be achieved through implementation of the Actions specified in this Procedure.

PART II - PROCEDURE

I. IMPLEMENTATION BY ISO NEW ENGLAND

The ISO will alert the LCCs and Market Participants promptly any time one or more of the above conditions are anticipated, or have actually been experienced, and application of this Procedure may be required. The ISO will also alert the surrounding CA/BAs and coordinate with these Areas in accordance with NPCC Document A-06 - Operating Reserve Criteria, and C-20 - Procedures During Abnormal Operating Conditions. The alert will be issued in accordance with Master/Local Control Center Procedure No. 2 - 'Abnormal Conditions Alert' (M/LCC 2). Upon implementation, the ISO will notify the LCCs of the Actions required by number. The ISO and the LCCs will initiate Actions according to the authority and responsibility assigned by this Procedure. To the extent possible, the ISO will continue to dispatch resources in accordance with Market Rule 1, while ensuring reliability in the New England CA/BA during implementation of OP 4.

Action 1 and 2 will be implemented to the extent required to maintain Operating Reserve Requirements, in accordance with ISO New England Operating Procedure No. 8 - 'Operating Reserve and Regulation' (OP 8) and/or to provide necessary dispatch options during abnormal conditions.

ACTION 1 (An ISO responsibility)

The ISO will inform all Resources that a capacity shortage exists. Each Resource with a Capacity Supply Obligation will prepare to provide all associated Operable Capability.

The ISO will notify via the "Notices" section of the ISO New England website that all "Settlement Only" Generators with real-time obligations and capacity supply obligations should be monitoring the status of the reserve pricing and are required to meet their obligations under the "Shortage Event" definitions in Market Rule 1.

Begin to allow the depletion of 30-minute reserve.

Implement a Power Caution.

ACTION 2 (An ISO responsibility)

Dispatch Real Time Demand Resources in the amount and location required.

ACTION 3 (ISO responsible for generation and demand designated entities, LCCs for office complexes.)

Request voluntary load curtailment of Market Participants' facilities in the New England CA/BA.

ACTION 4 (An ISO responsibility)

Implement a Power Watch

The ISO will normally implement Action 5 and beyond of this Procedure to maintain Ten-Minute Reserve.

ACTION 5 (An ISO responsibility)

Arrange to purchase available emergency capacity and energy, or energy only, (if capacity backing is not available) from Market Participants or neighboring CA/BAs. CA/BA to CA/BA transactions will normally be used as a last resort, when market-based emergency energy transactions are not available, or not available in a timely fashion.

Action 6 may be implemented to the extent required to maintain 10-minute reserve, in accordance with OP 8, and to enable the ISO to better cope with possible continuing and deteriorating abnormal operating conditions.

ACTION 6 (ISO responsible for Demand Resources and sharing reserves, LCCs for voltage reduction)

Implement a voltage reduction of five percent (5%) of normal operating voltage requiring more than 10 minutes to implement.

Dispatch Real-Time Emergency Generation Resources in the amount and location required.

Alert the New York Independent System Operator (NYISO) that sharing of reserves within Northeast Power Coordinating Council (NPCC) may be required.

ACTION 7 (ISO responsibility)

Request Generating Resources not subject to a Capacity Supply Obligation to voluntarily provide energy for reliability purposes. Note that this request will be made on a forecast basis when the ISO anticipates it will be unable to maintain Ten Minute Reserves or in real-time based on the current operating days' conditions.

Action 8 will be implemented to maintain adequate 10-minute synchronized reserve in the New England CA/BA. The amount of 10-minute synchronized reserve to be maintained will be determined based on actual system conditions at the time of the shortage or the need to aid another NPCC Area under the NPCC Operating Reserve Policy.

ACTION 8 (An ISO and LCC responsibility)

Implement a voltage reduction of five percent (5%) of normal operating voltage that is attainable within 10 minutes.

Actions 9, 10 and 11 will normally be implemented by the ISO through the LCCs based upon advance projections made by the ISO that it will be necessary to implement Actions 1 through 8, and that it will not be possible to maintain adequate 10-minute synchronized reserve. When Actions 9 and 10 are requested, the particular hours that they are to be implemented will be specified by the ISO. Actions 9, 10, and 11 should be implemented as early as possible to achieve maximum benefit.

ACTION 9 (LCC responsibility)

Request all of the customer generation not contractually available to Market Participants. Request voluntary load curtailment by large industrial and commercial customers.

ACTION 10 (An ISO and LCC responsibility)

Initiate radio and television appeals for voluntary load curtailment.

Implement a Power Warning.

Depending on the circumstances and the time required to institute certain of the above Actions, it may be necessary to call for some Actions simultaneously, or to alter the order of initiations. When all of the above Actions have been taken, further action, if required, is covered under OP 7.

It may be necessary to implement OP 7, prior to the implementation of all of the above Actions. If, at any time during implementation of the above Actions, it appears that implementation of OP 7 will be required; the ISO shall so notify all LCCs.

When Action 11 is requested, the particular hours that this Action is to be implemented will be specified by the ISO.

ACTION 11 (An ISO responsibility)

Request New England state Governors to reinforce Power Warning appeals, as initiated in Action 10.

II. CANCELLATION OF ACTIONS

When the system conditions have improved sufficiently, the ISO will cancel the Actions instituted in Section I. above. Depending on system conditions, the order of cancellation may be different from the order of initiation.

III. IMPLEMENTATION BY LCCS

Any of the Actions provided in this Procedure may be implemented by an LCC to deal with local conditions within that LCC. The severity of the condition will determine the Actions taken. The ISO will review LCC implementation of this Procedure to ensure the implementation is consistent with Market Rule 1 and the ISO Manuals.

IV. COMMUNICATIONS

The ISO Control Room Staff will use the "party line" telephone circuit to implement this Procedure. The ISO will briefly inform all LCCs simultaneously of system conditions and issue an implementation message as illustrated below. Each LCC, in alphabetical order, will repeat back the directed action to provide acknowledgment. When each LCC completes a directed action, they will report back to the ISO they have completed the directed action and the implementation time of the action. These communications will be performed per the communications protocol required by NERC Standard COM-002 and as stated in SOP-RTMKTS.0125.0020 – Communicate With Internal and External Parties.

Typical Messages:

Implementation

- ISO to all LCCs: "Implement ISO New England OP 4, Actions 1 and 2 at 0930."

Each LCC to ISO: "Implement ISO New England OP-4 Actions 1 and 2 at 0930."

ISO to each LCC: "That is correct."

ISO to REMVEC II: "Implement ISO New England OP 4, Action 3 and Action 4 at 1030."

REMVEC II to ISO: "Implement ISO New England OP-4 Actions 3 and 4 at 1030."

ISO to REMVEC II: "That is correct."

- ISO to all LCCs: "Implement ISO New England OP 4, Action 6 at 1100."

Each LCC: "Implement ISO New England OP-4 Actions 6 at 1100."

ISO to each LCC: "That is correct."

Confirmation

- LCC (VELCO) to ISO: "ISO this is VELCO. OP 4 Actions 1 and 2 have been implemented at 1045."

ISO to VELCO: "VELCO has implemented OP 4 Actions 1 and 2 at 1045."

VELCO to ISO: "That is correct."

Cancellation

- ISO to all LCCs: “Cancel ISO New England OP 4, Actions 2 and 1 at 1200.”
Each LCC to ISO: “Cancel ISO New England OP-4 Actions 1 and 2 at 1200.”
ISO to each LCC: “That is correct.”
- ISO to REMVEC II: “Cancel ISO New England OP 4, Actions 3 and 4 at 1300.”
REMVEC II to ISO: “Cancel ISO New England OP-4 Actions 3 and 4 at 1300.”
ISO to REMVEC II: “That is correct.”
- ISO to all LCCs: “Cancel ISO New England OP 4, Action 6 at 1400.”
Each LCC to ISO: “Cancel ISO New England OP-4 Actions 6 at 1400.”
ISO to each LCC: “That is correct.”

Each LCC shall be responsible for keeping its member companies and the ISO informed of all situations pertaining to implementation and cancellation of this Procedure. The ISO will make notifications to the Department of Energy as required by ISO New England Operating Procedure No.10 – Analysis and Reporting of Power System Emergencies (OP-10). The LCCs will make notifications to state regulatory agencies as required. The ISO will issue a report to the appropriate Technical Committee(s) following implementation of this Procedure within 3 business days of the implementation.

V. IMPLEMENTATION OF AN ALERT

The ISO Control Room staff will notify, as appropriate, the LCCs and the generation stations or designees and Dispatchable Asset Related Demands as soon as OP 4 conditions are anticipated or underway by executing its responsibilities as declared by M/LCC 2.

VI. PUBLIC NOTIFICATIONS

Notifications associated with the forecasted or actual implementation of OP 4 will be conducted in accordance with OP 10 for Abnormal or Emergency Conditions. Power Advisories will be issued by the ISO via its external website. These Power Advisories will be triggered by the implementation of certain Actions of OP 4 as described below. These notifications are considered public information.

Power Caution

A Power Caution is triggered by the initial implementation of OP 4 Action 1. A Power Caution is defined as a notification that electric reserves can no longer be maintained using normal measures. Although full reserves are being maintained, utility personnel will begin to take further steps to continue to maintain these reserves.

Power Watch

A Power Watch is triggered by the implementation of OP 4 Action 4. A Power Watch is defined as a notification that further steps to manage capacity could affect the public.

Power Warning

A Power Warning is triggered by the implementation of OP 4 Action 10. A Power Warning is defined as a notification for public appeals when an immediate reduction in power usage is necessary to avert overload of the electrical system. Public appeals are made when other efforts (e.g. emergency purchases, voluntary curtailment, contracted curtailment and voltage reduction) have been unsuccessful in bringing supply and demand back into balance.

OP 4 REVISION HISTORY

Document History (This Document History documents action taken on the equivalent NEPOOL Procedure prior to the RTO Operations Date as well revisions made to the ISO New England Procedure subsequent to the RTO Operations Date.)

Rev. No.	Date	Reason
Rev 0	8/21/98	
Rev 1	8/26/99	
Rev 2	11/1/02	
Rev 3	06/26/03	
Rev 4	02/01/05	Updated to conform to RTO terminology
Rev 5	05/06/05	Update for initiation of VELCO Local Control Center and NERC Version 0 Standards
Rev 6	08/05/05	Clarified that EEA notifications are done by the ISO not the LCC
Rev 7	10/01/06	Updated for ASM 2
Rev 8	03/05/08	Update for NSTAR becoming an LCC; global change of Control Area to Control Area /Balancing Authority and defined acronym of CA/BA; global change for Local Control Center to defined acronym of LCC; revised reference documents; corrected document titles; re-worded comment prior to ACTION 11; added language addressing communication standards and procedures; added requirement for LCCs to confirm completion of Actions. Annual procedure review by Procedure Owner
Rev 9	06/01/10	Revised to reflect the elimination of the current DR programs and the implementation of the new programs. In addition, we have included the request for delisted capacity as part of OP #4 in an effort to maintain 10 minute reserves.