CEI Webinar
Find, Fix, Track and Report (FFT) Update
February 2, 2012
1) Purpose of CEI and overview of FFT
2) Implementation of FFT to date
3) Preparation for 6-month filing with FERC
4) Timeline for phased implementation
5) Discussion of specific FFT Remediated Issues
Refocus efforts on reliability excellence

- Differentiate issues of noncompliance based on the level of risk to the reliability of the bulk power system
- Continue to identify, correct and report all instances of noncompliance

Eliminate undue regulatory burdens

Streamline paperwork and filing requirements

Encourage continued timely and thorough self-reporting and mitigation

Improve caseload processing
Overview of FFT

- A Registered Entity may opt out of FFT processing
- Upon correction and submittal of FFT filing, the Possible Violation becomes a Remediated Issue
  - No penalty or sanction is assigned
  - Formal Mitigation Plans will not be required
  - Mitigating activity completion may be verified anytime
- Remediated Issues become part of a Registered Entity’s compliance history
On September 30, 2011, NERC filed several components of the Compliance Enforcement Initiative:

- Petition for Approval of New Enforcement Mechanisms
  - Reports due to industry at six months and one year
- 117 FFT Remediated Issues
- 75 Spreadsheet NOPs
- 27 Full NOPs

On October 28, 2011, FERC issued notice of no further review of the Spreadsheet NOPs and the Full NOPs.
On October 31, 2011, NERC filed the second group:
- 82 FFT Remediated Issues
- 46 Spreadsheet NOPs
- 31 Full NOPs

On November 30, 2011, FERC issued notice of no further review of the Spreadsheet NOPs and the Full NOPs.
Third CEI Filing

- On November 30, 2011, NERC filed the third group
  - 50 FFT Remediated Issues
  - 60 Spreadsheet NOPs
  - 21 Full NOPs
- On December 30, 2011, FERC issued notice of no further review of the Spreadsheet NOPs and the Full NOPs
On December 30, 2011, NERC filed the fourth group:
- 76 FFT Remediated Issues
- 54 Spreadsheet NOPs
- 15 Full CIP NOPs

On January 27, 2012, FERC issued notice of no further review of the Spreadsheet NOPs and the Full NOPs.
• On January 31, 2012, NERC filed the fifth group
  ▪ 57 FFT Remediated Issues
  ▪ 51 Spreadsheet NOPs
  ▪ 21 Full CIP NOPs
• FERC order pending
FFTs by Regional Entities

- FRCC 77
- MRO 68
- NPCC 13
- RFC 77
- SERC 30
- SPP RE 43
- TRE 37
- WECC 17
<table>
<thead>
<tr>
<th>Family</th>
<th>FFTs</th>
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<tbody>
<tr>
<td>CIP</td>
<td>234 (62 TFEs)</td>
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<tr>
<td>PRC</td>
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<td>FAC</td>
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<td>EOP</td>
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NERC committed to submit six-month and one-year informational filings with FERC
- On or about March 30, 2012
- On or about September 28, 2012

NERC is working with Regional Entities

NERC is soliciting Registered Entity feedback
- February MRC meeting
- Registered Entity responses to survey were due February 1, 2012
- Written comments may be submitted by e-mail on or before February 23, 2012
6-Month Status Report to FERC

- Guidelines
- Data and Trends
- Benefits
- Implementation and Transition Challenges
- Potential Improvements
- Training Schedule
Phase I – September 2011
Possible Violations identified in all compliance monitoring methods qualify for FFT Report consideration

Phase II – September 2012 or later
CEA auditors make determinations in the field on disposition tracks; CEA Enforcement staff make determinations on other monitoring methods

Phase III – 2013 or later
Future options could include aggregated reporting of Remediated Issues to CEA, NERC and FERC
Specific FFT Remediated Issues
Issues, Risk and Mitigation
• To date, 382 FFTs filed
  ▪ They include minimal to moderate risk issues
  ▪ They include documentation and operational issues
  ▪ 1 was moved to Spreadsheet NOP
• Of these, 61 were late-filed TFEs
  ▪ 50 were CIP-007
  ▪ 7 were CIP-005
  ▪ 4 were CIP-006
This presentation provides a high level summary of some FFT remediated issues. For further details on individual FFTs filed with FERC as of January 31, 2012, please refer to the searchable FFT spreadsheet, available at:


For a complete set of NERC-approved mandatory Reliability Standards, please refer to:

<table>
<thead>
<tr>
<th><strong>Issue</strong></th>
<th><strong>Risk</strong></th>
<th><strong>Mitigation</strong></th>
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<tbody>
<tr>
<td>R2: Fixed Frequency Bias</td>
<td>Minimal: Bias setting used single most severe disturbance to determine Frequency Bias rather than averaging several</td>
<td>Revise procedure to ensure several disturbances used</td>
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<tr>
<td>R3: AGC Settings</td>
<td>Minimal: EMS was continuously monitored, issue occurred during minimal usage period, no deviation in system frequency</td>
<td>Update cyber security change control protocols</td>
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<tr>
<td>R11: Ramp Rates</td>
<td>Minimal: Impact was increase in inadvertent energy during ramp times</td>
<td>Update procedures for e-tag review and approval</td>
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<tr>
<td>R6: AGC Mode</td>
<td>Minimal: AGC mode has little impact to system frequency deviations, system frequency was monitored</td>
<td>Update cyber security change control protocols</td>
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<tr>
<td>R8: RTU Scan Rate</td>
<td>Minimal: Limited # scan rates and longer scan rate than minimum</td>
<td>Change scan rates and updated data acquisition procedure</td>
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<tr>
<td>R1: Sabotage Awareness Procedures</td>
<td>Minimal: Little or no BES facilities; relied on third party process; security policy</td>
<td>Adopt procedure addressing sabotage</td>
</tr>
<tr>
<td>R2: Sabotage Communication Procedures</td>
<td>Minimal: Little or no Critical Assets, Critical Cyber Assets or BES facilities</td>
<td>Adopt procedure or include language on sabotage reporting</td>
</tr>
<tr>
<td>R3: Sabotage Guidelines for personnel</td>
<td>Minimal: Little or no Critical Assets, Critical Cyber Assets or BES facilities</td>
<td>Adopt and disseminate procedure or include language on sabotage reporting</td>
</tr>
<tr>
<td>R4: Contact FBI on sabotage events</td>
<td>Minimal: Little or no Critical Assets, Critical Cyber Assets or BES facilities</td>
<td>Adopt procedure to contact FBI for sabotage</td>
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<tr>
<td>R1: Communicating sabotage events to personnel</td>
<td>Minimal: Personnel trained on sabotage and list of local authorities contact info maintained on site</td>
<td>Adopt procedure to increase awareness of personnel</td>
</tr>
<tr>
<td>R2: Communicating sabotage events to other entities</td>
<td>Minimal: Personnel trained on sabotage and list of neighboring entities contact info maintained on site</td>
<td>Adopt procedure to recognize and report sabotage events</td>
</tr>
<tr>
<td>R3: Communicating sabotage to law enforcement</td>
<td>Minimal: Little or no Critical Assets, Critical Cyber Assets or BES facilities</td>
<td>Adopt procedure to recognize and report sabotage events</td>
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<tr>
<td>R1: Risk based assessment methodology</td>
<td>Minimal: No CAs that could impact the BPS, size of entity</td>
<td>Adopt appropriate methodology and implement</td>
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<tr>
<td>R2: Failure to identify all cyber assets in methodology</td>
<td>Minimal/Moderate: No CAs, CCAs on system or minimal delay in identification</td>
<td>Correct misidentification of assets and develop accurate list</td>
</tr>
<tr>
<td>R3: Develop list of all critical cyber assets (CCA)</td>
<td>Minimal: Assets incorrectly identified as CCAs or omitted but did not leave assets unprotected</td>
<td>Correct misidentification of assets and develop accurate list</td>
</tr>
<tr>
<td>R4: Review and approve the list of CCAs annually</td>
<td>Minimal: No CCAs identified or minimal delay in developing initial list</td>
<td>Establish procedure to document status of CCAs and approve annually</td>
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<tr>
<td>R1: Risk based assessment methodology: omission of evaluation criteria</td>
<td>Minimal: Entities did correctly evaluate assets using studies</td>
<td>Adopt appropriate methodology and implement</td>
</tr>
<tr>
<td>R3: Develop list of all critical cyber assets (CCA)</td>
<td>Minimal: Assets incorrectly identified as CCAs and added to list</td>
<td>Correct misidentification of assets and develop accurate list</td>
</tr>
<tr>
<td>R4: Review and approve the list of CCAs annually</td>
<td>Minimal: No CAs or CCAs identified or minimal delay in developing initial list; no senior manager signed and dated record of approval</td>
<td>Establish procedure to document status of CCAs and approve annually</td>
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<tr>
<td>R1: Risk based assessment methodology: third parties</td>
<td>Minimal: Third party assets were not considered; communications could not directly control assets</td>
<td>Amend procedure to include review of third parties</td>
</tr>
<tr>
<td>R2: Develop list of all critical cyber assets (CCA)</td>
<td>Minimal: No CAs and CCAs identified for entity involved</td>
<td>Adopt procedure to review annually</td>
</tr>
<tr>
<td>R3: Review and approve the list of CCAs annually</td>
<td>Minimal: No CAs and CCAs identified for entity involved</td>
<td>Adopt procedure to document status of CCAs and approve annually</td>
</tr>
<tr>
<td>R4: Review and approve CCA Methodology annually</td>
<td>Minimal: Approved its RBAM in the previous and following years</td>
<td>Adopt procedure to review methodology and approve annually</td>
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<tr>
<td>R1: Cyber Security Policy</td>
<td>Minimal/Moderate: Policies in place but documentation inconsistencies</td>
<td>Revise CSP to comply with requirements of standard</td>
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<tr>
<td>R2: Senior manager responsibility for CIP</td>
<td>Minimal: No or minimal CCAs identified for entities involved/documentation error</td>
<td>Assign senior manager responsibility and document</td>
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<tr>
<td>R3: Exceptions to cyber policy</td>
<td>Minimal: Third parties preparing compliance with CIP Standards; gap in compliance</td>
<td>Adopt procedure to address exception reporting</td>
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<tr>
<td>R4: Information Protection</td>
<td>Minimal: Mislabeled information related to CCAs</td>
<td>Reviewed all related information and corrected deficiencies.</td>
</tr>
<tr>
<td>R6: Change Control for CCAs</td>
<td>Minimal: Had a non-documented process to track changes</td>
<td>Document change related to control process</td>
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<tr>
<td>R2: Senior manager responsibility for CIP</td>
<td>Minimal: Documentation issues with updating personnel changes due to turnover, no gap in Compliance</td>
<td>Modified procedures, documented the personnel with CIP accountability</td>
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<tr>
<td>R2: Cyber security training programs</td>
<td>Minimal: Contractors and internal personnel were not given CIP training prior to access to CCAs</td>
<td>Training for personnel granting access enhanced and tracking of personnel with access implemented. Automatic revocation of access if not trained</td>
</tr>
<tr>
<td>R3: Personnel assessment for all with access to CCAs</td>
<td>Minimal: Involved long-time employees/contractors</td>
<td>Audited personnel records and performed required PRAs; verified third parties performed and provided PRAs</td>
</tr>
<tr>
<td>R4: Unescorted access to CCAs: changes</td>
<td>Vendor/Contactor lists were not reviewed quarterly but annually in most cases; physical access devices were taken upon employment status changes</td>
<td>Develop improved tracking process to track vendor updates and personnel status changes</td>
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<tr>
<td>R1: Cyber assets within the Electronic Security Perimeter</td>
<td>Minimal: Unidentified assets were used to monitor network traffic</td>
<td>Updated training on how to identify CCAs and updated network topology correctly</td>
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<tr>
<td>R3: Monitoring electronic access; documentation</td>
<td>Minimal: review and logging process not properly documented</td>
<td>Document logging processes and publish appropriately</td>
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<td>R1: Physical security plans and access controls; CCAs</td>
<td>Minimal: Facilities monitored electronically 24/7 and access was limited</td>
<td>Physical issues were addressed with barriers; enhanced CIP training regarding visitor access inside Physical Security Perimeter(PSP)</td>
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<tr>
<td>R4: Physical access controls; logging visitor access</td>
<td>Minimal: All admitted inside PSP has been trained and approved</td>
<td>Communicate to staff and enhance training on visitor logging</td>
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<tr>
<td>R7: Access logs: retention</td>
<td>Minimal: All controls were in place when logging software was inoperative</td>
<td>System reconfigured to prevent recurrence of error</td>
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<tr>
<td>R1: Test procedures; new or significantly changed CCAs</td>
<td>Minimal: Documentation of compatibility with existing CCAs</td>
<td>Additional testing completed and documented.</td>
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<tr>
<td>R2: Ports and services</td>
<td>Minimal: Unnecessary ports and services not open on CCAs</td>
<td>Disabled ports and services on devices</td>
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<tr>
<td>R5: Account Management: passwords</td>
<td>Minimal: Physical security and access to CCAs was maintained and persons with access were properly trained and screened</td>
<td>Upgraded technology and procedures to accurately track access and flag for update as necessary</td>
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<tr>
<td>R6: Security status monitoring: logs</td>
<td>Minimal: Continuous monitoring within the ESP was uninterrupted</td>
<td>Implement procedure to ensure regular security log review</td>
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<td>R1: Cyber Security Incident Response Plan: Maintaining and updating plans</td>
<td>Minimal: Documentation errors were corrected promptly and measures were in place through other procedures at the organization to ensure compliance.</td>
<td>Correct deficiencies and update plans to require updates that meet the requirements of the Standard.</td>
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<tr>
<td>R1: Recovery plans for CCAs: Cyber assets included and activation criteria</td>
<td>Minimal: Plans included necessary steps but not activation criteria</td>
<td>Updated plans to include varying activation based on duration and severity level</td>
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<td>R2: Three part communication</td>
<td>Minimal: Directives were not repeated back to ensure accuracy during a voltage adjustment event</td>
<td>Additional training to staff involved in issuing and receiving directives was provided.</td>
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<td>R3: Development and maintenance of plans for emergency situations</td>
<td>Minimal: SCADA included a load reduction schedule all operators were trained to use the system</td>
<td>Plans for load shedding and system restoration were developed and implemented</td>
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<tr>
<td>R4: Communication protocols for emergencies</td>
<td>Minimal: Other company documents outlined procedures</td>
<td>Plans for emergency communication protocols were implemented</td>
</tr>
<tr>
<td>R5: Incomplete emergency plan: Attachment 1</td>
<td>Minimal: Entity had all other elements in its plan</td>
<td>Created an emergency plan that incorporated all elements</td>
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<tr>
<td>R6: Emergency plans</td>
<td>Restoration plans were in place but not communicated to neighboring entities</td>
<td>Plans shared with appropriate entities</td>
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<tr>
<td>R7: Coordinating emergency plans</td>
<td>Minimal: Operators had tools in place to communicate</td>
<td>Update communication protocols and procedures</td>
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<td>R8: Lack of load shedding plans for real-time emergencies</td>
<td>Minimal: Other company documents gave operators the authority to shed load during emergencies</td>
<td>A load shedding plan that met the requirements of the Standard was created</td>
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<td>R3: Reporting a reportable incident: 24 hour limit</td>
<td>Minimal: Entities reported these storm related events on a delayed basis (within 4 days) after addressing the root causes and attempting repairs</td>
<td>Procedures were amended to ensure NERC reporting according to the Standard was completed within 24 hours</td>
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<tr>
<td>R1: System Restoration Plans: Attachment 1 elements</td>
<td>Minimal: Entities demonstrated they could implement the plans</td>
<td>Plans were revised to include missing elements</td>
</tr>
<tr>
<td>R4: Coordinating restoration plans</td>
<td>Minimal: Plans were in place and operators trained on them</td>
<td>Plans were communicated to neighboring entities</td>
</tr>
<tr>
<td>R6: Restoration plans: training annually</td>
<td>Minimal: Employee lacking training was a 12 year veteran</td>
<td>Operator completed training and plan updated to include annual simulations</td>
</tr>
<tr>
<td>R7: Restoration Procedure: actual testing/simulations</td>
<td>Minimal: Documented procedure existed and was used in training</td>
<td>Consultant retained to validate procedure using simulations</td>
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<tr>
<td>R1: Control Center loss planning: annual tests and updates</td>
<td>Minimal: Plans were missing various components and, in most cases, were being tested annually. Plans that were not being tested and updated annually were in situations where no material changes had occurred</td>
<td>Plans were updated to address missing elements and processes put in place to ensure an annual test and complete review of the existing plans</td>
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<td>R1: Facility connection requirements</td>
<td>Minimal: All applicable sub-requirements would have been discussed during the engineering studies related to an Interconnection</td>
<td>Facility connections requirement procedures were created</td>
</tr>
<tr>
<td>R2: Facilities connection document: requirements</td>
<td>Minimal: Requirements were discussed during the interconnection process in all cases</td>
<td>Missing elements were included in the procedure</td>
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<tr>
<td>R1: Vegetation management program</td>
<td>Minimal: Lacked procedures for immediate communication of imminent threats by vegetation; long vegetation growing times; periodic ground inspections</td>
<td>Revised document to include procedure for communication of vegetation creating an imminent threat</td>
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<td>R1: Facilities rating methodology: not including all requirements</td>
<td>Minimal: Entities operated the equipment according to manufacturer’s specification even though the omitted facility ratings for some devices or failed to include required items in their facilities ratings methodology</td>
<td>All entities revised their documents to include information missing from its facility rating methodology</td>
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<td>R1: Facility ratings based on facility ratings methodology: implementation</td>
<td>Minimal: Entities did not include all elements in their methodology, at times the most limiting element, but operated the equipment within manufacturer’s design specifications</td>
<td>All entities revised their facility rating methodology documents to include missing devices and established updated facilities ratings</td>
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<td>R1: System Operating Limit(SOL) Methodology</td>
<td>Minimal: Entity involved is small with only a single connection to another Transmission Operator</td>
<td>A SOL methodology was developed and implemented</td>
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<td>R5: Providing SOLs to other entities</td>
<td>Minimal: The SOL affected only the entity and did not have an impact outside of its footprint</td>
<td>The SOL was provided to the necessary entity</td>
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<tr>
<td>R1: On-time request for interchange (RFI) responses</td>
<td>Minimal: Delays averaged only minutes and had an economic impact only on limited RFI transactions</td>
<td>A formal practice for responding to RFIs was developed and staff trained</td>
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<tr>
<td>R4: Providing information to Reliability Coordinators</td>
<td>Minimal: In one case, the generator was not an available resource to the RC and in the other it was a one-time occurrence mitigated in real-time</td>
<td>Communications protocols were developed and existing protocols enhanced to include verifications</td>
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<tr>
<td>R8: Re-calculting Available Transfer Capacity within required timeframes</td>
<td>Minimal: The entity operated its system with an accurate ATC and did recalculate within 16 days of the mandatory timeframe</td>
<td>The ATC was recalculated prior to the planned outage</td>
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<tr>
<td>R1: Correctly reporting forecasts of interruptible demand and DCLM</td>
<td>Minimal: The data is used for long term forecasting and only one year was reported inaccurately</td>
<td>Require additional review of form EIA-411 before submittal in a written procedure</td>
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<tr>
<td>R1: Adequately staffed with properly trained operating personnel</td>
<td>Minimal: Personnel NERC certified, met required emergency ops training</td>
<td>Added training personnel and completed required course training for operators</td>
</tr>
<tr>
<td>R3: Demonstrate competent training staff and program</td>
<td>Minimal/Moderate: Training staff had operational experience but lacked training expertise</td>
<td>Hired vendors or hired personnel with proper training credentials</td>
</tr>
<tr>
<td>R4: Cannot demonstrate that other training requirements met</td>
<td>Minimal: Personnel all NERC certified, met required emergency ops training but lacked additional training</td>
<td>Added training personnel and completed required course training for operators</td>
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<td>R1: Personnel performing BES related duties were not NERC certified.</td>
<td>Minimal/Moderate: Entities were in the process of obtaining NERC certification and only a small percentage were not certified.</td>
<td>Entities completed NERC certification process within timeframes allotted.</td>
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<tr>
<td>R3: Protection system changes made without informing neighboring TOPs and BAs</td>
<td>Minimal: Changes actually enhanced reliability but lacked evidence of coordination</td>
<td>Procedure modified to ensure proper communication. TOPs and BAs received new settings</td>
</tr>
<tr>
<td>R4: Protection system changes on transmission lines made coordinating with neighbors</td>
<td>Minimal: Changes only affected internal footprint and not neighboring TOPs or BAs</td>
<td>Changes communicated to neighbors. Procedure put in place to ensure future coordination</td>
</tr>
<tr>
<td>R5: Protection system on 345kV tie line disabled without notification to neighbors</td>
<td>Minimal: TOP was notified 4 minutes after disabling of protection system</td>
<td>All field technicians retrained on proper notification procedures</td>
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<tr>
<td>R1: Protection system misoperations: corrective action plans (transmission)</td>
<td>Minimal/Moderate: Not all misoperations were being analyzed and addressed</td>
<td>Procedure now clearly identifies steps in analyzing misoperations and when an action plan is appropriate</td>
</tr>
<tr>
<td>R2: Protection system misoperations: corrective action plans (generation)</td>
<td>Minimal/Moderate: Procedures for analyzing and mitigating misoperations were deficient</td>
<td>Procedure now clearly identifies steps in analyzing misoperations and when an action plan is appropriate</td>
</tr>
<tr>
<td>R3: Protection system misoperations: reporting</td>
<td>Minimal: While not reported, the misoperation was mitigated and a plan developed</td>
<td>Procedure modified to monitor misoperations and ensure appropriate reporting</td>
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<tr>
<td>R1: Protection system</td>
<td>Minimal: Most devices were tested and, in some cases, devices were tested to manufacturers specs rather than to procedure</td>
<td>Procedures updated to include missing requirements and all devices tested according to procedure within time allotted</td>
</tr>
<tr>
<td>maintenance and testing:</td>
<td>Minimal: Documentation not available to show all devices tested, only most devices</td>
<td>Testing completed on all devices and tracking procedure updated to ensure testing completed to schedule</td>
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<tr>
<td>requirements</td>
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<tr>
<td>R2: Protection system</td>
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<td>maintenance and testing:</td>
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<td>documentation of</td>
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<td>implementation</td>
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<tr>
<td>R1: Under frequency load shedding (UFLS): testing and maintenance program</td>
<td>Minimal: maintenance and testing performed but records not available. Entities in question also very small</td>
<td>Created separate UFLS maintenance and testing program document that included record keeping</td>
</tr>
<tr>
<td>R2: UFLS: program results</td>
<td>Minimal: Little load at risk due to small size of entities</td>
<td>Established procedures for identifying, maintaining and testing UFLS devices and tested the devices according to program</td>
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<tr>
<td>R1: Phase protective relay settings: settings</td>
<td>Minimal: only one of fifty-nine relays settings not appropriate, it was an overreaching relay that would have tripped</td>
<td>Recomputed, coordinated and reset relay to appropriate value</td>
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<tr>
<td>R3: Coordination of operations</td>
<td>Minimal: One weekend message failed to be transmitted to the appropriate parties</td>
<td>Updated procedure to eliminate communication issues with transmission of reports and retrained operators</td>
</tr>
<tr>
<td>R14: Communicating changes/reduction in capabilities due to fuel</td>
<td>Minimal: Actual reduction in capability was minimal and of short duration</td>
<td>Develop document on reportable events for operators and train operators on same</td>
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<tr>
<td>R1: Planned outages: communication and coordination</td>
<td>Minimal: One weekend message failed to be transmitted to the appropriate parties and another entity had no procedure but also no outages</td>
<td>Updated procedure to eliminate communication issues with transmission of reports and retrained operators</td>
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<tr>
<td>R1: Automatic voltage regulator (AVR) reporting</td>
<td>Minimal: Entity was aware of lack of AVR and was maintaining voltage manually</td>
<td>A new procedure for AVR status change tracking was developed and operators trained</td>
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<tr>
<td>R1: Status of resources: communication</td>
<td>Minimal: One weekend message failed to be transmitted to the appropriate parties and another entity had no procedure but also no outages</td>
<td>Updated procedure to eliminate communication issues with transmission of reports and retrained operators</td>
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<tr>
<td>R1: Transmission planning: annual assessment</td>
<td>Minimal: Stability assessment was developed and procedures in place to deal with issues but results not documented, procedure coordinated with the RC</td>
<td>Results documented showing requirements met</td>
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<tr>
<td>R1: System performance after loss of single BES element</td>
<td>Minimal: Stability assessment was developed and procedures in place to deal with issues but results not documented; procedure coordinated with the RC</td>
<td>Results documented showing requirements met</td>
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<tr>
<td>R1: System performance after loss of two or more BES element</td>
<td>Minimal: Stability assessment was developed and procedures in place to deal with issues but results not documented; procedure coordinated with the RC</td>
<td>Results documented showing requirements met</td>
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<tr>
<td>R6: Loss of AVR: communications</td>
<td>Minimal: The TOP was aware of the unavailability of AVR and was regulating voltage manually</td>
<td>A new procedure for AVR status change tracking was developed and operators trained</td>
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<tr>
<td>R1: AVR mode: communication</td>
<td>Minimal: Voltage support was maintained without the use of AVR on a small unit during the period in question</td>
<td>Modified control panel/system alerts and trained the operators on new displays/alerts and AVR requirements</td>
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<td>R1: AVR mode: communication</td>
<td>Minimal: Voltage support was maintained without the use of AVR during the period in question</td>
<td>Modified control panel/system alerts and trained the operators on new displays/alerts and AVR requirements</td>
</tr>
<tr>
<td>R2: Maintaining voltage as directed</td>
<td>Minimal: Entity continued to contribute VARs to the BPA, just in a narrow bandwidth</td>
<td>Worked with Transmission operator to modify load schedule and updated manuals on issue</td>
</tr>
<tr>
<td>R3: Status or capability changes: 30 minute notification</td>
<td>Minimal: In most cases, notification was in minutes past the deadline</td>
<td>Reviewed procedures regarding VAR changes and added functionality to monitor VAR settings (for example, alarms)</td>
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<tr>
<td>R1: AVR requirement: 98% of the time</td>
<td>Minimal: Only one turbine was not operating in AVR mode bringing the total to 95% for the operator for the period</td>
<td>The entity place the unit back in AVR mode as requested</td>
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</tbody>
</table>