

Operating Procedures

ISO New England Operating Procedure No. 20

*Analysis and Reporting of Power System
Emergencies*

Effective Date: April 13, 2007
Revision No. 3

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REFERENCES:

1. U.S. OMB No. 1901-0288 -Emergency Incident and Disturbance Report.
(Reporting forms are available at:
<ftp://ftp.eia.doe.gov/pub/electricity/eiafor417.doc>)
2. NPCC Document B-13 - Guide for Reporting System Disturbances
3. NERC Standard EOP-004 - Disturbance Reporting
4. 'ISO-NE Special Protection Systems' (SPSs)
5. NPCC Document A-5 – Bulk Power System Protection Criteria
6. System Operating Procedure -SOP-RTMKTS.0125.0020 Communicate with Internal and External Parties
7. NERC Standard PRC-009-UFLS Performance

Local Control Center Instruction No:

CONVEX: CONVEX Operating Instruction # 0010 – Disturbance and Significant Incident Processing and Reporting

MAINE: Maine Operating Procedure No. 10 - Power System Emergency Reporting Procedures

NEW HAMPSHIRE: OP-0010 - Power System Emergency Reporting Procedures

REMVEC II: REMVEC II Operating Procedure No. 10 - State Regulatory Agency Reports of Major System Disturbance/Outage/Incident

VELCO: VELCO Operating Procedure OP-10

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I. INTRODUCTION

The interconnected bulk power system is being operated at an ever-increasing capacity factor. This increased duty has resulted in greater power system sensitivity to faults, losses of equipment, and/or equipment malfunctions. Accordingly, it is essential that power system behavior, during periods immediately following abnormal operations, be carefully analyzed. These operations include not only severe system disturbances, but also incidents that fall into the "near miss" or abnormal (versus emergency) category.

This Procedure establishes the responsibility for analysis of abnormal events and reporting to Market Participants as required for assuring the reliability of the New England Balancing Authority Area. The reports resulting from these analyses may also be used to fulfill the reporting requirements of the Department of Energy (DOE), state regulatory bodies, the Northeast Power Coordinating Council Inc. (NPCC), and the North American Reliability Corporation (NERC).

II. EVENTS REQUIRING ANALYSIS AND REPORTS

Initial reporting for DOE, NERC and NPCC are performed in ISO New England Operating Procedure No. 10 Emergency Incident and Disturbance Notifications. The following types of events are "triggers" for ISO New England to conduct an analysis and prepare follow up and final reports:

1. Incidents that are reported to DOE, NERC and NPCC.
2. Incidents involving a successful or unsuccessful operation of a special relay protection system listed in the 'ISO Special Protection Systems' (SPSs).
3. Incidents that, in the judgment of the Master/ Local Control Center Heads (M/LCC Heads), warrant review and reporting. These include, but are not limited to:
 - Prolonged (sustained) oscillations
 - Severe voltage excursions
 - Multiple and simultaneous loss of large generators and/or transmission system elements
 - Loss of significant customer load

A. ANALYSIS AND REPORTING PROCEDURES

1. Responsibilities;

- NERC Standard EOP-004-Disturbance Reporting requires a final report within 60 days. As a minimum, the final report shall have a discussion of the events and its cause, the conclusions reached, and recommendations to prevent recurrence of this type of event.
- NERC Standard PRC-009-UFLS Performance requires reporting following an Underfrequency Event. All Market Participants owning or operating UFLS programs shall analyze their event performance; such analysis shall include a description of the event including initiating conditions, a review of the set points and tripping times, a simulation of the event, and a summary of findings. Such analysis will be provided to ISO within 90 days after the event
- The Master/ Local Control Center Heads have the responsibility for the determination of the need for analysis and reports of power system incidents. The severity of the incident determines the depth of the analysis and the type of report (brief and general or lengthy and detailed)
- Personnel from ISO New England, the Local Control Centers, and Market Participants have the responsibility for conducting the analysis and the preparation of subsequent reporting. The particular power system incident will normally determine the make-up of the group assigned by the Master/ Local Control Center Heads to review an incident. The affected Market Participants will always be involved in the review of an incident. Lead responsibility may be assigned to ISO New England, a Local Control Center, or a Market Participant. ISO New England, each Local Control Center, and each Market Participant will assign a contact person that will, when called upon by the Master/ Local Control Centers Heads, participate in and, when appropriate, provide the leadership for the review of a particular incident

2. Time Schedule for Final Reports:

- The ISO and Master/ Local Control Center Heads will use information in preliminary Reports, which are created using ISO New England Operating Procedure No. 10 Emergency Incident and Disturbance Notifications to determine if a detailed Final Report is required
- If a Final Report is required, the ISO and Master/ Local Control Center Heads will assign appropriate contact persons to analyze and report on the incident and indicate the schedule for completion.

3. Contents of Final Report

The Final Report if possible and depending upon the extent of the disturbance will include information that is available within 30 days of the incident. If additional information is developed after the 30-day period, a follow-up report will be issued upon the completion of the investigation.

Final reports will include comments pertaining to the following:

- Dates and times of events
- Executive summary of analysis
- Pre-incident bulk power system conditions (weather, load, generation patterns, outages of generation and transmission prior to incident, inter-area transfers, inter-regional transfers, frequency schedules, key bus voltages)
- Immediate post-incident bulk power system conditions (similar to pre-incident items)
- Amounts of load/generation lost
- Potential items for analysis:
 - Relay operations - correct; correct but undesirable; incorrect
 - Damaged equipment
 - Causes
 - Injuries
 - Reliability of system (pre; post)
 - Comparison of actual behavior and simulation
 - Violations of established Procedures, Criteria, Rules and Standards, etc.
 - Lessons to be learned
 - Recommendations
- Action Items:
 - Market Participants
 - Local Control Centers
 - ISO New England

4. Final Report Distribution

Final reports will normally be distributed to the Reliability Committee (RC), Local Control Center Operating Committees, Master Local Control Center Heads and personnel, and the NPCC Task Force on Coordination of Operations (TFCO). The RC may authorize other distributions as determined by the nature of the incident and contents of the report.

OP 20 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	11/04/05	New procedure describing the follow up incident reporting
Rev 1	02/03/06	Updated link for new DOE Reporting Form OE-417
Rev 2	10/13/06	Revised SOP title referenced in this OP
Rev 3	04/13/07	Revised reporting requirements