

Reliability Readiness Audits Findings

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Certification



Readiness Audit Findings

- Significant value to both audited entity and team members
 - Companies perform critical self-review and identify issues before audit
 - Members take lessons learned back to their companies



Readiness Audit Findings

- Most entities audited are generally ready to meet their reliability responsibilities
- Some entities have demonstrated best practices
- Areas for improvement identified in:
 - Operator certification
 - Training
 - Backup control facilities
 - Documenting authority and responsibilities
 - Real time monitoring
 - Reactive reserve monitoring
 - Procedures and policy updates



Operator Certification

- Control Area Operators must be NERC Operator certified.
- The Control Area must have sufficient NERC certified staff for continuous coverage of the Control Area Operator positions.
- Findings – Most entities have adequate NERC certified operators; two entities lacked some certified operators; several employed tracking or methods to prepare operators for the exam that are noteworthy.



Training

- The Control Area Operators must be adequately and effectively trained to perform their roles and responsibilities.
- The Control Area must have documents that outline the training plans for the Control Area Operators.
- The Control Area must have training records and individual staff training records available for review.
- Findings – several training programs qualify as best practice; training is an area for improvement in 2/3 of the entities.



Authority

- System Operators must be given the authority to take the necessary actions to preserve the reliability of the interconnected system.
- Findings – All indicated they have the necessary authority, however, 1/2 of the entities should provide better documentation of authority from a corporate officer



Security

- Control Room Security must be maintained
- Findings – Good control room security identified in all audits with some identified as best practices



Planning

- The Control Area must have a process for day-ahead planning, as well as a process for longer term planning.
- Findings – most entities planning was identified as adequate; some organization's planning ranked as a best practice



Real Time Monitoring - General

- The Control Area must provide the Control Area Operators with effective, reliable computer and communication facilities for data and status monitoring, and voice communication at both the Primary and the Back-up Control facilities.
- Findings – A number of best practices were identified as several entities had above average capabilities, 1/3 had areas identified for improvement.



Alarms

- The Control Area Operator must have effective and reliable alarming capability.
- Findings – Capabilities are generally adequate with some exhibiting enhanced EMS and communication equipment failure alarms; those with areas for improvement were in alarm priority and presentation of critical alarms.



Loss of Control Facilities

- The Control Area must have a workable plan to continue to perform the Control Area functions following the sudden catastrophic loss of their Primary Control facility.
- Findings – Some outstanding facilities and plans exist; with 2/3 of the entities areas for improvement were identified including added functionality, redundancy or procedures; a few had no backup center



Monitoring Responsibilities

- The Control Area Operators must monitor operating data and status in real time
- Findings – most entities demonstrated adequate capabilities; while not required, four entities lacked state estimation or contingency analysis capability.



System Restoration

- The Control Area Operator must have a documented System Restoration Plan and must be provided to the Reliability Coordinator.
- Findings – most entities had a documented plan and trained on the plan; three entities should perform a comprehensive review and/or develop a new plan



Outage Coordination

- Planned Control Area transmission facilities and generating unit outages must be coordinated with the Reliability Coordinator to ensure that conflicting outages do not jeopardize the reliability of the Bulk Electrical System.
- Findings – most entities were adequate; one entity used a web-based system that is noteworthy



Operating Policy/Procedure Updates

- Control Areas must have an established procedure to ensure that operations staff are aware of any changes to NERC, Regional and/or local policies or procedures prior to taking over control of a shift position.
- Findings – while adequate in practice, several entities lack formal process to ensure operators are aware of and understand new or modified procedures.



Nuclear Plant Monitoring Requirements

- Nuclear Power Plants (NPP) have regulatory requirement for voltage and power in both normal and abnormal operating conditions (N-1 and system restoration).
- Findings – four entities used enhanced methods to include nuclear requirements



Achieving the Goal of Excellence

- Each audit cycle raises the bar
 - Second different than first.
- Identifying best practices
 - Cataloging and communicating to the industry.

