	CROP.44001 Perform a Voltage Reduction Test	
©2024	Approved By: Director, Operations	Effective Date: 08/19/2024
Rev #14	Procedure Owner: Manager, Control Room Operations	Valid Through: 08/19/2026

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References

1. OP 13 - Standards for Voltage Reduction and Load Shedding Capability
2. SOP – RTMKTS.0180.0070 – Perform Voltage Reduction Audit & Administration
3. CROP.35002 Regulation

Procedure Background


ISO will perform a voltage reduction test & audit with each Market Participant that has control over transmission/distribution facilities to verify voltage reduction and load shedding capability. A DOE-417 Report filing is **NOT** necessary when performing a Voltage Reduction Test.

OP 13 establishes standards for the installation and testing of Market Participants with control over transmission/distribution facilities voltage reduction and load shedding capability. These standards require that all Market Participants with control over transmission/distribution facilities have the capability to reduce load demand when directed to do so for bulk power supply dispatching purposes. These load reducing capabilities are used by the ISO New England (ISO) and/or the Local Control Centers (LCCs) to maintain system reliability during generating capacity deficiencies, energy deficiencies, and other emergency operating conditions as described in ISO New England Operating Procedure No. 4 - Action During a Capacity Deficiency (OP-4) and ISO New England Operating Procedure No. 7 - Action in an Emergency (OP-7).

Establishing the voltage reduction test date, times, and the initial communications regarding the voltage reduction test are performed using SOP-RTMKTS.0180.0070 - Perform Voltage Reduction Audit and Administration. The Administrative Assistant, System Operations e-mails the Voltage Reduction Test Plan that specifies the test date and times that each test will be performed.


The actual implementation of a 5% voltage reduction requiring more than 10 minutes to implement will be initiated at 08:00 and terminate at 08:30.

The actual implementation of a 5% voltage reduction that is attainable within 10 minutes will be initiated at 18:00 and terminate at 18:30.

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Common Procedure Information

- A. Any ISO-NE qualified Control Room Operator has the authority to take actions required to comply with NERC Reliability Standards. A qualified ISO-NE Control Room Operator has met the following requirements:
 - 1. Have and maintain a NERC certification at the RC level (per R.1 of PER-003-2)
 - 2. Applicable Requirements of PER-005-2
 - 3. Approved to cover a Control Room Operator shift position by the Manager, Control Room Operations
 - 4. Is proficient at the current qualified level.
- B. Real time operation is defined as the current hour and the current hour plus one.
- C. Future hours are those beyond real time operation.
- D. All verbal communications with Local Control Centers (LCC), neighboring Reliability Coordinators/Balancing Authorities (RC/BA), Designated Entities (DE), Demand Designated Entities (DDE) and/or SCADA centers shall be made on recorded phone lines unless otherwise noted.
- E. For all communications:
 - 1. Use the Basic Protocol for All Operational Communications as prescribed in M/LCC 13.
 - 2. Use 'ISO New England' or 'New England'. Refrain from using 'ISO'.
 - 3. Use Asset ID's when communicating with DE/DDEs.
 - 4. Use three-part communication in all situations where its use will enhance communications.
- F. Primary responsibilities are stated for each step within the procedure, but any ISO Control Room Operator qualified at that position or higher can perform the step. The Primary Responsibility may be delegated to an Operator in a lower qualified position, but the responsibility for its completion remains with the identified individual.
- G. The use of “ensure” within this document means that a verification has been performed and if the item is not correct, corrective actions will be performed.

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Procedure

Condition(s) to perform this section:

- A voltage reduction test requiring more than 10 minutes is scheduled to be performed.

Section 1 : 5% Voltage reduction test that requires more than 10 minutes to implement

Step 1.1 Primary Responsibility: Operations Shift Supervisor

Instruct Participant Support to post the System Wide Voltage Reduction Test notification to the external web site.

Instructions

- ☐ Send the email notification by 1500 the day prior to the voltage reduction test.
- ☐ The title of the Notice posted to the external Web site shall use the following format: "Notification of System Wide Voltage Reduction Testing Today (MM-DD-YY)".
- ☐ The Notice text shall provide the following information:
"ISO New England is performing a System Wide Voltage Reduction Test today of a 5% voltage reduction requiring more than 10 minutes to implement starting at "08:00" and ending "08:30" and a second test of a 5% voltage reduction that is attainable within 10 minutes starting at "18:00" and ending at "18:30"."
- ☐ Email this information to AskISO@iso-ne.com. They will create a service ticket and correspond back via email once the posting is complete.

Step 1.2 Primary Responsibility: Operations Shift Supervisor

Post notifications to RCIS for the System Wide Voltage Reduction Test.

Instructions

The notification shall be posted under message type "Free Form" in RCIS.

Select ONLY the following in the "Send to" field:

- ☐ Regions
- ☐ Reliability Coordinators

Notes

Example of wording that can be used in RCIS posting: ISO New England is performing a System Wide Voltage Reduction Test today of a 5% voltage reduction requiring more than 10 minutes to implement starting at "08:00" and ending "08:30".

Step 1.3 Primary Responsibility: Security Operator

Notify the Nuclear Generating units DEs of the start and end time for the System Wide Voltage Reduction Test.

Step 1.4 Primary Responsibility: Security Operator


Contact the LCC Operators and verify they are ready to perform the System Wide Voltage Reduction Test.

Step 1.5 Primary Responsibility: Operations Shift Supervisor

Direct the Loader Operator to remove all resources from Regulation.

Notes

Removing units from regulation may take several minutes and is required to be complete prior to the initiation of the voltage reduction test.

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Step 1.5.1 Primary Responsibility: Loader Operator

Remove non-ESD resources from Regulation.

Instructions

- ☐ Contact the DE and instruct them to take resource(s) off regulation;
- ☐ Update the resource(s) UCM.

Step 1.5.2 Primary Responsibility: Loader Operator

Remove all CSF ATRR resources from Regulation.

Instructions

Click the “Remove ESD ATRR Off Reg” button.

Notes

This will remove all CSF ATRRs from Regulation that do not have an operator specified Must Regulate flag and reason code.

Step 1.5.3 Primary Responsibility: Loader Operator

Remove ATRR resources from Regulation.

Instructions

For all remaining ATRRs on Regulation click the checkbox for “OPER Off” flag.

Notes

Reason code does not need to be set prior to setting OPER Off flag as regulation will not be approved or assigned for duration of test.

Step 1.5.4 Primary Responsibility: Loader Operator

Log the removal of all resources from Regulation.

Instructions

Use log entry: > GENERATION > REGULATION > Remove From Reg. (Other Than Normal Dispatch)

Select “All Resources” in Dropdown

Step 1.6 Primary Responsibility: Operations Shift Supervisor

Direct the Security Operator to initiate the 5% voltage reduction test that requires more than 10 minutes to implement.

Step 1.7 Primary Responsibility: Security Operator


Issue the 5% voltage reduction that requires more than 10 minutes to implement test operating instruction to the participating LCC Operators using the "ALL LCCS" function.

Standard(s) for completion:

- Three part communication is used.

Instructions

- ☐ Perform an LCC Roll Call (CONVEX, Maine, NGrid, NH, NSTAR, RIE and VELCO).
- ☐ Issue the following operating instruction:
“ISO New England to All LCCs: Implement a voltage reduction of 5% of normal operating voltage requiring more than 10 minutes to implement.”

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Step 1.8 Primary Responsibility: Security Operator

Log the start of the System Wide Voltage Reduction Test that requires more than 10 minutes to implement.

Instructions

Use log entry: > TEST AND AUDITS > VOLTAGE REDUCTION TEST > Greater than 10 min start

Step 1.9 Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:

- 30 minutes has elapsed since the test start time.

Direct the Security Operator to terminate the 5% voltage reduction test.

Step 1.9.1 Primary Responsibility: Security Operator

Issue the termination operating instruction to each participating LCC Operators using the "ALL LCCS" Function.

Standard(s) for completion:

- Three part communication is used.

Instructions

- ☐ Perform an LCC Roll Call (CONVEX, Maine, NGrid, NH, NSTAR, RIE and VELCO).
- ☐ Issue the following operating instruction:
"ISO New England to all LCCs: Terminate the 5% voltage reduction and return to normal operating voltage."

Step 1.9.2 Primary Responsibility: Security Operator

Log the end of the System Wide Voltage Reduction Test that requires more than 10 minutes to implement.

Instructions

Use log entry: > TEST AND AUDITS > VOLTAGE REDUCTION TEST > Greater than 10 min end

Step 1.10 Primary Responsibility: Operations Shift Supervisor

Direct the Loader Operator to Assign Regulation and place ATRRs on Regulation.

Step 1.10.1 Primary Responsibility: Loader Operator

Assign Regulation to meet the hourly Regulation Requirement IAW CROP 35002 Regulation.

Notes

- Do not remove "Oper Off" flag from ATRR resources until completion of this step.
- Removing the "Oper Off" flag prior to execution and approval of new Regulation case will result in last case approved ATRRs responding to AGC Targets.

Step 1.10.2 Primary Responsibility: Loader Operator


Remove the "Oper Off" flag from applicable ATRR resources.

Instructions

For all ATRRs on Regulation, click the checkbox for "OPER Off" flag.

Notes

Removal of "Oper Off" flag will allow selected resources to receive AGC Targets.

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Step 1.10.3 Primary Responsibility: Loader Operator
Place CSF ATRR resources on Regulation.

Instructions

Click the “Return ESD ATRR On Reg” button.

Step 1.11 Primary Responsibility: Operations Shift Supervisor
Post notifications to RCIS that the System Wide Voltage Reduction Test is completed.

Instructions

The notification shall be posted under message type "Free Form" in RCIS.

Select ONLY the following in the “Send to” field:

- ☐ Regions
- ☐ Reliability Coordinators

Notes

Example of wording that can be used in RCIS posting: “ISO New England has completed its System Wide Voltage Reduction Test of 5% requiring more than 10 minutes to implement”.

Step 1.12 Primary Responsibility: Security Operator
Notify the Nuclear Generating units DEs of the System Wide Voltage Reduction Test completion.

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Condition(s) to perform this section:

- A voltage reduction test that is attainable within 10 minutes is scheduled to be performed.

Section 2 : 5% Voltage reduction test that is attainable within 10 minutes

Step 2.1 Primary Responsibility: Operations Shift Supervisor

Post notifications to RCIS for the System Wide Voltage Reduction Test.

Instructions

The notification shall be posted under message type "Free Form" in RCIS.

Select ONLY the following in the "Send to" field:

- ☐ Regions
- ☐ Reliability Coordinators

Notes

Example of wording that can be used in RCIS posting: ISO New England is performing a System Wide Voltage Reduction Test today of a 5% voltage reduction that is attainable within 10 minutes starting at "18:00" and ending "18:30".

Step 2.2 Primary Responsibility: Security Operator

Notify the Nuclear Generating units DEs of the start and end time for the System Wide Voltage Reduction Test.

Step 2.3 Primary Responsibility: Security Operator

Contact the LCC Operators and verify they are ready to perform the System Wide Voltage Reduction Test.

Step 2.4 Primary Responsibility: Operations Shift Supervisor

Direct the Loader Operator to remove all resources from Regulation.

Notes

Removing units from regulation may take several minutes and is required to be complete prior to the initiation of the voltage reduction test.

Step 2.4.1 Primary Responsibility: Loader Operator

Remove non-ESD resource(s) from Regulation.

Instructions

- ☐ Contact the DE and instruct them to take resource(s) off regulation;
- ☐ Update the resource(s) UCM.


Step 2.4.2 Primary Responsibility: Loader Operator

Remove all CSF ATRR resources from Regulation.

Instructions

Click the "Remove ESD ATRR Off Reg" button.

This will remove all CSF ATRRs from Regulation that do not have an Operator Specified Must Regulate flag and reason code.

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Step 2.4.3 Primary Responsibility: Loader Operator

Remove ATRR resources from Regulation.

Instructions

For all remaining ATRRs on Regulation click the checkbox for “OPER Off” flag.

Notes

Reason code does not need to be set prior to setting OPER Off flag as regulation will not be approved or assigned for duration of test.

Step 2.4.4 Primary Responsibility: Loader Operator

Log the removal of all resources from Regulation.

Instructions

Use log entry: > GENERATION > REGULATION > Remove From Reg. (Other Than Normal Dispatch)

Select “All Resources” in Dropdown

Step 2.5 Primary Responsibility: Operations Shift Supervisor

Direct the Security Operator to initiate the 5% voltage reduction test that is attainable within 10 minutes.

Step 2.6 Primary Responsibility: Security Operator

Issue the 5% voltage reduction attainable within 10 minutes test operating instruction to the participating LCC Operators using the "ALL LCCS" Function.

Standard(s) for completion:

- Three part communication is used.

Instructions

- ☐ Perform an LCC Roll Call (CONVEX, Maine, NGrid, NH, NSTAR, RIE and VELCO).
- ☐ Issue the following operating instruction:
“ISO New England to All LCCs: Implement a voltage reduction of 5% of normal voltage that is attainable within 10 minutes.”

Step 2.7 Primary Responsibility: Security Operator

Log the start of the System Wide Voltage Reduction Test that is attainable within 10 minutes.

Instructions


Use log entry: > TEST AND AUDITS > VOLTAGE REDUCTION TEST > Less than 10 min start

Step 2.8 Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:

- 30 minutes has elapsed since the test start time.

Direct the Security Operator to terminate the 5% voltage reduction test.

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Step 2.8.1 Primary Responsibility: Security Operator

Issue the termination operating instruction to each participating LCC Operators using the "ALL LCCS" Function.

Standard(s) for completion:

- Three part communication is used.

Instructions

- ☐ Perform an LCC Roll Call (CONVEX, Maine, NGrid, NH, NSTAR, RIE and VELCO).
- ☐ Issue the following operating instruction:
"ISO New England to all LCCs: Terminate the 5% voltage reduction and return to normal operating voltage."

Step 2.8.2 Primary Responsibility: Security Operator

Log the end of the System Wide Voltage Reduction Test that is attainable within 10 minutes.

Instructions

Use log entry: > TEST AND AUDITS > VOLTAGE REDUCTION TEST > Less than 10 min end

Step 2.9 Primary Responsibility: Operations Shift Supervisor

Direct the Loader Operator to Assign Regulation and place ATRRs back on Regulation.

Step 2.9.1 Primary Responsibility: Loader Operator

Assign Regulation to meet the hourly Regulation Requirement IAW CROP 35002 Regulation.

Notes

- Do not remove "Oper Off" flag from ATRR resources until completion of this step.
- Removing the "Oper Off" flag prior to execution and approval of new Regulation case will result in last case approved ATRRs responding to AGC Targets.

Step 2.9.2 Primary Responsibility: Loader Operator

Remove the "Oper Off" flag from applicable ATRR resources.

Instructions

For all ATRRs on Regulation, click the checkbox for "OPER Off" flag.

Notes

Removal of "Oper Off" flag will allow selected resources to receive AGC Targets.

Step 2.9.3 Primary Responsibility: Loader Operator

Place CSF ATRR resources on Regulation.

Instructions

Click the "Return ESD ATRR On Reg" button.

Step 2.10 Primary Responsibility: Operations Shift Supervisor


Post notifications to RCIS that the System Wide Voltage Reduction Test is completed.

Instructions

The notification shall be posted under message type "Free Form" in RCIS.

Select ONLY the following in the "Send to" field:

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Notes

Example of wording that can be used in RCIS posting: "ISO New England has completed its System Wide Voltage Reduction Test of 5% attainable within 10 minutes".

Step 2.11 Primary Responsibility: Security Operator
Notify the Nuclear Generating units DEs of the System Wide Voltage Reduction Test completion.

Revision History

Rev. No.	Date (MM/DD/YY)	Reason	Contact
--	06/14/17	For previous revision history, refer to Rev 4 available through Ask ISO	Steven Gould
5	12/19/17	Change REMVEC to NGrid	Steven Gould
6	06/05/18	Administrative change (typo) in step 3.1 and 19.1; Added reference	Steven Gould
7	05/22/19	Deleted PILG in step 4 and 20	Steven Gould
8	05/08/20	Added detail to step 1 for notifying Customer Service	Steven Gould
9	10/22/20	Added RCIS Instruction to Steps 2 and 18	Steven Gould
10	05/18/21	Changed reference to OE-417 to DOE-417 to reflect change in format,	Steven Gould
11	05/06/22	Updated Common Procedure Information, Added instruction, updated email address in Step 1 and Customer Support to Participant Support	Jonathan Gravelin
12	10/17/23	Updated to create Section 1 and 2 due to new time window for voltage reduction test. Added language to remove resources from regulation for duration of tests.	Jonathan Gravelin
13	03/21/24	Added RIE where applicable.	Jonathan Gravelin
14	08/19/24	Modified timing for test requiring more than 10 minutes in background; Added steps for removing and adding resources from/to Regulation	Jonathan Gravelin