

Template for Developing a Balancing Authority Integrated Operational Plan

Draft 3

Integrated Operational Plan Subsections

- A. Real Power Balancing Control Performance**
 - B. Disturbance Control Performance**
 - C. Frequency Response and Bias**
 - D. Time Error Correction**
 - E. Automatic Generation Control**
 - F. Inadvertent Interchange**
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Introduction

This document outlines the requirements that a BALANCING AUTHORITY shall address in its Integrated Operational Plan.

Initial Balancing Authority's Integrated Operational Plan

A BALANCING AUTHORITY shall prepare an Integrated Operational Plan that documents that it has the processes, procedures, tools, and agreements in place to perform the reliability functions and responsibilities assigned to the BALANCING AUTHORITY in the Operating Policies or the successor Version 0 Reliability Standards. The initial Integrated Operational Plan will outline the metered boundaries of its BALANCING AUTHORITY AREA and shall identify each GENERATION OWNER, TRANSMISSION OWNER, and LOAD SERVING ENTITY within those metered boundaries.

Approval Process for Changes to a Balancing Authority's Area

Changes to a BALANCING AUTHORITY'S AREA boundary must be:

1. Endorsed by the applicable NERC Region(s),
2. Accompanied by an update of all impacted Regional Council's Regional Operating Reliability Plan to reflect the BALANCING AUTHORITY'S AREA within the Regional Council's purview.
3. Submitted to NERC by the impacted Regional Councils for posting.

Balancing Authority's Integrated Operational Plan Approval Process

The BALANCING AUTHORITY shall submit its initial or revised Integrated Operational Plan to all Regional Reliability Councils, within which the BALANCING AUTHORITY will operate.

Balancing Authority Audits

The BALANCING AUTHORITY shall be audited at the direction of the NERC Vice President of Compliance prior to implementing its initial Integrated Operational Plan, and on a periodic basis thereafter as determined by the NERC Board of Trustees.

The BALANCING AUTHORITY may be audited at the direction of the NERC Vice President of Compliance when any of the following events occurs within a BALANCING AUTHORITY'S AREA:

1. A change in the BALANCING AUTHORITY'S membership resulting in a change in the BALANCING AUTHORITY'S AREA.
2. A change in scope within the BALANCING AUTHORITY'S AREA, e.g. the start-up of a market operation.

Comments

It is not clear why a change in membership should result in an audit.

A. Real Power Balancing Control Performance

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Real Power Balancing Control Performance standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure operations such that, on a rolling 12-month basis, the average of the clock-minute averages of the BALANCING AUTHORITY AREA's ACE divided by 10B (B is the clock-minute average of the BALANCING AUTHORITY AREA's frequency bias) times the corresponding clock-minute averages of the INTERCONNECTION's FREQUENCY ERROR is less than a specific limit. (Policy 1 Requirement A.1.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure operations such that its average ACE for at least 90% of clock-ten-minute periods (6 non-overlapping periods per hour) during a calendar month is within a specific limit, referred to as L₁₀. (Policy 1 Requirement A.1.2)
3. A BALANCING AUTHORITY providing OVERLAP REGULATION SERVICE shall document the processes and procedures used to evaluate Policy 1 Requirement A.1.1 (CPM1) and Policy 1 Requirement A.1.2 (CPM2) using the characteristics of the combined ACE and combined FREQUENCY BIAS SETTINGS. (Policy 1 Requirement A.2.2)
4. If a BALANCING AUTHORITY is receiving OVERLAP REGULATION SERVICE it shall document the BALANCING AUTHORITY from which it is receiving the OVERLAP REGULATION SERVICE.

Comments

This template should provide only an outline or Table Of Contents of what is expected to be covered by the Plan as a guide for the developers of the Plan. It should not list requirements for the BA, as these should be covered by the soon to be implemented Version 0 standards. Templates approved outside the Standard Process create the potential of having inconsistent requirements or of adding new requirements that are not part of the standards.

The document should provide the timelines for implementation of this template and provide NERC's expectations of Reliability Coordinators to evolve existing RC plans to this format.

It appears that some of these tasks may overlap with the TOP or RC(RA) tasks.

B. Disturbance Control Performance

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Disturbance Control Performance standards.

1. The BALANCING AUTHORITY shall document that it has access to and/or operates CONTINGENCY RESERVES to respond to disturbances. (Policy 1 Requirement B.1)
2. The BALANCING AUTHORITY shall document the processes and procedures it uses to activate sufficient CONTINGENCY RESERVE to comply with the Disturbance Control Performance Measure. (Policy 1 Requirement B.2)
3. The BALANCING AUTHORITY shall document the processes and procedures used to fully restore its CONTINGENCY RESERVES within the CONTINGENCY RESERVE RESTORATION PERIOD for its INTERCONNECTION. The CONTINGENCY RESERVE RESTORATION PERIOD begins at the end of the DISTURBANCE RECOVERY PERIOD. (Policy 1 Requirement B.3)

Comments

See comments in first paragraph of the comments for A.

C. Frequency Response and Bias

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Frequency Response and Bias standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to determine its frequency response characteristic. (Policy 1 Requirement C.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that it operates its AGC on tie-line frequency bias, unless such operation is adverse to system or INTERCONNECTION reliability. (Policy 1 Standard C.1)
3. If the BALANCING AUTHORITY uses Dynamic Scheduling or Pseudo- ties for jointly owned units, it shall document the processes and procedures used to ensure that its respective share of the unit governor droop response is reflected in its Frequency Bias Setting. (Policy 1 Standard C.1.1.3)
4. If the BALANCING AUTHORITY serves native load, it shall document that it has a monthly average Frequency Bias Setting that is at least 1% of its estimated yearly peak demand per 0.1 Hz change. If the BALANCING AUTHORITY does not serve native load, it shall document that it has a monthly average Frequency Bias Setting that is at least 1% of its estimated maximum generation level in the coming year per 0.1 Hz change. (Policy 1 Standard C.1.1.4 and C.1.1.5)

If the BALANCING AUTHORITY is performing OVERLAP REGULATION SERVICE, it shall document that it has increased its Frequency Bias Setting to match the frequency response of the entire area being controlled. (Policy 1 Standard C.1.1.6)

Comments

See comments in first paragraph of the comments for A.
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D. Time Error Correction

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Time Error Correction standards.

The BALANCING AUTHORITY shall document the procedures it shall follow when it identifies reliability concerns with the execution of a time error correction. (Policy 1 Requirement D.4)

Comments

See comments in first paragraph of the comments for A.
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E. Automatic Generation Control

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Automatic Generation Control standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that it maintains regulating reserves that can be controlled by AGC to meet the Control Performance Measure. (Policy 1 Requirement E.2.1)
2. If the BALANCING AUTHORITY is providing regulation service, it shall document that it has adequate metering, communications and control equipment employed to prevent such service from becoming a BURDEN on the INTERCONNECTION or other BALANCING AUTHORITY AREAS. (Policy 1 Requirement E.2.2.1)
3. If the BALANCING AUTHORITY is providing regulation service, it shall document the procedure used to notify the host BALANCING AUTHORITY for whom it is controlling if it is unable to provide the service, as well as any intermediary BALANCING AUTHORITIES. (Policy 1 Requirement E.2.2.2)
4. If the BALANCING AUTHORITY is receiving regulation service, it shall document the backup plans in place to provide replacement regulation service should the supplying BALANCING AUTHORITY no longer be able to provide this service. (Policy 1 Requirement E.2.2.3)
5. If the BALANCING AUTHORITY is operating asynchronously, it shall document the processes and procedures used to employ alternative ACE calculations such as (but not limited to) flat frequency control. (Policy 1 Requirement E.3.1)
6. The Balancing Authority shall document the procedure used to notify its RELIABILITY COORDINATOR in the event it is unable to calculate ACE for more than 30 minutes. (Policy 1 Requirement E.3.1)
7. The Balancing Authority shall document the procedures used to ensure continuous operation of AGC unless such operation adversely impacts the reliability of the Interconnection. (Policy 1 Requirement E.3.2) These procedures shall also address actions to be taken in the event AGC becomes inoperative, including the use of use of manual control to adjust generation to maintain the Net scheduled Interchange. (Policy 1 Requirement E.3.3)
8. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that data-acquisition for and calculation of ACE occurs at least every six seconds. (Policy 1 Requirement E.4.1)
9. The BALANCING AUTHORITY shall document the provision of redundant and independent frequency metering equipment that shall automatically activate upon detection of failure of the primary source. (Policy 1 Requirement E.4.2)
10. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the inclusion of all INTERCHANGE SCHEDULES with ADJACENT BALANCING AUTHORITIES in the calculation of Net Scheduled Interchange for the Area Control Error (ACE) equation. (Policy 1 Requirement E.4.3.1)
11. If the BALANCING AUTHORITY has an HVDC link to another BALANCING AUTHORITY connected asynchronously to their INTERCONNECTION, it shall document how it will consider the INTERCHANGE SCHEDULE related to the HVDC link in its ACE equation. (Policy 1 Requirement E.4.3.1.1)

12. The BALANCING AUTHORITY shall document the process and procedures used to ensure the inclusion of all Dynamic Schedules in the calculation of Net Scheduled Interchange for the ACE equation. (Policy 1 Requirement E.4.3.2)
13. The BALANCING AUTHORITY shall document the procedures used to ensure that agreed upon ramp rates are used in the Scheduled Interchange values to calculate ACE. (Policy 1 Requirement E.4.3.3)
14. The BALANCING AUTHORITY shall document the processes and procedures used to determine Actual Net Interchange. These processes and procedures shall address:
 - 14.1. The inclusion of all tie-line flows with ADJACENT BALANCING AUTHORITY Areas in the ACE calculation. (Policy 1 Requirement E.4.4.1)
 - 14.2. BALANCING AUTHORITIES that share a tie shall ensure tie line MW metering is telemetered to both control centers, and emanates from a common, agreed-upon source using common primary metering equipment. (Policy 1 Requirement E.4.4.2)
 - 14.3. BALANCING AUTHORITIES shall ensure that MWh data is telemetered or reported at the end of each hour. (Policy 1 Requirement E.4.4.2)
 - 14.4. BALANCING AUTHORITIES shall ensure the power flow and ACE signals that are utilized for calculating BALANCING AUTHORITY performance or that are transmitted for regulation service are not filtered prior to transmission, except for anti-aliasing filtering of tie lines. (Policy 1 Requirement E.4.4.3)
 - 14.5. BALANCING AUTHORITIES shall install common metering equipment where Dynamic Schedules or Pseudo-Ties are implemented between two or more BALANCING AUTHORITIES to deliver the output of Jointly Owned Units or to serve remote load. (Policy 1 Requirement E.4.4.4)
15. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the performance of hourly error checks using tie-line MWh meters with common time synchronization to determine the accuracy of its control equipment. (Policy 1 Requirement E.4.5.1)
16. The BALANCING AUTHORITY shall document the processes and procedures used to adjust the component (e.g., tie-line meter) of ACE that is in error (if known) or use the interchange meter error (IME) term of the ACE equation to compensate for any equipment error until repairs can be made. (Policy 1 Requirement E.4.5.2)
17. The BALANCING AUTHORITY shall document the instrumentation and data recording equipment provided to its operating personnel to facilitate monitoring of control performance, generation response, and after-the-fact analysis of area performance. (Policy 1 Requirement E.4.6.1)
18. The BALANCING AUTHORITY shall document the provision of backup power supplies and the procedures to be followed to periodically test these supplies at its control center and other critical locations to ensure continuous operation of AGC and vital data recording equipment during loss of the normal power supply. (Policy 1 Requirement E.4.6.2)

Comments

See comments in first paragraph of the comments for A.

F. Inadvertent Interchange

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Inadvertent Interchange standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to calculate and record hourly INADVERTENT INTERCHANGE. (Policy 1 Standard F.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the inclusion of all AC tie lines that connect to its ADJACENT BALANCING AUTHORITY AREAS in its INADVERTENT INTERCHANGE account. The BALANCING AUTHORITY shall also document the processes and procedures used to take into account interchange served by jointly owned generators. (Policy 1 Standard F.2)
3. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that all of its BALANCING AUTHORITY AREA interconnection points are equipped with common MWh meters, with readings provided hourly to the control centers of ADJACENT BALANCING AUTHORITIES. (Policy 1 Standard F.3)
4. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that it operates to a common NET INTERCHANGE SCHEDULE and ACTUAL NET INTERCHANGE value with ADJACENT BALANCING AUTHORITY AREAS and that it records these hourly quantities, with like values but opposite sign. The BALANCING AUTHORITY shall also document the processes and procedures used to ensure the computation of its INADVERTENT INTERCHANGE based on the following (Policy 1 Standard F.4):
 - 4.1. That the BALANCING AUTHORITY, by the end of the next business day, agrees with its ADJACENT BALANCING AUTHORITIES to (Policy 1 Standard F.4.1):
 - 4.1.1. The hourly values of NET INTERCHANGE SCHEDULE (Policy 1 Standard F.4.1.1).
 - 4.1.2. The hourly integrated MWh values of NET ACTUAL INTERCHANGE (Policy 1 Standard F.4.1.2).
 - 4.2. That the BALANCING AUTHORITY uses the agreed-to daily and monthly accounting data to compile its monthly accumulated INADVERTENT INTERCHANGE for the ON-PEAK and OFF-PEAK hours of the month (Policy 1 Standard F.4.2).
 - 4.3. That the BALANCING AUTHORITY makes after-the-fact corrections to the agreed to daily and monthly accounting data only as needed to reflect actual operating conditions (e.g. a meter being used for control was sending bad data). Changes or corrections based on non-reliability considerations shall not be reflected in the BALANCING AUTHORITY's INADVERTENT INTERCHANGE. After-the-fact corrections to scheduled or actual values will not be accepted without agreement of the ADJACENT BALANCING AUTHORITY(s) (Policy 1 Standard F.4.3).

Comments

See comments in first paragraph of the comments for A.

G. Voltage and Reactive Control

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Voltage and Reactive Control standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the provision of reactive resources to satisfy its reactive requirements. (Policy 2 Requirement B.2)
2. The BALANCING AUTHORITY shall document the processes and procedures used to take corrective action, including load reduction, necessary to prevent voltage collapse when reactive resources are insufficient. (Policy 2 Requirement B.5)

Comments

See comments in first paragraph of the comments for A. This may overlap with the tasks of the TOp &/or RA.

H. Interchange Transactions

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to meet Interchange Transaction 1) Tagging, 2) Tag Communication and Reliability Assessment, 3) Implementation, and 4) Modification standards.

1. Interchange Transaction Tagging

- 1.1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the tagging of all INTERCHANGE TRANSACTIONS established to replace unexpected generation loss, such as through prearranged reserve sharing agreements or other arrangements, and all emergency transactions to mitigate SOL or IROL violations that sink within its BALANCING AUTHORITY AREA. (Policy 3 Requirement A.2.4.1)
- 1.2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the tagging of all Bilateral Inadvertent Interchange Payback sinking within its BALANCING AUTHORITY AREA. (Policy 3 Requirement A.2.4.1)
- 1.3. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the submission of all tags to the SINK BALANCING AUTHORITY in accordance with NERC timing standards. (Policy 3 Requirement A.2.4)

2. Interchange Transaction Tag Communication and Reliability Assessment

- 2.1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure that all tags and any modifications to tags are provided to the appropriate entities for reliability assessment. (Policy 3 Requirement A.2.2)
- 2.2. The BALANCING AUTHORITY shall document the processes and procedures used for assessing and approving or denying INTERCHANGE TRANSACTIONS. (Policy 3 Requirement A.4)
- 2.3. The BALANCING AUTHORITY shall document the processes and procedures used for communicating its approval or denial of INTERCHANGE TRANSACTIONS to SINK BALANCING AUTHORITIES. (Policy 3 Requirement A.5)
- 2.4. The BALANCING AUTHORITY shall document the processes and procedures used to communicate the composite approval status of INTERCHANGE TRANSACTIONS to PURCHASING-SELLING ENTITIES and all other BALANCING AUTHORITIES, TRANSMISSION SERVICE PROVIDERS and RELIABILITY AUTHORITIES on the scheduling path, upon receipt of approvals or denials from all of the individual BALANCING AUTHORITIES and TRANSMISSION SERVICE PROVIDERS. (Policy 3 Requirements A.5 and B.3)

3. Interchange Transaction Implementation

- 3.1. The BALANCING AUTHORITY shall document the processes and procedures used to confirm INTERCHANGE SCHEDULES with a SENDING BALANCING AUTHORITY prior to implementation in its AREA CONTROL ERROR (ACE) equation or in the system that calculates its AREA CONTROL ERROR equation. (Policy 3 Requirement B.4)
- 3.2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the implementation of INTERCHANGE SCHEDULES only with ADJACENT BALANCING AUTHORITIES. (Policy 3 Requirement B.1)
- 3.3. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the implementation of each INTERCHANGE TRANSACTION as tagged if it is the SINKING BALANCING AUTHORITY. (Policy 3 Requirement B.4)

4. Interchange Transaction Modification

- 4.1. The BALANCING AUTHORITY shall document the processes and procedures used to modify an INTERCHANGE TRANSACTION due to loss of generation, loss of load, or a TLR event (or other regional congestion management practices) by setting a new limit on the INTERCHANGE TRANSACTION tag that is in progress or scheduled to start and communicating this new limit to the SINK BALANCING AUTHORITY. (Policy 3 Requirement D.2)
- 4.2. The BALANCING AUTHORITY shall document the processes and procedures used to modify an INTERCHANGE TRANSACTION in accordance with NERC timing standards. (Policy 3 Requirement D.1)

Comments

See comments in first paragraph of the comments for A. Also, this appears to overlap with the IA function. Is this an intended stopgap until the IA function is implemented?

I. Monitoring System Conditions

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to monitor system conditions in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to inform its RELIABILITY COORDINATOR and other affected BALANCING AUTHORITIES and TRANSMISSION OPERATORS of all generation and transmission resources available for use. (Policy 4 Requirement A.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to monitor applicable transmission line status, MW and MVAR flows, voltage, LTC settings and status of rotating and static reactive resources. (Policy 4 Requirement A.2)
3. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the provision of appropriate technical information concerning protective relays to operating personnel. (Policy 4 Requirement A.3)
4. The BALANCING AUTHORITY shall document the processes and procedures used to ensure access to information, including weather forecasts and past load patterns, to predict the system's near-term load pattern. (Policy 4 Requirement A.4)
5. The BALANCING AUTHORITY shall document the processes and procedures for the operation of monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action. (Policy 4 Requirement A.5)
6. The BALANCING AUTHORITY shall document the processes and procedures followed to ensure the use of sufficient metering of suitable range, accuracy, and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions under both normal and emergency situations. (Policy 4 Requirement A.5.1)
7. The BALANCING AUTHORITY shall document the processes and procedures used to monitor system frequency. (Policy 4 Requirement A.6)

Comments

See comments for A. This appears to verlap with the RC & TOp functions.

J. Providing Operating Reliability Information

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to provide operating reliability information in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to provide its RELIABILITY COORDINATOR with operating data that the RELIABILITY COORDINATOR requires for monitoring system conditions within the RELIABILITY COORDINATOR AREA. (Policy 4 Requirement B.4)
2. The BALANCING AUTHORITY shall document the processes and procedures used to provide, upon request, to other BALANCING AUTHORITIES and TRANSMISSION OPERATORS with immediate responsibility for operational reliability, the operating data that are necessary to allow the BALANCING AUTHORITY and TRANSMISSION OPERATOR to perform its operational reliability assessments and to coordinate reliable operations. (Policy 4 Requirement B.5)

Comments

See comments in first paragraph of the comments for A.
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K. Planned Outage Coordination

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to address planned outage coordination in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the planning and coordination of scheduled outages of system voltage regulating equipment, such as automatic voltage regulators on generators, supplementary excitation control, synchronous condensers, shunt and series capacitors, reactors, etc., among affected RELIABILITY AUTHORITIES, BALANCING AUTHORITIES, and TRANSMISSION OPERATORS as required. (Policy 4 Requirement C.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to ensure the planning and coordination of scheduled outages of telemetering and control equipment and associated communication channels between the affected BALANCING AUTHORITY AREAS. (Policy 4 Requirement C.3)

Comments

See comments in first paragraph of the comments for A.
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L. System Protection Coordination

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to address system protection coordination in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures used to ensure system operator familiarity with the purpose and limitations of protection system schemes applied in its BALANCING AUTHORITY AREA. (Policy 4 Requirement D.1)
2. The BALANCING AUTHORITY shall document the processes and procedures used to monitor the status of each SPECIAL PROTECTION SYSTEM in its BALANCING AUTHORITY AREA, and shall notify all affected RELIABILITY AUTHORITIES, TRANSMISSION OPERATORS, and BALANCING AUTHORITIES of each change in status. (Policy 4 Requirement D.6)

Comments

See comments in first paragraph of the comments for A. Also, this seems to overlap with the RC & TOP tasks.

M. Reliability Responsibilities and Authorities

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the responsibilities and authorities to address reliability concerns within its BALANCING AUTHORITY AREA in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document that it has the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its BALANCING AUTHORITY AREA and shall exercise specific authority to alleviate operating emergencies. (Policy 5 Requirement A.2)
2. The BALANCING AUTHORITY shall document the processes and procedures to 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. (Policy 5 Requirement A.2.1)
3. The BALANCING AUTHORITY shall document the processes and procedures used to ensure compliance with RELIABILITY COORDINATOR directives, unless such actions would violate safety, equipment, and regulatory or statutory requirements. (Policy 5 Requirement A.2.2)
4. The BALANCING AUTHORITY shall document the processes and procedures used to inform other potentially affected RELIABILITY AUTHORITIES, BALANCING AUTHORITIES, and TRANSMISSION OPERATORS of real-time or anticipated emergency conditions, and take actions to avoid when possible, or mitigate the emergency. (Policy 5 Requirement A.4)
5. The BALANCING AUTHORITY shall document the processes and procedures used to render all available emergency assistance requested, provided that the requesting entity has implemented its comparable emergency procedures, unless such actions would violate safety, equipment, or regulatory or statutory requirements. (Policy 5 Requirement A.5)
6. The BALANCING AUTHORITY shall document the processes and procedures used to notify its RELIABILITY COORDINATOR, TRANSMISSION OPERATORS, and affected BALANCING AUTHORITIES of the removal of a BULK ELECTRIC SYSTEM facility to ensure coordination of the impact resulting from the removal of the facility. (Policy 5 Requirement A.6.1)
7. The BALANCING AUTHORITY shall document the processes and procedures followed to ensure restoration of the real and reactive power balance. (Policy 5 Requirement A.11)

Comments

See comments in first paragraph of the comments for A. Also, this seems to overlap with the RC & TOp tasks.

N. Communications and Coordination

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to address communications and coordination in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures to ensure the provision of communications (voice and data links) with appropriate RELIABILITY AUTHORITIES, BALANCING AUTHORITIES, and TRANSMISSION OPERATORS. (Policy 5 Requirement B.1)
2. The BALANCING AUTHORITY shall document the processes and procedures to notify its RELIABILITY COORDINATOR and all other potentially affected BALANCING AUTHORITIES and TRANSMISSION OPERATORS through predetermined communication paths of any condition that could threaten the reliability of its BALANCING AUTHORITY AREA. (Policy 5 Requirement B.2)
3. The BALANCING AUTHORITY shall document the processes and procedures to ensure the issuance of directives in a clear, concise, and definitive manner; these processes and procedures shall also ensure the recipient of the directive repeats the information back correctly; and address the acknowledgement of the response as correct or repeat the original statement to resolve any misunderstandings. (Policy 5 Requirement B.2.2)

Comments

See comments in first paragraph of the comments for A.

O. Emergency Operations

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to address emergency operations, implementation of capacity and energy emergency plans, and coordination of emergency operations with other systems in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures to ensure the implementation of its Capacity and Energy Emergency plans, when required and as appropriate, to reduce risks to the interconnected system. (Policy 5 Requirement C.1)
2. The BALANCING AUTHORITY shall document the processes and procedures to ensure the communication of its current and future system conditions to neighboring BALANCING AUTHORITIES and TRANSMISSION OPERATORS and its RELIABILITY COORDINATOR if they are experiencing an operating emergency. (Policy 5 Requirement C.1)
3. The BALANCING AUTHORITY shall document the processes and procedures to ensure that, if it is deficient of system resources, that it only uses the assistance provided by the INTERCONNECTION'S frequency bias for the time needed to implement corrective actions. (Policy 5 Requirement C.2.2)
4. The BALANCING AUTHORITY shall document the processes and procedures to ensure the implementation of all actions necessary, including bringing on all available generation, postponing equipment maintenance, scheduling interchange purchases in advance, and being prepared to reduce firm load in the event it anticipates an operating capacity or energy emergency. (Policy 5 Requirement C.2.1)
5. The BALANCING AUTHORITY shall document the processes and procedures to ensure that if it is experiencing or contributing to an SOL or IROL violation that it takes immediate steps to relieve the condition, which may include firm load shedding. (Policy 5 Requirement D.1)
6. The BALANCING AUTHORITY shall document the processes and procedures to ensure that it operates to prevent the likelihood that a disturbance, action, or non-action will result in a SOL or IROL violation in its BALANCING AUTHORITY AREA or another BALANCING AUTHORITY'S AREA of the INTERCONNECTION. (Policy 5 Requirement D.2)
7. The BALANCING AUTHORITY shall document the processes and procedures to ensure that in instances where there is a difference in derived operating limits that it always operates the BULK ELECTRIC SYSTEM to the most limiting parameter. (Policy 5 Requirement D.2)
8. The BALANCING AUTHORITY shall document the processes and procedures to ensure the disconnection of the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered. (Policy 5 Requirement D.3)
9. The BALANCING AUTHORITY shall document the processes and procedures to notify its RELIABILITY COORDINATOR and all neighboring BALANCING AUTHORITIES and TRANSMISSION OPERATORS impacted by the disconnection prior to switching, if time permits, otherwise, immediately thereafter. (Policy 5 Requirement D.4)

Comments

See comments in first paragraph of the comments for A. Also, this seems to overlap with the RC & TOP tasks.

P. Disturbance and Sabotage Reporting

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to address disturbance and sabotage reporting in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document the processes and procedures to ensure that BULK ELECTRIC SYSTEM disturbances are promptly analyzed. (Policy 5 Requirement F.2)
2. The BALANCING AUTHORITY shall document the processes and procedures to ensure the provision of a preliminary written disturbance report to its Regional Council and NERC. The BALANCING AUTHORITY shall document the processes and procedures to ensure the submission within 24 hours of the disturbance or unusual occurrence 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. (Policy 5 Requirement F.3)
3. The BALANCING AUTHORITY shall document the processes and procedures for making operating personnel aware of and for notifying others regarding sabotage events on its facilities and multi-site sabotage affecting larger portions of the INTERCONNECTION. (Policy 5 Requirement G.1)
4. The BALANCING AUTHORITY shall document the processes and procedures for providing its operating personnel with sabotage response guidelines, including personnel to contact, for reporting disturbances due to sabotage events. (Policy 5 Requirement G.2)
5. The BALANCING AUTHORITY shall document the processes and procedures for establishing communications contacts, as applicable, with local Federal Bureau of Investigation (FBI) or Royal Canadian Mounted Police (RCMP) officials and for developing reporting procedures as appropriate to their circumstances. (Policy 5 Requirement G.3)

Comments

See comments in first paragraph of the comments for A. Also, this seems to overlap with the RC tasks.

R. Operations Planning

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to perform 1) normal operations planning, 2) emergency operations planning, 3) load shed planning, and 4) system restoration planning in accordance with NERC standards.

1. Normal Operations Planning

- 1.1. The BALANCING AUTHORITY shall document the processes and procedures to ensure the maintenance of a set of current plans that are designed to evaluate options and set procedures for reliable operation through a reasonable future time period. (Policy 6 Introduction)
- 1.2. The BALANCING AUTHORITY shall document the processes and procedures to ensure the use of available personnel and system equipment to implement these plans to ensure that interconnected systems reliability is maintained. (Policy 6 Introduction)
- 1.3. The BALANCING AUTHORITY shall document the processes and procedures to ensure its operating personnel participate in the system planning and design study processes, so that these studies contain the operating personnel perspective and system-operating personnel are aware of the planning purpose. (Policy 6 Introduction)
- 1.4. The BALANCING AUTHORITY shall document the processes and procedures to ensure the planning of its current-day, next-day, and seasonal operations in coordination (where confidentiality agreements allow) with neighboring RELIABILITY AUTHORITIES, TRANSMISSION OPERATORS, and BALANCING AUTHORITIES so that normal INTERCONNECTION operation will proceed in an orderly and consistent manner. (Policy 6 Requirement A.1)
- 1.5. The BALANCING AUTHORITY shall document the processes and procedures to ensure coordination of its current-day, next-day, and seasonal operations with its TRANSMISSION OPERATORS. (Policy 6 Requirement A.1.1)
- 1.6. The BALANCING AUTHORITY shall document the processes and procedures to ensure coordination (where confidentiality agreements allow) its current-day, next-day, and seasonal operations with neighboring BALANCING AUTHORITIES and TRANSMISSION OPERATORS and with its RELIABILITY COORDINATOR. (Policy 6 Requirement A.1.2)
- 1.7. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning to meet scheduled system configuration, generation dispatch, interchange scheduling and demand patterns. (Policy 6 Requirement A.2.1)
- 1.8. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional, and local reliability requirements. (Policy 6 Requirement A.2.2)
- 1.9. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning to meet capacity and energy reserve requirements, including the deliverability/capability for any single contingency. (Policy 6 Requirement A.2.3)
- 1.10. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning that respects voltage and/or reactive limits, including the deliverability/capability for any single contingency. (Policy 6 Requirement A.2.4)
- 1.11. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning to meet Interchange Schedules. (Policy 6 Requirement A.2.5)

- 1.12. The BALANCING AUTHORITY shall document the processes and procedures to ensure operations planning to respect all SYSTEM OPERATING LIMITS (SOLs). (Policy 6 Requirement A.2.6)
 - 1.13. The BALANCING AUTHORITY shall document the processes and procedures to ensure maintenance of accurate computer models for analyzing and planning system operations. (Policy 6 Requirement A.7)
2. Emergency Operations Planning
- 2.1. The BALANCING AUTHORITY shall document that it has operating agreements with ADJACENT BALANCING AUTHORITIES that, at a minimum, contain provisions for emergency assistance, including provisions to obtain emergency assistance from remote BALANCING AUTHORITIES. (Policy 6 Requirement B.1)
 - 2.2. The BALANCING AUTHORITY shall document that it is staffed with adequately trained operating personnel. (Policy 6 Requirement B.2)
 - 2.3. The BALANCING AUTHORITY shall document that it has emergency plans that will enable it to mitigate operating emergencies. (Policy 6 Requirement B.5)
 - 2.4. The BALANCING AUTHORITY shall document the processes and procedures to provide for an annual review and update of each emergency plan. The BALANCING AUTHORITY shall provide a copy of its updated emergency plans to its RELIABILITY COORDINATOR and to neighboring TRANSMISSION OPERATORS AND BALANCING AUTHORITIES. (Policy 6 Requirement B.6)
 - 2.5. The BALANCING AUTHORITY shall document the processes and procedures to ensure the coordination of its emergency plans with other RELIABILITY AUTHORITIES, TRANSMISSION OPERATORS, AND BALANCING AUTHORITIES as appropriate. (Policy 6 Requirement B.7)
3. Load Shed Planning
- 3.1. The BALANCING AUTHORITY shall document the processes and procedures to ensure that, after it has taken all other remedial steps and it remains operating with insufficient generation or transmission capacity, it will shed customer load rather than risk an uncontrolled failure of components or cascading outages of the INTERCONNECTION. (Policy 6C Introduction)
 - 3.2. The BALANCING AUTHORITY shall document that it has established plans for automatic load shedding. (Policy 6 Requirement C.1)
 - 3.3. The BALANCING AUTHORITY shall document that it has coordinated load-shedding plans between other interconnected TRANSMISSION OPERATOR and BALANCING AUTHORITY AREAS. (Policy 6 Requirement C.1.1)
 - 3.4. The BALANCING AUTHORITY shall document that it has the processes and procedures to shed additional load if there is insufficient generating capacity to restore system frequency following automatic under-frequency load shedding after separation from the INTERCONNECTION. (Policy 6 Requirement C.1.2.3)
 - 3.5. The BALANCING AUTHORITY shall document that it has coordinated automatic load shedding throughout its BALANCING AUTHORITY AREA with under-frequency isolation of generating units, tripping of shunt capacitors, and other automatic actions that will occur under abnormal frequency, voltage, or power flow conditions. (Policy 6 Requirement C.1.2.4)
 - 3.6. The BALANCING AUTHORITY shall document that it has plans for operator-controlled manual load shedding to respond to real-time emergencies. The BALANCING AUTHORITY shall document that it has processes and procedures to ensure the implementation of load shedding in a timeframe adequate for responding to the emergency. (Policy 6 Requirement C.1.2.4)

4. System Restoration Planning

- 4.1. The BALANCING AUTHORITY shall document that it has a restoration plan to reestablish its electric system in a stable and orderly manner in the event of a partial or total shutdown of its system, including necessary operating instructions and procedures to cover emergency conditions, and the loss of vital telecommunications channels. (Policy 6 Requirement D.1)
- 4.2. The BALANCING AUTHORITY shall document that it has the processes and procedures in place that requires, at a minimum, an annual review and update of its restoration plan, a review whenever it makes changes in the power system network, and a review to correct deficiencies found during simulated restoration exercises. (Policy 6 Requirement D.1.1)
- 4.3. The BALANCING AUTHORITY shall document that it has coordinated development of its restoration plan with neighboring RELIABILITY AUTHORITIES, TRANSMISSION OPERATORS, and BALANCING AUTHORITIES. (Policy 6 Requirement D.1.3)
- 4.4. The BALANCING AUTHORITY shall document that it has processes and procedures requiring periodic testing of its telecommunication facilities needed to implement its restoration plan. (Policy 6 Requirement D.1.4)
- 4.5. The BALANCING AUTHORITY shall document that it has the processes and procedures to ensure training of its operating personnel in the implementation of its restoration plan. (Policy 6 Requirement D.2)
- 4.6. The BALANCING AUTHORITY shall document that it has the processes and procedures to ensure verification of its restoration procedures by actual testing or by simulation. (Policy 6 Requirement D.3)
- 4.7. The BALANCING AUTHORITY shall document that it has the processes and procedures to ensure the availability and location of black start capability within its BALANCING AUTHORITY AREA to meet the needs of its restoration plan. (Policy 6 Requirement D.4)

Comments

See comments in first paragraph of the comments for A. Also, this seems to overlap with the RC & TOP tasks.

S. Plans for Loss of Control Center Functionality

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to ensure performance of its reliability functions in the event it loses control center functionality. (Policy 6 Requirement 1)

Comments

See comments in first paragraph of the comments for A.

T. Telecommunications

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has the processes and procedures in place to ensure the provision of telecommunications in accordance with NERC standards.

1. The BALANCING AUTHORITY shall document that it has processes and procedures to ensure the provision of adequate and reliable telecommunications facilities internally and with RELIABILITY AUTHORITIES, TRANSMISSION OPERATORS, and BALANCING AUTHORITIES for the exchange of INTERCONNECTION and operating information necessary to maintain reliability. (Policy 7 Requirement A.1)
2. The BALANCING AUTHORITY shall document that it has processes and procedures to manage, alarm, test and/or actively monitor vital telecommunications facilities. The processes and procedures shall ensure that special attention is given to emergency telecommunications facilities and equipment not used for routine communications. (Policy 7 Requirement A.3)
3. The BALANCING AUTHORITY shall document that it has processes and procedures to ensure the coordination of telecommunications. (Policy 7 Requirement B.1)
4. The BALANCING AUTHORITY shall document that it has processes and procedures to ensure the provision of written operating instructions and procedures to enable continued operation of the system during loss of telecommunications facilities. (Policy 7 Requirement C.1)

Comments

See comments in first paragraph of the comments for A.
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U. Operating Personnel

The BALANCING AUTHORITY shall provide documentation within its Integrated Operational Plan that it has provided its operating personnel 1) the responsibility and authority and 2) the training to perform the reliability functions identified in its Integrated Operational Plan. In addition, the Balancing Authority shall provide documentation within its Integrated Operational Plan that all its operating positions are staffed with NERC certified operating personnel.

1. The BALANCING AUTHORITY shall document that its operating personnel have the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the BULK ELECTRIC SYSTEM. (Policy 8 Standard A.1)
2. The BALANCING AUTHORITY shall document that it has a training program for operating personnel. (Policy 8 Requirement B.1)
3. The BALANCING AUTHORITY shall document that its training program for operating personnel provides at least five days per year of operating personnel training and drills in system emergencies, using realistic simulations. (Policy 6 Requirement B.2)
4. The BALANCING AUTHORITY shall document that it has staffed all operating positions with NERC certified operating personnel in accordance with NERC criteria. (Policy 8 Requirement C.1)

Comments

See comments in first paragraph of the comments for A.
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