LUMA

Emergency Response Drills

EMERGENCY RESPONSE DRILLS

Document Control & Signature Page

Procedure Title: **Emergency Response Drills**

Procedure # ___29_____ Revision # ___1.2

Security Classification _Restricted__ Date Issued 12/15/2021

APPROVED BY:

Name / Title _Raphael Gignac / Director System Operations_____

Signature _____

REVIEWED BY:

Title _____

Signature _____

Title _____

Signature _____

PROCEDURE DEVELOPMENT HISTORY:

Revision Approved Date __/__/___ Approved by _____Title _____

Authored by _____ Title _____

Reason for Revision _____

Revision Approved Date __/__/___ Approved by _____ Title _____

Authored by _____ Title _____

Reason for Revision _____

Contents

1.0 Executive Summary 3

2.0 Objective/Scope/Roles 3

2.1 Objective 3

2.2 Scope 4

2.3 Roles and Responsibilities 4

3.0 Procedure 6

3.1 Pre-Drill Operations 6

3.2 Conducting the Drill 8

3.3 Post-Drill Critique 9

Appendix A: Glossary 10

Appendix B: Procedure Cross-Reference Matrix 11

EMERGENCY RESPONSE DRILLS

1.0 Executive Summary

This procedure establishes the planning, conduct and critique of Emergency Drills pertaining to the Bulk Power System. The procedure establishes a Lead Drill Coordinator to develop Emergency Drill Exercises, and provides guidance on planning and conducting emergency drills, and establishing a process for identifying and tracking corrective actions based on emergency drill performance. This procedure directly ties into the Operations Section Emergency Response Execution Procedure. A robust emergency response drill procedure is critically important to exercise the organization to properly respond to a real emergency event and respond safely and quickly to minimize adverse impact on customers served by the Bulk Power System.

2.0 Objective/Scope/Roles

2.1 Objective

This procedure provides a process to outline how to properly drill System Operation personnel, including LUMA certified System Operators, all support staff and facilities regarding emergency response procedures and activities. This procedure will prepare System Operators and support personnel for real-time system emergencies. This procedure will outline how to drill and how to critique a drill to find deficiencies and improve upon Emergency Response Procedures. This procedure will be used in conjunction with the Operation Section Emergency Response Execution Procedure.

2.2 Scope

This procedure requires all of System Operations to participate in Emergency Drills and to know and understand their emergency roles, procedures, and actions to effectively respond to, manage, and restore the electrical system. This procedure includes all personnel from System Operation, Generation, Transmission, and Distribution and Supporting Organizations. The procedure was written in accordance with the LUMA Emergency Response Plan (ERP) and each year a drill will be conducted prior to the hurricane season.

2.3 Roles and Responsibilities

The System Operations section will lead all emergency drills, script scenarios, and perform after-drill critiques. System Operations shall also address deficiencies and actions taken, including procedure revisions, to improve procedures, policies or other areas discovered during the emergency drill. All the positions below are only for Emergency Events and drills and there will be teams assembled and a schedule posted defining Emergency Response roles responsibilities and on-call dates.

Refer to the Operations Section Emergency Response Execution Procedure for the following roles:

- Operations Section Chief.
- Damage Assessment Unit Leader.
- Personnel Resource Director.
- Material, Supply and Support Coordinator.
- Generation and Transmission Branch Director.

EMERGENCY RESPONSE DRILLS

2.3.1 Lead Drill Coordinator

- Determines scope of the drill scenario and key competencies to be demonstrated for the drill.
- Designs drill scenarios that will demonstrate participants' understanding of the relevant procedures, their key roles, and the physical readiness of the LUMA Emergency Operations Center (LEOC).
- Schedules and initiates the drill after discussions with the Electric System Division Manager.
- Leads participants through the drill scenarios.
- Leads the post-drill evaluation with all participants and identifies strengths, and opportunities observed during the drill.
- Documents drill results and develops action plans to revise any appropriate procedures, other documentation, or modifications to the physical LEOC to reflect learnings from the drill.

2.3.2 Director System Operations

- Coordinates with the Lead Drill Coordinator in determining the scheduling of Emergency Response Drills.
- Reviews and approves Post-Drill Action Plans prepared by the Lead Drill Coordinator.
- Enters Corrective actions from the Post-Drill Action Plan into the Root Cause Corrective Actions Log.
- Monitors and reports on Corrective Action Status as part of Key Performance Indicators.

3.0 Procedure

This drill procedure will include the preparation of a planned Emergency Drill, the actual conduct of the drill, the post-drill critique, and the development of corrective action plans based on corrective actions identified during the post-drill critique. This procedure is part of the overall LUMA ERP. LUMA's goal is to provide for the safe, timely and efficient restoration of the electrical service due to all types of emergencies including adverse weather conditions, system instabilities, earthquakes, sabotage or other emergency situations.

3.1 Pre-Drill Operations

- **Shall** prepare and write or obtain a comprehensive Drill Scenario from the ERP Team to be used for each drill. The scenario shall include realistic events to properly drill each position and exercise all aspects of the various roles.
- **Shall** coordinate with the Director System Operations and arrive at the timing and the time duration for the drill and post-drill critique AND, to the extent possible, keep the exact timing of the drill confidential.
- **Shall** inspect the LUMA Emergency Operations Center (LEOC) one week prior to the drill date to ensure that it is properly pre-staged for the drill and that all electronic, electrical and physical plant that supplies the LEOC is operational AND: record and develop action plans to address any LEOC deficiencies in the readiness of the facility.

EMERGENCY RESPONSE DRILLS

- **Shall** prepare a detailed Emergency Response Drill that considers and incorporates the following as appropriate:
    - Historical Level-1,2 and 3 Emergency Condition Events including damage to the Bulk Power system, customers without power trending and restoration progress.
    - Prior emergency drill findings and corrective actions and design drill scenarios that will emphasize the extent to which these prior corrective actions have been incorporated into the appropriate procedures and are being used.
    - Scenarios for insertion into the drill that could include, but are not limited to:
        - Sudden changes in the weather severity, hurricane, earthquake, tsunami.
        - Simultaneous loss of several transmission lines.
        - Loss of power to a major hospital fed directly from the bulk transmission system.
        - Loss of a transmission substation and thus no access to the substation due to high water.
        - Upper management's decision to call in mainland crew support and to set up a mainland crew subcenter to include material, lodging, food and LUMA guides for the crews.
        - A request by the news media to observe the LEOC in action.
        - Loss of telephone service to the LEOC.

3.2 Conducting the Drill

3.2.1 Lead Drill Coordinator

- **Shall** contact the "On-Call" Incident Commander and explain that an emergency drill has now started and one or more of the following has occurred:
  - A Level-3 Emergency Condition Event has been declared based on an approaching tropical storm.
  - One or more Transmission Substations and/or generation facilities have gone off-line; load has been lost to 140,000 customers.

3.2.2 Incident Commander

- **Shall** determine when to activate the LEOC and all LEOC Support Personnel in accordance with the Emergency Response On-Call Personnel Schedule.

3.2.3 Lead Drill Coordinator

- **Shall** observe all aspects of the opening and operation of the LEOC.
- **Shall** interject addition portions of scenario into the drill as deemed appropriate to observe participant adherence to procedures, including communications and information flows within the LEOC and to external sources.
- **Shall** notify the Incident Commander when the drill is concluded, who shall then notify all other drill participants.

3.3 Post-Drill Critique

3.3.1 Lead Drill Coordinator

- **Shall** set up and lead the critique meeting and capture key learnings from the participants, including organizational strengths, opportunities for improvements, adequacy of the LEOC facility and specific procedural changes that need to be made based on the drill experience.

- **Shall** develop action plans based on the critique, including responsibilities and timelines for action completions.

- **Shall** forward the action plan to the Director System Operations for review and action plan implementation.

3.3.2 Director System Operations

- Reviews and approves the Lead Drill Coordinator Post-Drill Action Plan, including action due dates and responsibilities.

- Notifies Action Item assignees of their action items.

- Utilizes the Corrective Action Log to track the completion of all corrective action item assigned through the Post-Drill Action Plan.

Note: Refer to Root Cause and Corrective Actions Procedure for additional detail on the Corrective Action Log. This to be deleted when it is understood what system for example Via Libres or something else will be used for formal action item tracking within the organization.

- Monitors on-going status of all action items in the Corrective Action Log and reports on their status as part of organizational Key Performance Indicators.

Appendix A: Glossary

Term	Definition
Emergency Condition	The term “Emergency Condition” shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; or (2) that, in the case of LUMA, is imminently likely to cause a material adverse effect on the security of or damage to the LUMA’s System, the LUMA’s Interconnection Facilities or the systems of others to which the LUMA’s System is directly connected; or (3) that, in the case of the Interconnection Customer, is imminently likely to cause a material adverse effect on the security of, or damage to, the Generating Facility or the Interconnection Customer’s Interconnection Facilities.
Emergency Response On-Call Personnel Schedule	This schedule will include a weekly listing of personnel that will be required to respond to an emergency condition event and fill the Emergency Response Execution Procedure roles. Ideally, there will be at least 4 “Teams” that will rotate on a weekly basis. During an extended Emergency Response Condition Event the teams will rotate shifts with the On-Call “team” initially responding, and then being relieved by the Team that is scheduled for the next rotation.
LEOC	The LUMA Emergency Operation Center is a Phyisical facility and is used during Emergency drills and real Emergencies.
LUMA Emergency Response Plan (ERP)	The plan that provides for the Company’s response, immediate recovery, and restoration operations to emergency events efficiently and effectively. The goals of the plan are to: 1) protect lives, public health, safety, and property, and 2) restore essential services, and 3) to enable and assist with economic recovery.
System Operations	Department in LUMA that operates the bulk power system.

Appendix B: Procedure Cross-Reference Matrix

Procedure Reference Matrix, Part 1 of 2	Short Term Load Forecasting	New Facility Interconnection	Resource Adequacy Planning	Interconnected Facility Retirements	Legacy T&G Demarcation	Interconnected Facilities Capabilities	Black Start	Telemetry	Cybersecurity	Root Cause Analysis & Corrective Actions	Public Reporting	Performance Reporting	Stakeholder Management	Policy on Reserves
Short Term Load Forecasting														
New Facility Interconnection														
Resource Adequacy Planning														
Interconnected Facility Retirements														
Legacy T&G Demarcation														
Interconnected Facilities Capabilities														
Black Start														
Telemetry														
Cybersecurity														
Root Cause Analysis and Corrective Actions														
Public Reporting														
Performance Reporting														
Stakeholder Management														
Policy on Reserves														
Reducing Risk Exposure to Contingencies														
Critical Loads														
Load Shedding														
Contingency and System Operating Limits Response														
Energy Dispatch, Scheduling and Merit Order														
Transmission Operations														
Plant Level Communications														
Balancing Frequency and Voltage														
Demand-Side Resources (Non-Wire Alternatives)														
System Operator Training														
Scheduling Planned T&G Outages														
Forced Outage														
Outage Execution and Closeout														
Emergency Response Execution														
Emergency Response Drills										X				

EMERGENCY RESPONSE DRILLS

Procedure Reference Matrix, Part 2 of 2	Reducing Risk Exposure to Contingencies	Critical Loads	Load Shedding	Contingency & System Operating Limits Response	Energy Dispatch, Shedding & Merit Order	Transmission Operations	Plant Level Communications	Balancing Frequency & Voltage	Demand Side Resources (NWA)	System Operator Training	Scheduling Planned T&G Outages	Forced Outage	Outage Execution & Closeout	Emergency Response Execution	Emergency Response Drills
Short Term Load Forecasting															
New Facility Interconnection															
Resource Adequacy Planning															
Interconnected Facility Retirements															
Legacy T&G Demarcation															
Interconnected Facilities Capabilities															
Black Start															
Telemetry															
Cybersecurity															
Root Cause Analysis and Corrective Actions															
Public Reporting															
Performance Reporting															
Stakeholder Management															
Policy on Reserves															
Reducing Risk Exposure to Contingencies															
Critical Loads															
Load Shedding															
Contingency and System Operating Limits Response															
Energy Dispatch, Scheduling and Merit Order															
Transmission Operations															
Plant Level Communications															
Balancing Frequency and Voltage															
Demand-Side Resources (Non-Wire Alternatives)															
System Operator Training															
Scheduling Planned T&G Outages															
Forced Outage															
Outage Execution and Closeout															
Emergency Response Execution															

Emergency Response Drills

PAGE LEFT INTENTIONALLY BLANK