



Registration Standards Applicability List for Coordinated Functional Registration (CFR) JRO00082

(Formerly JRO Type 2)

Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Last Update 5/4/2010

Member Entities

Original CFR Effective Registration Date

NCR04029 - City of Austin dba Austin Energy	5/4/2010
NCR04056 - Electric Reliability Council of Texas, Inc.	5/4/2010



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: BAL-005-0.1b

Requirements:

R1.2. Each Transmission Operator with transmission facilities operating in an Interconnection shall ensure that those transmission facilities are included within the metered boundaries of a Balancing Authority Area.

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-001-1

Requirements:

R1. Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load-Serving Entity shall have procedures for the recognition of and for making their operating personnel aware of sabotage events on its facilities and mult

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load-Serving Entity shall have procedures for the communication of information concerning sabotage events to appropriate parties in the Interconnection.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load-Serving Entity shall provide its operating personnel with sabotage response guidelines, including personnel to contact, for reporting disturbances due t

Responsible Members:

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R4. Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load-Serving Entity shall establish communications contacts, as applicable, with local Federal Bureau of Investigation (FBI) or Royal Canadian Mounted Police

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-002-1

Requirements:

R1. Critical Asset Identification Method — The Responsible Entity shall identify and document a risk-based assessment methodology to use to identify its Critical Assets.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. The Responsible Entity shall maintain documentation describing its risk-based assessment methodology that includes procedures and evaluation criteria.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R1.2.1. Control centers and backup control centers performing the functions of the entities listed in the Applicability section of this standard.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R1.2.7. Any additional assets that support the reliable operation of the Bulk Electric System that the Responsible Entity deems appropriate to include in its assessment.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Critical Asset Identification - The Responsible Entity shall develop a list of its identified Critical Assets determined through an annual application of the risk-based assessment methodology required in R1. The Responsible Entity shall review this list a

Responsible Members:

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R3. Critical Cyber Asset Identification - Using the list of Critical Assets developed pursuant to Requirement R2, the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset. Examples at con

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-002-1

Requirements:

R3.1. The Cyber Asset uses a routable protocol to communicate outside the Electronic Security Perimeter; or,

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. The Cyber Asset uses a routable protocol within a control center; or,

Responsible Members:

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R3.3. The Cyber Asset is dial-up accessible.

Responsible Members:

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R4. Annual Approval - A senior manager or delegate(s) shall approve annually the list of Critical Assets and the list of Critical Cyber Assets. Based on Requirements R1, R2, and R3 the Responsible Entity may determine that it has no Critical Assets or Critica

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-003-1

Requirements:

R1. Cyber Security Policy - The Responsible Entity shall document and implement a cyber security policy that represents management's commitment and ability to secure its Critical Cyber Assets. The Responsible Entity shall, at minimum, ensure the following:

Responsible Members:

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R1.1. The cyber security policy addresses the requirements in Standards CIP-002 through CIP-009, including provision for emergency situations.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. The cyber security policy is readily available to all personnel who have access to, or are responsible for, Critical Cyber Assets.

Responsible Members:

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R1.3. Annual review and approval of the cyber security policy by the senior manager assigned pursuant to R2.

Responsible Members:

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R2. Leadership - The Responsible Entity shall assign a senior manager with overall responsibility for leading and managing the entity's implementation of, and adherence to, Standards CIP-002 through CIP-009

Responsible Members:

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R2.1. The senior manager shall be identified by name, title, business phone, business address, and date of designation.

Responsible Members:

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R2.2. Changes to the senior manager must be documented within thirty calendar days of the effective date.

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Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-003-1

Requirements:

R2.3. The senior manager or delegate(s), shall authorize and document any exception from the requirements of the cyber security policy.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R3. Exceptions - Instances where the Responsible Entity cannot conform to its cyber security policy must be documented as exceptions and authorized by the senior manager or delegate(s).

Responsible Members:

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R3.1. Exceptions to the Responsible Entity's cyber security policy must be documented within thirty days of being approved by the senior manager or delegate(s).

Responsible Members:

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R3.2. Documented exceptions to the cyber security policy must include an explanation as to why the exception is necessary and any compensating measures, or a statement accepting risk.

Responsible Members:

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R3.3. Authorized exceptions to the cyber security policy must be reviewed and approved annually by the senior manager or delegate(s) to ensure the exceptions are still required and valid. Such review and approval shall be documented.

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R4. Information Protection - The Responsible Entity shall implement and document a program to identify, classify, and protect information associated with Critical Cyber Assets.

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-003-1

Requirements:

R4.1. The Critical Cyber Asset information to be protected shall include, at a minimum and regardless of media type, operational procedures, lists as required in Standard CIP-002, network topology or similar diagrams, floor plans of computing centers that conta

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R4.2. The Responsible Entity shall classify information to be protected under this program based on the sensitivity of the Critical Cyber Asset information.

Responsible Members:

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R4.3. The Responsible Entity shall, at least annually, assess adherence to its Critical Cyber Asset information protection program, document the assessment results, and implement an action plan to remediate deficiencies identified during the assessment.

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R5. Access Control — The Responsible Entity shall document and implement a program for managing access to protected Critical Cyber Asset information.

Responsible Members:

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R5.1. The Responsible Entity shall maintain a list of designated personnel who are responsible for authorizing logical or physical access to protected information.

Responsible Members:

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R5.1.1. Personnel shall be identified by name, title, business phone and the information for which they are responsible for authorizing access.

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Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-003-1

Requirements:

R5.1.2. The list of personnel responsible for authorizing access to protected information shall be verified at least annually.

Responsible Members:

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R5.2. The Responsible Entity shall review at least annually the access privileges to protected information to confirm that access privileges are correct and that they correspond with the Responsible Entity's needs and appropriate personnel roles and responsibilities.

Responsible Members:

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R5.3. The Responsible Entity shall assess and document at least annually the processes for controlling access privileges to protected information.

Responsible Members:

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R6. Change Control and Configuration Management — The Responsible Entity shall establish and document a process of change control and configuration management for adding, modifying, replacing, or removing Critical Cyber Asset hardware or software, and implement

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-004-1

Requirements:

R1. Awareness — The Responsible Entity shall establish, maintain, and document a security awareness program to ensure personnel having authorized cyber or authorized unescorted physical access receive on-going reinforcement in sound security practices. The pr

Responsible Members:

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R2. Training — The Responsible Entity shall establish, maintain, and document an annual cyber security training program for personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets, and review the program annually an

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R2.1. This program will ensure that all personnel having such access to Critical Cyber Assets, including contractors and service vendors, are trained within ninety calendar days of such authorization.

Responsible Members:

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R2.2. Training shall cover the policies, access controls, and procedures as developed for the Critical Cyber Assets covered by CIP-004, and include, at a minimum, the following required items appropriate to personnel roles and responsibilities:

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R2.2.1. The proper use of Critical Cyber Assets;

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R2.2.2. Physical and electronic access controls to Critical Cyber Assets;

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Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-004-1

Requirements:

R2.2.3. The proper handling of Critical Cyber Asset information; and,

Responsible Members:

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R2.2.4. Action plans and procedures to recover or re-establish Critical Cyber Assets and access thereto following a Cyber Security Incident.

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R2.3. The Responsible Entity shall maintain documentation that training is conducted at least annually, including the date the training was completed and attendance records.

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R3. Personnel Risk Assessment —The Responsible Entity shall have a documented personnel risk assessment program, in accordance with federal, state, provincial, and local laws, and subject to existing collective bargaining unit agreements, for personnel having

Responsible Members:

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R3.1. The Responsible Entity shall ensure that each assessment conducted include, at least, identity verification (e.g., Social Security Number verification in the U.S.) and seven-year criminal check. The Responsible Entity may conduct more detailed reviews, as

Responsible Members:

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R3.2. The Responsible Entity shall update each personnel risk assessment at least every seven years after the initial personnel risk assessment or for cause.

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-004-1

Requirements:

R3.3. The Responsible Entity shall document the results of personnel risk assessments of its personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets, and that personnel risk assessments of contractor and service vendor

Responsible Members:

NCR04029 City of Austin dba Austin Energy

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R4. Access — The Responsible Entity shall maintain list(s) of personnel with authorized cyber or authorized unescorted physical access to Critical Cyber Assets, including their specific electronic and physical access rights to Critical Cyber Assets.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

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R4.1. The Responsible Entity shall review the list(s) of its personnel who have such access to Critical Cyber Assets quarterly, and update the list(s) within seven calendar days of any change of personnel with such access to Critical Cyber Assets, or any change

Responsible Members:

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R4.2. The Responsible Entity shall revoke such access to Critical Cyber Assets within 24 hours for personnel terminated for cause and within seven calendar days for personnel who no longer require such access to Critical Cyber Assets.

Responsible Members:

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-005-1

Requirements:

R1. Electronic Security Perimeter — The Responsible Entity shall ensure that every Critical Cyber Asset resides within an Electronic Security Perimeter. The Responsible Entity shall identify and document the Electronic Security Perimeter(s) and all access poi

Responsible Members:

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R1.1. Access points to the Electronic Security Perimeter(s) shall include any externally connected communication end point (for example, dial-up modems) terminating at any device within the Electronic Security Perimeter(s).

Responsible Members:

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R1.2. For a dial-up accessible Critical Cyber Asset that uses a non-routable protocol, the Responsible Entity shall define an Electronic Security Perimeter for that single access point at the dial-up device.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R1.3. Communication links connecting discrete Electronic Security Perimeters shall not be considered part of the Electronic Security Perimeter. However, end points of these communication links within the Electronic Security Perimeter(s) shall be considered acce

Responsible Members:

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R1.4. Any non-critical Cyber Asset within a defined Electronic Security Perimeter shall be identified and protected pursuant to the requirements of Standard CIP-005.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.5. Cyber Assets used in the access control and monitoring of the Electronic Security Perimeter(s) shall be afforded the protective measures as a specified in Standard CIP-003, Standard CIP-004 Requirement R3, Standard CIP-005 Requirements R2 and R3, Standard

Responsible Members:

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-005-1

Requirements:

R1.6. The Responsible Entity shall maintain documentation of Electronic Security Perimeter(s), all interconnected Critical and non-critical Cyber Assets within the Electronic Security Perimeter(s), all electronic access points to the Electronic Security Perimeter

Responsible Members:

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R2. Electronic Access Controls — The Responsible Entity shall implement and document the organizational processes and technical and procedural mechanisms for control of electronic access at all electronic access points to the Electronic Security Perimeter(s).

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R2.1. These processes and mechanisms shall use an access control model that denies access by default, such that explicit access permissions must be specified.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.2. At all access points to the Electronic Security Perimeter(s), the Responsible Entity shall enable only ports and services required for operations and for monitoring Cyber Assets within the Electronic Security Perimeter, and shall document, individually or

Responsible Members:

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R2.3. The Responsible Entity shall maintain a procedure for securing dial-up access to the Electronic Security Perimeter(s).

Responsible Members:

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R2.4. Where external interactive access into the Electronic Security Perimeter has been enabled, the Responsible Entity shall implement strong procedural or technical controls at the access points to ensure authenticity of the accessing party, where technically

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-005-1

Requirements:

R2.5. The required documentation shall, at least, identify and describe:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
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R2.5.1. The processes for access request and authorization.

Responsible Members:

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R2.5.2. The authentication methods.

Responsible Members:

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R2.5.3. The review process for authorization rights, in accordance with Standard CIP-004 Requirement R4.

Responsible Members:

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R2.5.4. The controls used to secure dial-up accessible connections.

Responsible Members:

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R2.6. Appropriate Use Banner — Where technically feasible, electronic access control devices shall display an appropriate use banner on the user screen upon all interactive access attempts. The Responsible Entity shall maintain a document identifying the conten

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R3. Monitoring Electronic Access — The Responsible Entity shall implement and document an electronic or manual process(es) for monitoring and logging access at access points to the Electronic Security Perimeter(s) twenty-four hours a day, seven days a week.

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-005-1

Requirements:

R3.1. For dial-up accessible Critical Cyber Assets that use non-routable protocols, the Responsible Entity shall implement and document monitoring process(es) at each access point to the dial-up device, where technically feasible.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. Where technically feasible, the security monitoring process(es) shall detect and alert for attempts at or actual unauthorized accesses. These alerts shall provide for appropriate notification to designated response personnel. Where alerting is not technic

Responsible Members:

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R4. Cyber Vulnerability Assessment — The Responsible Entity shall perform a cyber vulnerability assessment of the electronic access points to the Electronic Security Perimeter(s) at least annually. The vulnerability assessment shall include, at a minimum, the

Responsible Members:

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R4.1. A document identifying the vulnerability assessment process;

Responsible Members:

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R4.2. A review to verify that only ports and services required for operations at these access points are enabled;

Responsible Members:

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R4.3. The discovery of all access points to the Electronic Security Perimeter;

Responsible Members:

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R4.4. A review of controls for default accounts, passwords, and network management community strings; and,

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Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-005-1

Requirements:

R4.5. Documentation of the results of the assessment, the action plan to remediate or mitigate vulnerabilities identified in the assessment, and the execution status of that action plan.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5. Documentation Review and Maintenance — The Responsible Entity shall review, update, and maintain all documentation to support compliance with the requirements of Standard CIP-005.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.1. The Responsible Entity shall ensure that all documentation required by Standard CIP-005 reflect current configurations and processes and shall review the documents and procedures referenced in Standard CIP-005 at least annually.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R5.2. The Responsible Entity shall update the documentation to reflect the modification of the network or controls within ninety calendar days of the change.

Responsible Members:

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R5.3. The Responsible Entity shall retain electronic access logs for at least ninety calendar days. Logs related to reportable incidents shall be kept in accordance with the requirements of Standard CIP-008.

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-006-1

Requirements:

R1. Physical Security Plan — The Responsible Entity shall create and maintain a physical security plan, approved by a senior manager or delegate(s) that shall address, at a minimum, the following:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Processes to ensure and document that all Cyber Assets within an Electronic Security Perimeter also reside within an identified Physical Security Perimeter. Where a completely enclosed (“six-wall”) border cannot be established, the Responsible Entity shall

Responsible Members:

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R1.2. Processes to identify all access points through each Physical Security Perimeter and measures to control entry at those access points.

Responsible Members:

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R1.3. Processes, tools, and procedures to monitor physical access to the perimeter(s).

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R1.4. Procedures for the appropriate use of physical access controls as described in Requirement R3 including visitor pass management, response to loss, and prohibition of inappropriate use of physical access controls.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.5. Procedures for reviewing access authorization requests and revocation of access authorization, in accordance with CIP-004 Requirement R4.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



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Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-006-1

Requirements:

R1.6. Procedures for escorted access within the physical security perimeter of personnel not authorized for unescorted access.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
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R1.7. Process for updating the physical security plan within ninety calendar days of any physical security system redesign or reconfiguration, including, but not limited to, addition or removal of access points through the physical security perimeter, physical

Responsible Members:

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R1.8. Cyber Assets used in the access control and monitoring of the Physical Security Perimeter(s) shall be afforded the protective measures specified in Standard CIP-003, Standard CIP-004 Requirement R3, Standard CIP-005 Requirements R2 and R3, Standard CIP-00

Responsible Members:

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R1.9. Process for ensuring that the physical security plan is reviewed at least annually.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Physical Access Controls — The Responsible Entity shall document and implement the operational and procedural controls to manage physical access at all access points to the Physical Security Perimeter(s) twenty-four hours a day, seven days a week. The Res

Responsible Members:

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R2.1. Card Key: A means of electronic access where the access rights of the card holder are predefined in a computer database. Access rights may differ from one perimeter to another.

Responsible Members:

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-006-1

Requirements:

R2.2. Special Locks: These include, but are not limited to, locks with “restricted key” systems, magnetic locks that can be operated remotely, and “man-trap” systems.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.3. Security Personnel: Personnel responsible for controlling physical access who may reside on-site or at a monitoring station.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.4. Other Authentication Devices: Biometric, keypad, token, or other equivalent devices that control physical access to the Critical Cyber Assets.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Monitoring Physical Access — The Responsible Entity shall document and implement the technical and procedural controls for monitoring physical access at all access points to the Physical Security Perimeter(s) twenty-four hours a day, seven days a week. Un

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. Alarm Systems: Systems that alarm to indicate a door, gate or window has been pene without authorization. These alarms must provide for immediate notification to personnel responsible for response.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. Human Observation of Access Points: Monitoring of physical access points by authorized personnel as specified in Requirement R2.3.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-006-1

Requirements:

R4. Logging Physical Access — Logging shall record sufficient information to uniquely identify individuals and the time of access twenty-four hours a day, seven days a week. The Responsible Entity shall implement and document the technical and procedural mech

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4.1. Computerized Logging: Electronic logs produced by the Responsible Entity's selected access control and monitoring method.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4.2. Video Recording: Electronic capture of video images of sufficient quality to determine identity.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4.3. Manual Logging: A log book or sign-in sheet, or other record of physical access maintained by security or other personnel authorized to control and monitor physical access as specified in Requirement R2.3.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R5. Access Log Retention — The Responsible Entity shall retain physical access logs for at least ninety calendar days. Logs related to reportable incidents shall be kept in accordance with the requirements of Standard CIP-008.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6. Maintenance and Testing — The Responsible Entity shall implement a maintenance and testing program to ensure that all physical security systems under Requirements R2, R3, and R4 function properly. The program must include, at a minimum, the following:

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-006-1

Requirements:

R6.1. Testing and maintenance of all physical security mechanisms on a cycle no longer than three years.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6.2. Retention of testing and maintenance records for the cycle determined by the Responsible Entity in Requirement R6.1.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6.3. Retention of outage records regarding access controls, logging, and monitoring for a minimum of one calendar year.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R1. Test Procedures — The Responsible Entity shall ensure that new Cyber Assets and significant changes to existing Cyber Assets within the Electronic Security Perimeter do not adversely affect existing cyber security controls. For purposes of Standard CIP-00

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. The Responsible Entity shall create, implement, and maintain cyber security test procedures in a manner that minimizes adverse effects on the production system or its operation.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. The Responsible Entity shall document that testing is performed in a manner that reflects the production environment.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.3. The Responsible Entity shall document test results.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Ports and Services — The Responsible Entity shall establish and document a process to ensure that only those ports and services required for normal and emergency operations are enabled.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.1. The Responsible Entity shall enable only those ports and services required for normal and emergency operations.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.2. The Responsible Entity shall disable other ports and services, including those used for testing purposes, prior to production use of all Cyber Assets inside the Electronic Security Perimeter(s).

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R2.3. In the case where unused ports and services cannot be disabled due to technical limitations, the Responsible Entity shall document compensating measure(s) applied to mitigate risk exposure or an acceptance of risk.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Security Patch Management — The Responsible Entity, either separately or as a component of the documented configuration management process specified in CIP-003 Requirement R6, shall establish and document a security patch management program for tracking,

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. The Responsible Entity shall document the assessment of security patches and security upgrades for applicability within thirty calendar days of availability of the patches or upgrades.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. The Responsible Entity shall document the implementation of security patches. In any case where the patch is not installed, the Responsible Entity shall document compensating measure(s) applied to mitigate risk exposure or an acceptance of risk.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Malicious Software Prevention — The Responsible Entity shall use anti-virus software and other malicious software (“malware”) prevention tools, where technically feasible, to detect, prevent, deter, and mitigate the introduction, exposure, and propagation

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4.1. The Responsible Entity shall document and implement anti-virus and malware prevention tools. In the case where anti-virus software and malware prevention tools are not installed, the Responsible Entity shall document compensating measure(s) applied to mit

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R4.2. The Responsible Entity shall document and implement a process for the update of anti-virus and malware prevention “signatures.” The process must address testing and installing the signatures.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5. Account Management — The Responsible Entity shall establish, implement, and document technical and procedural controls that enforce access authentication of, and accountability for, all user activity, and that minimize the risk of unauthorized system access.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.1. The Responsible Entity shall ensure that individual and shared system accounts and authorized access permissions are consistent with the concept of “need to know” with respect to work functions performed.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.1.1. The Responsible Entity shall ensure that user accounts are implemented as approved by designated personnel. Refer to Standard CIP-003 Requirement R5.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.1.2. The Responsible Entity shall establish methods, processes, and procedures that generate logs of sufficient detail to create historical audit trails of individual user account access activity for a minimum of ninety days.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.1.3. The Responsible Entity shall review, at least annually, user accounts to verify access privileges are in accordance with Standard CIP-003 Requirement R5 and Standard CIP-004 Requirement R4.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R5.2. The Responsible Entity shall implement a policy to minimize and manage the scope and acceptable use of administrator, shared, and other generic account privileges including factory default accounts.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.2.1. The policy shall include the removal, disabling, or renaming of such accounts where possible. For such accounts that must remain enabled, passwords shall be changed prior to putting any system into service.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.2.2. The Responsible Entity shall identify those individuals with access to shared accounts.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.2.3. Where such accounts must be shared, the Responsible Entity shall have a policy for managing the use of such accounts that limits access to only those with authorization, an audit trail of the account use (automated or manual), and steps for securing the a

Responsible Members:

NCR04029 City of Austin dba Austin Energy
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R5.3. At a minimum, the Responsible Entity shall require and use passwords, subject to the following, as technically feasible:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.3.1. Each password shall be a minimum of six characters.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.3.2. Each password shall consist of a combination of alpha, numeric, and "special" characters.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R5.3.3. Each password shall be changed at least annually, or more frequently based on risk.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. Security Status Monitoring — The Responsible Entity shall ensure that all Cyber Assets within the Electronic Security Perimeter, as technically feasible, implement automated tools or organizational process controls to monitor system events that are relate

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.1. The Responsible Entity shall implement and document the organizational processes and technical and procedural mechanisms for monitoring for security events on all Cyber Assets within the Electronic Security Perimeter.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.2. The security monitoring controls shall issue automated or manual alerts for detected Cyber Security Incidents.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.3. The Responsible Entity shall maintain logs of system events related to cyber security, where technically feasible, to support incident response as required in Standard CIP-008.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.4. The Responsible Entity shall retain all logs specified in Requirement R6 for ninety calendar days.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.5. The Responsible Entity shall review logs of system events related to cyber security and maintain records documenting review of logs.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R7. Disposal or Redeployment — The Responsible Entity shall establish formal methods, processes, and procedures for disposal or redeployment of Cyber Assets within the Electronic Security Perimeter(s) as identified and documented in Standard CIP-005.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7.1. Prior to the disposal of such assets, the Responsible Entity shall destroy or erase the data storage media to prevent unauthorized retrieval of sensitive cyber security or reliability data.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7.2. Prior to redeployment of such assets, the Responsible Entity shall, at a minimum, erase the data storage media to prevent unauthorized retrieval of sensitive cyber security or reliability data.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7.3. The Responsible Entity shall maintain records that such assets were disposed of or redeployed in accordance with documented procedures.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R8. Cyber Vulnerability Assessment — The Responsible Entity shall perform a cyber vulnerability assessment of all Cyber Assets within the Electronic Security Perimeter at least annually. The vulnerability assessment shall include, at a minimum, the following:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R8.1. A document identifying the vulnerability assessment process;

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-007-1

Requirements:

R8.2. A review to verify that only ports and services required for operation of the Cyber Assets within the Electronic Security Perimeter are enabled;

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R8.3. A review of controls for default accounts; and,

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R8.4. Documentation of the results of the assessment, the action plan to remediate or mitigate vulnerabilities identified in the assessment, and the execution status of that action plan.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R9. Documentation Review and Maintenance — The Responsible Entity shall review and update the documentation specified in Standard CIP-007 at least annually. Changes resulting from modifications to the systems or controls shall be documented within ninety days.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-008-1

Requirements:

R1. Cyber Security Incident Response Plan — The Responsible Entity shall develop and maintain a Cyber Security Incident response plan. The Cyber Security Incident Response plan shall address, at a minimum, the following:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Procedures to characterize and classify events as reportable Cyber Security Incidents.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Response actions, including roles and responsibilities of incident response teams, incident handling procedures, and communication plans.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.3. Process for reporting Cyber Security Incidents to the Electricity Sector Information Sharing and Analysis Center (ES ISAC). The Responsible Entity must ensure that all reportable Cyber Security Incidents are reported to the ES ISAC either directly or thro

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.4. Process for updating the Cyber Security Incident response plan within ninety calendar days of any changes.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.5. Process for ensuring that the Cyber Security Incident response plan is reviewed at least annually.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.6. Process for ensuring the Cyber Security Incident response plan is tested at least annually. A test of the incident response plan can range from a paper drill, to a full operational exercise, to the response to an actual incident.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-008-1

Requirements:

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- R2. Cyber Security Incident Documentation — The Responsible Entity shall keep relevant documentation related to Cyber Security Incidents reportable per Requirement R1.1 for three calendar years.

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-009-1

Requirements:

R1. Recovery Plans — The Responsible Entity shall create and annually review recovery plan(s) for Critical Cyber Assets. The recovery plan(s) shall address at a minimum the following:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Specify the required actions in response to events or conditions of varying duration and severity that would activate the recovery plan(s).

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Define the roles and responsibilities of responders.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Exercises — The recovery plan(s) shall be exercised at least annually. An exercise of the recovery plan(s) can range from a paper drill, to a full operational exercise, to recovery from an actual incident.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Change Control — Recovery plan(s) shall be updated to reflect any changes or lessons learned as a result of an exercise or the recovery from an actual incident. Updates shall be communicated to personnel responsible for the activation and implementation o

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Backup and Restore — The recovery plan(s) shall include processes and procedures for the backup and storage of information required to successfully restore Critical Cyber Assets. For example, backups may include spare electronic components or equipment, w

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: CIP-009-1

Requirements:

-
- R5. Testing Backup Media — Information essential to recovery that is stored on backup media shall be tested at least annually to ensure that the information is available. Testing can be completed off site.

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: COM-001-1

Requirements:

- R1. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide adequate and reliable telecommunications facilities for the exchange of Interconnection and operating information:

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: COM-001-1.1

Requirements:

R1.1. Internally.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Between the Reliability Coordinator and its Transmission Operators and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.3. With other Reliability Coordinators, Transmission Operators, and Balancing Authorities as necessary to maintain reliability.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.4. Where applicable, these facilities shall be redundant and diversely routed.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall manage, alarm, test and/or actively monitor vital telecommunications facilities. Special attention shall be given to emergency telecommunications facilities and equipment

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Reliability Coordinator, Transmission Operator and Balancing Authority shall provide a means to coordinate telecommunications among their respective areas. This coordination shall include the ability to investigate and recommend solutions to telecom

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: COM-001-1.1

Requirements:

R4. Unless agreed to otherwise, each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use English as the language for all communications between and among operating personnel responsible for the real-time generation control and op

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have written operating instructions and procedures to enable continued operation of the system during the loss of telecommunications facilities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: COM-002-2

Requirements:

R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall have communications (voice and data links) with appropriate Reliability Coordinators, Balancing Authorities, and Transmission Operators. Such communications shall be staffed an

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Each Balancing Authority and Transmission Operator shall notify its Reliability Coordinator, and all other potentially affected Balancing Authorities and Transmission Operators through predetermined communication paths of any condition that could threaten

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the r

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-001-0

Requirements:

R2. The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. Develop, maintain, and implement a set of plans to mitigate operating emergencies for insufficient generating capacity.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. Develop, maintain, and implement a set of plans to mitigate operating emergencies on the transmission system.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.3. Develop, maintain, and implement a set of plans for load shedding.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.4. Develop, maintain, and implement a set of plans for system restoration.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Transmission Operator and Balancing Authority shall have emergency plans that will enable it to mitigate operating emergencies. At a minimum, Transmission Operator and Balancing Authority emergency plans shall include:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4.1. Communications protocols to be used during emergencies.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-001-0

Requirements:

R4.2. A list of controlling actions to resolve the emergency. Load reduction, in sufficient quantity to resolve the emergency within NERC-established timelines, shall be one of the controlling actions.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4.3. The tasks to be coordinated with and among adjacent Transmission Operators and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4.4. Staffing levels for the emergency.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001-0 when developing an emergency plan.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. The Transmission Operator and Balancing Authority shall annually review and update each emergency plan. The Transmission Operator and Balancing Authority shall provide a copy of its updated emergency plans to its Reliability Coordinator and to neighborin

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7. The Transmission Operator and Balancing Authority shall coordinate its emergency plans with other Transmission Operators and Balancing Authorities as appropriate. This coordination includes the following steps, as applicable:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-001-0

Requirements:

R7.1. The Transmission Operator and Balancing Authority shall establish and maintain reliable communications between interconnected systems.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7.2. The Transmission Operator and Balancing Authority shall arrange new interchange agreements to provide for emergency capacity or energy transfers if existing agreements cannot be used.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R7.3. The Transmission Operator and Balancing Authority shall coordinate transmission and generator maintenance schedules to maximize capacity or conserve the fuel in short supply. (This includes water for hydro generators.)

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R7.4. The Transmission Operator and Balancing Authority shall arrange deliveries of electrical energy or fuel from remote systems through normal operating channels.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-003-1

Requirements:

R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of t

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator and Balancing Authority shall establish plans for automatic load shedding for underfrequency or undervoltage conditions.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Transmission Operator and Balancing Authority shall coordinate load shedding plans among other interconnected Transmission Operators and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. A Transmission Operator or Balancing Authority shall consider one or more of these factors in designing an automatic load shedding scheme: frequency, rate of frequency decay, voltage level, rate of voltage decay, or power flow levels.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5. A Transmission Operator or Balancing Authority shall implement load shedding in steps established to minimize the risk of further uncontrolled separation, loss of generation, or system shutdown.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. After a Transmission Operator or Balancing Authority Area separates from the Interconnection, if there is insufficient generating capacity to restore system frequency following automatic underfrequency load shedding, the Transmission Operator or Balancing

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-003-1

Requirements:

R7. The Transmission Operator and Balancing Authority shall coordinate automatic load shedding throughout their areas with underfrequency isolation of generating units, tripping of shunt capacitors, and other automatic actions that will occur under abnormal f

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R8. Each Transmission Operator or Balancing Authority shall have plans for operator-controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-004-1

Requirements:

R2. A Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load-Serving Entity shall promptly analyze Bulk Electric System disturbances on its system or facilities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. A Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load-Serving Entity experiencing a reportable incident shall provide a preliminary written report to its Regional Reliability Organization and NERC.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. The affected Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load-Serving Entity shall submit within 24 hours of the disturbance or unusual occurrence either a copy of the report submitted to DOE, or, if no DOE r

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.3. 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 Interconnection Reliability Operating Limit and Preliminary Disturbance Report within 24 hours. In such cases,

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.4. If, in the judgment of the Regional Reliability Organization, after consultation with the Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, or Load-Serving Entity in which a disturbance occurred, a final report is re

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-005-1

Requirements:

R1. Each Transmission Operator shall have 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 emerge

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R10. The Transmission Operator shall demonstrate, through simulation or testing, that the blackstart generating units in its restoration plan can perform their intended functions as required in the regional restoration plan.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R10.1. The Transmission Operator shall perform this simulation or testing at least once every five years.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R11. Following a disturbance in which one or more areas of the Bulk Electric System become isolated or blacked out, the affected Transmission Operators and Balancing Authorities shall begin immediately to return the Bulk Electric System to normal.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.1. The affected Transmission Operators and Balancing Authorities shall work in conjunction with their Reliability Coordinator(s) to determine the extent and condition of the isolated area(s).

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.2. The affected Transmission Operators and Balancing Authorities shall take the necessary actions to restore Bulk Electric System frequency to normal, including adjusting generation, placing additional generators on line, or load shedding.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.4. The affected Transmission Operators shall give high priority to restoration of off-site power to nuclear stations.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-005-1

Requirements:

R11.5.1. Voltage, frequency, and phase angle permit.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.5.2. The size of the area being reconnected and the capacity of the transmission lines effecting the reconnection and the number of synchronizing points across the system are considered.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.5.3. Reliability Coordinator(s) and adjacent areas are notified and Reliability Coordinator approval is given.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11.5.4. Load is shed in neighboring areas, if required, to permit successful interconnected system restoration.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator shall review and update its restoration plan at least annually and whenever it makes changes in the power system network, and shall correct deficiencies found during the simulated restoration exercises.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Transmission Operator shall develop restoration plans with a priority of restoring the integrity of the Interconnection.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Transmission Operator shall coordinate its restoration plans with the Generator Owners and Balancing Authorities within its area, its Reliability Coordinator, and neighboring Transmission Operators and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-005-1

Requirements:

R5. Each Transmission Operator and Balancing Authority shall periodically test its telecommunication facilities needed to implement the restoration plan.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. Each Transmission Operator and Balancing Authority shall train its operating personnel in the implementation of the restoration plan. Such training shall include simulated exercises, if practicable.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7. Each Transmission Operator and Balancing Authority shall verify the restoration procedure by actual testing or by simulation.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R8. Each Transmission Operator shall verify that the number, size, availability, and location of system blackstart generating units are sufficient to meet Regional Reliability Organization restoration plan requirements for the Transmission Operator's area.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R9. The Transmission Operator shall document the Cranking Paths, including initial switching requirements, between each blackstart generating unit and the unit(s) to be started and shall provide this documentation for review by the Regional Reliability Organi

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-008-0

Requirements:

R1. Each Reliability Coordinator, Transmission Operator and Balancing Authority shall have a plan to continue reliability operations in the event its control center becomes inoperable. The contingency plan must meet the following requirements:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. The contingency plan shall not rely on data or voice communication from the primary control facility to be viable.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. The plan shall include procedures and responsibilities for providing basic tie line control and procedures and for maintaining the status of all inter-area schedules, such that there is an hourly accounting of all schedules.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R1.3. The contingency plan must address monitoring and control of critical transmission facilities, generation control, voltage control, time and frequency control, control of critical substation devices, and logging of significant power system events. The pla

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.4. The plan shall include procedures and responsibilities for maintaining basic voice communication capabilities with other areas.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.5. The plan shall include procedures and responsibilities for conducting periodic tests, at least annually, to ensure viability of the plan.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: EOP-008-0

Requirements:

R1.6. The plan shall include procedures and responsibilities for providing annual training to ensure that operating personnel are able to implement the contingency plans.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.7. The plan shall be reviewed and updated annually.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.8. Interim provisions must be included if it is expected to take more than one hour to implement the contingency plan for loss of primary control facility.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: FAC-014-1

Requirements:

- R2. The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

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- R5.2. The Transmission Operator shall provide any SOLs it developed to its Reliability Coordinator and to the Transmission Service Providers that share its portion of the Reliability Coordinator Area.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: INT-004-2

Requirements:

R2.3. A Reliability Coordinator or Transmission Operator determines the deviation, regardless of magnitude, to be a reliability concern and notifies the Purchasing-Selling Entity of that determination and the reasons.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: IRO-001-1.1

Requirements:

- R8. Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equip

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: IRO-002-1

Requirements:

- R3. Each Reliability Coordinator - or its Transmission Operators and Balancing Authorities - shall provide, or arrange provisions for, data exchange to other Reliability Coordinators or Transmission Operators and Balancing Authorities via a secure network.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: IRO-004-1

Requirements:

R4. Each Transmission Operator, Balancing Authority, Transmission Owner, Generator Owner, Generator Operator, and Load-Serving Entity in the Reliability Coordinator Area shall provide information required for system studies, such as critical facility status,

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R7. Each Transmission Operator, Balancing Authority, and Transmission Service Provider shall comply with the directives of its Reliability Coordinator based on the next day assessments in the same manner in which it would comply during real time operating eve

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: IRO-005-2

Requirements:

R12. Whenever a Special Protection System that may have an inter-Balancing Authority, or inter-Transmission Operator impact (e.g., could potentially affect transmission flows resulting in a SOL or IROL violation) is armed, the Reliability Coordinators shall be

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R13. Each Reliability Coordinator shall ensure that all Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities operate to prevent the likelihood that a disturba

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R8. Each Reliability Coordinator shall monitor system frequency and its Balancing Authorities' performance and direct any necessary rebalancing to return to CPS and DCS compliance. The Transmission Operators and Balancing Authorities shall utilize all resourc

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PER-001-0

Requirements:

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- R1. Each Transmission Operator and Balancing Authority shall provide operating personnel with the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System.

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PER-002-0

Requirements:

R1. Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator and Balancing Authority shall have a training program for all operating personnel that are in:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.1. Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.2. Positions directly responsible for complying with NERC standards.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. For personnel identified in Requirement R2, the Transmission Operator and Balancing Authority shall provide a training program meeting the following criteria:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. A set of training program objectives must be defined, based on NERC and Regional Reliability Organization standards, entity operating procedures, and applicable regulatory requirements. These objectives shall reference the knowledge and competencies need

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PER-002-0

Requirements:

R3.2. The training program must include a plan for the initial and continuing training of Transmission Operator and Balancing Authority operating personnel. That plan shall address knowledge and competencies required for reliable system operations.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R3.3. The training program must include training time for all Transmission Operator and Balancing Authority operating personnel to ensure their operating proficiency.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R3.4. Training staff must be identified, and the staff must be competent in both knowledge of system operations and instructional capabilities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4. For personnel identified in Requirement R2, each Transmission Operator and Balancing Authority shall provide its operating personnel at least five days per year of training and drills using realistic simulations of system emergencies, in addition to other

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PER-003-0

Requirements:

R1. Each Transmission Operator, Balancing Authority, and Reliability Coordinator shall staff all operating positions that meet both of the following criteria with personnel that are NERC-certified for the applicable functions:

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Positions directly responsible for complying with NERC standards.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PRC-001-1

Requirements:

R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of protection system schemes applied in its area.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2.2. If a protective relay or equipment failure reduces system reliability, the Transmission Operator shall notify its Reliability Coordinator and affected Transmission Operators and Balancing Authorities. The Transmission Operator shall take corrective action

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3.2. Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Transmission Operator shall coordinate protection systems on major transmission lines and interconnections with neighboring Generator Operators, Transmission Operators, and Balancing Authorities.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5.2. Each Transmission Operator shall notify neighboring Transmission Operators in advance of changes in generation, transmission, load, or operating conditions that could require changes in the other Transmission Operators' protection systems.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PRC-007-0

Requirements:

- R2. The Transmission Owner, Transmission Operator, Distribution Provider, and Load-Serving Entity that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall provide, and annually update, its underfrequency data as needed.

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PRC-009-0

Requirements:

R1. The Transmission Owner, Transmission Operator, Load-Serving Entity, and Distribution Provider that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall analyze and document its UFLS program performance in accordance

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. A description of the event including initiating conditions.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. A review of the UFLS set points and tripping times.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.3. A simulation of the event.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.4. A summary of the findings.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. The Transmission Owner, Transmission Operator, Load-Serving Entity, and Distribution Provider that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall provide documentation of the analysis of the UFLS program to it

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PRC-010-0

Requirements:

R1. The Load-Serving Entity, Transmission Owner, Transmission Operator, and Distribution Provider that owns or operates a UVLS program shall periodically (at least every five years or as required by changes in system conditions) conduct and document an assess

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.1.1. Coordination of the UVLS programs with other protection and control systems in the Region and with other Regional Reliability Organizations, as appropriate.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.1.2. Simulations that demonstrate that the UVLS programs performance is consistent with Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0 and TPL-004-0.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.1.3. A review of the voltage set points and timing.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R2. The Load-Serving Entity, Transmission Owner, Transmission Operator, and Distribution Provider that owns or operates a UVLS program shall provide documentation of its current UVLS program assessment to its Regional Reliability Organization and NERC on requ

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: PRC-022-1

Requirements:

R1. Each Transmission Operator, Load-Serving Entity, and Distribution Provider that operates a UVLS program to mitigate the risk of voltage collapse or voltage instability in the BES shall analyze and document all UVLS operations and Misoperations. The analysis shall include:

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.1. A description of the event including initiating conditions.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.2. A review of the UVLS set points and tripping times.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.3. A simulation of the event, if deemed appropriate by the Regional Reliability Organization. For most events, analysis of sequence of events may be sufficient and dynamic simulations may not be needed.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.4. A summary of the findings.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R1.5. For any Misoperation, a Corrective Action Plan to avoid future Misoperations of a similar nature.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R2. Each Transmission Operator, Load-Serving Entity, and Distribution Provider that operates a UVLS program shall provide documentation of its analysis of UVLS program performance to its Regional Reliability Organization within 90 calendar days of a request.

Responsible Members:

NCR04029 City of Austin dba Austin Energy



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-001-1

Requirements:

R1. Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator 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.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall comply with reliability directives issued by

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real-time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6. Each Transmission Operator, Balancing Authority, and Generator Operator shall render all available emergency assistance to others as requested, provided that the requesting entity has implemented its comparable emergency procedures, unless such actions wo

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R7. Each Transmission Operator and Generator Operator shall not remove Bulk Electric System facilities from service if removing those facilities would burden neighboring systems unless:

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-001-1

Requirements:

R7.1. For a generator outage, the Generator Operator shall notify and coordinate with the Transmission Operator. The Transmission Operator shall notify the Reliability Coordinator and other affected Transmission Operators, and coordinate the impact of removing

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R7.2. For a transmission facility, the Transmission Operator shall notify and coordinate with its Reliability Coordinator. The Transmission Operator shall notify other affected Transmission Operators, and coordinate the impact of removing the Bulk Electric Sys

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R7.3. When time does not permit such notifications and coordination, or when immediate action is required to prevent a hazard to the public, lengthy customer service interruption, or damage to facilities, the Generator Operator shall notify the Transmission Ope

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R8. During a system emergency, the Balancing Authority and Transmission Operator shall immediately take action to restore the Real and Reactive Power Balance. If the Balancing Authority or Transmission Operator is unable to restore Real and Reactive Power Ba

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-002-2

Requirements:

R1. Each Balancing Authority and Transmission Operator shall maintain a set of current plans that are designed to evaluate options and set procedures for reliable operation through a reasonable future time period. In addition, each Balancing Authority and Tr

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R10. Each Balancing Authority and Transmission Operator shall plan to meet all System Operating Limits (SOLs) and Interconnection Reliability Operating Limits (IROLs).

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11. The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update the

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R16.1. Changes in transmission facility status.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R16.2. Changes in transmission facility rating.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R17. Balancing Authorities and Transmission Operators shall, without any intentional time delay, communicate the information described in the requirements R1 to R16 above to their Reliability Coordinator.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R18. Neighboring Balancing Authorities, Transmission Operators, Generator Operators, Transmission Service Providers, and Load-Serving Entities shall use uniform line identifiers when referring to transmission facilities of an interconnected network.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-002-2

Requirements:

R19. Each Balancing Authority and Transmission Operator shall maintain accurate computer models utilized for analyzing and planning system operations.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Balancing Authority and Transmission Operator shall 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 awa

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Balancing Authority and Transmission Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal planning and operations with neighboring Balancing Authorities and Transmission Operators and with its Rel

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Balancing Authority and Transmission Operator shall plan to meet scheduled system configuration, generation dispatch, interchange scheduling and demand patterns.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6. Each Balancing Authority and Transmission Operator shall plan to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional Reliability Organization, subregional, and

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-003-0

Requirements:

R1. Generator Operators and Transmission Operators shall provide planned outage information.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R1.1. Each Generator Operator shall provide outage information daily to its Transmission Operator for scheduled generator outages planned for the next day (any foreseen outage of a generator greater than 50 MW). The Transmission Operator shall establish the ou

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Each Transmission Operator shall provide outage information daily to its Reliability Coordinator, and to affected Balancing Authorities and Transmission Operators for scheduled generator and bulk transmission outages planned for the next day (any foreseen

Responsible Members:

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R2. Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled outages of system voltage regulating equipment, such as automatic voltage regulators on generators, supplementary excitation control, synchronous c

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled outages of telemetering and control equipment and associated communication channels between the affected areas.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-004-2

Requirements:

R1. Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Transmission Operator shall operate to protect against instability, uncontrolled separation, or cascading outages resulting from multiple outages, as specified by its Reliability Coordinator.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R4. If a Transmission Operator 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 limit

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Transmission Operator shall make every effort to remain connected to the Interconnection. If the Transmission Operator determines that by remaining interconnected, it is in imminent danger of violating an IROL or SOL, the Transmission Operator may t

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution a

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-004-2

Requirements:

R6.1. Monitoring and controlling voltage levels and real and reactive power flows.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.2. Switching transmission elements.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.3. Planned outages of transmission elements.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R6.4. Responding to IROL and SOL violations.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-005-1.1

Requirements:

- R1. Each Transmission Operator and Balancing Authority shall provide its Reliability Coordinator with the operating data that the Reliability Coordinator requires to perform operational reliability assessments and to coordinate reliable operations within the

Responsible Members:

- NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.
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- R3. Upon request, each Balancing Authority and Transmission Operator shall provide to other Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability, the operating data that are necessary to allow these Balanc

Responsible Members:

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Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-006-1

Requirements:

R1. Each Transmission Operator and Balancing Authority shall know the status of all generation and transmission resources available for use.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R1.2. Each Transmission Operator and Balancing Authority shall inform the Reliability Coordinator and other affected Balancing Authorities and Transmission Operators of all generation and transmission resources available for use.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall monitor applicable transmission line status, real and reactive power flows, voltage, load-tap-changer settings, and status of rotating and static reactive resources.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R3. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide appropriate technical information concerning protective relays to their operating personnel.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have information, including weather forecasts and past load patterns, available to predict the system's near-term load pattern.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R5. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for correct

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-006-1

Requirements:

R6. Each Balancing Authority and Transmission Operator shall use 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.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R7. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall monitor system frequency.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-007-0

Requirements:

R1. A Transmission Operator shall inform its Reliability Coordinator when an IROL or SOL has been exceeded and the actions being taken to return the system to within limits.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R2. Following a Contingency or other event that results in an IROL violation, the Transmission Operator shall return its transmission system to within IROL as soon as possible, but not longer than 30 minutes.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R3. A Transmission Operator shall take all appropriate actions up to and including shedding firm load, or directing the shedding of firm load, in order to comply with Requirement R2.

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: TOP-008-1

Requirements:

R1. The Transmission Operator experiencing or contributing to an IROL or SOL violation shall take immediate steps to relieve the condition, which may include shedding firm load.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator shall operate to prevent the likelihood that a disturbance, action, or inaction will result in an IROL or SOL violation in its area or another area of the Interconnection. In instances where there is a difference in derived ope

Responsible Members:

NCR04029 City of Austin dba Austin Energy

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R3. The Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered. In doing so, the Transmission Operator shall notify its Reliabilit

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R4. The Transmission Operator 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 Transmission Operator shall use the results of these analyses t

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: VAR-001-1

Requirements:

R1. Each Transmission Operator, individually and jointly with other Transmission Operators, shall ensure that formal policies and procedures are developed, maintained, and implemented for monitoring and controlling voltage levels and Mvar flows within their i

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R10. Each Transmission Operator shall correct IROL or SOL violations resulting from reactive resource deficiencies (IROL violations must be corrected within 30 minutes) and complete the required IROL or SOL violation reporting.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R11. After consultation with the Generator Owner regarding necessary step-up transformer tap changes, the Transmission Operator shall provide documentation to the Generator Owner specifying the required tap changes, a timeframe for making the changes, and tech

Responsible Members:

NCR04029 City of Austin dba Austin Energy

R12. The Transmission Operator shall direct corrective action, including load reduction, necessary to prevent voltage collapse when reactive resources are insufficient.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R2. Each Transmission Operator shall acquire sufficient reactive resources within its area to protect the voltage levels under normal and Contingency conditions. This includes the Transmission Operator's share of the reactive requirements of interconnecting

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R3. The Transmission Operator shall specify criteria that exempts generators from compliance with the requirements defined in Requirement 4, and Requirement 6.1.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R3.1. Each Transmission Operator shall maintain a list of generators in its area that are exempt from following a voltage or Reactive Power schedule.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: VAR-001-1

Requirements:

R3.2. For each generator that is on this exemption list, the Transmission Operator shall notify the associated Generator Owner.

Responsible Members:

NCR04056 Electric Reliability Council of Texas, Inc.

R4. Each Transmission Operator shall specify a voltage or Reactive Power schedule at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each generator. The Transmission Operator shall provide the vol

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6. The Transmission Operator shall know the status of all transmission Reactive Power resources, including the status of voltage regulators and power system stabilizers.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R6.1. When notified of the loss of an automatic voltage regulator control, the Transmission Operator shall direct the Generator Operator to maintain or change either its voltage schedule or its Reactive Power schedule.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R7. The Transmission Operator shall be able to operate or direct the operation of devices necessary to regulate transmission voltage and reactive flow.

Responsible Members:

NCR04029 City of Austin dba Austin Energy

NCR04056 Electric Reliability Council of Texas, Inc.

R8. Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area - including reactive generation scheduling; transmission line and reactive resource switching; and, if necessary, load shedding

Responsible Members:

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NCR04056 Electric Reliability Council of Texas, Inc.



Registration Status as of 1/26/2012

Applicable Regional Entity: TRE

Applicable Function: TOP

Standard: VAR-001-1

Requirements:

R9. Each Transmission Operator shall maintain reactive resources to support its voltage under first Contingency conditions.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.

R9.1. Each Transmission Operator shall disperse and locate the reactive resources so that the resources can be applied effectively and quickly when Contingencies occur.

Responsible Members:

NCR04029 City of Austin dba Austin Energy
NCR04056 Electric Reliability Council of Texas, Inc.