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References

1. ISO New England Manual for the Regulation Market Manual M-REG
2. ISO New England Tariff Section III - Market Rule 1

Procedure Background

This procedure specifies the requirements for performing a minimum responsiveness test as stated in Market Rule 1 and M-REG.

This procedure is to ensure that the resource is receiving and responding to the Regulation signal. The speed at which the resource follows the test value is **NOT** evaluated during this test.

In EMS the Regulation set point that is being sent to:

- A generator: Is found in the Sub Station Tabular display, under PLC (Plant Controller) in the "Equipment Group" column with SCTL (Setpoint Control) in the "ID" column;
- A non ESD-ATRR: Is found in the Sub Station Tabular display, under ATRR in the "Equipment Group" column with SCTL (Setpoint Control) in the "ID" column.
- An ESD: Is found in the Sub Station Tabular display, under PLC (Plant Controller) in the “Equipment Group” column with SCTL (Setpoint Control) in the “ID” column.

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 communication.

F. Primary responsibilities are stated for each step within the procedure, but any ISO System 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.

Procedure

Condition(s) to perform this section:

- **A DE requests to test the Regulation Signal for a generator.**

Section 1 : Regulation Signal Test for a Generator

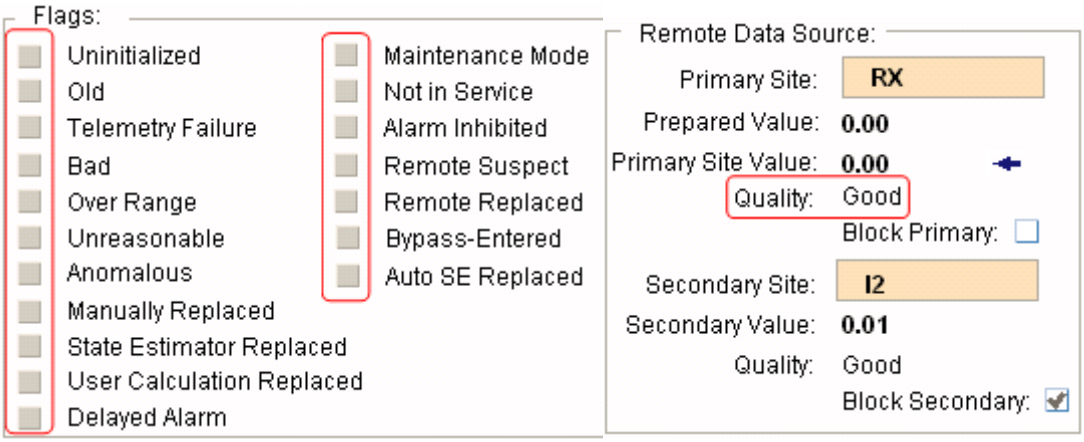
Step 1.1 Primary Responsibility: Loader Operator

Verify that the MW output SCADA, of the Generator to be tested, is of good quality using the "Analyst Quality Flags" display.

Instructions

The SCADA from the Generator must indicate the following:

- ❑ Quality: Good
- ❑ Have no flags applied in the "Flags:" section



Step 1.2 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Primary Source is NOT of good quality or has failed.**

Respond to a Generator Telemetry Problem using CROP.27002 Telemetry and Topology Problems.

Step 1.3 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Primary and Secondary Sources for SCADA are suspect/bad or have failed and a manual replacement is being used; Or**
- **Reliability concerns exist making test performance undesirable at the current time.**

Notify the DE that the test is denied, and the reason for denial.

Step 1.4 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The DE did NOT specify test values.**

Determine the test values that will be used that will NOT exceed the Generator's Eco Max or Eco Min values.

Instructions

- ❑ See Notes to help determine test values to be used.
- ❑ Use an initial test value that is greater than the current output if the Generator has the room to move up and will **NOT** be limited.

OR

- ❑ Use an initial test value that is less than the current output if the Generator does **NOT** have room to move up and would be limited.

Notes

- Initial Test Value = Current Output +/- 5 MW or 10 MW (5 MW deviation for generators with an Eco Max ≤ 100 MW, 10 MW deviation for generators with an Eco Max > 100 MW)
- Second Test Value = Initial Output.

Step 1.5 Primary Responsibility: Loader Operator

Instruct the DE to manually place the Generator on Regulation, and inform them that the Generator will be in UCM 3 for the duration of the test.

Notes

Ensure the DE understands that the Generator needs to be placed on Regulation manually on their end and will be in a UCM 3 for the testing period.

Step 1.5.1 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Generator is NOT in a UCM 3.**

Place the Generator in a UCM 3.

Notes

Placing the generator in a UCM 3 will prevent the generator from developing either Failure to Follow flags or creating up lift (NCPC).

Step 1.6 Primary Responsibility: Loader Operator

Access the applicable Substation Tabular display for the Generator.

Step 1.6.1 Primary Responsibility: Loader Operator

Place the Not in Service flag on the Generator's SCTL.

Notes

- SCTL is under equipment group PLC.
- The Data Quality will change from Good to Suspect when the "Not in Service" flag is applied. When a test value is entered it will go from Suspect to Replaced.

Step 1.6.2 Primary Responsibility: Loader Operator

Enter the initial test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 1.6.3 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Generator's output reached the initial test value.**

Enter the second test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 1.6.4 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Generator's output reached the second test value and the DE specified a test plan with more than two test values.**

Enter the next test value in the "SCTL" well specified by the DE.

Notes

- A third test value would only be used if the DE provided a test plan. The test plan could have more than three test values. If so, repeat this step to continue testing the remaining test values.

Step 1.6.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Generator has been dispatched to all of the test values; Or**
- **The Generator failed to follow any of the test values.**

Remove the Not in Service flag from the Generator's SCTL at the completion of the test.

Step 1.7 Primary Responsibility: Loader Operator

Return the Generator to the appropriate UCM.

Step 1.8 Primary Responsibility: Loader Operator

Instruct the DE to take the Generator off of Regulation.

Step 1.9 Primary Responsibility: Loader Operator

Log the test.

Instructions

Use log entry: > TEST AND AUDITS > Resources > Regulation Test [E]

Notes

If the Generator is observed following the test values a passing result shall be given, the speed at which the Generator responded is **NOT** part of this test.

Condition(s) to perform this section:

- **A DE requests to test the Regulation Signal for a non ESD-ATRR.**

Section 2 : Regulation Signal Test for a non ESD-ATRR

Step 2.1 Primary Responsibility: Loader Operator

Verify that the MW output SCADA of the ATRR to be tested has NOT failed.

Instructions

To verify the SCADA output value:

- ❑ Access RTGEN by clicking the "RTG" button;
- ❑ Access the Alternative Technology Regulation Resource Summary display by clicking the "ATRRS" button;
- ❑ Verify that a red F is **NOT** populated next to the “Current MW” value

Notes

If the SCADA output value has failed, a red F will appear next to the Current MW value.

Step 2.1.1 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The output value has failed.**

Notify the DE that the test is denied due to failed telemetry.

Step 2.2 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **DE did not provide a test plan.**

Determine the test values to use that will NOT exceed the Reg High or Reg Low limits.

Instructions

- ❑ See Notes to help determine test value to be used:
- ❑ Use an initial test value that is equal to the Reg High value if the ATRR has the room to move up and will **NOT** be limited.

OR

- ❑ Use an initial test value that is equal to the Reg Low value if the ATRR does **NOT** have room to move up and would be limited.

Notes

- Initial Test Value = Reg High (or Reg Low) value
- Second Test Value = Reg Low (or Reg High) value
- Third Test Value = Value which the ATRR was at prior to the test.

Step 2.3 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **ATRR does NOT have Reg High or Reg Low limits.**

Request DE to provide High and Low test values.

Instructions

- ❑ Use initial high test value provided by DE to allow the ATRR to move up.

OR

- ❑ Use initial low test value provided by DE if the ATRR does **NOT** have room to move up.

Step 2.4 Primary Responsibility: Loader Operator

Instruct the DE to manually place the ATRR on Regulation locally

Instructions

Ensure the DE understands that the ATRR needs to be placed on Regulation manually on their end for the testing period.

Step 2.5 Primary Responsibility: Loader Operator

Place the Not in Service flag on the ATRR's SCTL.

Instructions

To navigate to the proper substation tabular display for the ATRR:

- ❑ Access the ATRR Summary display
- ❑ Click on any meter in the "TLM" column
- ❑ Select the "i" (information icon) for the desired ATRR to test under In Use column
- ❑ Navigate to the substation tabular for the ATRR - Click the Substation ID hyperlink

Notes

The Data Quality will change from Good to Suspect when the "Not in Service" flag is applied. When a test value is entered it will go from Suspect to Replaced.

Step 2.6 Primary Responsibility: Loader Operator

Enter the initial test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 2.7 Primary Responsibility: Loader Operator

Enter the second test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 2.8 Primary Responsibility: Loader Operator

Enter the third test value that in the "SCTL" well was either specified by the DE or was determined by the Loader Operator.

Step 2.9 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ATRR has been dispatched to all of the test values; Or**
- **The ATRR failed to follow any of the test values.**

Remove the Not in Service flag from the ATRR's SCTL at the completion of the test.

Step 2.10 Primary Responsibility: Loader Operator

Instruct the DE to take the ATRR off of Regulation locally.

Step 2.11 Primary Responsibility: Loader Operator

Log the test.

Instructions

Use log entry: > TEST AND AUDITS > Resources > Regulation Test [E]

Notes

If the ATRR is observed following the test values a passing result shall be given, the speed at which the ATRR responded is **NOT** part of this test.

Condition(s) to perform this section:

- **A DE requests to test the Regulation Signal for an ESD.**

Section 3 : Regulation Signal Test for an ESD

Step 3.1

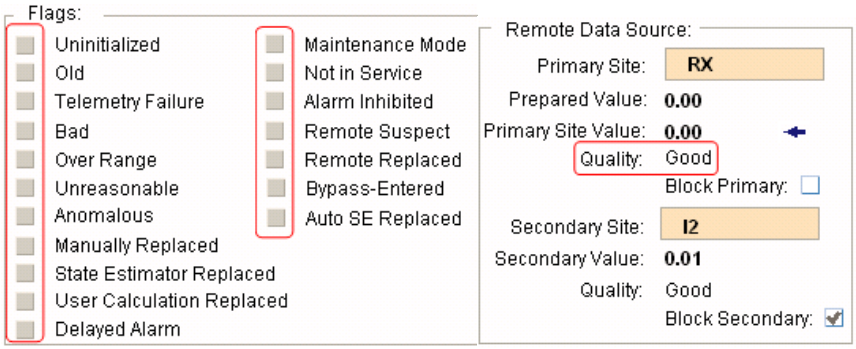
Primary Responsibility: Loader Operator

Verify that the MW output SCADA, of the ESD to be tested, is of good quality using the "Analyst Quality Flags" display.

Instructions

The SCADA from the ESD must indicate the following:

- ❑ Quality: Good
- ❑ Have no flags applied in the Flag section



Step 3.2

Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Primary Source is NOT of good quality or has failed.**

Respond to an ESD Telemetry Problem using CROP.27002 Telemetry and Topology Problems.

Step 3.3

Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The Primary and Secondary Sources for SCADA are suspect/bad or have failed and a manual replacement is being used.**
- **Reliability concerns exist making test performance undesirable at the current time.**

Notify the DE that the test is denied, and the reason for denial.

Step 3.4 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The DE did NOT specify test values.**

Determine the test values to use that will NOT exceed the Reg High or Reg Low limits.

Instructions

- ❑ See Notes to help determine test values to be used.
- ❑ Use an initial test value that is equal to the Reg High value if the ESD has the room to move up and will **NOT** be limited.

OR

- ❑ Use an initial test value that is equal to the Reg Low value if the ESD does **NOT** have room to move up and would be limited.

Notes

- Initial Test Value = Reg High (or Reg Low) value
- Second Test Value = Reg Low (or Reg High) value
- Third Test Value = Value which the ESD was at prior to the test.

Step 3.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **ESD does NOT have Reg High or Reg Low limits.**

Request DE to provide High and Low test values.

Instructions

- ❑ Use initial high test value provided by DE to allow the ESD to move up.

OR

- ❑ Use initial low test value provided by DE if the ESD does **NOT** have room to move up.

Step 3.6 Primary Responsibility: Loader Operator

Instruct the DE to manually place the ESD on Regulation locally, and inform them that the ESD will be in UCM 3 for the duration of the test.

Notes

Ensure the DE understands that the ESD needs to be placed on Regulation manually on their end and will be in a UCM 3 for the testing period.

Step 3.6.1 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ESD is NOT in a UCM 3.**

Place the ESD in a UCM 3.

Notes

Placing the ESD in a UCM 3 will prevent the ESD from developing either Failure to Follow flags or creating up lift (NCPC).

Step 3.7 Primary Responsibility: Loader Operator

Access the applicable Substation Tabular display for the ESD.

Step 3.7.1 Primary Responsibility: Loader Operator

Place the Not in Service flag on the ESD's SCTL.

Notes

- SCTL is under equipment group PLC.
- The Data Quality will change from Good to Suspect when the "Not in Service" flag is applied. When a test value is entered it will go from Suspect to Replaced.

Step 3.7.2 Primary Responsibility: Loader Operator

Enter the initial test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 3.7.3 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ESD's output reached the initial test value.**

Enter the second test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 3.7.4 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ESD's output reached the second test value.**

Enter the third test value in the "SCTL" well that was either specified by the DE or was determined by the Loader Operator.

Step 3.7.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ESD has been dispatched to all of the test values; Or**
- **The ESD failed to follow any of the test values.**

Remove the Not in Service flag from the ESD's SCTL at the completion of the test.

Step 3.8 Primary Responsibility: Loader Operator

Return the ESD to the appropriate UCM.

Step 3.9 Primary Responsibility: Loader Operator

Instruct the DE to take the ESD off of Regulation.

Step 3.10 Primary Responsibility: Loader Operator

Log the test.

Instructions

Use log entry: > TEST AND AUDITS > Resources > Regulation Test [E]

Notes

If the ESD is observed following the test values a passing result shall be given, the speed at which the ESD responded is **NOT** part of this test.

Revision History

Rev. No.	Date (MM/DD/YY)	Reason	Contact
0	12/12/12	Initial Draft of this Procedure	Steven Gould
1	03/06/14	Update to shared language contained in Step 4.	Steven Gould
2	11/07/14	Reformatted in to sections. Modified a condition to perform a step to add clarity	Steven Gould
3	03/06/15	Added a section for ATRRs	Steven Gould
4	02/03/17	Biennial Review	Steven Gould
5	06/14/17	Administrative change for modification to procedure format	Steven Gould
6	01/11/19	Biennial Review	Steven Gould
7	10/01/19	Added guidance when ATRR being tested does not have Reg High and Reg Low limits Evaluated Instructions and notes	Steven Gould
8	04/28/20	Added section 3 for ESD	Steven Gould
9	02/01/21	New Step 3.5 for ESDs without RegLow or RegHigh Values	Steven Gould
10	01/09/23	Biennial Review; Updated Procedure Background, Updated Common Procedure Information, Removed Standard of Completion throughout document that is stated in Common Procedure Information; Modified Steps 1.6.2, 1.6.3, 1.6.4, 2.6, 2.7, 2.8, 3.7.2, 3.7.3, 3.7.4.	Jonathan Gravelin