

Policy 5 — Emergency Operations

Version 3 – Draft 7

For standing committees' ballot.

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Policy Subsections

- A. Operating Authority Responsibilities
- B. Communications and Coordination
- C. Capacity and Energy Emergencies
- D. Transmission
- E. System Restoration
- F. Disturbance Reporting
- G. Sabotage Reporting

Reorganized sections A through D.

Global changes:

- Active voice
- References to SOL and IROL
- Relationships between Reliability Coordinators and operating authorities

Introduction

Operating emergencies on the BULK ELECTRIC SYSTEM may be minor in nature and require small, real-time system adjustments, or they may be major and require fast, preplanned action to avoid the cascading loss of generation or transmission lines, uncontrolled separation, equipment damage, and interruption of customer service.

The integrity and reliability of the BULK ELECTRIC SYSTEM is of paramount importance, and will take precedence above all other aspects including commercial operations; therefore, all OPERATING AUTHORITIES are expected to cooperate and take appropriate action to mitigate the severity or extent of any system emergency.

We needed to define "burden." Used a lot in Op Policies, but is very subjective term.

Terms

BURDEN. Operation of the BULK ELECTRIC SYSTEM that violates or is expected to violate a SOL or IROL in the INTERCONNECTION or that violates any other NERC, Regional, or local operating reliability policies or standards.

We'll move these terms into the Terms section of the Operating Manual.

OPERATING AUTHORITY. An entity that:

1. Has ultimate accountability for a defined portion of the BULK ELECTRIC SYSTEM to meet one or more of three reliability objectives – generation/demand balance, transmission reliability, and/or emergency preparedness, and
2. Is accountable to NERC and its Regional Reliability Councils for complying with NERC and Regional Policies, and
3. Has the authority to control or direct the operation of generating resources, transmission facilities, or loads, to meet these Policies.

Current version of Policy 5 refers to "system."
Furthermore, using the term "operating authority" is to recognize that the control area may not operate transmission or generation. This will be further clarified when we move to the Functional Model defined entities.

OPERATING AUTHORITIES include such entities as CONTROL AREAS, generation operators and TRANSMISSION OPERATING ENTITIES; it does not include RELIABILITY COORDINATORS.

OPERATING AUTHORITY AREA. That portion of the BULK ELECTRIC SYSTEM under the purview of the OPERATING AUTHORITY.

A. Operating Authority Responsibilities

Requirements

1. **Operating within limits.** The OPERATING AUTHORITY shall operate within the SYSTEM OPERATING LIMITS (SOLs) and INTERCONNECTION RELIABILITY LIMITS (IROLs).
2. **OPERATING AUTHORITY and responsibility.** The OPERATING AUTHORITY shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its OPERATING AUTHORITY AREA and shall exercise specific authority to alleviate operating emergencies.
 - 2.1. **Mitigating emergencies.** The OPERATING AUTHORITY shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.
 - 2.2. **Complying with Reliability Coordinator directives.** The OPERATING AUTHORITY shall comply with RELIABILITY COORDINATOR directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances the OPERATING AUTHORITY must immediately inform the RELIABILITY COORDINATOR of the inability to perform the directive so that the RELIABILITY COORDINATOR can implement alternate remedial actions.
3. **Unknown operating states.** If the OPERATING AUTHORITY enters an unknown operating state (i.e. any state for which valid operating limits have not been determined), it will be considered to be in an emergency and shall restore operations to respect proven reliable power system limits within 30 minutes.
4. **Information sharing.** To facilitate emergency assistance, the OPERATING AUTHORITY shall inform other potentially affected OPERATING AUTHORITIES and its RELIABILITY COORDINATOR of real time or anticipated emergency conditions, and take actions to avoid when possible, or mitigate the emergency.
5. **Rendering assistance.** The OPERATING AUTHORITY shall render all available emergency assistance requested, provided that the requesting OPERATING AUTHORITY has implemented its comparable emergency procedures, unless such actions would violate safety, equipment, or regulatory or statutory requirements
6. **Keeping facilities in service.** The OPERATING AUTHORITY shall not remove BULK ELECTRIC SYSTEM facilities from service if removing those facilities would BURDEN neighboring OPERATING AUTHORITIES unless:

Clearly states the requirement to operate within SOLs and IROLs.

Authority to take action and responsibilities.

The Operating Authority must operate within known limits.

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A. Operating Authority Responsibilities

- 6.1. The OPERATING AUTHORITY first notifies the adjacent OPERATING AUTHORITIES and coordinates the impact resulting from the removal of the BULK ELECTRIC SYSTEM facility or,
 - 6.2. When time does not permit such notification and coordination, or when immediate action is required to prevent a hazard to the public, lengthy customer service interruption, or damage to facilities, the OPERATING AUTHORITY shall notify adjacent OPERATING AUTHORITIES at the earliest possible time to ensure OPERATING AUTHORITY coordination.
7. **Remaining interconnected.** The OPERATING AUTHORITY shall make every effort to remain connected to the INTERCONNECTION. If the OPERATING AUTHORITY determines that by remaining interconnected, it is in imminent danger of violating System Operating Limits or Interconnected Reliability Operating Limits, the OPERATING AUTHORITY may take such actions, as it deems necessary, to protect its OPERATING AUTHORITY AREA.
8. **Complying with control performance standards.** The OPERATING AUTHORITY shall comply with Control Performance Standards and the Disturbance Control Standard [See Policy 1A, “Control Performance Standard”] during an emergency.
9. **Coordinating interchange.** The OPERATING AUTHORITY shall coordinate INTERCHANGE SCHEDULE changes in accordance with Policy 3, “Interchange,” during an emergency.
10. **Keeping automatic generation control in service.** Each CONTROL AREA shall maintain automatic generation control equipment operational and in service. [See Policy 1E, “Automatic Generation Control Standard”]
11. **Taking immediate action.** The OPERATING AUTHORITY shall immediately take action to restore the real and reactive power balance. If the OPERATING AUTHORITY is unable to restore its real and reactive power balance it shall request emergency assistance. If corrective actions or emergency assistance is not adequate to mitigate the real and reactive power balance, then the OPERATING AUTHORITY shall implement firm load shedding.
12. **Reducing the effects of power flows.** The OPERATING AUTHORITY shall immediately reduce the effects of power flows through other OPERATING AUTHORITY AREAS if those flows have been identified as contributing to an operating emergency (e.g., resulting in SOL or IROL violations) in those other OPERATING AUTHORITY AREAS.

From Policy 5D.

B. Communications and Coordination

[Appendix 7A – Instructions for Interregional Emergency Telephone Networks]

Requirements

1. **Communications.** The OPERATING AUTHORITY shall have communications (voice and data links) to appropriate entities within its OPERATING AUTHORITY AREA, which are staffed and available to act in addressing a real time emergency condition.
2. **Notification.** The OPERATING AUTHORITY shall notify its RELIABILITY COORDINATOR and all other potentially affected OPERATING AUTHORITIES through predetermined communication paths of any condition that could threaten the reliability of its OPERATING AUTHORITY AREA.
 - 2.1. **Using the Interconnection-wide telecommunications system.** When a condition is identified that could threaten the reliability of the INTERCONNECTION or when firm load shedding is anticipated, the affected OPERATING AUTHORITY, via its RELIABILITY COORDINATOR, shall utilize the INTERCONNECTION-wide telecommunications network in accordance with Appendix 7A — Regional and Interregional Telecommunication, Subsection A, “NERC Hotline,” to convey the following information to others in the INTERCONNECTION:
 - 2.1.1. **Insufficient resources.** The OPERATING AUTHORITY is unable to purchase capacity or energy to meet its demand and reserve requirements on a day-ahead or hour-by-hour basis.
 - 2.1.2. **IROL violation.** The OPERATING AUTHORITY recognizes that potential or actual line loadings, and voltage or reactive levels are such that a single CONTINGENCY could threaten the reliability of the INTERCONNECTION. (Once a single CONTINGENCY occurs, the OPERATING AUTHORITY must prepare for the next CONTINGENCY.)
 - 2.1.3. **Implementation of emergency actions.** The OPERATING AUTHORITY anticipates initiating a 3% or greater voltage reduction, public appeals for load curtailments, or firm load shedding for other than local problems.
 - 2.1.4. **Sabotage incident.** The OPERATING AUTHORITY suspects or has identified a multi-site sabotage occurrence, or single-site sabotage of a critical facility.
 - 2.2. **Protocols.** The OPERATING AUTHORITY shall issue directives in a clear, concise, definitive manner. The OPERATING AUTHORITY

Important new requirements to avoid confusion.

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B. Communications and Coordination

shall receive a response from the person receiving the directive who will repeat the information given. The OPERATING AUTHORITY shall acknowledge the statement as correct or repeat the original statement to resolve misunderstandings.

C. Capacity and Energy Emergencies

[Appendix 5C – Energy Emergency Alerts]

Introduction

During a system emergency, the OPERATING AUTHORITY must continue to comply with NERC Control Performance and Disturbance Control Standards as explained in Policy 1, “Generation Control and Performance,” regardless of costs. In other words, the OPERATING AUTHORITY may not rely on the frequency bias of the other CONTROL AREAS in the INTERCONNECTION to provide energy during the emergency because doing so reduces the INTERCONNECTION’S ability to recover its frequency following additional generator failures.

Now Appendix 9B, but it really applies more to this Policy.

If the OPERATING AUTHORITY cannot comply with the Control Performance and Disturbance Control Standards, then it must immediately implement remedies to do so. These remedies include, but are not limited to:

1. Requesting assistance from other CONTROL AREAS
2. Declaring an ENERGY EMERGENCY through its RELIABILITY COORDINATOR
3. Reducing load, through procedures such as public appeals, voltage reductions, curtailing interruptible loads and firm loads.

Requirements

1. **Anticipating capacity or energy emergency.** A CONTROL AREA anticipating an operating capacity or energy emergency shall perform all actions necessary including bringing on all available generation, postponing equipment maintenance, scheduling interchange purchases in advance, and being prepared to reduce firm load.
2. **Returning ACE to Acceptable Levels.** In the event of a capacity or energy emergency, generation and transmission facilities shall be used to the fullest extent practicable to comply with the CPS and DCS as defined in Policy 1A, “Control Performance Standard.” Using bias variables to “cover up” energy emergency problems is prohibited.
 - 2.1. **Mitigating an energy emergency.** Once the control areas has exhausted the following steps:
 - All available generating capacity is loaded, and
 - All operating reserve is utilized, and
 - All interruptible load and interruptible exports have been interrupted, and
 - All emergency assistance from other control areas is fully utilized, and

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C. Insufficient Generating Capacity

- Its ACE is negative and cannot be returned to zero in the next fifteen minutes, then
 - 2.1.1. The CONTROL AREA shall manually shed firm load without delay to return its ACE to zero.
 - 2.1.2. The deficient CONTROL AREA shall declare an EMERGENCY ENERGY Alert in accordance with Appendix 5C.
 - 2.2. **Using INTERCONNECTION’S bias.** The deficient CONTROL AREA may only use the assistance provided by the INTERCONNECTION’S frequency bias for the time needed to implement corrective actions.
3. **Elevating Transmission Service Priority within the Eastern INTERCONNECTION.** When a TRANSMISSION PROVIDER expects to elevate the transmission service priority of an INTERCHANGE TRANSACTION from Priority 6 (Network Integration Transmission Service from Non-designated Resources) to Priority 7 (Network Integration Transmission Service from designated Network Resources) as permitted in its transmission tariff [See **Appendix 9C1, “Transmission Loading Relief Procedure”** for explanation of Transmission Service Priorities]:
- 3.1. The LOAD-SERVING ENTITY served by the CONTROL AREA or TRANSMISSION PROVIDER must request its RELIABILITY COORDINATOR to initiate an ENERGY EMERGENCY ALERT. [See **Appendix 5C, “Energy Emergency Alerts”**]
 - 3.1.1. This Alert must be posted on the NERC Web site, and include the expected total MW that may have its TRANSMISSION SERVICE priority changed.
 - 3.2. EEA 1 will be used to *forecast* the change of the priority of TRANSMISSION SERVICE of an INTERCHANGE TRANSACTION on the system from Priority 6 to Priority 7.
 - 3.3. EEA 2 will be used to *announce* the change of the priority of TRANSMISSION SERVICE of an INTERCHANGE TRANSACTION on the system from Priority 6 to Priority 7.
4. **Unilateral action.** The OPERATING AUTHORITY shall not unilaterally adjust generation in an attempt to return INTERCONNECTION frequency to normal beyond that supplied through frequency bias action and INTERCHANGE SCHEDULE changes. Such unilateral adjustment may overload transmission facilities.

Replaces Policy 5C.

D. Transmission

Introduction

This policy:

1. Summarizes the authority, information and tools required by SYSTEM OPERATORS responsible for the reliability of the INTERCONNECTIONS.
2. Identifies the accountability for developing and implementing procedures to alleviate SYSTEM OPERATING LIMIT (SOL) and INTERCONNECTED RELIABILITY OPERATING LIMIT (IROL) violations.
3. Describes the requirement to develop procedures for the curtailment and restoration of transmission service.

Requirements

1. **Mitigating SOL and IROL violations.** The OPERATING AUTHORITY experiencing or contributing to an SOL or IROL violation shall take immediate steps to relieve the condition, which may include firm load shedding.
2. **OPERATING AUTHORITIES shall not BURDEN others.** The OPERATING AUTHORITY shall ensure it operates to prevent the likelihood that a disturbance, action, or non-action will result in a SOL or IROL violation in its OPERATING AUTHORITY AREA or another area of the INTERCONNECTION. **In instances where there is a difference in derived operating limits, the BULK ELECTRIC SYSTEM shall always be operated to the most limiting parameter.**
3. The OPERATING AUTHORITY shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered.
4. Neighboring OPERATING AUTHORITIES and RELIABILITY COORDINATORS impacted by the disconnection shall be notified prior to switching, if time permits, otherwise, immediately thereafter.
5. The OPERATING AUTHORITY shall have sufficient information and analysis tools to determine the cause(s) of SOL violations. This analysis shall be conducted in all operating timeframes. The OPERATING AUTHORITY shall use the results of these analyses to immediately mitigate the SOL violation.

New. Repeated in Policy 9C1.3.

From Policy 5C.

E. System Restoration

[Policy 6D – Operations Planning–System Restoration]
[Electric System Restoration Reference Document]

Introduction

After a system collapse, restoration shall begin when the RELIABILITY COORDINATOR and its affected OPERATING AUTHORITY(IES) determine that they can proceed in an orderly and secure manner. RELIABILITY COORDINATORS and affected OPERATING AUTHORITIES shall coordinate their restoration actions. Restoration priority shall be given to the station supply of power plants and the transmission system. Even though the restoration is to be expeditious, OPERATING AUTHORITIES shall avoid premature action to prevent a re-collapse of the BULK ELECTRIC SYSTEM.

Current Policy 5 does not mention the role of the Reliability Coordinator.

Customer load shall be restored as generation and transmission equipment becomes available, recognizing that load and generation must remain in balance at normal frequency as the BULK ELECTRIC SYSTEM is restored.

Requirements

1. **Returning to normal operations.** Following a disturbance in which one or more OPERATING AUTHORITY AREAS become isolated, steps shall begin immediately to return the BULK ELECTRIC SYSTEM to normal:
 - 1.1. **Extent of isolated BULK ELECTRIC SYSTEM.** The OPERATING AUTHORITY working in conjunction with its RELIABILITY COORDINATOR shall determine the extent and condition of the isolated area(s).
 - 1.2. **Frequency restoration.** The OPERATING AUTHORITY shall then take the necessary action to restore BULK ELECTRIC SYSTEM frequency to normal, including adjusting generation, placing additional generators on line, or load shedding.
 - 1.3. **INTERCHANGE SCHEDULE review.** The RELIABILITY COORDINATOR and affected CONTROL AREAS shall immediately review the INTERCHANGE SCHEDULES between those CONTROL AREAS or fragments of those CONTROL AREAS within the separated area and make adjustments as needed to facilitate the restoration. The affected Control Areas shall make all attempts to maintain the adjusted INTERCHANGE SCHEDULES whether generation control is manual or automatic.
 - 1.4. **Resynchronizing.** When voltage, frequency, and phase angle permit, the OPERATING AUTHORITY may resynchronize the isolated area(s) with the surrounding area(s), upon notifying its RELIABILITY COORDINATOR and adjacent OPERATING AUTHORITIES, and considering the size of the area being reconnected and the capacity of the transmission lines effecting the reconnection. (The OPERATING AUTHORITY’S restoration

E. System Restoration

plan should consider the number of synchronizing points across the system.)

- 1.5. Off-site supply for nuclear plants.** The OPERATING AUTHORITY shall give high priority to restoration of off-site power to nuclear stations.

- 1.6. Load Shedding.** Load shall be shed in neighboring OPERATING AUTHORITY areas, where required, to permit successful interconnected system restoration.

F. Disturbance Reporting

[Appendix 5F – Reporting Requirements for Major Electric System Emergencies]

Introduction

Disturbances or unusual occurrences that jeopardize the operation of the BULK ELECTRIC SYSTEM, and result, or could result, in system equipment damage, or customer interruptions, must be studied in sufficient depth to increase industry knowledge of electrical interconnection mechanics to minimize the likelihood of similar events in the future. It is important that the facts surrounding a disturbance shall be made available to RELIABILITY COORDINATORS, and OPERATING AUTHORITIES, Regional Councils, NERC, and regulatory agencies entitled to the information.

Requirements

1. **Regional Council Reporting Procedures.** Each Regional Council shall establish and maintain a Regional reporting procedure to facilitate preparation of preliminary and final disturbance reports.
2. **Analyzing disturbances.** BULK ELECTRIC SYSTEM disturbances shall be promptly analyzed by the affected OPERATING AUTHORITIES.
3. **Disturbance reports.** Based on the NERC and DOE disturbance reporting requirements, those OPERATING AUTHORITIES responsible for investigating the incident shall provide a preliminary written report to their Regional Council and NERC.
 - 3.1. **Preliminary written reports.** Either a copy of the report submitted to DOE, or, if no DOE report is required, a copy of the NERC Interconnected Reliability Operating Limit and Preliminary Disturbance Report form shall be submitted by the affected OPERATING AUTHORITY within 24 hours of the disturbance or unusual occurrence. Certain events (e.g. near misses) may not be identified until some time after they occur. Events such as these should be reported within 24 hours of being recognized.
 - 3.2. **Preliminary reporting during adverse conditions.** Under certain adverse conditions, e.g. severe weather, it may not be possible to assess the damage caused by a disturbance and issue a written Interconnected Reliability Operating Limit and Preliminary Disturbance Report within 24 hours. In such cases, the affected OPERATING AUTHORITY shall notify its Regional Council(s) and NERC promptly and verbally provide as much information as is available at that time. The affected OPERATING AUTHORITY shall then provide timely, periodic verbal updates until adequate information is available to issue a written Preliminary Disturbance Report.

Few changes in the following sections. Replaced “system” with Operating Authority or Reliability Coordinator.

F. Disturbance Reporting

- 3.3. Final written reports.** If in the judgment of the Regional Council, after consultation with the OPERATING AUTHORITY in which a disturbance occurred, a final report is required, the affected OPERATING AUTHORITY shall prepare this report within 60 days. As a minimum, the final report shall have a discussion of the events and its cause, the conclusions reached, and recommendations to prevent recurrence of this type of event. The report shall be subject to Regional Council approval.
- 4. Notifying NERC.** The NERC Disturbance Reporting Requirements, shown in **Appendix 5F, Sections A and B**, are the minimum requirements for reporting disturbances, unusual occurrences, and voltage excursions to NERC.
- 5. Notifying DOE.** The U.S. Department of Energy's most recent Emergency Incident and Disturbance Reporting Requirements, outlined in **Appendix 5F, Section C**, are the minimum requirements for U.S. utilities and other entities subject to Section 13(b) of the Federal Energy Administration Act of 1974. Copies of these reports shall be submitted to NERC at the same time they are submitted to DOE.
- 6. Assistance from NERC Operating Committee (OC) and the Disturbance Analysis Working Group (DAWG).** When a BULK ELECTRIC SYSTEM disturbance occurs, the Regional Council's OC and DAWG representatives shall make themselves available to the OPERATING AUTHORITY immediately affected to provide any needed assistance in the investigation and to assist in the preparation of a final report.
- 7. Final report recommendations.** The Regional Council shall track and review the status of all final report recommendations at least twice each year to ensure they are being acted upon in a timely manner. If any recommendation has not been acted on within two years, or if Regional Council tracking and review indicates at any time that any recommendation is not being acted on with sufficient diligence, the Regional Council shall notify the NERC Planning Committee and Operating Committee of the status of the recommendation(s) and the steps the Regional Council has taken to accelerate implementation.

G. Sabotage Reporting

Introduction

Disturbances or unusual occurrences, suspected or determined to be caused by sabotage, shall be reported to the appropriate systems, governmental agencies, and regulatory bodies.

Requirements

1. **Recognizing sabotage.** Each OPERATING AUTHORITY shall have procedures for the recognition of and for making its SYSTEM OPERATORS aware of sabotage events on its facilities and multi-site sabotage affecting larger portions of the INTERCONNECTION. Procedures shall also be established for the communication of information concerning sabotage events to appropriate parties in the INTERCONNECTION.
2. **Reporting guidelines.** SYSTEM OPERATORS shall be provided with guidelines including lists of utility contact personnel, for reporting disturbances due to sabotage events.
3. **Contact with FBI and RCMP.** OPERATING AUTHORITIES shall establish communications contacts with local Federal Bureau of Investigation (FBI) or Royal Canadian Mounted Police (RCMP) officials and develop reporting procedures as appropriate to their circumstances.

Guides

1. **Information to media.** OPERATING AUTHORITIES should establish procedures for supplying sabotage-related information to the media. Release of this information must be coordinated with the appropriate FBI or RCMP personnel.