

September 30, 2013

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

**Re: NERC Full Notice of Penalty regarding ISO New England, Inc.
FERC Docket No. NP13-_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding ISO New England Inc. (ISO-NE), NERC Registry ID# NCR07124,² in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).³

ISO-NE was established in 1997 and operates the New England region power grid and wholesale electric markets. ISO-NE serves the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. In 2005, FERC approved ISO-NE to operate as the Regional Transmission Organization for New England. ISO-NE's responsibilities include operation of New England's bulk electric system (BES), development, oversight, and administration of the wholesale electricity market, and managing planning processes for future management and operation of the New England BES.

¹ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards* (Order No. 672), III FERC Stats. & Regs. ¶ 31,204 (2006); *Notice of New Docket Prefix "NP" for Notices of Penalty Filed by the North American Electric Reliability Corporation*, Docket No. RM05-30-000 (February 7, 2008). See also 18 C.F.R. Part 39 (2011). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh'g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R § 39.7(c)(2).

² Northeast Power Coordinating Council, Inc. confirmed that ISO-NE was included on the NERC Compliance Registry as a Balancing Authority (BA) on June 21, 2007, Interchange Authority on September 10, 2008, and Planning Authority, Reliability Coordinator, Resource Planner, Transmission Operator, Transmission Planner and Transmission Service Provider on June 21, 2007. As a BA, ISO-NE is subject to the requirements of NERC Reliability Standard BAL-002-0 R4.1 and R4.2.

³ See 18 C.F.R § 39.7(c)(2).

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This Notice of Penalty is being filed with the Commission because Northeast Power Coordinating Council, Inc. (NPCC) and ISO-NE have entered into a Settlement Agreement to resolve all outstanding issues arising from NPCC’s determination and findings of the violation⁴ of BAL-002-0 R4.1 and R4.2. According to the Settlement Agreement, ISO-NE admits to the violation and has agreed to the assessed penalty of five thousand dollars (\$5,000), in addition to other remedies and actions to mitigate the instant violation and facilitate future compliance under the terms and conditions of the Settlement Agreement. Accordingly, the violation identified as NERC Violation Tracking Identification Number NPCC201000206 is being filed in accordance with the NERC Rules of Procedure and the CMEP.

Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed on July 2, 2013, by and between NPCC and ISO-NE, which is included as Attachment a. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein. This Notice of Penalty filing contains the basis for approval of the Settlement Agreement by the NERC Board of Trustees Compliance Committee (NERC BOTCC). In accordance with Section 39.7 of the Commission’s regulations, 18 C.F.R. § 39.7 (2013), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the Settlement Agreement, as discussed in greater detail below.

Region	Registered Entity	NOC ID	NERC Violation ID	Reliability Std.	Req. (R)	VRF	Total Penalty
Northeast Power Coordinating Council, Inc.	ISO New England Inc.	NOC-2170	NPCC201000206	BAL-002-0	4.1; 4.2	Medium	\$5,000

BAL-002-0 R4.1 and R4.2

The purpose statement of Reliability Standard BAL-002-0 R4.1 provides:

“The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable

⁴ For purposes of this document, each violation at issue is described as a “violation,” regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load.”

BAL-002-0 R4 provides:

R4. A Balancing Authority or Reserve Sharing Group shall meet the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances. The Disturbance Recovery Criterion is:

R4.1. A Balancing Authority shall return its ACE to zero if its ACE just prior to the Reportable Disturbance was positive or equal to zero. For negative initial ACE values just prior to the Disturbance, the Balancing Authority shall return ACE to its pre-Disturbance value.

R4.2. The default Disturbance Recovery Period is 15 minutes after the start of a Reportable Disturbance. This period may be adjusted to better suit the needs of an Interconnection based on analysis approved by the NERC Operating Committee.

BAL-002-0 R4.1 and R4.2 have a “Medium” Violation Risk Factor (VRF) and a “Severe” Violation Severity Level (VSL). The subject violation applies to ISO-NE Balancing Authority (BA) function.

At approximately 1:09 pm Eastern Daylight Time (EDT), on September 2, 2010, a Reportable Disturbance occurred when units 8 and 9 of Mystic station power plant located outside of Boston tripped off line due to a loss of gas supply.⁵ The trip resulted in a loss of 1,372 MW of real-time generation. The Area Control Error (ACE)⁶ at 1:09 pm was -31 MW at the start of the disturbance and peaked at -1638 MW just after the two Mystic units tripped. ISO-NE initiated corrective actions to compensate for the loss of the Mystic units and to return the ACE to its pre-disturbance value of -31 MW. The ISO-NE BA restored its pre-disturbance ACE value at 1:31 pm.⁷

⁵ At 1:08 pm on September 2, 2010, the liquefied natural gas facility supplying gas to the Mystic plant experienced an interruption of power to the digital control system for the emergency shutdown system, shutting down the entire liquefied natural gas process. Once the facility stopped vaporizing the liquefied natural gas, the Mystic gas turbine generators began to trip.

⁶ A shortage or excess in electricity needed to meet a BA’s internal obligations is represented via a real-time value called area control error (ACE), estimated in MW. Over-generation is represented by a positive ACE sign and shortage is represented by negative values.

⁷ On September 2, 2010, ISO-NE experienced all time peak load of 26,098 MW for September at the hour ending at 4:00 pm.

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To compensate for the loss of 1,372 MW of real-time generation, the ISO-NE system operator executed and approved a contingency dispatch (CD-SPD) case at 1:11:28 pm (2-3 minutes after the loss of the Mystic units), requesting a total of 1,800 MW of generation. The request was about 400 MW in excess of the Mystic units loss and was designed to account for anticipated load growth, generation non-performance factors, and to minimize overall recovery time. The CD-SPD case sent Desired Dispatch Points (DDPs) to 146 dispatchable generation units, 92 of which were already on-line, while 54 were off-line fast-start units.

In the months preceding the disturbance, ISO-NE had replaced its dispatch communication system to send DDPs to its generator operators. Some generators did not have their system set up to receive the ISO-NE dispatch and therefore, did not properly respond to the ISO-NE dispatch when the Reportable Disturbance occurred.

In addition, the the ISO-NE system operator requested 50 MW of Shared Activation Reserves (SAR) from the New Brunswick System Operator (NBSO). Due to the heavily loaded New York and New England interface, SAR was unavailable from any other participating balancing areas.

Fourteen minutes and 50 seconds into the recovery, and prior to receiving the sufficient MWs from the designed generators receiving the DDPs, the system operator issued an economic (non-emergency) electronic dispatch instruction. This instruction resulted in dispatching down or halting some of the on-line units from continuing to ramp up, and in dispatching additional non-fast start units to come on-line. At 1:31 pm, ACE crossed its pre-disturbance level. In total, ISO-NE recovered its ACE within 23 minutes.

The economic dispatch instruction may have delayed ISO-NE in its efforts to restore ACE to its pre-disturbance value. NPCC determined that because the system operator did not issue the instruction to dispatch non-fast-start units until near the end of the NERC Standard recovery period of 15 minutes, the instruction was not a contributing factor to the non-compliance with BAL-002-0 R4.1.

NPCC determined that ISO-NE was non-compliant with BAL-002-0 R4.1 and R4.2 because it failed to recover its ACE in 15 minutes. ISO-NE self-reported the violation within hours of the incident.

NPCC determined the duration of the violation to be for eight minutes on September 2, 2010, from the moment the ACE was not recovered within 15 minutes, until the time the ACE was recovered.

NPCC determined that this violation posed a moderate risk to the reliability of the bulk power system (BPS) but did not pose a serious or substantial risk. Specifically, had another disturbance occurred, ISO-

NE may have been required to implement emergency actions such as curtailing contracts, entering into emergency operating conditions, or shedding load to restore ACE to its pre-disturbance value.

However, the operators in the ISO-NE control room were already responding to the loss of the most severe single contingency. System frequency recovered within nearly six minutes, thereby returning the interconnection frequency within defined limits following the Reportable Disturbance described above. While the BPS was not in an emergency state, in failing to recover ACE during the prescribed period, ISO-NE did not meet the requirements of BAL-002-0 R4.1 and R4.2.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, NPCC has assessed a penalty of five thousand dollars (\$5,000) for the referenced violation. In reaching this determination, NPCC considered the following mitigating factors:

1. the violation constituted ISO-NE's first occurrence of violation of the subject NERC Reliability Standard;
2. ISO-NE had an internal compliance program (ICP) at the time of the violation;⁸
3. ISO-NE self-reported the violation within hours of the incident;

⁸ ISO-NE has an active comprehensive ICP. In 2006, prior to the mandatory Reliability Standards going into effect, ISO-NE's chief executive officer (CEO) and chief operating officer (COO) established the Reliability and Operations Compliance Group dedicated to monitoring ISO-NE's compliance with NERC Standards. The ISO-NE ICP incorporates a series of related programs for NERC, FERC, and other federal and state regulatory requirements, as follows: 1) a comprehensive compliance management system overseen by the CCO who has direct and independent access to the CEO and to the ISO-NE independent Board of Directors; 2) a cyber security group, which monitors compliance with NERC critical infrastructure protection Standards, and which reports to the vice president of information services and to the security committee, and is overseen by the CCO, the vice president of system operations, and the vice president of information services; 3) an internet-based anonymous reporting tool for reports of financial matters and fraud overseen by the vice president of human resources, who has direct and independent access to the CEO and to the ISO-NE Board of Directors; and 4) ISO-NE has established an internal audit department that annually assesses risks and audits according to the risk. The department is administered by the director of internal affairs, who has direct and independent access to CEO and to the ISO-NE independent Board of Directors.

The ICPs described above are operated and managed so as to be independent from the departments performing the relevant business function. This is due to the structure of the groups administering various components of the ICPs. ISO-NE senior management is regularly briefed on audit, risk management, and compliance matters. Reliability and operations compliance personnel are trained on the use of EtQ, a compliance software program which provides an automated and controlled environment for the administration of compliance assessments and issue management. Compliance personnel also participate in key NERC and NPCC committees and forums to remain up-to-date on compliance management and reliability obligations.

4. ISO-NE fully cooperated with NPCC in an exemplary manner by participating in NERC's pilot program on event analysis (even though this Reportable Disturbance did not constitute a Category 1 Event), willingly discussing the violation, and providing detailed information to NPCC regarding the violation.
5. ISO-NE took action to perform an analysis to identify contributing causes of the generator response, and, although not part of the ISO-NE Mitigation Plan, ISO-NE took further corrective actions by conducting training for market participant generator operators.
6. NPCC determined that the violation did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
7. there is no evidence that ISO-NE made any attempt to conceal the violation nor evidence of intent to do so;
8. ISO-NE provided a presentation to the NPCC compliance staff and to the New England Power Pool (NEPOOL) to illustrate how the generators responded to the dispatch; and
9. NPCC reported that there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, NPCC determined that, in this instance, the penalty amount of five thousand dollars (\$5,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

Status of Mitigation Plan⁹

ISO-NE's Mitigation Plan to address its violation of BAL-002-0 R4.1 and R4.2 was submitted to NPCC on November 5, 2010 with a proposed completion date of December 31, 2010. The Mitigation Plan was accepted by NPCC on November 15, 2010 and approved by NERC on December 7, 2010. The Mitigation Plan for this violation is designated as MIT10-3105 and was submitted as non-public information to FERC on December 10, 2010 in accordance with FERC orders.

ISO-NE's Mitigation Plan required ISO-NE to:

1. increase the New England system-wide ten-minute reserve (reserve bias) by 10%, to 110% of the first contingency loss;

⁹ See 18 C.F.R § 39.7(d)(7).

2. increase the New England minimum ten-minute spinning reserve requirement from 25% to 50% of the first contingency;
3. enhance its generator audit rules. The enhanced rules include changes to the manner in which the fast-start capabilities of off-line reserve resources are audited. The new set of rules includes requirements and procedures for auditing the maximum claimed capability of generation resources, and a series of parameter audits, which audit a number of generator operating parameters that the ISO-NE relies upon in making generator commitment and operational decisions;
4. enhance its rules to permit an additional amount of reserves to be procured in the forward capacity market to support ISO-NE's increased real-time reserve requirement implemented in response to this Reportable Disturbance;
5. implement new pipeline information sharing rules, allowing the ISO-NE and the pipeline operators to share expected generation output scheduled and pipeline information. The new rules allow the ISO and the pipeline operators to share confidential information, and anticipate and address potential reliability problems in the event that there is insufficient gas for gas-fired resources to meet their schedules;¹⁰
6. implement protocols to ensure that generators carrying reserves are capable of delivering their stated capacities and ramp rates. The protocols require ISO-NE to survey generators at least annually to assess their ability to achieve stated capacities and ramp rates;
7. require control room system operators to maintain a mix of shared activation of reserves (assistance from external BAs) and New England reserves, assuming a non-performance factor¹¹ of at least 140% of first contingency loss;
8. assess the performance of market participant generation resources during Reportable Disturbances;
9. implement protocols to ensure that ISO-NE initiated changes to vital communications systems with generators are tested and communication channels are actively monitored. Monitoring includes confirmation that generators receive the DDPs send by ISO-NE;

¹⁰ The Commission approved these rules on January 23, 2013. The rules were effective from January 24, 2013 through April 30, 2013. See *ISO New England Inc. Order on Tariff Revisions and Request for Rehearing*, Docket No. ER13-356-000.

¹¹ The amount of reserves called on in addition to the source loss, assuming less than 100% performance of requested resources.

10. modify the energy management system (EMS) display to provide the control room system operator with an additional tool to view which market participant generation units have not acknowledged electronic dispatch signals;
11. modify internal system operating procedures to make clear that security-constrained economic dispatch solution should not be executed during an ACE recovery period; and
12. conduct operator training, including training on the procedure changes described above:
 1. implement training and procedures to ensure that the operator carrying out the Reliability Coordinator (RC) function monitors the BA area parameters. Operators ensure that the required amount of operating reserves are provided and available to meet Reportable Disturbance requirements, including the need to arrange assistance from other RCs. The operators also perform simulations of Reportable Disturbance events that utilize these procedures at least annually; and
 2. implement training and procedures to ensure operators carrying out the RC function understand their responsibility to direct entities within the RC area to comply with the disturbance control standard for restoration of ACE. The operators also perform simulations of Reportable Disturbance events that utilize these procedures at least annually.
13. Provide voice recording and operator logs for 12 months to NPCC for any reportable disturbance.¹²

ISO-NE certified on January 3, 2011 that the above Mitigation Plan requirements were completed on December 15, 2010. As evidence of completion of its Mitigation Plan, ISO-NE submitted the following:

1. Email document to operations control room supervisors from the director of operations stating:
 - a. Effective immediately:
 - i. increase 10-minute reserve requirement to 110% of the largest first contingency; and
 - ii. increase 10-minute spinning reserve to 50% of the largest first contingency.
2. Email to shift supervisor stating:
 - a. going forward the shift supervisors shall ensure that the combination of available SAR plus the non-performance factor equals at least 40% of the largest New England contingency.

¹² From September 2, 2010 through June 21, 2013, ISO-NE has successfully recovered 33 reportable events.

3. Flow chart diagrams showing review of on-line and off-line generating units response to desired dispatch point sent to unit by ISO-NE. Flow chart broken down into following Yes/No segments:
 - a. signal sent from ISO;
 - b. RTU acknowledgement;
 - c. operator acknowledgement;
 - d. unit response – generation moved up from original output at least 1%;
 - e. did unit follow the DDP;
 - f. 10% - units following DDP within 10%; and
 - g. 1% - units following DDP within 10% - did those units follow DDP within 1%.
4. Email verification documentation from the supervisor of EMS applications that EMS enhancement was completed to provide system operators with indication of generators that fail to acknowledge DDP targets;
5. Copy of the revised system operating procedure - SOP-RTMKTS.120.0040 - Implement Disturbance Remedial Action - Revision Effective Date September 15, 2010; and
6. Three EMS screen shots of new enhancements for performing dispatch functions and copy of SOP – RTMKTS.120.0040 – revision 32 that were used to conduct operator training, along with operator sign-off sheets confirming training was performed.

On February 3, 2011, after reviewing ISO-NE's submitted evidence, NPCC verified that ISO-NE's Mitigation Plan was completed on December 15, 2010.

Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed¹³ Basis for Determination

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines and the Commission's July 3, 2008, October 26, 2009 and August 27, 2010 Guidance Orders,¹⁴ the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on September 10, 2013. The NERC BOTCC approved the Settlement Agreement, including NPCC's assessment of a five

¹³ See 18 C.F.R. § 39.7(d)(4).

¹⁴ *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

thousand dollar (\$5,000) financial penalty against ISO-NE and other actions to facilitate future compliance required under the terms and conditions of the Settlement Agreement. In approving the Settlement Agreement, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the violation at issue.

In reaching this determination, the NERC BOTCC considered the following factors:

1. the violation constituted ISO-NE's first occurrence of violation of the subject NERC Reliability Standard;
2. ISO-NE had an internal compliance program (ICP) at the time of the violation;
3. ISO-NE self-reported the violation within hours of the incident;
4. ISO-NE fully cooperated with NPCC in a exemplary manner by participating in NERC's pilot program on event analysis (even though this Reportable Disturbance did not constitute a Category 1 Event), willingly discussing the violation, and providing detailed information to NPCC regarding the violation;
5. ISO-NE took action to perform an analysis to identify contributing causes of the generator response, and, although not part of the ISO-NE Mitigation Plan, ISO-NE took further corrective actions by conducting training for market participant generator operators;
6. NPCC determined that the violation did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
7. there is no evidence that ISO-NE made any attempt to conceal the violation nor evidence of intent to do so;
8. ISO-NE provided a presentation to the NPCC compliance staff and to the New England Power Pool (NEPOOL) to illustrate how the generators responded to the dispatch; and
9. NPCC reported that there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

For the foregoing reasons, the NERC BOTCC approved the Settlement Agreement and believes that the assessed penalty of five thousand dollars (\$5,000) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

Pursuant to 18 C.F.R. § 39.7(e), the penalty will be effective upon expiration of the 30-day period following the filing of this Notice of Penalty with FERC, or, if FERC decides to review the penalty, upon final determination by FERC.

Attachments to be Included as Part of this Notice of Penalty

The attachments to be included as part of this Notice of Penalty are the following documents:

- a) Executed Settlement Agreement by and between NPCC and ISO-NE executed July 2, 2013, included as Attachment a;
- b) Additional Terms to the Mitigation Provisions of the Settlement Agreement, executed July 2, 2013, included as Attachment b;
- c) Disposition Document, included as Attachment c;
- d) ISO-NE's Self-Report dated September 2, 2010, included as Attachment d;
- e) ISO-NE's Mitigation Plan designated as MIT-10-3105 submitted November 5, 2010, included as Attachment e;
- f) ISO-NE's Certification of Mitigation Plan Completion submitted January 3, 2011, included as Attachment f; and
- g) NPCC's Verification of Mitigation Plan Completion dated February 3, 2011, included as Attachment g.

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Notices and Communications: Notices and communications with respect to this filing may be addressed to the following:

Conclusion

NERC respectfully requests that the Commission accept this Notice of Penalty as compliant with its rules, regulations and orders.

Respectfully submitted,

/s/ Sonia Mendonça

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cc: ISO-New England
Northeast Power Coordinating Council Inc

Attachments

Attachment a

**Executed Settlement Agreement by and
between NPCC and ISO-NE executed July
2, 2013**

**SETTLEMENT AGREEMENT
OF
NORTHEAST POWER COORDINATING COUNCIL, INC.
AND
ISO-NEW ENGLAND**

I. Introduction

1. Northeast Power Coordinating Council, Inc. ("NPCC") and ISO-NEW ENGLAND ("ISO-NE") (together "the Parties") enter into this Settlement Agreement ("Agreement") to resolve all outstanding issues arising from NPCC's findings, pursuant to the North American Electric Reliability Corporation ("NERC") Rules of Procedure, of a violation by ISO-NE of the NERC Reliability Standard BAL-002 Requirement ("R") 4 (Regional Entity Tracking No. NPCC2010-200199; NERC Violation ID No. NPCC201000206).
2. ISO-NE filed a self-report, admits to the violation of NERC Reliability Standard BAL-002, R4, and has agreed to the proposed penalty of five thousand dollars (\$5,000.00) to be assessed to ISO-NE, in addition to other remedies and mitigation actions to mitigate the instant violations and to promote future compliance under the terms and conditions of the Settlement Agreement.

II. Stipulation

3. The facts stipulated herein are stipulated solely for the purpose of resolving between NPCC and ISO-NE the matters discussed herein and do not constitute stipulations or admissions for any other purpose. ISO-NE and NPCC hereby stipulate and agree to the following:

A. Background

4. ISO-NE is the Commission-approved, Regional Transmission Organization ("RTO") serving Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. ISO-NE's responsibilities include operation of New England's bulk electric system, development, oversight and administration of the wholesale electricity market, and managing

planning processes for future management and operation of the bulk electric system in New England.

5. ISO-NE, as the Regional Transmission Organization for New England, operates as an independent not-for-profit corporation. ISO-NE is registered as a Balancing Authority ("BA"), Interchange Authority ("IA"), Planning Authority ("PA"), Reliability Coordinator ("RC"), Resource Planner ("RP"), Transmission Operator ("TOP"), Transmission Planner ("TP") and Transmission Service Provider ("TSP").

B. Alleged Violation(s)

6. In pertinent part, BAL-002-0 provides:

Purpose:

The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load.

R4. A Balancing Authority or Reserve Sharing Group shall meet the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances. The Disturbance Recovery Criterion is:

R4.1. A Balancing Authority shall return its ACE to zero if its ACE just prior to the Reportable Disturbance was positive or equal to zero. For negative initial ACE values just prior to the Disturbance, the Balancing Authority shall return ACE to its pre-Disturbance value.

R4.2. The default Disturbance Recovery Period is 15 minutes after the start of a Reportable Disturbance. This period may be adjusted to better suit the needs of an Interconnection based on analysis approved by the NERC Operating Committee.

7. On September 2, 2010 at 13:09, a Reportable Disturbance occurred when two (2) natural gas generating facilities, Mystic 8 and Mystic 9, tripped as

a consequence of a sudden loss of gas supply.¹ The loss of both generators resulted in the loss of 1,372 MW of real-time generation.

8. At 13:11:28, approximately 2 to 3 minutes after the loss of the Mystic units, the ISO-NE System Operator initiated corrective measures to compensate for the generation loss in order to return the Area Control Error (“ACE”) to its pre-disturbance value of -31 MW. Specifically, the System Operator executed and approved a contingency dispatch solution, seeking 1,800MW, or nearly 400MW in excess of the contingency due to the anticipated load growth and potential generator issues.² The System Operator sent the desired dispatch points (“DDP”) electronically to designated entities responsible for receiving generator dispatch instructions from ISO-NE. In total, DDPs were sent to 146 dispatchable units, 92 of which were already on-line, while 54 were off-line.
9. In addition, the System Operator requested 50 MW of Shared Activation of Reserves (“SAR”) from the New Brunswick System Operator (“NBSO”). Due to the heavily loaded NY to NE Interface, SAR was unavailable from any other participating Balancing Areas.
10. At 13:23:34, 14 minutes and 50 seconds after the Reportable Disturbance, and having not received the sufficient MW from the designated entities receiving the DDPs, the System Operator issued and approved an economic dispatch instruction. This economic dispatch instruction had the effect of dispatching down or halting some of the on-line units ramping up and instead dispatched additional non fast-start units to come on-line. This electronic dispatch instruction may have delayed the ACE recovery to its pre-disturbance value, but because the System Operator did not issue the instruction until near the end of the NERC Standard recovery period of 15 minutes, it was not a contributing factor in the non-compliance with BAL-002, R4.1 At 13:31:28, ACE crossed its pre-disturbance level.
11. At 15:18:44, ISO-NE self-reported the violation of BAL-002, R4 to NPCC. ISO-NE self-reported, because ACE was not restored within 15 minutes, as required by the standard.

¹ At 1308 hours on September 2, 2010, the LNG facility supplying the gas to the Mystic Plant experienced an interruption of power to the digital control system for the emergency shutdown system, shutting down the entire liquefied natural gas process. Once the facility stopped vaporizing the liquefied natural gas, the Mystic Units gas turbines generators began to trip.

² On September 2, 2010, ISO-NE experienced an all time peak load for September with a 26,098 load at hour ending 1600.

12. ISO-NE's violation of BAL-002, R4 .1 and R4.2 created a moderate risk to the bulk power system and is discussed further in Section 2 of the Disposition Document annexed hereto.

III SUMMARY OF FINDINGS

13. NPCC finds that ISO-NE violated BAL-002, R4.1 and R4.2 as ACE was not recovered within the 15 minute interval dictated by the Standard.
14. NPCC finds that ISO-NE's failure to restore ACE within the requisite 15 minute interval created a moderate risk to the bulk power system in the ISO-NE footprint because ISO-NE may have had to take other more significant operating steps (e.g., curtailing contracts, entering into emergency operating conditions, or perhaps shedding load) if one or more different contingencies took place during the period in which ACE was being recovered. System frequency recovered within nearly six (6) minutes, thereby returning Interconnection frequency within defined limits following a Reportable Disturbance described above. While the bulk power system was not in an emergency state, in failing to recover ACE during the prescribed period, ISO-NE did not meet the requirements of BAL-002.
15. NPCC finds that the mitigating activities set forth in ISO-NE's Mitigation Plan described below in Section V of this Agreement have been completed by ISO-NE and verified by NPCC. NPCC therefore finds that the only outstanding obligation of ISO-NE under the terms of the Agreement is payment of the five thousand dollar (\$5,000.00) penalty in accordance with the terms set forth in paragraph 22 herein.

IV. PARTIES SEPARATE REPRESENTATIONS

A. NPCC

16. NPCC agrees that this agreement is in the best interest of the parties, in the best interest of bulk power system reliability, avoids extended litigation with respect to the matters described or referred to herein, and effectuates a complete and final resolution of the issues set forth herein.

B. ISO-NE

17. ISO-NE agrees that this agreement is in the best interest of the parties, in the best interest of bulk power system reliability, avoids extended litigation with respect to the matters described or referred to herein, and effectuates a complete and final resolution of the issues set forth herein.

V. MITIGATING ACTIONS, REMEDIES AND SANCTIONS

18. The Mitigation Plan submitted by ISO-NE was approved by NPCC and all milestones stated therein have been completed and verified. ISO-NE's Mitigation Plan consisted of the following:

Mitigation Activity:
1. Increased the New England system-wide Ten Minute Reserve ("reserve bias" by 10%) to 110% of the First Contingency Loss.
2. Increased the New England minimum Ten Minute Spinning Reserve requirement from 25% to 55% of the First Contingency.
3. Require Control Room System Operators to maintain a mix of Shared Activation Reserves (assistance from external BAs) and New England reserves, assuming a non-performance factor (the amount of reserves called on in addition to the source loss assuming less than 100% performance of requested resources) of at least 140% of First Contingency Loss.
4. Assess Market Participant Generation Resources' performance during the event (potential changes to operating protocols).
5. Modify EMS display (provide Control Room System Operator with additional tool to view which Market Participant generation units have not acknowledged electronic dispatch signals).
6. Modify internal system operating procedures (make clear that security-constrained economic dispatch solution should not be executed during an ACE recovery period).
7. Conduct operator training (include procedural changes discussed above in training modules and complete operator training on same).

19. A discussion of the factors underlying NPCC Staff's determination of the appropriateness of the terms of this Agreement is set forth in Section V of the Disposition Document.

20. Based on the above factors, as well as the mitigation actions and preventative measures taken, ISO-NE shall pay the monetary penalty of five thousand dollars (\$5,000.00) to NPCC, via wire transfer, within thirty days after the Agreement is either approved by the Federal Energy Regulatory Commission or by operation of law, and NPCC shall notify NERC if the payment is not received.

21. Failure to make a timely penalty payment or to comply with any of the terms and conditions agreed to herein, or any other conditions of this Agreement, shall be deemed to be either the same alleged violations that initiated this Settlement and/or additional violation(s) and may subject ISO-NE to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure.
22. If ISO-NE does not make the monetary penalty payment described herein at the times agreed by the Parties, interest payable to NPCC will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. § 35.19a(a)(2)(iii)(A) from the date that payment is due, in addition to the penalty specified above. ISO-NE shall retain all rights to defend against such additional enforcement actions in accordance with NERC Rules of Procedure.

VI. ADDITIONAL TERMS

23. The Parties to the Agreement agree that they enter into the Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of NPCC or ISO-NE has been made to induce the signatories or any other party to enter into the Agreement.
24. NPCC shall report the terms of all settlements of compliance matters to NERC. NERC will review the Agreement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under other, similar circumstances. Based on this review, NERC will either approve the Agreement or reject the Agreement and notify the NPCC and the ISO-NE of changes to the Agreement that would result in approval. If NERC rejects the Agreement, NERC will provide specific written reasons for such rejection and NPCC will attempt to negotiate a revised settlement agreement with ISO-NE including any changes to the Agreement specified by NERC. If a settlement cannot be reached, the enforcement process shall continue to conclusion. If NERC approves the Agreement, NERC will (i) report the approved settlement to the Commission for the Commission's review and approval by order or operation of law and (ii) publicly post this Agreement.
25. This Agreement shall become effective upon the Commission's approval of the Agreement by order or operation of law as submitted to it or as modified in a manner acceptable to the parties.
26. ISO-NE agrees that this Agreement, when approved by NERC and the Commission, shall represent a final settlement of all matters set forth herein and ISO-NE waives its rights to further hearings and appeal, unless

and only to the extent that ISO-NE contends that any NERC or Commission action on the Agreement contains one or more material modifications to the Agreement. NPCC reserves all rights to initiate enforcement, penalty or sanction actions against ISO-NE in accordance with the NERC Rules of Procedure in the event that ISO-NE fails to comply with the Mitigation Plan and compliance program agreed to in this Agreement. In the event ISO-NE fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Agreement, NPCC will initiate enforcement, penalty, or sanction actions against ISO-NE to the maximum extent allowed by the NERC Rules of Procedure, up to the maximum statutorily allowed penalty. ISO-NE shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.

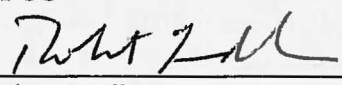
27. This entire agreement may be used by NPCC for the purpose of assessing the factors, including the factor of determining the company's history of violations, in accordance with the NERC Sanction Guidelines and applicable Commission orders and policy statements to the extent permitted by NERC Guidelines and Commission orders. Such use may be in any enforcement action or compliance proceeding undertaken by NERC and/or any Regional Entity; provided, however, that ISO-NE does not consent to the use of the specific facts set forth in this Agreement as the sole basis for any other action or proceeding brought by NERC and/or any Regional Entity, nor does ISO-NE consent to the use of this Agreement by any other party in any other action or proceeding.
28. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts the Agreement on the entity's behalf.
29. The undersigned representative of each party affirms that he or she has read the Agreement, that all of the matters set forth in the Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that the Agreement is entered into by such party in express reliance on those representations, provided, however, that such affirmation by each party's representative shall not apply to the other party's statements of position set forth in Section IV of this Agreement.
30. The Agreement may be signed in counterparts.
31. This Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

Agreed to and accepted:



Edward A. Schwerdt
President & CEO
NPCC

7-2-13
Date



Robert Ludlow
Chief Financial & Compliance Officer
ISO-NE

7-1-13
Date

Attachment b

Additional Terms to the Mitigation Provisions of the Settlement Agreement, executed July 2, 2013

**ADDITIONAL TERMS TO BE ADDED TO MITIGATION STEP PROVISIONS OF THE SETTLEMENT
AGREEMENT**

Additional mitigation activities were identified to enable ISO-NE to further improve upon ISO-NE's response to DCS events, and ISO-NE agrees to undertake the following, with NPCC to verify implementation with same:

1. Address the deliverability of reserves to support ISO-NE's ability to meet ACE restoration requirements, subject to verification by NPCC.

ISO-NE has stated it has performed the following mitigating actions:

- In July 2012, the ISO increased the amount of Ten-Minute Reserves ISO requires in real-time operation of the system in response to the historical performance of reserve resources.
- In November 2012, the ISO filed enhanced Generator Audit rules. The enhanced rules include changes to the manner in which the fast-start capabilities of off-line reserve resources are audited; a new set of rules that memorialize in the Tariff the requirements and procedures for auditing the maximum claimed capability of generation resources; and a series of parameter audits, which audit a number of generator operating parameters that ISO relies upon in making generator commitment and operational decisions, which serves to keep the inputs regarding historic performance current. The Commission approved these changes in January 2013.¹
- In November 2012, the ISO filed Market Rule changes permitting an additional amount of reserve to be procured in the Forward Reserve Market to support the availability of reserves to meet the increased real-time reserve requirement ISO put in place in July 2012.² These rules became effective on March 1, 2013.
- In November 2012, the ISO filed new Pipeline Information sharing rules with the Commission. These rules allowed the ISO and Pipeline Operators to share expected generation output schedules and pipeline information so that the ISO and Pipeline Operators could provide confidential information to each other on gas availability that will allow the ISO and pipeline operators to better anticipate and address potential reliability problems in the event that there is insufficient fuel for all gas-fired resources to meet their schedules. The Commission approved these changes in January 2013.³

¹ See ISO New England Inc. and New England Power Pool, *Order on Proposed Tariff Revisions* ER13-323 (Jan. 9, 2013).

² See ISO New England Inc. and New England Power Pool, *Letter Order Approving Revisions to Forward Reserve Market rules to permit the procurement of additional Ten-Minute Non-Spinning Reserve*, ER13-465 with an effective date of March 1, 2013 as requested in the November 27, 2012 filing. (Feb. 8, 2013).

³ See ISO New England Inc., *Order On Tariff Revisions and Request for Rehearing*, ER13-356 (Jan. 23, 2013). The Commission approved the information sharing changes for a limited period, which has now expired.

2. Implement protocols to require that generators carrying reserves are capable of delivering their stated capacities and ramp rates. ISO protocols must require ISO to at least annually survey generators to demonstrate their ability to achieve their stated capacities and ramp rates. This Settlement Term is subject to verification by NPCC.

ISO-NE has stated it has performed the following mitigating actions:

- **Recent changes to the ISO Tariff regarding generator auditing described above under item 1. See Order on Proposed Tariff Revisions ER13-323 (Jan. 9, 2013), specifically:**
 - **Off-Line Reserve Capacity Auditing, including modifications to the provisions in Section III.9.5.3 of Market Rule 1;**
 - **On-Line Reserve Auditing as described in Section III.1.5.2 of Market Rule 1; and**
 - **Claimed Capability Auditing as described in Section III.1.5.1 and Section III.1.7.11 of Market Rule 1 and the ISO-NE Manual.**
3. Implement protocols to ensure that ISO-NE-initiated changes to vital communications systems with generators are tested and communication channels are actively monitored, subject to verification by NPCC. Monitoring should include confirmation that generators receive Desired Dispatch Points (DDPs) sent by ISO-NE system Operators.

ISO-NE has stated it is mitigating this risk through:

- **Implementation of Procedures establishing functional and performance requirements for communication between the ISO-NE Communications Front End (ISO CFE) System servers and market participants' field devices (Remote Terminal Units (RTUs)).**
4. Implement training and procedures to ensure operators carrying out the RC function monitor the Balancing Authority area parameters to ensure that the required amount of operating reserves are provided and available to meet DCS requirements, including the need to arrange for assistance from other RCs as necessary. Perform simulations involving DCS events that utilize these procedures at least annually. This Settlement Term is subject to verification by NPCC.

ISO-NE has stated it is mitigating this risk through:

- **Regular simulator training to ensure compliance with NERC standard IRO-005-3.1**
5. Improve and implement training and procedures to ensure operators carrying out the RC function understand their responsibility to direct entities within the RC area to comply with the Disturbance Control Standard and its requirements for restoration of ACE. Perform simulations involving DCS events that implement these procedures at least annually. This Settlement Term is subject to verification by NPCC.

ISO-NE has stated it is mitigating this risk through:

- Regular simulator training to ensure Balancing Authority compliance with NERC standard IRO-005-3.1
6. For any DCS events (*i.e.*, Reportable Disturbances), provide voice recordings and operator logs to NPCC for the 12 month period following the effective date of this Settlement Agreement.
- **Between September 2, 2010 and June 21, 2013, ISO-NE has stated that it successfully recovered from 33 Reportable Events (source loss greater than 500MW). ISO-NE notes it already reports its performance in recovering from such events to the Northeast Power Coordinating Council and neighboring Reliability Coordinators and Balancing Authorities. These reports state whether the event was recovered from and identifies any issues encountered during the event. ISO-NE also notes it participates in regularly scheduled NPCC meetings where these reports are reviewed. See Northeast Power Coordinating Council, *Regional Reliability Preference Directory #5 Reserve* at Appendix 2. These steps will continue to be taken in addition to compliance with this Settlement Term by providing NPCC with voice recordings and operator logs for any DCS events occurring during the 12 month period following the effective date of this Settlement Agreement.**

Agreed to and accepted:



Edward A. Schwerdt
President & CEO
NPCC

7-2-13

Date



Robert Ludlow
Chief Financial & Compliance Officer
ISO-NE

7-1-13

Date

Attachment c

Disposition Document



NORTHEAST POWER COORDINATING COUNCIL, INC.
 1040 AVE OF THE AMERICAS, NEW YORK, NY 10018 TELEPHONE (212) 840-1070 FAX (212) 302-2782

DISPOSITION OF VIOLATION¹ Dated 7/1/2013

NERC TRACKING NO.	REGIONAL ENTITY TRACKING NO.	NOC#
NPCC201000206	NPCC2010-200199	NOC-XX

REGISTERED ENTITY ISO-NE	NERC REGISTRY ID NCR07124
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REGIONAL ENTITY
 Northeast Power Coordinating Council Inc. (NPCC)

I. REGISTRATION INFORMATION

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS (BOTTOM ROW INDICATES REGISTRATION DATE):

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
X				X		X		X	X			X	X	X
6/21/2007				9/10/2008		6/21/2007		6/21/2007	6/21/2007			6/21/2007	6/21/2007	6/21/2007

* VIOLATION APPLIES TO SHADED FUNCTIONS

DESCRIPTION OF THE REGISTERED ENTITY

ISO New England (ISO-NE) (established 1997) operates the region's power grid and wholesale electric markets which includes; Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. In 2005, the Federal Energy Regulatory Commission approved ISO-NE to operate as the Regional Transmission Organization for New England.

¹ For purposes of this document and attachments hereto, each violation at issue is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

II. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRP(S)	VSL(S)
BAL-002-0	4	4.1,4.2	Medium	Severe

PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

The purpose statement of BAL-002-0 provides:

The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load.

NERC Standard BAL-002-2 Requirement 4 provides:

R4. A Balancing Authority or Reserve Sharing Group shall meet the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances. The Disturbance Recovery Criterion is:

R4.1. A Balancing Authority shall return its ACE to zero if its ACE just prior to the Reportable Disturbance was positive or equal to zero. For negative initial ACE values just prior to the Disturbance, the Balancing Authority shall return ACE to its pre-Disturbance value.

R4.2. The default Disturbance Recovery Period is 15 minutes after the start of a Reportable Disturbance. This period may be adjusted to better suit the needs of an Interconnection based on analysis approved by the NERC Operating Committee.

VIOLATION DESCRIPTION

At approximately 13:09, on September 2, 2010, a Reportable Disturbance occurred when Mystic's Generators 8 & 9 tripped off line, due to loss of gas supply. This resulted in a loss of 1,372 MW of real-time generation. The Area Control Error (ACE) at 13:09 was -31 at the start of the disturbance and peaked at -1638 just after the Mystic Units trip. ISO-NE initiated corrective actions to compensate for the loss of the Mystic Units and to return the ACE to its pre-disturbance value of -31 MW. The ISO-NE Balancing Authority reached its pre-disturbance value at 13:31.

For this disturbance, the ISO-NE System Operator executed and issued a contingency dispatch (CD-SPD) case at 13:11:28 EDT (2-3 minutes after the loss of Mystic 8 and 9) requesting a total of approximately 1,800 MW, approximately 400 MW in excess of the source loss to account for anticipated load growth, generation non-performance factors and to minimize overall recovery time. The CD-SPD case sent Desired Dispatch Points (DDPs) to 146 dispatchable units; 92 on-line and 54 off-line (fast start) units. On September 2, the non-performance of generation units was greater than expected due to a variety of factors (*e.g.*, performance relative to stated operating parameters, generator set-up, monitoring or alarming of electronic dispatch systems).

ISO-NE had replaced its dispatch communication system to send dispatch basepoints to its generator operators in 2010. Some generators did not have the system properly set up to receive the ISO-NE dispatch and did not properly respond to the ISO-NE dispatch.

In addition 50 MW of Shared Activation Reserves (SAR) was requested from the New Brunswick System Operator (NBSO). Due to the heavily loaded NY to NE Interface, SAR was unavailable from any other participating Balancing Areas. At 13:31, ACE crossed its pre-disturbance level. 14 minutes and 50 seconds into the recovery, the System Operator issued an economic (non emergency) electronic dispatch which resulted in dispatching down or halting some of the on-line units from continuing to ramp up and instead dispatched additional non fast-start units to come on-line. This electronic dispatch instruction may have delayed the ACE recovery to its pre-disturbance value, but because the System Operator did not issue the instruction until near the end of the NERC Standard recovery period of 15 minutes, it was not a contributing factor in the non-compliance with BAL-002, R4.1. Sub-Requirement 4.1 and 4.2 of the BAL-002-0 standard requires the Balancing Authority to recover its ACE to its pre-disturbance value within 15 minutes for all reportable disturbances. As a result, NPCC staff finds ISO-NE non-compliant with BAL-002-0 Requirement 4, Sub-requirement 4.1 and 4.2.

RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

As the operators in the ISO-NE control room were already responding to the loss of its Most Severe Single Contingency, NPCC finds that ISO-NE’s failure to restore ACE within the requisite 15 minute interval created a moderate risk to the bulk power system because, had another disturbance occurred, the ISO-NE may have required to implement emergency actions to restore ACE to its pre disturbance value.

IS THERE A SETTLEMENT AGREEMENT YES NO

WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY

NEITHER ADMITS NOR DENIES IT (SETTLEMENT ONLY) YES
 ADMITS TO IT YES
 DOES NOT CONTEST IT (INCLUDING WITHIN 30 DAYS) YES

WITH RESPECT TO THE ASSESSED PENALTY OR SANCTION, REGISTERED ENTITY

ACCEPTS IT/ DOES NOT CONTEST IT YES

III. DISCOVERY INFORMATION

METHOD OF DISCOVERY

- SELF-REPORT
- SELF-CERTIFICATION
- COMPLIANCE AUDIT
- COMPLIANCE VIOLATION INVESTIGATION
- SPOT CHECK
- COMPLAINT
- PERIODIC DATA SUBMITTAL
- EXCEPTION REPORTING

DURATION DATE(S): 9/2/2010 – The violation occurred the moment ACE was not recovered within 15 minutes. In total, ISO-NE recovered ACE within 23 minutes.

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY **9/2/2010**

IS THE VIOLATION STILL OCCURRING YES NO
IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED YES NO
PRE TO POST JUNE 18, 2007 VIOLATION YES NO

IV. MITIGATION INFORMATION

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO. MIT10-3105
DATE SUBMITTED TO REGIONAL ENTITY 11/5/2010
DATE ACCEPTED BY REGIONAL ENTITY 11/15/2010
DATE APPROVED BY NERC 12/7/2010
DATE PROVIDED TO FERC 12/10/2010

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES NO

EXPECTED COMPLETION DATE **12/31/2010**
EXTENSIONS GRANTED **No**
ACTUAL COMPLETION DATE **12/15/2010**

DATE OF CERTIFICATION LETTER **1/3/2011**
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **12/15/2010**

DATE OF VERIFICATION LETTER **2/3/2011**
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **12/15/2010**

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT
RECURRENCE**

ISO-NE's Mitigation Plan was to provide immediate solutions and long term improvements to minimize the probability of this event occurring again in the future. Actions taken were:

1. Increased the New England system-wide Ten-Minute Reserve ("reserve bias" by 10%) to 110% of the first contingency loss.
2. Increased the New England minimum Ten-Minute Spinning Reserve requirement from 25% to 55% of the first contingency.
3. Required the Control Room system operators to maintain a mix of Shared Activation of Reserves (assistance from external BAs) and New England reserves, assuming a non-performance factor (the amount of reserves called on in addition to the source loss assuming less than 100% performance of requested resources) of at least 140% of First Contingency Loss.
4. Assessed Market Participant Generation Resources' performance during the event (potential changes to operating protocols).
5. Modified the EMS display (provided Control Room System Operator with an additional tool to view which Market Participant generation units have not acknowledged electronic dispatch signals)
6. Modified internal system operating procedures (made clear that security-constrained economic dispatch solution should not be executed during an ACE recovery period)
7. Conducted Operator Training (Including Procedure changes discussed above in training modules and complete operator training on same)

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO EVALUATE
COMPLETION OF MITIGATION PLAN (FOR CASES IN WHICH
MITIGATION IS NOT YET COMPLETED, LIST EVIDENCE REVIEWED
FOR COMPLETED MILESTONES)**

ISO-NE provided the following evidence:

1. E-mail document - dated 9/2/10 - to Operations control room supervisors from director of operations stating:

- a. Effective immediately
 - i. Increase 10 minute reserve requirement to 110% of the largest first contingency
 - ii. Increase 10 minute spinning reserve to 50% of the largest first contingency.
- 2. Email - dated 9/3/10 - to Shift Supervisor - Subject -10 Minute Reserve stating:
 - a. Going forward the shift supervisors shall ensure that the combination of available SAR plus the non performance factor equals at least 40% of the largest New England contingency.
- 3. Flow chart diagrams showing review of on-line and off-line generating units response to Desired Dispatch Point sent to unit by ISO-NE. Flow chart broken down into following Yes/No segments:
 - a. Signal sent from ISO
 - b. RTU acknowledgement
 - c. Operator Acknowledgement
 - d. Unit response – generation moved up from original output at least 1%
 - e. Did unit follow desired dispatch point (DDP)
 - f. 10% - units following DDP within 10%
 - g. 1% - units following DDP within 10% - did those units follow DDP within 1%
- 4. E-mail verification documentation - dated 12/13/2010 – from the Supervisor of EMS Applications that EMS enhancement was completed to provide System Operators with indication of generators that fail to acknowledge DDP targets.
- 5. Copy of the revised System operating Procedure - SOP- RTMKTS.120.0040 - Implement Disturbance Remedial Action - Revision Effective Date 12/15/2010.
- 6. Three EMS screen shots of new enhancements for performing dispatch functions and copy of SOP – RTMKTS.120.0040 – revision 32 that were used to conduct operator training, along with operator sign-off sheets confirming training performed during the period of 11/10/10 through 12/15/10.

V. PENALTY INFORMATION

TOTAL ASSESSED PENALTY OR SANCTION OF \$5,000 FOR ONE VIOLATION OF RELIABILITY STANDARDS.

The Relation of the Penalty to the seriousness of the Violation

NPCC has determined that a penalty of \$5,000 bears a reasonable relationship to the severity of the violation and considers the actions taken by ISO-NE to mitigate this violation and minimize the possibility of impacting the reliability of the BPS for an occurrence for a similar event in the future. This determination is based on the following facts:

- ISO-NE self reported the violation within hours of the incident;
- There is no evidence that ISO-NE made any attempt to conceal the violation;
- ISO-NE fully cooperated with NPCC in an exemplary manner, including participating in NERC’s Pilot Program on Event Analysis (even though this event did not constitute a Category 1 Event), willingly discussed the violation and provided detailed information regarding the alleged violation;
- ISO-NE took action to perform an analysis to identify contributing causes of the generator response, and, although not part of the ISO-NE Mitigation Plan, ISO-NE took further corrective actions by conducting training for Market Participant Generator Operators;
- ISO-NE’s status as a not-for-profit corporation
- ISO-NE provided a presentation to the NPCC Compliance Staff and to the New England Power Pool (NEPOOL) to illustrate how the generators responded to the dispatch.

(1) REGISTERED ENTITY’S COMPLIANCE HISTORY

PREVIOUSLY FILED VIOLATIONS OF ANY OF THE INSTANT
RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER
YES NO

LIST VIOLATIONS AND STATUS

ADDITIONAL COMMENTS

PREVIOUSLY FILED VIOLATIONS OF OTHER RELIABILITY
STANDARD(S) OR REQUIREMENTS THEREUNDER
YES NO

LIST VIOLATIONS AND STATUS

ADDITIONAL COMMENTS

(2) THE DEGREE AND QUALITY OF COOPERATION BY THE REGISTERED
ENTITY (IF THE RESPONSE TO FULL COOPERATION IS “NO,” THE
ABBREVIATED NOP FORM MAY NOT BE USED.)

FULL COOPERATION
IF NO, EXPLAIN

YES NO

(3) THE PRESENCE AND QUALITY OF THE REGISTERED ENTITY'S
COMPLIANCE PROGRAM

IS THERE A DOCUMENTED COMPLIANCE PROGRAM
YES NO UNDETERMINED
EXPLAIN

ISO-NE has an active comprehensive compliance program. In 2006, prior to mandatory reliability standards going into effect, the Chief Executive Officer (CEO) and Chief Operating Officer (COO) established the Reliability and Operations Compliance Group dedicated to monitoring the Company's compliance with NERC Standards. Their internal compliance programs (for NERC, FERC and other federal and state regulatory requirements) incorporate a series of related programs:

- A comprehensive compliance management system overseen by a Chief Compliance Officer (CCO), who has direct and independent access to the CEO and to the ISO-NE independent Board of Directors.
- A Cyber Security Group which monitors compliance with NERC CIP Standards, and which reports to the Vice-President, Information Services, and to the Security Committee and is overseen by the CCO, Vice-President System Operations, and Vice-President Information Services.
- An internet-based anonymous reporting tool for reports of financial matters and fraud overseen by the Vice-President of Human Resources, who has direct and independent access to the CEO and to the ISO-NE Board of Directors.
- An Internal Audit Department that annually assesses risks and audits accordingly. It is administered by the Director of Internal Affairs, who has direct and independent access to CEO and to the ISO-NE independent Board of Directors.
- Internal and External market monitors who are responsible for ensuring the integrity of the wholesale electricity markets. The Market Monitors have direct and independent access to the CEO and to the ISO-NE independent Board of Directors.

The internal compliance programs are operated and managed so as to be independent from the departments performing the relevant business function.

This is due to the structure of the groups administering various components of the internal compliance programs.

ISO-NE Senior management is regularly briefed on audit, risk management, and compliance matters.

Reliability and Operations Compliance personnel are trained on the use of EtQ, a compliance software program which provides an automated and controlled environment for the administration of compliance assessments and issue management. They also participate in key NERC and NPCC committees and forums to remain up-to-date on compliance management and reliability obligations.

NPCC considered the ISO-NE compliance program a mitigating factor in determining the penalty.

EXPLAIN SENIOR MANAGEMENT’S ROLE AND INVOLVEMENT WITH RESPECT TO THE REGISTERED ENTITY’S COMPLIANCE PROGRAM, INCLUDING WHETHER SENIOR MANAGEMENT TAKES ACTIONS THAT SUPPORT THE COMPLIANCE PROGRAM, SUCH AS TRAINING, COMPLIANCE AS A FACTOR IN EMPLOYEE EVALUATIONS, OR OTHERWISE.

The company wide compliance program described above is driven and supported by senior management.

(4) ANY ATTEMPT BY THE REGISTERED ENTITY TO CONCEAL THE VIOLATION(S) OR INFORMATION NEEDED TO REVIEW, EVALUATE OR INVESTIGATE THE VIOLATION.

YES NO
IF YES, EXPLAIN

(5) ANY EVIDENCE THE VIOLATION(S) WERE INTENTIONAL (IF THE RESPONSE IS “YES,” THE ABBREVIATED NOP FORM MAY NOT BE USED.)

YES NO
IF YES, EXPLAIN

(6) ANY OTHER MITIGATING FACTORS FOR CONSIDERATION

YES NO
IF YES, EXPLAIN

(7) ANY OTHER AGGRAVATING FACTORS FOR CONSIDERATION

YES NO
IF YES, EXPLAIN

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES NO
IF YES, EXPLAIN

EXHIBITS:

SOURCE DOCUMENT

MITIGATION PLAN

CERTIFICATION BY REGISTERED ENTITY

VERIFICATION BY REGIONAL ENTITY

OTHER RELEVANT INFORMATION:

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR
SANCTION ISSUED

DATE: OR N/A

SETTLEMENT REQUEST DATE

DATE: **11/26/2010** OR N/A

NOTICE OF CONFIRMED VIOLATION ISSUED

DATE: OR N/A

SUPPLEMENTAL RECORD INFORMATION

DATE(S) OR N/A

REGISTERED ENTITY RESPONSE CONTESTED

FINDINGS PENALTY BOTH DID NOT CONTEST

HEARING REQUESTED

YES NO

DATE

OUTCOME

APPEAL REQUESTED

Attachment d

**ISO-NE's Self-Report dated, September 2,
2010**



Logged in as:

Scott Nied

Log Out

System Administration

Compliance

TFE Request

Plants & Generators

2010 Schedule

Self Reports

Complaints

Mitigation Plans

Violation Retractions

Self Report Form - 2010

Save PDF | Return To Search Results

New Mitigation Plan

This form was submitted on 9/2/2010.

* Required Fields		Status: Saved
Region:	NPCC	
NERC Registry ID:	NCR07124	
Joint Registration Organization (JRO) ID:		
Registered Entity:	ISO-NE	
Registered Entity Contact Information:		
* Registered Entity Contact Information:	Kathleen Goodman (kgoodman@iso-ne.com) (413) 535-4111	
Standard Applicable to Self-Report:	BAL-002-0	
Requirement Applicable to Self-Report:	R4.	
Sub Requirements Applicable to Self-Report:	R4.1.	
Function Applicable to Self-Report:	BA	
Has this possible alleged violation previously been reported or discovered:	* <input type="radio"/> Yes <input type="radio"/> No	
Provide NERC Violation ID (If known):		
Date violation occurred:	* 9/2/2010	
Date violation discovered:	* 9/2/2010	
Is the violation still occurring?	* <input type="radio"/> Yes <input type="radio"/> No	
Detail explanation and cause of violation:	*	
At approximately 1305-1310, ISO-NE lost a Mystic #8 & 9 generators. We activated contingency reserves which did not result in a complete recovery within 15 minutes.		
Reliability Impact:	* Minimal	
Reliability Impact Description:	*	
Of the approximately 1400 MW lost, only about 200 MW of the source loss was not restored within the NERC-specified 15 minute recovery time for a DCS event.		
Additional Comments:		
<p>NOTE: While submittal of a mitigation plan is not required until after a determination of a violation is confirmed, early submittal of a mitigation plan to address and remedy an identified deficiency is encouraged. Submittal of a mitigation plan shall not be deemed an admission of a violation. (See NERC Rules of Procedure, Appendix 4C, Section 6.4.)</p>		

Submit Self Report

Attachment e

**ISO-NE's Mitigation Plan designated as
MIT-10-3105, submitted November 5, 2010**

Logged in as:
Peter T. Brandien

Log Out

- System Administration
- Compliance
- TFE Request
- 2010 Schedule
- Self Reports
- Complaints
- Mitigation Plans
- Violation Retractions

Edit - Mitigation Plan

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* Required Fields

Status: Saved

All Milestones have been Completed

Section A: Compliance Notices & Mitigation Plan Requirements

- A.1 Notices and requirements applicable to Mitigation Plans and this Submittal Form are set forth in "Attachment A - Compliance Notices & Mitigation Plan Requirements" to this form.
- A.2 I have reviewed Attachment A and understand that this Mitigation Plan Submittal Form will not be accepted unless this box is checked.

Section B: Registered Entity Information

B.1 Identify your organization

Company Name: ISO-NE
Company Address: One Sullivan Road
One Sullivan Road, Massachusetts
01040
NERC Compliance Registry ID: NCR07124

B.2 Identify the individual in your organization who will be the Entity Contact regarding this Mitigation Plan.

Name: * Kathleen Goodman Find | Clear

Section C: Identification of Alleged or Confirmed Violation(s) Associated with this Mitigation Plan

C.1 This Mitigation Plan is associated with the following Alleged or Confirmed violation(s) of the reliability standard listed below.

Applicable Standard, Requirement(s) and Violation Date:

Standard: BAL-002-0

BAL-002-0 R4.[BAL-002-0 R4.1.] (09/02/2010)

C.2 Identify the cause of the Alleged or Confirmed violation(s) identified above. Additional detailed information may be provided as an attachment:

ISO-NE, as the New England Balancing Authority, did not return the ACE to pre-contingency values within 15 minutes, after the near simultaneous loss of two generating units, due to a number of generation resources failing to respond to ISO-NE's electronic dispatch instructions or otherwise underperforming in meeting their Ten-Minute Reserve requirement.

C.3 Provide any additional relevant information regarding the Alleged or Confirmed violations associated with this Mitigation Plan. Additional detailed information may be provided as an attachment:

Section D: Details of Proposed Mitigation Plan

D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the Alleged or Confirmed violations identified above in Part C.1 of this form. Additional detailed information may be provided as an attachment:

ISO-NE initiated its action plan on the same day it experienced the event. The action plan corrected the Alleged violation and should prevent it from occurring again. The action plan consists of three (3) items: (1) increase the New England system-wide Ten-Minute Reserve ("reserve bias" by 10%) to 110% of the first contingency loss; (2) increase the minimum Ten-Minute Spinning Reserve requirement from 25% to 55% of the first contingency; (3) direct Control Room system operators to maintain a mix of Shared Activation of Reserves (the


assistance from external Balancing Authorities) and New England reserves assuming a non-performance factor (the amount of reserves called on in addition to the source loss assuming less than 100% performance of requested resources) of at least 140% of First Contingency Loss.

These steps serve to mitigate the risk of this Alleged violation from occurring again, because they require the Control Room system operators to: (a) commit generation resources, throughout the operating day and pre-contingency, in a manner that ensures sufficient resources are available, and (b) assume generator non-performance rates are worse than what was observed on September 2.

Additionally, and in order to determine whether new or modified operating protocols must be put into place to govern Market Participant's generation operation and/or the transmittal and receipt of electronic dispatch instructions, ISO-NE has initiated a longer-term assessment of the circumstances under which Market Participants' either: (a) did not acknowledge ISO-NE's emergency electronic dispatch signals; (b) did not respond to ISO-NE's emergency dispatch signals; and/or (c) otherwise underperformed relative to their Ten-Minute Spinning Reserve requirement during the 15-minute period. ISO-NE has also initiated a project to enhance operator tools for viewing when Market Participants' have not acknowledged electronic dispatch signals.

Finally, in response to observing the Control Room System Operators issuing a security-constrained economic dispatch near the end of the 15-minute period, but prior to the overall recovery of the ACE – an action which did not contribute to the failure to recover the ACE within the 15 minute mandated timeframe but may have contributed to the overall delay of the ACE recovery – ISO-NE has changed its system operating procedures in order to highlight that the Control Room System Operator should not execute a “non-contingency dispatch solution” until after ACE recovery. ISO-NE is in the process of reinforcing its Control Room System Operator training regarding the same.

D.2 Provide the date by which full implementation of the Mitigation Plan will be, or has been, completed with respect to the Alleged or Confirmed violations identified above. State whether the Mitigation Plan has been fully implemented:

12/31/2010 

D.3 Enter Milestone Activities, with due dates, that your organization is proposing, or has completed, for this Mitigation Plan:

Milestone	Status	Due Date	Completed Date	
Ten-Minute Reserve increase	Milestone Completed	9/2/2010	9/2/2010	Detail
Minimum Ten-Minute Spinning Reserve increase	Milestone Completed	9/2/2010	9/2/2010	Detail
Non-performance assumptions	Milestone Completed	9/2/2010	9/2/2010	Detail
Procedure change	Milestone Completed	11/1/2010	11/1/2010	Detail
Resources' non-performance performance	Milestone Pending	12/1/2010		Detail
Operator display change	Milestone Pending	12/31/2010		Detail
Operator training on Procedure change	Milestone Pending	12/31/2010		Detail

[Add New Mitigation Plan Milestone](#)

Section E: Interim and Future Reliability Risk

Abatement of Interim BPS Reliability Risk

E.1 While your organization is implementing this Mitigation Plan the reliability of the Bulk Power System (BPS) may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be, known or anticipated: (i) identify any such risks or impacts; and (ii) discuss any actions that your organization is planning to take to mitigate this increased risk to the reliability of the BPS.

Additional detailed information may be provided as an attachment:

See D.1. ISO-NE's Action Plan, completed on September 2, 2010, mitigates the immediate risk, and ISO-NE is unaware of the reliability of the Bulk-Power System remaining at higher risk. Once ISO-NE completes its' root cause Corrective Actions regarding generator non-response, ISO-NE may take additional measures to change operating protocols so that a more effective and/or efficient solution may be put into place and so that the Action Plan items are no

longer necessary.

Prevention of Future BPS Reliability Risk

E.2 Describe how successful completion of this Mitigation Plan will prevent or minimize the probability that your organization incurs further risk of Alleged violations of the same or similar reliability standards requirements in the future.

Additional detailed information may be provided as an attachment:

See D.1. The immediate actions minimize the probability of this event occurring again, because it has resulted in increased total reserves available and increased the assumed generator non-performance factor for dispatching generation. Once ISO-NE's root cause Corrective Actions regarding generator non-response is complete, ISO-NE will be positioned with more information to implement new protocols for generator performance in response to events.

Section F: Authorization

An authorized individual must sign and date this Mitigation Plan Submittal Form. By doing so, this individual, on behalf of your organization:

- a) Submits this Mitigation Plan for acceptance by **NPCC** and approval by NERC, and
- b) If applicable, certifies that this Mitigation Plan was completed on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
 - 1. I am **Peter T. Brandien** of **ISO-NE**
 - 2. I am qualified to sign this Mitigation Plan on behalf of **ISO-NE**
 - 3. I understand **ISO-NE's** obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation (NERC CMEP))
 - 4. I have read and am familiar with the contents of this Mitigation Plan
 - 5. **ISO-NE** agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by **NPCC** and approved by NERC

Authorized Individual Signature [Sign](#)

Section G: Regional Entity Contact

Please direct any questions regarding completion of this form to:

 Save Item |  Delete Item | Cancel Changes |  Save PDF | [Return to Mit Plan Search](#)

Attachment f

**ISO-NE's Certification of Mitigation Plan
Completion, submitted January 3, 2011**

Logged in as:
Peter T. Brandien
 Log Out

- ▶ System Administration
- ▶ Compliance
- ▶ TFE Request
- ▶ **2011 Schedule**
- ▶ **2010 Schedule**
- ▶ Self Reports
- ▶ Complaints
- ▶ Mitigation Plans
- ▶ Violation Retractions

Edit

Save Item | Delete Item | Cancel Changes | Save PDF | Return to Mitigation Plan

* Required Fields

Status: Saved

All Mitigation Plan Completion Certification submittals shall include data or information sufficient for NPCC to verify completion of the Mitigation Plan. NPCC may request such additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6) Data or information submitted may become part of a public record upon final disposition of the possible violation, therefore any confidential information contained therein should be marked as such in accordance with the provisions of Section 1500 of the NERC Rules of Procedure.

Name of Registered Entity submitting certification: **ISO-NE**

Name of Standard of mitigation violation(s): BAL-002-0

Mitigated information:

Requirement	Tracking Number	Violation ID
R4.	NPCC2010-200199	ID Not Assigned

Date of completion of the Mitigation Plan:

12/15/2010

Summary of all actions described in Part D of the relevant mitigation plan:

Last Item completed on 12/15 for last off-shift shift; mis-characterized as completed by 12/13

Description of the information provided to NPCC for their evaluation:

Evidence for each Action Item in the Mitigation Plan attached

I certify that the mitigation plan for the above-named violation has been completed on the date shown above. In doing so, I certify that all required mitigation plan actions described in Part D of the relevant mitigation plan have been completed, compliance has been restored, the above-named entity is currently compliant with all of the requirements of the referenced standard, and that all information submitted is complete and correct to the best of my knowledge. Submit all supporting documentation.

Authorized Individual Signature [Sign](#)

Authorized Signatory Peter T. Brandien notified on 1/3/2011

Attachment g

NPCC's Verification of Mitigation Plan Completion, dated February 3, 2011



NORTHEAST POWER COORDINATING COUNCIL, INC.
1515 BROADWAY, NEW YORK, NY 10036-8901 TELEPHONE: (212) 840-1070 FAX: (212) 302-2782



February 3, 2011

Ms. Kathleen Goodman
Senior Operations Compliance Coordinator
ISO-NE

Re: MIT-10-3105, Violation # NERC ID: NPCC201000206

This letter is to notify you that NPCC has verified the completion of the mitigation plan ISO-NE submitted on January 3, 2011.

NPCC thanks you for your cooperation in this matter and for improving the reliability of the bulk electric system.

Please do not hesitate to call if you have any questions regarding this issue.

Sincerely,

Walter Cintron
Manager, Compliance Enforcement
Tel: 212 840-1070
Fax: 212 302-2782