
	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014

SOP- RTMKTS.0120.0015

Implement Minimum Generation Emergency Remedial Action

Contents

1. Objective	2
2. Background	2
3. Responsibilities	2
4. Controls	3
5. Instructions	4
5.1 Capacity Analysis and Review of Reserves	4
5.2 Minimum Generation Emergency Warning Notifications	5
5.2.1 Evaluation by Forecaster	5
5.2.2 Evaluation by Generation Operator.....	6
5.3 Mitigating a Minimum Generation Emergency in Real Time.....	8
5.3.1 Actions Prior to Declaring Minimum Generation Emergency	8
5.3.2 Declaring Minimum Generation Emergency.....	9
5.3.3 Canceling Minimum Generation Emergency.....	13
6. Performance Measures	15
7. References	15
8. Revision History	15
9. Attachments	17
Attachment A - Minimum Generation Emergency Checklist.....	18
Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar (Confidential)	19

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

1. Objective

The objective of this procedure is to mitigate Minimum Generation Emergency conditions in real time operations.

2. Background

The Operations Shift Supervisor uses the Current Operating Plan Capacity Analysis information, EES Market Operator Interface and OIS Destacker to EnergyMin screen to make decisions on declaring Minimum Generation Emergency.

Competitive market experience has indicated that a Minimum Generation Emergency can occur in New England during any season.


Minimum Generation Emergency is declared for a system condition where the difference between the projected load and the sum of fixed External Transaction purchases that cleared the Day Ahead Energy Market and all on-line generating unit Economic Minimum (Eco Min) Limits are less than or equal to 100 MW.

3. Responsibilities

NOTE


Any NERC Certified System Operator, certified at the RC level, has the authority to take action(s) required to comply with NERC Reliability Standards.

1. The Operations Shift Supervisor is responsible for issuing Minimum Generation Emergency Warnings.
2. In real-time, the Operations Shift Supervisor is responsible for mitigating Minimum Generation Emergency conditions in coordination with the Control Room and Forecast staff.
3. In real-time, the Operations Shift Supervisor is responsible for declaring a Minimum Generation Emergency condition.
4. If a Minimum Generation Emergency condition is declared, the Operations Shift Supervisor is responsible for:
 - A. Electronic completion of Attachment A - Minimum Generation Emergency Checklist
 - B. Ensuring completed electronic checklists are archived for 3 years plus the current year.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

4. Controls


- Only NERC Certified System Operators, certified at the RC level, shall be allowed to take real-time actions involving system security
- Current Operating Plan Capacity Analysis program shall be available to assist in remedial action decisions

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014

5. Instructions

5.1 Capacity Analysis and Review of Reserves

1. The Senior System Operator shall review the latest Current Operating Plan Capacity Analysis for the following and report any findings to the Operations Shift Supervisor:
 - A. The lower margin to Eco Min to ensure that at least 100 MW of lower margin is available for each hour of the operating day.
 - B. If the lower margin to Eco Min is below 100 MW review the Max Lower Margin, which includes the available MW to Emergency Minimum.
 - C. The load curve to ensure that loads are still on the curve. If the loads are running under the curve, use this in determining the extent of a Minimum Generation Emergency.
2. The Forecaster shall report to the Operations Shift Supervisor when a potential exists for a Minimum Generation Emergency in accordance with SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Run and perform appropriate actions in accordance with Section 5.2.
3. As Minimum Generation Emergency conditions approach, System Operators shall on a continuous basis review the back down margins (room to move) on dispatchable Generators, including Regulation units utilizing the OIS Destacker to EnergyMin and RTGEN displays.
4. The Operations Shift Supervisor shall review the SCRA Capacity Analysis and determine if a Minimum Generation Emergency Warning declaration should be issued. If Minimum Generation Emergency Warning declaration should be issued, the Operations Shift Supervisor shall go to Section 5.2 and ensure the appropriate actions are taken.
5. When the following condition exists, the Operations Shift Supervisor shall refer to Section 5.3 and determine if Minimum Generation Emergency conditions apply:
 - For New England the difference between the projected load and the expected net schedule of External Transactions that cleared the Day Ahead Energy Market and all on-line generating unit Eco Min Limits are less than or equal to 100 MW.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: <i>Implement Emergency Operations</i>		
	Procedure Number: <i>RTMKTS.0120.0015</i>		Revision Number: <i>21</i>
	Procedure Owner: <i>Steve Gould</i>		Effective Date: <i>February 1, 2012</i>
	Approved By: <i>Director, Operations</i>	Valid Through: <i>February 1, 2014</i>	


5.2 Minimum Generation Emergency Warning Notifications

5.2.1 Evaluation by Forecaster

NOTE

Min Gen Emergency actions will only be taken on a system basis.


1. When the Forecaster has projected a potential Minimum Generation Emergency Warning condition, the Operations Shift Supervisor shall consider issuing a Minimum Generation Emergency Warning declaration.
2. If a Minimum Generation Emergency Warning is declared, the Operations Shift Supervisor shall ensure the following actions are performed:
 - A. The Forecaster shall enter the start time, projected end time and the date that applies to the Minimum Generation Emergency Warning into the Control Room Event Logserver (Logserver) per SOP-RTMKTS.0125.0040 - Update Control Room Logs.
 - B. The Forecaster shall notify the Operations Shift Supervisor to post the Minimum Generation Emergency Warning declaration to the ISO Web Calendar for external notifications.
 - C. The Operations Shift Supervisor shall perform applicable steps in Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar to notify external parties of the Warning.
 - D. The Operations Shift Supervisor shall ensure that the following have been notified that a Minimum Generation Emergency Warning declaration has been issued and the anticipated duration of the event:
 - NYISO
 - NBSO
 - HQ (TransEnergie)
3. When the Minimum Generation Emergency Warning declaration has been issued, the Forecaster shall perform the following:
 - A. If a Self Schedule (S/S) increase is requested after the re-offer period and it could contribute to a Minimum Generation Emergency, reject the requested S/S increase.
 - B. To ensure sufficient back down margin exists to Emergency Minimum, perform an hourly check using the Current Operating Plan Capacity Analysis report.
 - C. If sufficient margin exists, advise the Operations Shift Supervisor.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014


4. If sufficient back down margin to Emergency Minimum does not exist the Forecaster shall reject further Self Schedule changes and issue de-commitment orders to units per SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Run in an effort to maintain sufficient back down margin to Emergency Minimum.
5. If the difference between the projected load and the sum of fixed External Transaction purchases that cleared the Day Ahead Energy Market and all on-line generating unit Eco Min limits are less than or equal to 100 MW, refer to Section 5.3 to declare a Minimum Generation Emergency

5.2.2 Evaluation by Generation Operator

1. If the Generator Operator projects that next-hour scheduling of External Transactions could result in a Minimum Generation Emergency condition, the Generation Operator shall perform the following evaluations to determine if the reductions to transactions can be used to mitigate the Minimum Generation Emergency.
 - A. After performing the normal scheduling process in accordance with SOP-RTMKTS.0090.0010 - Schedule Next Hour External Transactions, Generator Operator shall review the amount of “RT Only MWs” expected to be scheduled on the EES-MOI Min Gen Emer display
 - B. If the reduction of “RT Only MWs” can mitigate the Minimum Generation Emergency for the next hour:
 - Generator Operator shall notify Operations Shift Supervisor and Senior System Operator
 - Shift Supervisor shall issue Minimum Generation Emergency Warning, if a warning has not already been issued for that hour
 - Generator Operator and Senior System Operator shall determine the MW amount of “RT Only MWs” that will mitigate the emergency condition and schedule transactions in accordance with SOP-RTMKTS.0090.0010 - Schedule Next Hour External Transactions

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

- C. If the reduction of “RT Only MWs” is not adequate to mitigate the Minimum Generation Emergency for the next hour:
- Generator Operator shall notify Operations Shift Supervisor and Senior System Operator
 - If the difference between the projected load and the sum of fixed External Transaction purchases that cleared the Day Ahead Energy Market and all on-line generating unit Eco Min limits are less than or equal to 100 MW, refer to Section 5.3 to declare a Minimum Generation Emergency.
2. If an event occurs in real-time such that the currently scheduled External Transactions could result in a Minimum Generation Emergency condition, the Generation Operator shall review the currently scheduled transactions and perform the following evaluations to determine if the curtailment of transactions can mitigate a Minimum Generation Emergency condition.
- A. Generator Operator shall review the amount of “RT Only MWs” currently scheduled on the EES-MOI Min Gen display
- B. If the reduction of the “RT Only MWs” can mitigate the Minimum Generation Emergency:
- Generator Operator shall notify Operations Shift Supervisor and Senior System Operator
 - Shift Supervisor shall issue Minimum Generation Emergency Warning, if a warning has not already been issued for that hour
 - Generator Operator and Senior System Operator shall determine the required MW amount of RT Only transactions to mitigate the Minimum Generation Emergency and curtail transactions in accordance with SOP-RTMKTS.0100.0010 - Curtail External Transactions
- C. If the curtailment of all “RT Only MWs” is not adequate to mitigate the Minimum Generation Emergency:
- Generator Operator shall notify Operations Shift Supervisor and Senior System Operator
 - If the difference between the projected load and the sum of fixed External Transaction purchases that cleared the Day Ahead Energy Market and all on-line generating unit Eco Min limits are less than or equal to 100 MW, refer to Section 5.3 to declare a Minimum Generation Emergency.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

5.3 Mitigating a Minimum Generation Emergency in Real Time


5.3.1 Actions Prior to Declaring Minimum Generation Emergency

NOTE

Regulation and operating back down margins can be monitored to provide indication of a Minimum Generation Emergency condition.

The UDS software developing close to \$0, \$0 or less than zero ex-ante nodal LMPs is another reference point for determining if the system is close to Minimum Generation Emergency conditions.

1. The Operations Shift Supervisor shall ensure the following actions are taken:
 - A. Available dispatchable Generators are shutdown, which do not create other system reliability implications.
 - B. Available Dispatchable Asset Related Demands (DARDs) are properly dispatched either economically or as self-scheduled.
 - C. The UDS software has dispatched on-line internal Generators to their respective Eco Min limits.
 - D. All Real-Time Only external purchases have not been scheduled. The only scheduled External Transaction purchases should be External Transactions that have cleared the Day Ahead Energy Market. If this is not the case, the Generation Operator should take actions so that all Real-Time Only External Transaction purchases are not scheduled.
 - E. Allow the requirements for regulation to be relaxed if it will allow relief during the Minimum Generation Emergency.
 - F. If the previous actions do not adequately mitigate the pending Minimum Generation Emergency condition then the Generation Operator shall determine the anticipated LMP at each external node for the next hour and determine if economical transaction sales can be scheduled.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

5.3.2 Declaring Minimum Generation Emergency

NOTE

Min Gen Emergency actions can only be taken on a system basis.
Do not declare Min Gen Emergency for an area.
Do not select Min Gen Emergency dropdown for a zone.
Declaring a Minimum Generation Emergency should occur on the hour to promote equity between external transaction cuts and generation reductions. However, the declaration may also be made within the hour, if necessary to respond to sudden events such as the tripping of a DARD.
Attachment A, Minimum Generation Emergency Checklist contains a condensed reference of action items to assist System Operators in completing the tasks involved with Minimum Generation Emergency.

1. If the previous actions do not adequately mitigate the Minimum Generation Emergency condition, and for a New England wide problem less than 100 MW of back down margin exists, the Operations Shift Supervisor shall:
 - A. Estimate the amount of expected Minimum Generation Emergency on the system.
 - B. Declare a Minimum Generation Emergency for all of New England.
 - C. Refer to Attachment a - Min Gen Emergency Checklist and perform the following:
 - (1) Complete the electronic checklist
 - (2) Ensure the completed checklists are archived for 3 years plus the current year


NOTE

Selecting the Min Gen Emergency dropdown from the Gen Emergency box will:

- Allow the UDS to dispatch Generators with RIGs to their Emergency Minimum limits
- Set all the LMPs for the ISO Control Area / Balancing Authority or the local dispatch zone to zero as appropriate

Generators refusing to follow ISO dispatch instructions:

- Will not be unilaterally redecided by the ISO System Operator.
- Should remain at their bid limits and incur failure-to-follow flags, if applicable

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

2. If time allows, prior to the top of the hour that Minimum Generation Emergency is entered, the Loader Operator shall perform the following test:

NOTE

For the purposes of this test, if Contingency SPD needs to be activated, the Normal dropdown in the Gen Emergency box of the UDS software must be selected prior to running Contingency SPD.


- A. Select the Min Gen Emergency dropdown in the Gen Emergency box of the UDS and execute a UDS case to see which units will be dispatched down to Emergency Minimum for reliability and to allow the LCC more time to conduct an evaluation.
 - B. After the results of this test are known, select the Normal dropdown on the Gen Emergency box in the UDS.
3. The Operations Shift Supervisor shall direct the Loader Operator to select the Min Gen Emergency dropdown from the Gen Emergency box of UDS.

NOTE

When Minimum Generation Emergency notification is initiated using the ENS software:

- ISO Management and staff will receive an email notification
- The Generator/DARD Designated Entities (DEs) will receive telephone notification

4. When Minimum Generation Emergency is implemented, the Operations Shift Supervisor (or designee) shall make notification using the ENS software “Min Generation Emergency Declared” icon.
5. The Operations Shift Supervisor shall perform applicable steps in Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar to declare the event.
6. The Operations Shift Supervisor shall ensure the following have been notified that a Minimum Generation Emergency declaration has been issued and the anticipated duration of the event:
 - NYISO
 - NBSO
 - HQ (TransEnergie)


	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014

7. The Operations Shift Supervisor shall enter the Minimum Generation Emergency declaration in the Logserver per SOP-RTMKTS.0125.0040 - Update Control Room Logs and ensure the following details are captured:
 - A. Time and Date event started.
 - B. MW amount and the expected duration of the Minimum Generation Emergency.
 - C. Any generators that needed to be manually dispatched below their Eco Min Limit.


NOTE

When the Min Gen Emergency dropdown is selected, UDS administratively sets the price to zero. Generators and DARDs continue to be dispatched using their appropriate bid price.

8. If the UDS does not provide a solution that starts all available DARDs, the Loader Operator shall order all available DARDs on.
9. If a DARD is sent a shutdown signal during a Minimum Generation Emergency, the Loader Operator shall place that DARD on the UDS deselect list.
10. The Generation Operator shall use the EES-MOI to adjust the External Transactions by an amount equal to half the estimated Minimum Generation Emergency condition. However, if the capability of either generation or External Transactions needed to reduce is exhausted, required reductions will then be taken on the remaining resource type as needed.
 - If declared for a future hour, the future hour schedule for External Transactions shall be reduced per SOP-RTMKTS.0090.0010 - Schedule Next Hour External Transactions
 - If declared for the current hour, External Transaction purchases shall be curtailed per SOP-RTMKTS.0100.0010 - Curtail External Transactions
11. The Operations Shift Supervisor shall consult with the Senior System Operator and Forecaster to consider cancelling a unit ramping schedule or scheduled run-through that contributes to the Minimum Generation Emergency by performing the appropriate actions of SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Assessment.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: <i>Implement Emergency Operations</i>	
	Procedure Number: <i>RTMKTS.0120.0015</i>	Revision Number: <i>21</i>
	Procedure Owner: <i>Steve Gould</i>	Effective Date: <i>February 1, 2012</i>
	Approved By: <i>Director, Operations</i>	Valid Through: <i>February 1, 2014</i>

12. If the previous actions still do not adequately mitigate the Minimum Generation Emergency condition, the Operations Shift Supervisor shall perform the following:
- A. Reduce the output of non-dispatchable Generators using the Operator Information System (OIS) Energy Destacker displays.
 - B. If required, advise the Forecaster to de-commit Self-Scheduled Generators based on Emergency Minimum limits closest to the amount of MW required to match supply and demand as well as minimum down times and reliability impacts.
 - C. Advise the Forecaster to cancel Generator start-ups per SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Run.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: <i>Implement Emergency Operations</i>		
	Procedure Number: <i>RTMKTS.0120.0015</i>		Revision Number: <i>21</i>
	Procedure Owner: <i>Steve Gould</i>		Effective Date: <i>February 1, 2012</i>
	Approved By: <i>Director, Operations</i>	Valid Through: <i>February 1, 2014</i>	

5.3.3 *Canceling Minimum Generation Emergency*

1. When the projected back down margin is greater than 100 MW and rising for a New England wide problem, the Operations Shift Supervisor shall perform the following:
 - A. Prior to canceling the Minimum Generation Emergency ensure that non-dispatchable Generators, which were backed down have been returned to Eco Min.
 - B. When there is no expectation of a recurrence for Minimum Generation Emergency conditions cancel the Minimum Generation Emergency.
 - C. Direct the Loader Operator to select the Normal dropdown in the Gen Emergency box of the UDS software.

NOTE

Selecting the Normal dropdown in the Gen Emergency box of the UDS will initiate the following actions:

- The UDS software will now economically dispatch internal dispatchable generating units using their Eco Min limits
- Allows UDS to calculate LMP in normal economics

Depending on offer data, the UDS may not dispatch Generators back to Eco Min. System Operators may have to manually notify Generators to move back to Eco Min. A Generator in UCM 4 that is below its Eco Min limit is highlighted in red in the EMS→RTGEN→ Unit Status display.


- D. Direct the Loader Operator and Generation Operator to manually notify Generators that are highlighted in red in the EMS→RTGEN→Unit Status display to move back to Eco Min. The use of manual DDPs shall not be used since the Generator is required to move to the Eco Min limit.

NOTE


When Minimum Generation Emergency notification is cancelled using the ENS software:

- ISO Management and staff will receive an email notification
- The Generator/DARD DEs will receive telephone notification

- E. When Minimum Generation Emergency is cancelled, ensure notification is made using the ENS software “Min Generation Emergency Cancelled” icon.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014

- F. Complete the applicable steps to cancel the event in Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar.
 - G. Enter the Minimum Generation Emergency termination in the Logserver per SOP-RTMKTS.0125.0040 - Update Control Room Logs.
2. The Generation Operator shall resume normal scheduling of external transaction purchases.
 3. The Senior System Operator shall request the Forecaster to determine if generation changes are necessary from the COP in accordance with SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Run.

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

6. Performance Measures

This procedure is deemed to be properly followed as evidenced by the following:

- Goal for Corporate performance in CPS1, CPS2 and DCS (Disturbance Control Standard) compliance met

7. References


SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Run

SOP-RTMKTS.0090.0010 - Schedule Next Hour External Transactions


SOP-RTMKTS.0100.0010 - Curtail External Transactions

8. Revision History

Rev. No.	Date	Reason	Contact
0	06/20/03	Initial procedure for separate Min Gen procedure	Don Gates
1	7/23/03	Provide additional guidance when canceling Min Gen Emergency	Don Gates
2	11/16/03	Modified Controls and Performance Measures to align with ISO 9001 standards	Don Gates
3	12/16/03	Modified tool used to assist in determining Min Gen	Don Gates
4	5/5/04	Clarify Forecaster actions for Min Gen Emergency	Don Gates
5	02/01/05	Updated SOP for RTO terminology	Steve Weaver
6	09/26/06	Revised for ASM Phase 2	Steve Weaver
7	09/07/06	Updated for Shift Supervisor posting of Minimum Generation Emergency notices to the web calendar	Steve Weaver
8	04/30/07	Revised responsibilities for scheduling transactions	Steve Weaver
9	06/26/07	Revised Min Gen Checklist	Steve Weaver
10	12/21/07	Minor clerical change to reference NERC Standards	Steve Weaver
11	02/05/08	Added new step 5.3.2.I and corresponding step in Attachment A.	Steve Weaver
12	06/03/08	Updated to reflect the new treatment of Real-Time only transactions in the latest revision to OP 9	Steve Weaver
13	8/14/08	Modified step 5.2.1.1A	Steve Weaver
14	03/16/09	Document header changed to reflect administrative changes, Deleted references to local min gen situations and revised information pertaining to Min Gen software	Steve Weaver

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
Approved By: Director, Operations		Valid Through: February 1, 2014	

15	05/01/09	Modified Attachment B to update for current steps for completing a Notice for the public calendar	Steve Weaver
16	06/08/09	Replaced Step 5.1.4; Modified Step 5.2.1.1; Added new Step 5.2.1.1.D; Added new Step 5.2.1.3.F; added new item 6 to Attachment A	Steve Weaver
17	07/01/09	Added new Step 5.2.1.1.E.; Converted former Step 5.2.1.4 to a NOTE; Added new Step 5.2.1.4; Deleted former Step 5.2.1.4; Replaced 2 nd bullet in Step 5.2.2.1.C; Added new NOTE prior to Step 5.3.2.1.D; Replace Step 5.3.2.1.D; Replaced Step 5.3.3.1.E; Added new NOTE prior to Step 5.3.3.1.E; Attachment A reworded 4 th and last items in checklist	Steve Weaver
18	07/06/09	Deleted Step 5.2.1.1.E	Steve Weaver
19	07/27/09	Deleted references to DMT, EMU project;; Added Step 3.4 and sub-steps; Added Step 5.3.2.1.C. and sub-steps	Steve Weaver
20	02/02/10	Biennial review by procedure owner; Header changed copyright date; Section 3 NOTE and Section 4 modified to include new standard text requiring certification at RC level; step 5.1.3 and NOTE prior to Step 5.1.4 modified; Added new Step 5.2.1.2; Modified Steps 5.2.1.2.D, 5.2.1.3, 5.2.1.3.A, 5.2.1.3.B, 5.2.1.3.C; Deleted NOTE prior to former step 5.2.1.4; Modified 2 nd paragraph in NOTE for Step 5.3.1, 5.3.1.1, 5.3.1.1.B; Added new sub-steps 5.3.1.1.B.(1) & (2); Modified NOTE prior to Step 5.3.2.1.D, NOTE prior to Step 5.3.2.1.F, Steps 5.3.2.1.F, 5.3.2.1.G & 5.3.2.1.H; Added new NOTE prior to new Step 5.3.2.1.I, Added new steps 5.3.2.1.I & J Modified Steps 5.3.2.1.L, 5.3.2.2.A; Deleted NOTE following Step 5.3.3.1.; Modified Step 5.3.3.1.A, NOTE prior to Step 5.3.3.1.D, Steps 5.3.3.3.D, 5.3.3.1.E, 5.3.3.1.F;; Deleted step 5.3.3.3; Added NOTE and two sub-headings to Attachment A; Modified Attachment A 1 st sub-heading items 2, 7, 8 & 13; added new item 9 deleted item 15 Modified Attachment A 2 nd sub-heading item 2	Steve Weaver


	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action
	Process Name: Implement Emergency Operations	
	Procedure Number: RTMKTS.0120.0015	Revision Number: 21
	Procedure Owner: Steve Gould	Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014

21	02/01/12	Biennial review by procedure owner; Header changed the copyright date and Procedure Owner;; Footer replaced page numbers with Page X of Y format; Deleted 2 nd paragraph of disclaimer on 1 st page Footer; Added “Confidential – Do No Distribute” to all page Footers	Steve Gould

9. Attachments

Attachment A - Minimum Generation Emergency Checklist

Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar (Confidential)

	© ISO New England Inc. 2012	Procedure: Implement Minimum Generation Emergency Remedial Action	
	Process Name: Implement Emergency Operations		
	Procedure Number: RTMKTS.0120.0015		Revision Number: 21
	Procedure Owner: Steve Gould		Effective Date: February 1, 2012
	Approved By: Director, Operations	Valid Through: February 1, 2014	

Attachment A - Minimum Generation Emergency Checklist

NOTE


This Checklist should be electronically completed by the Operations Shift Supervisor.

Entering Min Gen Emergency:

- Ensure available dispatchable Generator has previously been shutdown.
- Available DARDs properly dispatched on, either by UDS or as S/S
- Ensure RT Only external purchases price have not been scheduled.
- Make initiation notification using the ENS software, include start time, projected end time, and date.
- Ensure the Operations Shift Supervisor posts the Minimum Generation Emergency Notices to the Web Calendar when declaring a Minimum Generation Emergency.
- Notify the following of the declaration of a Minimum Generation Emergency and the anticipated duration of the event:
 - NYISO
 - NBSO
 - HQ (TransEnergie)
- Log the Minimum Generation Emergency event in the Logserver, include time & date MW amount expected and any generators that need to be manually dispatched below Eco Min.
- Ensure that once the amount of Minimum Generation Emergency is determined that 50% of that amount is reduced in the purchase of transactions. Except that if the capability of either generation or External Transactions to reduce is exhausted, reductions will then be taken on the remaining resource type as needed.
- Ensure the Min Gen Emergency dropdown is selected in the UDS.
- Ensure all available DARDs are properly dispatched on either by UDS or manually.
- Closely monitor back down margin of units to Emergency Minimum limits.
- Closely monitor system load trends and forecasted load to determine magnitude and length of time for Minimum Generation Emergency conditions.
- Consult with Senior System Operator and Forecaster to consider cancelling a unit ramping schedule or scheduled run-through that contributes to the Minimum Generation Emergency by performing the appropriate actions of SOP-RTMKTS.0050.0010 - Perform Reserve Adequacy Assessment.
- Notify the Forecaster to cancel unit start ups if necessary to alleviate the Minimum Generation Emergency condition.

Cancelling Min Gen Emergency:

- Ensure the Operations Shift Supervisor posts the Minimum Generation Emergency Notices to the Web Calendar when canceling the Minimum Generation Emergency.
- Ensure the Normal dropdown of the Gen Emergency box is selected in the UDS.
- Ensure that manual DDPs are not used to return Generators to their Eco Min limits.
- Make cancellation notification using the ENS software, include the cancellation time and date.

	© <i>ISO New England Inc. 2012</i>	<i>Procedure: Implement Minimum Generation Emergency Remedial Action</i>
	<i>Process Name: Implement Emergency Operations</i>	
	<i>Procedure Number: RTMKTS.0120.0015</i>	<i>Revision Number: 21</i>
	<i>Procedure Owner: Steve Gould</i>	<i>Effective Date: February 1, 2012</i>
	<i>Approved By: Director, Operations</i>	<i>Valid Through: February 1, 2014</i>

Attachment B - Posting Minimum Generation Emergency Notices to the Web Calendar (Confidential)