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References

1. M/LCC 3 - Satellite Phone Communications Monthly Test Procedure

Procedure Background

The Zetron phone system is the voice communications equipment used by ISO Control Room Operators at the Holyoke and Windsor control centers. The Zetron phone system provides ISO with the interpersonal communication capability to interact, consult, or exchange information with other individuals on a day-to-day basis.

The Zetron phone system in Holyoke consists of redundant and diversely routed systems (known as the "A" and "B" systems). Multiple voice communication circuits or paths make up the Zetron phone system with voice communications capability established to all locations deemed vital to central dispatch responsibilities including each applicable RC/BA, each LCC, DEs, and DDEs.

The Iridium Satellite phones provide alternative interpersonal communication capability to ISO Control Room Operators. The Iridium Satellite phones can be operated independently from the Zetron phone system (i.e., without utilizing the Zetron infrastructure) and can serve as a substitute for that equipment, if needed.

For the Iridium Satellite Phone test it is an expectation that the ISO Control Room Operator initiating the test rotates the calls among the ISO satellite phones and verifies each ISO satellite phone is functional. Once it has been verified that each satellite phone is functional for making and receiving calls, it is **NO** longer required to continue selecting a different satellite phone for each call.

In addition, ISO has cellular phones at each Control Room Operator workstation. In accordance with M/LCC 6, whenever Control Room Operators need to evacuate a control center and go to the other control center to operate the power system, they bring with them cellular phones from each Control Room Operator workstation.

ISO maintains a redundant source of data telemetry for the NY AC tie lines through the use of microwave and telephone lines. The data from these sources is directed into the SCADA system through the RTU A and RTU B data points for each NYN tie line. A selector is installed at the Loader, Security, and Shift Supervisor consoles of the Holyoke Control Center, allowing a manual swap to the redundant path if desired. This swapping functionality is not installed at the Windsor Control Center. Per NERC Standards IRO-002 and TOP-001 this redundancy must be tested at least every 90 days. Upon failure, action must be taken within 2 hours to restore that redundancy.

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. Applicable Requirements of PER-005
   3. Approved to cover a Control Room Operator shift position by the Senior 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.

Procedure

Condition(s) to perform this section:

- **A monthly Zetron Phone System swap is scheduled to be performed that day.**
- **Zetron Phone System needs to be swapped to support scheduled maintenance or troubleshooting.**

Section 1 : Switching the Holyoke Zetron Phone System

Standard(s) for completion:

- All Zetron Phone Consoles are using the same system.

Notes

- It is important to have all Control Room workstations using the same "A" or "B" communication path for the Zetron phone system.
- Typically the scheduled swap occurs on the first Wednesday of each month.

Step 1.1   Primary Responsibility: Operations Shift Supervisor

Swap the Zetron Phone Console to the Stand-by Zetron phone system and determine if the Stand-by System is working

Instructions

- ❑ Perform the following to swap the Zetron Phone Console:
    - ❑ Select the "Logoff" button from the "Configure" menu on the Zetron Console
    - ❑ From the opening Zetron Screen, select "Logon"
    - ❑ From the Logon Pop-up select the following:
        - ❑ Select Desk
        - ❑ Select the Stand-by Connection (Phone System A or B)
        - ❑ Enter Password, if applicable (only the Operations Shift Supervisor console has a password)
        - ❑ Select "Ok"
- ❑ Contact a single party to verify the swap was successful
- ❑ If the swap was successful, instruct all other Control Room Operators to swap the Zetron Phone Console
- ❑ If the swap was **NOT** successful, swap back to the initial system and notify the IT On Call Technician

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Step 1.2   Primary Responsibility: Each Control Room Operator

Condition(s) to perform this step:

- **Determined that the Stand-by System is operating.**

Swap the remaining Zetron Phone Consoles to the Stand-by Zetron phone system.

Instructions

- ❑ Perform the following to swap the Zetron Phone Console:
    - ❑ Select the "Logoff" button from the "Configure" menu on the Zetron Console
    - ❑ From the opening Zetron Screen, select "Logon"
    - ❑ From the Logon Pop-up select the following:
        - ❑ Select Desk
        - ❑ Select the Stand-by Connection (Phone System A or B)
        - ❑ Enter Password, if applicable (only the Operations Shift Supervisor console has a password)
        - ❑ Select "Ok"
- ❑ Contact a single party to verify the swap was successful
- ❑ Notify the Operations Shift Supervisor of the swap status

Step 1.3   Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:

- **Swap was successful and all Zetron Phone Consoles have been swapped.**

Log the swap.

Instructions

- ❑ Use log entry: > TEST AND AUDITS > COMMUNICATION > Zetron Switch [E]
- ❑ In the log entry identify the selected system in the "New Setting" field.

Condition(s) to perform this section:
- **A monthly cellular phone test is scheduled to be performed that day.**

Section 2 : Cellular Phone Test

Standard(s) for completion:
- All cellular phones are tested.

Notes

Typically the cellular phone test occurs on the first Wednesday of each month.

Step 2.1   Primary Responsibility: Operations Shift Supervisor

Notify all Control Room Operators to perform a test of the cellular phone at their console.

Step 2.2   Primary Responsibility: Each Control Room Operator

Contact a single party using the cellular phone at the console and notify the Operations Shift Supervisor of the results.

Instructions

Use a programmed speed dial contact for the test.

Notes

All cellular phones are required to be tested.

Step 2.3   Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:
- **All cellular phones have been tested.**

Log the Cellular Phone Test.

Instructions
- ❏ Use log entry: > TEST AND AUDITS > COMMUNICATION > Cell Phone Test
- ❏ Identify any issues encountered.

Step 2.4   Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:
- **An issue was identified during the test.**

Notify the IT On-Call Technician.

Condition(s) to perform this section:
- **A monthly satellite phone test is scheduled to be performed that day.**

Section 3 : Perform a Test of the Satellite Phone System

Notes
- This section contains instructions for performing a test of the ISO satellite phones with any or all of the following test participants: the BCC, each LCC and each NPCC RC/BA.
- The purpose of the test is to verify that the satellite phone equipment and service is functioning properly and to provide Control Room Operators with hands on training.
- This test procedure shall be conducted monthly and ISO shall initiate the test.
  - Unless extenuating circumstances prevent testing from occurring, the test shall occur on the 3rd Wednesday of each month.
  - If testing **cannot** be performed on the 3rd Wednesday, it should occur as soon as conditions allow.
  - If necessary the ISO Senior Manager, Control Room Operations may require testing at other times.
  - The ISO IT On Call Technician will assist if a problem occurs during the test that originates from a MCC or BCC satellite phone or Zetron phone problem in ISO-NE.

Step 3.1   Primary Responsibility: Operations Shift Supervisor

Notify the System Operator that they will be performing the satellite phone test and which tests are being done.

Step 3.2   Primary Responsibility: Any Control Room Operator

Notify the IT Technician at the BCC that the Satellite Phone test is commencing.

Instructions
Use the IT BCC contact.

Step 3.3   Primary Responsibility: Any Control Room Operator

Ensure all satellite phones are docked in the cradle and powered up.

Notes
There is an indicating light on the cradle above the satellite phone. When the satellite phone is properly docked in the cradle, the indicating light will be solid green. When the satellite phone is **NOT** properly docked in the cradle, the indicating light will be flashing green.

Step 3.4   Primary Responsibility: Any Control Room Operator

Create the satellite phone test log entry.

Instructions
Use the following log entry: > TEST AND AUDITS > COMMUNICATION > Satellite Phone Test

Step 3.5   Primary Responsibility: Any Control Room Operator

Determine how to use the satellite phone.

Instructions
- ❑ Using the Zetron phone display, perform the following to initiate a satellite phone call:
  - ❑ Determine which Iridium phone will be used for the test "Gen Iridium", "Security Iridium", "Supervisor Iridium"
  - ❑ Select "Configure" in the upper right corner of display
  - ❑ For the Iridium lines **NOT** to be used:
    - ❑ Select "Line Lock"
    - ❑ Select Iridium Line **NOT** to be used "Gen Iridium", "Security Iridium", "Supervisor Iridium"
    - ❑ Repeat for second line **NOT** to be used
  - ❑ Select the satellite phone or land line button for the desired test participant (It can take 15 to 45 seconds for the connection to be completed and the call to begin);
  - ❑ Terminate the call.

Notes
- It is **no** longer required to "select" the Iridium Phone line you wish to use, the Zetron phone system will automatically select the first satellite phone line available always starting with the "Gen Iridium Phone".
- If a busy signal occurs when initially selecting the Iridium Phone, the phone is likely not docked correctly and should be verified.

Step 3.6   Primary Responsibility: Any Control Room Operator

Initiate an ISO satellite phone call to test participant satellite phone.

Step 3.7   Primary Responsibility: Any Control Room Operator

Verify with the test participant that the satellite phone communications are clear and can be understood on both ends.

Step 3.8   Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **An Iridium line that was locked in Step 5 needs to be removed.**

Remove the Line Lock from the applicable satellite phone.

Instructions
- ❑ To remove "Line Lock" perform the following:
  - ❑ Select "Configure" from the Zetron display
  - ❑ Select "Line Lock"
  - ❑ Select the line to be unlocked "Gen Iridium", "Security Iridium", "Supervisor Iridium"
  - ❑ Repeat process for the remaining line

Notes
Prior to the test participant returning the Satellite phone call, the Iridium lines that were locked in Step 3.5 need to be unlocked. This ensures when the call is received it will appear in the "Call Stack" and allow the call to be answered.

Step 3.9   Primary Responsibility: Any Control Room Operator

Request the test participant to initiate a test participant satellite phone call to an ISO satellite phone when the call is terminated.

Step 3.10   Primary Responsibility: Any Control Room Operator

Terminate the call.

Step 3.11   Primary Responsibility: Any Control Room Operator

Answer the test participant satellite phone to ISO satellite phone call.

Step 3.12   Primary Responsibility: Any Control Room Operator

Verify with the test participant that the satellite phone communications are clear and can be understood on both ends.

Step 3.13   Primary Responsibility: Any Control Room Operator

Terminate the call.

Step 3.14   Primary Responsibility: Any Control Room Operator

Initiate an ISO satellite phone call to test participant land line.

Step 3.15   Primary Responsibility: Any Control Room Operator

Verify with the test participant that the satellite phone communications are clear and can be understood on both ends.

Step 3.16   Primary Responsibility: Any Control Room Operator

Terminate the call.

Step 3.17   Primary Responsibility: Any Control Room Operator

Access the Satellite Phone Test log entry and enter the test results and select the satellite phone used for the applicable test participant.

Instructions

If the call was completed and the communications were clear and understood the test is satisfactory (SAT) otherwise the test is unsatisfactory (UNSAT).

Notes

If ALL participants are UNSAT, initiate action to repair or designate an alternative replacement within two hours.

Step 3.17.1   Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **ISONE Satellite phone is NOT operable.**

Log the satellite phone failure.

Instructions
❑ Use log entry: > EQUIPMENT FAILURES > Satellite Phone Failure

Indicate action taken:
❑ Initiated action to repair, and/or
❑ Designate an alternative replacement

Step 3.18
Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **More than one LCC or RC/BA is participating in the satellite phone test.**

Repeat Steps 3.5 through 3.17 for each test participant, using a different satellite phone for each test, to the extent possible.

Notes

The intent is to use all three Control Room satellite phones during each monthly test, rotating phones for each test with the BCC, an LCC, or an RC/BA.

Step 3.19
Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **The problem that occurs originates from a satellite phone or Zetron phone problem in ISO-NE; Or**
- **Test with the BCC was UNSAT.**

Inform the ISO IT On Call Technician of problems that occur.

Step 3.20
Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **A single test with a test participant is UNSAT; Or**
- **Test with the BCC was UNSAT.**

Notify the Operations Shift Supervisor of which test participant was UNSAT.

Step 3.21
Primary Responsibility: Operations Shift Supervisor

Condition(s) to perform this step:
- **A single test with a test participant is UNSAT; Or**
- **Test with the BCC was UNSAT.**

Notify the Senior Manager, Control Room Operations of which test participant was UNSAT.

Condition(s) to perform this section:
- **An LCC requested a retest due to an UNSAT result and the Senior Manager, Control Room Operations has scheduled the retest for that LCC to be performed; Or**
- **An RC/BA requested a retest due to an UNSAT result and the Senior Manager, Control Room Operations has scheduled the retest for that RC/BA to be performed; Or**
- **A retest with the BCC satellite phone is required due to an UNSAT result and the Senior Manager, Control Room Operations has scheduled the retest to be performed; Or**
- **Notified by Reliability Network Services department that a previous UNSAT test result has been corrected and is requesting a retest be performed.**

Section 4 : Perform a Retest of the Satellite Phone System

Step 4.1   Primary Responsibility: Operations Shift Supervisor

Notify the System Operator that they will be performing a retest of the satellite phone which tests are being done.

Step 4.2   Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **A retest of the BCC satellite or landline phone is being performed.**

Notify the IT Technician at the BCC that a retest of the Satellite Phone test is commencing.

Instructions
Use the IT BCC contact.

Step 4.3   Primary Responsibility: Any Control Room Operator

Initiate an ISO satellite phone call to the applicable test participants phone that needs to be tested.

Notes
Retest Options are:
- MCC SAT to <ENTITY> SAT
- MCC SAT to <ENTITY> Land line

Step 4.4   Primary Responsibility: Any Control Room Operator

Verify with the test participant that the satellite phone communications are clear and can be understood on both ends.

Step 4.5   Primary Responsibility: Any Control Room Operator

Request the test participant to initiate a test participant <applicable phone> call to an ISO satellite phone when the call is terminated.

Notes
Phone Options are:
- Satellite
- Landline

Step 4.6   Primary Responsibility: Any Control Room Operator

Terminate the call.

Step 4.7   Primary Responsibility: Any Control Room Operator

Answer the test participant <applicable phone> to ISO satellite phone call.

Step 4.8   Primary Responsibility: Any Control Room Operator

Verify with the test participant that the <applicable phone> communications are clear and can be understood on both ends.

Step 4.9   Primary Responsibility: Any Control Room Operator

Terminate the call.

Step 4.10   Primary Responsibility: Any Control Room Operator

Create the satellite phone retest log entry for the applicable party.

Instructions
- ❑ Use the following log entry: > TEST AND AUDITS > COMMUNICATION > Satellite Phone Retest[E]
- ❑ Select the Entity retesting;
- ❑ Select the phone being retested;
- ❑ Select the result.

Condition(s) to perform this section:
- **A monthly NY Tie Line telemetry test is scheduled to be performed; Or**
- **A retest is required.**

Section 5 : Perform NY Tie Line Telemetry Test

Standard(s) for completion:
- Tie line telemetry is determined to be available when data from both Telephone and Microwave feeds are utilized.

Notes

Typically the NY Tie Line Telemetry Test occurs on the second Wednesday of each month.

Step 5.1   Primary Responsibility: Operations Shift Supervisor

Notify the Loader Desk Operator to perform a test of the NY Tie Line Telemetry.

Step 5.2   Primary Responsibility: Any Control Room Operator

Swap the NYN data feed to the offline source.

Instructions

To swap the data feed source, use the "MWAVE" or "PHONE" buttons on the Loader, Senior, or Operations Shift Supervisor desk.

Step 5.2.1   Primary Responsibility: Any Control Room Operator

Verify data quality.

Instructions
- ❑ Access the RTU_DATA SCADA Substation Tabular display.
- ❑ Verify data quality for RTU A and RTU B for NYN AC Tie lines

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Step 5.3   Primary Responsibility: Any Control Room Operator

Swap the NYN data feed to the original source.

Instructions

To swap the data feed source, use the "MWAVE" or "PHONE" buttons on the Loader, Senior, or Operations Shift Supervisor desk.

Step 5.3.1   Primary Responsibility: Any Control Room Operator

Verify data quality.

Instructions
- ❑ Access the RTU_DATA SCADA Substation Tabular display.
- ❑ Verify data quality for RTU A and RTU B for NYN AC Tie lines

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Step 5.4   Primary Responsibility: Any Control Room Operator

Condition(s) to perform this step:
- **Telemetry swap revealed a discrepancy between data sources.**

Contact the IT On Call Technician

Instructions

    Notify the technician of the affected NY Tie Line Telemetry source and request they notify Data Communications.

Notes

   Per NERC standard TOP-001, upon failure, action must be taken within 2 hours to restore redundancy.

Step 5.5   Primary Responsibility: Any Control Room Operator

Log the NY Tie Line Telemetry Test.

Instructions

- ❑ Use log entry: > TEST AND AUDITS > NY Tie Line Telemetry Test
- ❑ Identify any issues encountered in the comments.

Revision History

Rev. No.	Date (MM/DD/YY)	Reason	Contact
--	04/17/17	For previous revision history, refer to Rev 7 available through Ask ISO	Steven Gould
8	06/14/17	Administrative change for modification to procedure format	Steven Gould
9	12/18/17	Updated based on changes to MLCC 3	Steven Gould
10	04/25/18	Addition of language to procedure background and a correction in Step 3.5	Steven Gould
11	09/25/18	Added conditons to enter and modified the OPRALOG entry in Section1	Steven Gould
12	07/30/20	Updated background information, added Section 4 to document NY Tie Telemetry Test	Steven Gould
13	01/14/21	Updated background section to add TOP-001-4 and updated section 4.	Steven Gould
14	05/18/21	Updated background section.	Steven Gould
15	09/22/21	Udated common procedure information. Corrected logging requirements in sections 1, 2, and 3. Adjusted formatting.	Steven Gould
16	09/14/23	Periodic review, Updated Step 3.1 and deleted Notes in Steps: 3.1, 3.6, 3.9, 3.11, 3.12, 3.14, 3.15, 3.21 and summarized it in the Note at the beginning of Section 3; updated terminology in Step 3.21; deleted NPCC where applicable at the request of NPCC and as NPCC is not a required communication in COM-001; Added Step 2.4.	Jonathan Gravelin
17	04/16/25	Moved Section 3 to Section 4. Deleted Condition to Enter Section 2 for failed test added new section 3 for retesting failed satellite phone test.	Jonathan Gravelin