	© ISO New England, Inc. 2021	Master/LCC Procedure No. 2 - Abnormal Conditions Alert
		Revision Number: 21 Revision Date: April 28, 2021
Owner: Manager, Control Room Operations		Approved by: M/LCC Heads
		Review Due Date: April 28, 2022


Master/Local Control Center Procedure No. 2

(M/LCC 2)

Abnormal Conditions Alert

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1. References

ISO New England Manual for Market Operations Manual M-11 (M-11)

ISO New England Operating Procedure No. 2 - Maintenance of Communications, Computers, Metering, and Computer Support Equipment (OP-2)

ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling (OP-3)

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

ISO New England Operating Procedure No. 5 - Resource Maintenance and Outage Scheduling (OP-5)


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

ISO New England Operating Procedure No. 13 - Standards for Voltage Reduction and Load Shedding Capability (OP-13)

Master/Local Control Center Procedure No. 8 - Coordination of Generator Voltage Regulator and Power System Stabilizer Outages (MLCC 8)

2. Purpose

This procedure, Master Local Control Center Procedure No. 2 (MLCC 2) - Abnormal Conditions Alert, is used to alert applicable power system operations, maintenance, construction and test personnel as well as each applicable Market Participant (MP) when an abnormal condition affecting the reliability of the power system exists or is anticipated. When notified of an MLCC 2 Abnormal Condition Alert, these entities are expected to take precautions so that routine maintenance, construction or test activities associated with any generating station, Dispatchable Asset Related Demand (DARD), Demand Response Resource (DRR), transmission line, substation, dispatch computer, and communications equipment do **not** further jeopardize the reliability of the power system. If a maintenance, construction or test activity could jeopardize the reliability of the power system such activity shall be stopped and/or postponed during the MLCC 2 Abnormal Condition Alert.

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3. Introduction

Established operating procedures provide an approval process for any outage of the following:


- Generator/DARD in ISO New England Operating Procedure No. 5 - Resource Maintenance and Outage Scheduling (OP-5)
- Transmission maintenance in ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling (OP-3)
- Maintenance of dispatch computer and communications equipment in ISO New England Operating Procedure No. 2 - Maintenance of Communications, Computers, Metering, and Computer Support Equipment (OP-2).

Each application for work involving the above areas shall be approved before any maintenance, construction or test activity is conducted which would take equipment out-of-service or obviously impact the reliability of the power system. Some maintenance, construction or test activities are routinely undertaken that do **not** require approval, when in the judgment of operations, maintenance, construction and test personnel, these activities have a negligible reliability impact. These activities include preventive maintenance, construction, preparatory work for outages, routine maintenance that can be accomplished with equipment on-line, equipment testing, etc.

However, if an abnormal condition exists or is anticipated and a maintenance, construction or test activity is planned, such as nuclear surveillance tests and/or preparatory work for a future equipment outage, an evaluation should be performed to determine if there is a reliability risk associated with the work to be performed. If ISO and/or an LCC determine that a reliability risk exists, this activity should **not** be conducted. If an activity **cannot** be stopped and/or postponed, operations, maintenance, construction and test personnel shall take precautions to prevent the on-going work from posing further risk to the reliability of the power system. This procedure provides guidelines for MLCC 2 Abnormal Conditions Alert notification and for actions to be taken to limit risk.

This procedure does **not** in any way affect the application of OP-2, OP-3, or OP-5. When an MLCC 2 Alert notification occurs, the curtailment of work approved under those procedures is to be considered on an individual application basis, according to the provisions of those procedures.

An abnormal condition may affect the reliability of the entire New England Reliability Coordinator Area/Balancing Authority Area (RCA/BAA) or just a local reliability area. An abnormal condition may be limited to a single Local Control Center (LCC). Accordingly, provision is made in this procedure for separate ISO MLCC 2 Abnormal Conditions Alert and LCC MLCC 2 Abnormal Condition Alert notifications.


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4. Definition of an Abnormal Condition

The determination that an abnormal condition affecting the reliability of the power system exists or is anticipated is a decision made by the ISO Operations Shift Supervisor or the LCC System Operator. An abnormal condition exists when the reliability of the New England RCA/BAA is degraded. Typical indicators of an abnormal condition are:


- Forecasted or actual deficiency of operating reserves requiring implementation of OP-4 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
- A credible threat to power system reliability such as sabotage or an approaching storm
- Operational staffing shortage impacting normal power system operations within New England
- Cold Weather Event is declared, as described in SOP-RTMKTS.0050.0007 Perform Cold Weather Condition Operations
 - When Cold Weather conditions are met, public notifications are issued independent of MLCC 2 notifications for Cold Weather Watch, Cold Weather Warning or Cold Weather Event.
 - Cold Weather Watch - Forecast indicates a capacity margin greater than or equal to 1,000 MW.
 - Cold Weather Warning - Forecast indicates a capacity margin less than 1,000 MW.
 - Cold Weather Event - Forecast indicates a capacity margin less than or equal to 0 MW.
 - Cold Weather conditions are met when both of the following conditions are met simultaneously:
 - The “Effective Temperature” is forecast to be ≤ 0 F for any single on-peak hour

$$\text{Effective Temperature} = \text{Dry Bulb} - [\text{windspeed} \times (65 - \text{dry bulb})/100]$$
 - The “Effective Heating Degree Days” for the day are forecast to be ≥ 65

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Effective Heating Degree Days = 68 – (average of max and min Effective Temperature of the Day)

- Any other condition that may occur as determined by the ISO Operations Shift Supervisor or the LCC System Operator

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5. Types of M/LCC 2 Abnormal Conditions Alert Notifications


For the purposes of this procedure, two types of notifications shall be issued:

ISO M/LCC 2 Abnormal Conditions Alert - This notice is issued when:

- An abnormal condition exists or is anticipated which affects the reliability of the New England RCA/BAA
- An abnormal condition which affects the reliability of the power system exists or is anticipated within one LCC and this condition could further degrade as a result of a maintenance, construction or test activity and affect another LCC

LCC M/LCC 2 Abnormal Conditions Alert - This notice is issued when:

An LCC M/LCC 2 Abnormal Condition Alert shall be issued when an abnormal condition which affects the reliability of the power system exists or is anticipated solely within one LCC local reliability area and this condition would **not** become further degraded by the consequences of a maintenance, construction and/or test activity in another LCC local reliability area


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6. Criteria to Stop and/or Postpone Maintenance, Construction and Test Activity

When an MLCC 2 Abnormal Conditions Alert notification is issued, a maintenance, construction or test activity shall be stopped and/or postponed, if the following could occur:

- Reduction in reliability or output of a generator, DARD or DRR
- Increased reliability exposure (decreased reliability) to the loss of a critical transmission facility
- Reduced staffing that restricts operability of a generator, DARD, DRR or Transmission facility
- Interruption of voice or data communications used for dispatching purposes
- Operation of any ISO, LCC, or MP SCADA computer becomes degraded or fails

If a maintenance, construction or test activity **cannot** be stopped and/or postponed; precautions shall be taken to prevent the activity from posing further risk to the power system.

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7. Procedure

The following steps outline the responsibilities of ISO, each applicable LCC; Generator/DARD Designated Entity (DE); Demand Designated Entity (DDE); and Transmission Owner (TO) maintenance, construction and test personnel.

7.1 ISO New England M/LCC 2 Abnormal Conditions Alert


ISO Responsibilities:

Perform the following in accordance with CROP.25011 Implement Operations During Abnormal Conditions:

- Determine if an ISO M/LCC 2 Abnormal Conditions Alert shall be declared or cancelled
- Use the Emergency Notification System (ENS) software to notify each DE and DDE that an M/LCC 2 Abnormal Condition Alert has been declared or cancelled
- Verbally notify each LCC (CONVEX, Maine, New Hampshire, NSTAR, NGRID and VELCO), each NPCC RC/BA (New York Independent System Operator [NYISO], Hydro-Quebec TransEnergie [HQTE], Independent Electricity System Operator [IESO], New Brunswick Power-System Operator [NBP-SO]), and applicable internal ISO personnel that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- Notify the interstate gas pipelines that an M/LCC 2 Abnormal Condition Alert has been declared or cancelled
- Review and, as appropriate, curtail, cancel, postpone, or resume maintenance, construction and test activities during the M/LCC 2 Abnormal Conditions Alert
-

LCC Responsibilities:

- Receive notification from ISO that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- Notify dispatch centers, and other appropriate personnel which impact the New England Transmission system that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- NGRID shall make notifications as required by their internal operating procedures that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- CONVEX shall make notifications as required by their internal operating procedures that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or

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cancelled


- Review and, as appropriate, curtail or cancel maintenance, construction and test activities

DE, DDE, and TO Maintenance, Construction, & Test Personnel Responsibilities:

- Receive notification that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- Take appropriate actions to curtail maintenance, construction and test activities
- Ensure that automatic voltage regulators are in-service (unless grandfathered per MLCC 8)
- Ensure that Power System Stabilizer (PSS) devices are in-service if required
- Resume normal maintenance, construction and test activities once ISO M/LCC 2 Abnormal Conditions Alert has been cancelled

MP Responsibilities (Applies only to each MP listed in CONVEX and NGRID internal procedures):

- Receive notification that an ISO M/LCC 2 Abnormal Conditions Alert has been declared or cancelled

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7.2 LCC M/LCC 2 Abnormal Conditions Alert

LCC Responsibilities:

- Determine if an LCC M/LCC 2 Abnormal Conditions Alert must be declared or cancelled
- Request ISO use the ENS software in accordance with CROP.25011 Implement Operations During Abnormal Conditions to notify each applicable DE and DDE when an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled within the LCC local reliability area
- NGRID (If NGRID or NSTAR declares the LCC M/LCC 2 Abnormal Conditions Alert) shall make notifications as required by their internal operating procedures that an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- CONVEX (If CONVEX declares the LCC M/LCC 2 Abnormal Conditions Alert) shall make notifications as required by their internal operating procedures that an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- Review and as appropriate, cancel maintenance, construction and test activities

ISO Responsibilities:


- Receive notification that an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled.
- Use the ENS software in accordance with CROP.25011 Implement Operations During Abnormal Conditions to notify each applicable DE and DDE when an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled within the LCC local reliability area

DE, DDE, and TO Maintenance; Construction; & Test Personnel Responsibilities:

- Receive notification that an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled
- Take appropriate actions to stop and/or postpone applicable maintenance, construction and test activities


MP Responsibilities (Applies only to each MP listed in CONVEX and NGRID internal procedures):

- Receive notification that an LCC M/LCC 2 Abnormal Conditions Alert has been declared or cancelled

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8. Logging Requirements

ISO and each LCC shall record all MLCC 2 Abnormal Conditions Alert notifications.

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9. Revision History

Rev. No.	Date	Reason
--	07/31/19	For previous revision history, refer to Rev 20 available through Ask ISO;
20.1	07/31/19	Annual review performed requiring no changes; Made required administrative changes to publish a Minor Revision (including Truncated the Revision History per SOP-RTMKTS.0210.0010 Section 5.6);
20.2	05/20/20	Annual review performed requiring no changes;
21	04/28/21	Annual review performed. Added SOP attribution in Section 4, and minor correction in background section. Deleted CROP.25011 from Reference section.

10. Attachments

None