Examination of the
Future Role of the Regional Reliability Councils
and
Assessment of Eastern Interconnection Regional Reliability Council Boundaries

October 5, 2004
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Future Role of the Regional Reliability Councils

Regional Managers Committee

Examination of the Future Role of the Regional Reliability Councils and Assessment of Eastern Interconnection Regional Reliability Council Boundaries

Executive Summary and Recommendations

The Blackout of 2003 highlighted the importance of the reliability of the interconnected electric systems in North America. A lesson learned from the post-blackout investigations is that all segments of the electric industry, working in concert, share a role in providing bulk power system reliability. The U.S.-Canada Power System Outage Task Force recognized the distributed responsibilities regarding reliability and recommended strengthening the institutional framework for reliability management in North America. This report, developed by the Regional Managers Committee in response to an assignment at the June 2004 NERC Members Meeting, clarifies the reliability assurance role that the Regional Reliability Councils (RRCs) perform and provides a recommendation to improve the role of the RRCs in the future.

The reliability assurance functions and services currently performed by each of the ten RRCs were identified and divided into five broad categories. These functions and services represent those aspects of reliability management that the membership of the RRCs judged to be both efficient and appropriate to perform at a regional level. The RRCs and NERC have adapted over time to the changing needs and evolving structure of the industry.

Fundamental organizational principles necessary for entities to perform reliability assurance functions and services in the future were established and are consistent with the proposed U.S. reliability legislation and, where applicable, Provincial regulations.

Stakeholder input was solicited, and submitted comments were publicly posted, considered and utilized to form the basis for numerous alternative models for strengthening the institutional framework for reliability management.

The Regional Managers Committee has carefully reviewed six alternatives and evaluated the potential benefits and drawbacks of each. The Regional Managers viewed that, in the absence of legislation or other mandates, reliability management institutions should continue to undergo incremental changes apace with changes in the electric industry they serve. A progressive plan to address the future industry needs is the prudent course of action. In concert with NERC, the RRCs should focus on improvements which could be made in the near term while not creating abrupt shifts in the reliability assurance functions.

The alternative which embodies this recommended approach is Alternative #4, “Regional Reliability Councils and the North American Electric Reliability Council Transition to Legislative Language Responsibilities”. This alternative assures a logical transition for the RRCs and clarifies the RRC’s role based upon the proposed U.S. legislation regarding reliability. The pro-
Future Role of the Regional Reliability Councils

Proposed U.S. legislation has been widely vetted among participants in the industry and enjoys strong support across North America. Furthermore, this alternative is improved when supplemented by the concepts in Alternative #6, whereby functions performed by the RRCs will be re-evaluated in light of the creation of Independent System Operators/Regional Transmission Organizations (“ISO/RTOs”) to minimize duplication of efforts and clearly delineate responsibilities between RRCs and other organizations, while assuring that RRCs continue to provide the important reliability role included in the proposed U.S. legislation.

The recommended approach of combining Alternatives #4 and #6 supports the reliability assurance functions with respect to the five fundamental principles developed in this report:

1. Open and Inclusive Membership
2. Fair and Balanced Governance
3. Independence
4. Compliance
5. Organization Boundaries

The following actions are proposed to implement the recommended approach:

1. Each RRC should develop an assessment using the five fundamental principles and:
   a. Identify gaps in its ability to meet the fundamental principles
   b. Develop and implement recommendations to assure it meets the fundamental principles

2. After each RRC has determined that it meets or has developed a plan to meet each of the five fundamental principles, the RRC should develop an assessment of the necessary functions required to effectively carry out the responsibilities under the proposed U.S. legislation. After completion of the individual RRC assessments, the RRCs and NERC should work together to:
   a. Establish a common understanding and definition of compliance and assurance functions across all of North America
   b. Develop common approaches to compliance and enforcement administration across North America; a common “look and feel” with regional requirements highlighted

3. The RRCs should evaluate their existing boundaries to determine if there are other boundaries that could more effectively accomplish reliability management for the industry.

Finally, the Regional Managers request the endorsement of this report by the NERC Members and approval to schedule and complete the recommendations contained herein.
I. Introduction

At the June 14, 2004 Meeting of the Members of NERC, the Members unanimously approved a resolution charging the Regional Managers Committee with examining the future role and responsibilities of RRCs. The Regional Managers of the eight Eastern Interconnection RRCs were also assigned the task of coordinating an assessment of the existing regional boundaries across the Eastern Interconnection.

Immediately following the Members meeting, the NERC Stakeholders Committee had a wide-ranging discussion regarding the future role, scope and structure of RRCs. In addition, the Stakeholders discussed the relationship of this effort to Recommendation #3 in the U.S.-Canada Power System Outage Task Force Final Report on the 2003 Blackout, which addresses strengthening the institutional framework for reliability management in North America. The NERC Board of Trustees, following the Stakeholders and Members meetings on June 14th acknowledged the assignment to the Regional Managers Committee.

The scope of the assignment, as approved June 25, 2004, by the Regional Managers Committee, is included as follows:

Scope of Activity

Assignment: Outline the roles and responsibilities of Regional Reliability Councils and coordinate an assessment of the eight Eastern Interconnection Regional boundaries for consideration at a Members meeting in October 2004.

A. Future Role of Regional Reliability Councils
1. Identify current reliability assurance functions performed and member services provided by the existing Regional Reliability Councils
2. Identify future functions to be performed and services to be provided at a regional level
3. Establish fundamental principles, including governance, for organizations responsible for the functions and services included in #2
4. Identify modifications, if any, to existing Regional Reliability Councils necessary to address #2 and #3
5. Investigate alternate methods/models for performing functions and providing services, while respecting fundamental principles

B. Assessment of Eastern Interconnection Regional Reliability Council Boundaries
1. Verify current Eastern Interconnection regional boundaries
2. Identify existing or potential reliability concerns or “seams issues” because of current boundaries
3. Consider alternate Regional Reliability Council boundaries
4. Identify potential efficiencies/enhancements available, as well as, concerns introduced from alternate regional configurations
5. Solicit input from broad stakeholder community and liaison with NERC staff
6. Interface with NERC Board of Trustees
As an integral part of this study, each RRC identified the reliability assurance functions and services it currently performs. *(Appendix A)*

The Joint House-Senate Committee Conference Report *Proposed Electric Reliability Legislative Language*, approved by the House 11/18/03, *(Appendix B)* was used as a reference for establishing fundamental principles for future regional reliability entities, considering future reliability assurance functions, and analyzing alternative models.

The Regional Managers Committee, consistent with fostering an open and inclusive dialogue on this subject, sought input from the broad stakeholder community and RRC members regarding views on the future role and scope of RRCs.

**II. Regional Reliability Assurance Functions and Services**

The reliability assurance functions and services currently performed by the ten RRCs were divided into five broad categories:

- Development of Regionally-Specific Reliability Criteria
- Coordination of Planning and Operations
- Assessment of Reliability
- Compliance Monitoring and Enforcement
- Other Services

A composite of the functions and services provided by the RRCs was developed and the set of master matrices appears within *Appendix A*. At the June 2004 Member and subsequent NERC Board of Trustees meetings the application by the Midwest Reliability Organization (MRO) to succeed MAPP, effective January 1, 2005, was approved. As such, the matrices include information for both MAPP and the MRO. These matrices establish the reliability assurance functions and services that would have to be performed by some entity(s) should existing structures be altered.

The following provides a partial listing of those functions performed by most RRCs:

1. **Development of Regionally Specific Criteria**
   - System Planning & Resource Adequacy
   - Facility Ratings
   - Protective Relay Systems
   - Load Shedding & System Restoration
   - Disturbance Monitoring & Analysis

2. **Regional Coordination of Planning and Operations**
   - Regional Reliability Plan
   - Operator Training & Tools
   - Market Interface
   - Critical Infrastructure Protection
3. **Assessment of Reliability**
   - Transmission & Resource Adequacy – Seasonal and Long-term
   - Adequacy of Protective Relay Systems
   - Management of Databases
   - Disturbance Analysis

4. **Compliance Monitoring and Enforcement**
   - NERC & Regional Compliance Programs
   - Readiness Audits
   - Compliance Audits
   - Recommendation Tracking
   - Control Area Certification

5. **Other Services**
   - Dispute Resolution
   - Operator Training & Tools
   - Market Interface

### III. Fundamental Principles For Reliability Assurance Organizations

The Regional Managers Committee used the language in the proposed U.S. reliability legislation in establishing the fundamental principles necessary for organizations that perform reliability assurance functions and services. Additional considerations were also added to clarify implementation of the following identified principles:

1. **Open and Inclusive Membership:**
   “Subsection (c) (2) (D): provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties;”

   **Clarifying Elements**
   - All entities that use, own or operate the bulk power system within the RRC boundary are eligible for membership
   - Regulatory agencies with jurisdiction within the RRC boundary are encouraged to participate, as appropriate, in all RRC activities
   - In the development of regionally specific criteria, input from entities outside the RRC whose reliability might be impacted is accommodated and encouraged

The U.S.-Canada Power System Outage Task Force Report “August 14th Blackout: Causes and Recommendations” includes as Recommendation #7: “Require any entity operating as part of the bulk power system to be a member of a regional reliability council if it operates within the council’s footprint.” The Regional Managers Committee supports membership in RRCs by all entities that use, own or operate the bulk power system within their boundaries. However, membership does not in all cases address the issue of compliance with NERC reliability standards and regionally-specific criteria. U.S. reliability legislation and continued close co-
ordination with government agencies in Canada and Mexico will be required to make compliance with reliability standards and criteria mandatory and enforceable on all operators and users of the bulk electric system in North America.

2. **Fair and Balanced Governance**

“Subsection (e) (4) (A): the regional entity is governed by--
(i) an independent board;
(ii) a balanced stakeholder board; or
(iii) a combination independent and balanced stakeholder board.”

**Clarifying Elements**
- All board members are eligible to vote except where prohibited by State or Provincial law
- Governance should allow for effective Canadian and Mexican participation on the board as geographically appropriate
- No member or segment can dominate board voting

3. **Independence**

“Subsection (c) (2) (A): assure its independence of the users and owners and operators of the bulk-power system, while assuring fair stakeholder representation in the selection of its directors and balanced decision making in any ERO committee or subordinate organizational structure; (B) allocate equitably reasonable dues, fees, and other charges among end users for all activities under this section; (C) provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties in accordance with subsection (e) (including limitations on activities, functions, or operations, or other appropriate sanctions);”

**Clarifying Elements**
- RRC employees responsible for compliance monitoring and enforcement must be independent of the entities they monitor for compliance (Because of its unique situation and regulatory relationship, functional independence is acceptable within ERCOT)
- RRCs should require all employees to sign a personnel *Code of Conduct* agreement
- Funding mechanism should be equitable, resulting in no member having a controlling financial interest

4. **Compliance**

“Subsection (b) All users, owners and operators of the bulk-power system shall comply with reliability standards that take effect under this section.”

**Clarifying Elements**
- All entities that use, own or operate the bulk power system within the RRC boundary are required to comply with NERC standards and applicable regionally specific criteria
- In the areas of reliability criteria compliance and enforcement, transparency of process and disclosure of confirmed violations is required
5. **Organizational Boundaries**

“Subsection (e) (4) (C): the agreement promotes effective and efficient administration of bulk-power system reliability.”

“Subsection (e) (4): The ERO and the Commission shall rebuttably presume that a proposal for delegation to a regional entity organized on an Interconnection-wide basis promotes effective and efficient administration of bulk-power system reliability and should be approved.”

“Subsection (i) (3): Nothing in this section shall be construed to preempt any authority of any State to take action to ensure the safety, adequacy, and reliability of electric service within that State, as long as such action is not inconsistent with any reliability standard.”

**Clarifying Elements**

- RRC boundaries should not cut across any Control Area or Reliability Coordinator boundary
- RRCs should encompass one or more Control Areas and one or more Reliability Coordinators
- Deference should be given to proposals from interconnection-wide entities
- International RRCs must respect sovereignty

**IV. Summary of Industry Comments on RRC Options and Issues**

In preparing this report, the Regional Managers Committee solicited input from stakeholders across all the NERC RRCs. Twenty-eight stakeholders representing different industry sectors provided a wide diversity of comments.

Selected highlights of the comments include:

- Many of the responders support RRCs performing compliance and developing regionally-specific criteria required to maintain the reliability of the bulk power system
- Many of the responders acknowledged the need and value for RRCs, today and into the future; but, commented that the delineation of functions and clarity between these organizations and ISO/RTOs needs to be addressed
- Responders were split on the governance of RRCs; some preferred stakeholder boards, others preferred independent boards, and some preferred a hybrid of both a stakeholder and independent board
- Responders commented that the staff of the RRCs must be independent and separate from its members or operating entities
- Many of the responders supported the principle that RRCs should include one or more Reliability Coordinator, ISO/RTO or market

The comments were appreciated, and the Regional Managers Committee thanks all the stakeholders who responded. The comments were an important part of developing this report. For a complete list of comments, please refer to the NERC website:

[www.nerc.com/~filez/roleofregions.html](http://www.nerc.com/~filez/roleofregions.html)
V. **Alternative Models and Methods**

The Regional Managers Committee, following review and consideration of stakeholder input, identified six alternative models that potentially could provide bulk power system reliability in North America and assessed them for benefits and drawbacks.

*Alternative #1. One North American Electric Reliability Organization with No Regional Reliability Councils*

A continent-wide electric reliability organization would be created with responsibility for setting and enforcing compliance with reliability standards. RRCs would be dissolved or could become regional offices of the Electric Reliability Organization.

**A. Potential Benefits**
- Single point of contact for reliability
- One process for developing continent-wide reliability standards
- Single compliance monitoring and enforcement entity

**B. Potential Drawbacks**
- No State or Provincial oversight
- Requires development of a new structure to identify and develop regionally specific criteria needed to operate the system reliably that address physical, geographic, system and market differences
- Significant regional differences that currently exist would need to be managed
- Need to retain localized expertise and compliance monitoring capability
- Uniform enforcement, potentially incompatible with State/Provincial regulatory authorities
- Regional offices of an Electric Reliability Organization would be subject to direct control which could inhibit localized approaches to solving reliability issues

*Alternative #2. Regional Reliability Councils with No North American Electric Reliability Council*

RRCs (with appropriate boundaries) would be responsible for all reliability functions and services within their footprint. Interregional activities would be expanded to include responsibility for wide-area coordination of criteria and compliance monitoring and enforcement. NERC would be dissolved. RTOs, where they exist, would be responsible for operation of the system and administration of competitive markets.

**A. Potential Benefits**
- Regionally-specific reliability criteria
- State and/or Provincial regulatory backstop
- Localized expertise and compliance monitoring capability
- Enforcement mechanism compatible with regulatory authorities
B. Potential Drawbacks
- No continent-wide reliability standards or standards development process
- No coordinated industry-wide interface with federal agencies
- Limited wide-area compliance monitoring capability
- Potentially incompatible enforcement approaches

Alternative #3.  ISO/RTOs Responsible for all Reliability Functions

ISO/RTOs, where they exist, would be responsible for all reliability assurance functions and services, as well as operation of the system and administration of competitive markets within their footprint. Inter-ISO/RTO activities would be expanded. NERC and the RRCs would be dissolved.

A. Potential Benefits
- No division of reliability assurance responsibilities within footprint
- Simplifies jurisdictional issue (where ISO/RTOs exist)

B. Potential Drawbacks
- ISO/RTOs not international, nor universal within U.S.
- Violates independence of operation principle unless appropriate functional independence is in place
- Manageability question due to size and complexity

Alternative #4.  Regional Reliability Councils and the North American Electric Reliability Council Transition to Legislative Language Responsibilities

Regional reliability entities and a continent-wide Electric Reliability Organization would be responsible for all reliability assurance functions and services consistent with U.S. legislation and coordinated with Provincial regulation. Regional entities would perform other such services as determined by State and Provincial regulators and members.

A. Potential Benefits
- Continent-wide mandatory reliability standards with regionally-specific reliability criteria, as appropriate
- Federal/State/Provincial regulatory backstop
- Localized compliance monitoring capability with independent oversight from an ERO
- Coordinated compliance enforcement mechanisms

B. Potential Drawbacks
- Multiple layers of standards and criteria
- Multiple layers of reporting (Regional and North American)
Alternative #5. Interconnection-wide Regional Reliability Council (IRRC) and the North American Electric Reliability Council

Eight Eastern Interconnection RRCs are merged into an Interconnection-wide RRC. The IRRC would be the Reliability Authority (RA) for the Interconnection. The IRRC would also have responsibility for determining the need for regional differences, coordinating planning and operations (or shadowing ISO/RTOs’ efforts where they exist), conducting reliability assessments, limited monitoring of compliance, and other services. NERC would have authority for compliance monitoring and enforcement, readiness audits and registration and certification of Functional Model entities. ISO/RTOs would have responsibility for coordination of planning and operations, limited monitoring of compliance, and administering competitive markets.

A. Potential Benefits
- Minimizes duplication and avoids “footprint chasing”
- Internalizes regional variances

B. Potential Drawbacks
- IRRC as Reliability Authority violates independence of operation (see ERCOT exception)
- Manageability question due to size and complexity
- Similar drawbacks as Alternative #1.

Alternative #6. Some Regional Reliability Council’s Activities Shifted to Other Organizations

In the wake of deregulation and the start-up of ISO/RTOs, the functions of RRCs and NERC need to be reassessed. Some functions, such as regional assessments and model development, should be assessed to determine the future assignment of those responsibilities. The RRC should determine compliance of assessments and models; and perform assessments and develop models which are required for regional reliability where another organization either does not perform the particular assessments or studies or does not have the geographic scope or authority to do so.

The details, as well as potential benefits and drawbacks, for this alternative need to be developed and could vary for different RRCs. Some functions currently being performed by a RRC could be assumed by another entity such as an ISO/RTO. The goal of this approach is to minimize duplication of efforts and clearly delineate responsibilities between RRCs and other organizations.

Resulting Assessment

Upon review of the six alternatives outlined above, the Regional Managers Committee agreed that, in the absence of legislation, reliability management institutions should continue to undergo incremental changes apace with changes in the electric industry it serves. A progressive plan to address the future industry needs is the prudent course of action. In concert with NERC, the RRCs should focus on improvements which could be made in the near term, while not creating abrupt shifts in the reliability assurance functions.
Future Role of the Regional Reliability Councils

Alternative #4, “Regional Reliability Councils and the North American Electric Reliability Council Transition to Legislative Language Responsibilities” assures a logical transition for the RRCs and clarifies the RRC’s role based upon the proposed U.S. legislation regarding reliability. The proposed U.S. legislation has been widely vetted among all participants in the industry and enjoys strong support across North America. Furthermore, this alternative is improved when supplemented by the concepts in Alternative #6, whereby functions performed by the RRCs will be re-evaluated in light of the creation of ISO/RTOs in order to minimize duplication of efforts and clearly delineate responsibilities between RRCs and other organizations while assuring that RRCs continue to provide the important reliability role included in the proposed U.S. legislation.

VI. Existing Eastern Interconnection Regional Boundaries

The Regional Managers Committee in its assessment of Eastern Interconnection RRC boundaries verified existing Control Areas within the RRCs (see map below) and next considered concerns regarding those configurations.

Regional Reliability Council Boundaries and Control Areas
The only instance as of the date of this report, where a Control Area boundary is cut by one or more RRCs is the PJM Control Area. The PJM Control Area spans all of MAAC and parts of ECAR and MAIN. When Dominion Virginia Power becomes part of the PJM Control Area, currently scheduled for November 1, 2004, the PJM Control Area will span all of MAAC and parts of ECAR, MAIN, and SERC.

**PJM Control Area Footprint Changes**

- **May 1, 2004**
  - PJM Operates 2 CAs
    - One encompasses all of MAAC and AP in ECAR
    - The other is ComEd in MAIN

- **October 1, 2004**
  - AEP and DPL (ECAR) become part of the PJM Control Area (CA)
  - Along with ComEd
  - PJM operates as a single CA

- **November 1, 2004**
  - Dominion VP (SERC) becomes part of the PJM CA

**Regional Reliability Council Boundaries and Reliability Coordinators**

The Regional Managers Committee in its assessment of Eastern Interconnection RRC boundaries verified existing Reliability Coordinators within the RRCs (see map on next page) and next considered concerns regarding those configurations.
There are four instances as of the date of this report where Reliability Coordinator boundaries are cut by one or more RRCs, as shown in the table below. When Reliability Coordinators were established in 1996, there were no cases where their boundaries were cut by RRCs. The boundaries of these four Reliability Coordinators changed due to corporate mergers, regulatory policies or orders, commercial factors, or a combination of these.

<table>
<thead>
<tr>
<th>Reliability Coordinator</th>
<th>Regional Reliability Councils¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJM²</td>
<td>ECAR, MAAC, MAIN</td>
</tr>
<tr>
<td>MISO³</td>
<td>ECAR, MAIN, MAPP, SPP</td>
</tr>
<tr>
<td>Entergy</td>
<td>SERC, SPP</td>
</tr>
<tr>
<td>TVA</td>
<td>ECAR, MAIN, SERC</td>
</tr>
</tbody>
</table>

¹ All or parts of the Regional Reliability Councils are included in the respective Reliability Coordinator footprint.
² After November 1, 2004, Dominion Virginia Power is expected to be covered by the PJM Reliability Coordinator. At that time, the PJM Reliability Coordinator footprint will include a portion of SERC.
³ MISO has one reliability plan with two reliability zones located in St. Paul, MN and Carmel, IN. MISO-St. Paul provides reliability coordination services for both MISO members and non-MISO members of MAPP, and coordinates closely with the Carmel, IN Reliability Coordinator.
VII. Regional Boundary Issues

This report establishes that, as a fundamental principle, RRC boundaries should not cut across any Control Area or Reliability Coordinator boundary.

The assessment of Eastern Interconnection RRC boundaries found no existing or potential reliability concerns because of the current boundaries or differences in RRC criteria, requirements, and procedures. Regional boundary issues, that are addressed through regional reliability plans, joint operating agreements, and multi-regional coordination efforts, include:

- Roles and responsibilities of Reliability Coordinators and other operating entities
  - Coordinate next day and real-time reliability assessments, including contingencies, outage assessments, and voltage collapse
  - Information sharing of schedules, transmission and generator outages
  - Coordinate procedures, including special protection schemes, emergency procedures, ramping capabilities, etc.
  - Information sharing on potential, expected, or actual operating conditions
  - Coordination of congestion management methods and impacts
  - Request assistance if needed
  - Coordination of blackout restoration, including drills

- Operating reserve requirements
- Automatic Reserve Sharing
- Regional data requirements
- Underfrequency load shedding requirements
- Emergency operations requirements
- Requirements for including purchases in operating capacity
- Planning requirements for generation and transmission
- Control area certification requirements
- Compliance monitoring and enforcement procedures
- Region-specific reliability criteria

This assessment concludes that if RRC boundaries were changed to comport with the fundamental principle stated above, that efficiencies and enhancements could accrue to the industry.

VIII. Alternative Regional Configurations

The leadership of ECAR, MAAC, MAIN, and MAPP (MRO) have directed their respective Regional Managers to have preliminary joint discussions to determine alternatives for a broader RRC encompassing the combined footprints of two RTOs (MISO and PJM), along with other transmission areas of the Midwest. Other interim alternatives may result from the joint discussions which could bring efficiencies in the reliability functions in these areas. Many of the members of these four RRCs are in MISO or PJM, and will likely be participants in the proposed MISO-PJM joint and common market.
Appendix A

Functions and Services by Region

The individual lists of functions and services currently provided by each RRC are included as follows:

1. Regionally Specific Criteria

Regional criteria exist which implement continent-wide reliability standards with more specificity and/or stringency. These criteria address the following functions:

<table>
<thead>
<tr>
<th>Functions</th>
<th>ECAR</th>
<th>ERCOT</th>
<th>FRCC</th>
<th>MAAC</th>
<th>MAIN</th>
<th>MAPP</th>
<th>MRO</th>
<th>NPCC</th>
<th>SERC</th>
<th>SPP</th>
<th>WECC</th>
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<tr>
<td>Evaluation and Simulated Testing of Power System</td>
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<td>Generation Control and Documentation</td>
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<td>Protection Systems</td>
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<td>Automated Load Shedding</td>
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* Lake Erie Emergency Redispatch
### 1a. Development of Regionally Specific Criteria

Characteristics of the processes used in each RRC to develop regionally specific criteria:

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<th>Functions</th>
<th>ECAR</th>
<th>ERCOT</th>
<th>FRCC</th>
<th>MAAC</th>
<th>MAIN</th>
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<tr>
<td>Requests for Changes to Criteria</td>
<td>Coordination Review Committee (representatives of members) to assign to appropriate Panel and reviews Panel work.</td>
<td>Any entity can submit to Protocol Review Subcommittee (PRS) which consists of stakeholder and ERCOT and PUC staff</td>
<td>Any member submit to process. Appropriate technical committee (open to all Members) reviews and approves for standards development. Includes posting for comments.</td>
<td>Any member submit to Operating Committee (OC) or Planning Committee (PC) or subcommittee (all committees are balanced stakeholder)</td>
<td>Referred to appropriate subcommittee (subcommittees are comprised of stakeholder volunteers)</td>
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<td>Groups Assigned to Draft Changes or New Criteria</td>
<td>Panel or working group (representatives of members) given time schedule and expected goal by CRC.</td>
<td>PRS in open meetings with voting by stakeholder segment</td>
<td>Appropriate sub-committee or committee</td>
<td>Appropriate sub-committee or working group (open to all Members) with technical expertise</td>
<td>Proposed to appropriate subcommittee (subcommittees are comprised of stakeholder volunteers)</td>
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<td>Comment Process</td>
<td>By the cognizant Panel and the CRC</td>
<td>Review by Market, Operating Reliability, Wholesale Market and Retail Market Subcommittees consisting of stakeholder members</td>
<td>Within groups</td>
<td>Posted for comments.</td>
<td>Proposals are distributed to all members. Process is not formally defined</td>
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<tr>
<td>Reviewed with NAESB Business Practices</td>
<td>ECAR Market Interface Committee (representative of members) considers this in its deliberations</td>
<td>None currently</td>
<td>Yes</td>
<td>Reviewed through Stakeholder input during process</td>
<td>No formal process</td>
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<tr>
<td>Reviewed with NERC Standards</td>
<td>Assigned Panel or working group considers this in their development work</td>
<td>ERCOT staff</td>
<td>Yes</td>
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<td>No formal process</td>
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<td>Field Testing</td>
<td>No</td>
<td>Where Applicable</td>
<td>No</td>
<td>Process Manager determines need</td>
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<td>Approval Process</td>
<td>CRC then Executive Board</td>
<td>PRS, then stakeholder Technical Advisory Committee, then Board of Directors</td>
<td>Subcommittee or committee (sector makeup)</td>
<td>2/3 majority vote of Members Committee</td>
<td>Subcommittee and OC, PC, and Market Interface Committees (see above for makeup)</td>
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<td>Ultimate Responsible Approval</td>
<td>Executive Board (representatives of members)</td>
<td>Boar of Directors - Hybrid with Independent, Stakeholder, ISO and PUC members</td>
<td>Board of Directors (sector Board)</td>
<td>Administrative Board (sector board)</td>
<td>Board of Directors (balanced stakeholder board)</td>
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<td>Implementation</td>
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<td>In accordance with implementation plans</td>
<td>As scheduled</td>
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<td>Appeal Process</td>
<td>Through the process</td>
<td>ERCOT alternate dispute resolution process and then PUC</td>
<td>FRCC Dispute Resolution Process</td>
<td>Use PJM Dispute Resolution Procedures</td>
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## 1a. Development of Regionally Specific Criteria (continued)

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<th>WECC</th>
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<td>Requests for Changes to Criteria</td>
<td>Any entity can submit to Compliance Office then screened by the Reliability Compliance Subcommittee (RCS), an elected subcommittee of the MAPP RRC</td>
<td>Any member or group within MRO. Also any party materially affected. Process with posting and comment to develop request. Standards Working Group (SWG) (appointed by Board, sector representation) manage process</td>
<td>Comments from public posted on Website</td>
<td>SERC develops supplements to NERC standards as necessary Generally assigned to a Standing Committee Subcommitte (Responsible SERC Subgroup (RSS)) RSS membership is open to RRC members</td>
<td>Any entity to any organizational group</td>
<td>Any WECC member, committee, subcommittee</td>
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<td>Groups Assigned to Draft Changes or New Criteria</td>
<td>Sent to Regional Reliability Committee (RRC), an elected committee of the MAPP Reliability Council (of small, large end use load members and transmission owners and users) Drafting changes submitted to the Operating and/or Planning subcommittees (elected), MAPP Reliability Council approves changes</td>
<td>Standard Drafting Team (SDT) setup by SWG</td>
<td>Lead Task Force (LTF) of technical expert membership responsible for document</td>
<td>RSS - Develops SERC Supplements</td>
<td>Referred to appropriate workgroup or taskforce (asigned by committee and open to all entities)</td>
<td>Workgroup or Task Force assigned by board</td>
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<td>Comment Process</td>
<td>Posted and considered by MTG, RRC, and RSC</td>
<td>Posted and considered by SDT</td>
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<td>SERC Standing Committees are responsible for commenting on Supplements</td>
<td>In workgroup or taskforce and in approval process</td>
<td>Posted and responsible subcommittee reviews</td>
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<td>Reviewed with NAESB Business Practices</td>
<td>RRC</td>
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<td>RSC and RRC</td>
<td>Ballot Body (7 segments)</td>
<td>Balanced Reliability Coordinating Committee (RCC) then member approval</td>
<td>Standing Committees (representatives from members)</td>
<td>Workgroup or task force then Markets and Operations Policy Committee (1 vote each member)</td>
<td>Standing Committee made up of representatives from all member entities</td>
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## 2. Regional Coordination of Planning and Operations

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* - operating reserve requirement

## 3. Regional Assessment of Reliability

RRCs assess the following aspects of reliability:

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<td>Regular Review of Practices, Procedures &amp;</td>
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4. Regional Compliance Monitoring and Enforcement

Regional compliance programs include the following attributes:

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<td>Regional Compliance with non-monetary sanctions</td>
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<td>Regional Compliance Reporting Procedures to Assess (e.g. Self Assessment)</td>
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<td>Registration and Certification of all entities with move to Functional Model</td>
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<td>Coordination with regional committees/subcommittees in developing Regional Compliance</td>
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Y - bylaws provide for monetary sanctions to be filed to FERC and other regulators

5. Other Regional Services

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* - PJM Dispute Resolution Process used
Appendix B

Proposed U.S. Electric Reliability Legislative Language

The Joint House-Senate Committee Conference Report Proposed Electric Reliability Legislative language (approved by the House 11/18/03), which was used as a reference for establishing fundamental principles for future reliability organizations, for considering future reliability functions and for analyzing alternative models, is as follows:

SEC. 1211. ELECTRIC RELIABILITY STANDARDS.
(a) IN GENERAL- Part II of the Federal Power Act (16 U.S.C 824 et seq.) is amended by adding at the end the following:

"SEC. 215. ELECTRIC RELIABILITY.
(a) DEFINITIONS- For purposes of this section:
  '(1) The term 'bulk-power system' means--
    '(A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and
    '(B) electric energy from generation facilities needed to maintain transmission system reliability.
  The term does not include facilities used in the local distribution of electric energy.
  '(2) The terms 'Electric Reliability Organization' and 'ERO' mean the organization certified by the Commission under subsection (c) the purpose of which is to establish and enforce reliability standards for the bulk-power system, subject to Commission review.
  '(3) The term 'reliability standard' means a requirement, approved by the Commission under this section, to provide for reliable operation of the bulk-power system. The term includes requirements for the operation of existing bulk-power system facilities and the design of planned additions or modifications to such facilities to the extent necessary to provide for reliable operation of the bulk-power system, but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.
  '(4) The term 'reliable operation' means operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance or unanticipated failure of system elements.
  '(5) The term 'Interconnection' means a geographic area in which the operation of bulk-power system components is synchronized such that the failure of 1 or more of such components may adversely affect the ability of the operators of other components within the system to maintain reliable operation of the facilities within their control.
  '(6) The term 'transmission organization' means a Regional Transmission Organization, Independent System Operator, independent transmission provider, or other transmission organization finally approved by the Commission for the operation of transmission facilities."
Future Role of the Regional Reliability Councils

'(7) The term `regional entity' means an entity having enforcement authority pursuant to subsection (e)(4).

(b) JURISDICTION AND APPLICABILITY- (1) The Commission shall have jurisdiction, within the United States, over the ERO certified by the Commission under subsection (c), any regional entities, and all users, owners and operators of the bulk-power system, including but not limited to the entities described in section 201(f), for purposes of approving reliability standards established under this section and enforcing compliance with this section. All users, owners and operators of the bulk-power system shall comply with reliability standards that take effect under this section.

'(2) The Commission shall issue a final rule to implement the requirements of this section not later than 180 days after the date of enactment of this section.

(c) CERTIFICATION- Following the issuance of a Commission rule under subsection (b)(2), any person may submit an application to the Commission for certification as the Electric Reliability Organization. The Commission may certify 1 such ERO if the Commission determines that such ERO--

'(1) has the ability to develop and enforce, subject to subsection (e)(2), reliability standards that provide for an adequate level of reliability of the bulk-power system; and

'(2) has established rules that--

'(A) assure its independence of the users and owners and operators of the bulk-power system, while assuring fair stakeholder representation in the selection of its directors and balanced decision making in any ERO committee or subordinate organizational structure;

'(B) allocate equitably reasonable dues, fees, and other charges among end users for all activities under this section;

'(C) provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties in accordance with subsection (e) (including limitations on activities, functions, or operations, or other appropriate sanctions);

'(D) provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties; and

'(E) provide for taking, after certification, appropriate steps to gain recognition in Canada and Mexico.

(d) RELIABILITY STANDARDS- (1) The Electric Reliability Organization shall file each reliability standard or modification to a reliability standard that it proposes to be made effective under this section with the Commission.

'(2) The Commission may approve, by rule or order, a proposed reliability standard or modification to a reliability standard if it determines that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest. The Commission shall give due weight to the technical expertise of the Electric Reliability Organization with respect to the content of a proposed standard or modification to a reliability standard and to the technical expertise of a regional entity organized on an Interconnection-wide basis with respect to a reliability standard to be applicable within that Interconnection, but shall not defer with respect to the effect of a standard on competition. A proposed standard or modification shall take effect upon approval by the Commission.

'(3) The Electric Reliability Organization shall rebuttably presume that a proposal from a regional entity organized on an Interconnection-wide basis for a reliability standard or
modification to a reliability standard to be applicable on an Interconnection-wide basis is just, reasonable, and not unduly discriminatory or preferential, and in the public interest.

(4) The Commission shall remand to the Electric Reliability Organization for further consideration a proposed reliability standard or a modification to a reliability standard that the Commission disapproves in whole or in part.

(5) The Commission, upon its own motion or upon complaint, may order the Electric Reliability Organization to submit to the Commission a proposed reliability standard or a modification to a reliability standard that addresses a specific matter if the Commission considers such a new or modified reliability standard appropriate to carry out this section.

(6) The final rule adopted under subsection (b)(2) shall include fair processes for the identification and timely resolution of any conflict between a reliability standard and any function, rule, order, tariff, rate schedule, or agreement accepted, approved, or ordered by the Commission applicable to a transmission organization. Such transmission organization shall continue to comply with such function, rule, order, tariff, rate schedule or agreement accepted approved, or ordered by the Commission until--

(A) the Commission finds a conflict exists between a reliability standard and any such provision;

(B) the Commission orders a change to such provision pursuant to section 206 of this part; and

(C) the ordered change becomes effective under this part.

If the Commission determines that a reliability standard needs to be changed as a result of such a conflict, it shall order the ERO to develop and file with the Commission a modified reliability standard under paragraph (4) or (5) of this subsection.

(e) ENFORCEMENT- (1) The ERO may impose, subject to paragraph (2), a penalty on a user or owner or operator of the bulk-power system for a violation of a reliability standard approved by the Commission under subsection (d) if the ERO, after notice and an opportunity for a hearing--

(A) finds that the user or owner or operator has violated a reliability standard approved by the Commission under subsection (d); and

(B) files notice and the record of the proceeding with the Commission.

(2) A penalty imposed under paragraph (1) may take effect not earlier than the 31st day after the ERO files with the Commission notice of the penalty and the record of proceedings. Such penalty shall be subject to review by the Commission, on its own motion or upon application by the user, owner or operator that is the subject of the penalty filed within 30 days after the date such notice is filed with the Commission. Application to the Commission for review, or the initiation of review by the Commission on its own motion, shall not operate as a stay of such penalty unless the Commission otherwise orders upon its own motion or upon application by the user, owner or operator that is the subject of such penalty. In any proceeding to review a penalty imposed under paragraph (1), the Commission, after notice and opportunity for hearing (which hearing may consist solely of the record before the ERO and opportunity for the presentation of supporting reasons to affirm, modify, or set aside the penalty), shall by order affirm, set aside, reinstate, or modify the penalty, and, if appropriate, remand to the ERO for further proceedings. The Commission shall implement expedited procedures for such hearings.

(3) On its own motion or upon complaint, the Commission may order compliance with a reliability standard and may impose a penalty against a user or owner or operator of the
bulk-power system if the Commission finds, after notice and opportunity for a hearing, that the user or owner or operator of the bulk-power system has engaged or is about to engage in any acts or practices that constitute or will constitute a violation of a reliability standard.

(4) The Commission shall issue regulations authorizing the ERO to enter into an agreement to delegate authority to a regional entity for the purpose of proposing reliability standards to the ERO and enforcing reliability standards under paragraph (1) if--

(A) the regional entity is governed by--

(i) an independent board;

(ii) a balanced stakeholder board; or

(iii) a combination independent and balanced stakeholder board.

(B) the regional entity otherwise satisfies the provisions of subsection (c)(1) and (2); and

(C) the agreement promotes effective and efficient administration of bulk-power system reliability.

The Commission may modify such delegation. The ERO and the Commission shall rebuttably presume that a proposal for delegation to a regional entity organized on an Interconnection-wide basis promotes effective and efficient administration of bulk-power system reliability and should be approved. Such regulation may provide that the Commission may assign the ERO's authority to enforce reliability standards under paragraph (1) directly to a regional entity consistent with the requirements of this paragraph.

(5) The Commission may take such action as is necessary or appropriate against the ERO or a regional entity to ensure compliance with a reliability standard or any Commission order affecting the ERO or a regional entity.

(6) Any penalty imposed under this section shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of such user, owner, or operator to remedy the violation in a timely manner.

(f) CHANGES IN ELECTRIC RELIABILITY ORGANIZATION RULES- The Electric Reliability Organization shall file with the Commission for approval any proposed rule or proposed rule change, accompanied by an explanation of its basis and purpose. The Commission, upon its own motion or complaint, may propose a change to the rules of the ERO. A proposed rule or proposed rule change shall take effect upon a finding by the Commission, after notice and opportunity for comment, that the change is just, reasonable, not unduly discriminatory or preferential, is in the public interest, and satisfies the requirements of subsection (c).

(g) RELIABILITY REPORTS- The ERO shall conduct periodic assessments of the reliability and adequacy of the bulk-power system in North America.

(h) COORDINATION WITH CANADA AND MEXICO- The President is urged to negotiate international agreements with the governments of Canada and Mexico to provide for effective compliance with reliability standards and the effectiveness of the ERO in the United States and Canada or Mexico.

(i) SAVINGS PROVISIONS- (1) The ERO shall have authority to develop and enforce compliance with reliability standards for only the bulk-power system.

(2) This section does not authorize the ERO or the Commission to order the construction of additional generation or transmission capacity or to set and enforce compliance with standards for adequacy or safety of electric facilities or services.
Future Role of the Regional Reliability Councils

(3) Nothing in this section shall be construed to preempt any authority of any State to take action to ensure the safety, adequacy, and reliability of electric service within that State, as long as such action is not inconsistent with any reliability standard.

(4) Within 90 days of the application of the Electric Reliability Organization or other affected party, and after notice and opportunity for comment, the Commission shall issue a final order determining whether a State action is inconsistent with a reliability standard, taking into consideration any recommendation of the ERO.

(5) The Commission, after consultation with the ERO and the State taking action, may stay the effectiveness of any State action, pending the Commission's issuance of a final order.

(j) REGIONAL ADVISORY BODIES- The Commission shall establish a regional advisory body on the petition of at least 2/3 of the States within a region that have more than 1/2 of their electric load served within the region. A regional advisory body shall be composed of 1 member from each participating State in the region, appointed by the Governor of each State, and may include representatives of agencies, States, and provinces outside the United States. A regional advisory body may provide advice to the Electric Reliability Organization, a regional entity, or the Commission regarding the governance of an existing or proposed regional entity within the same region, whether a standard proposed to apply within the region is just, reasonable, not unduly discriminatory or preferential, and in the public interest, whether fees proposed to be assessed within the region are just, reasonable, not unduly discriminatory or preferential, and in the public interest and any other responsibilities requested by the Commission. The Commission may give deference to the advice of any such regional advisory body if that body is organized on an Interconnection-wide basis.

(k) ALASKA AND HAWAII- The provisions of this section do not apply to Alaska or Hawaii.'.

(b) STATUS OF ERO- The Electric Reliability Organization certified by the Federal Energy Regulatory Commission under section 215(c) of the Federal Power Act and any regional entity delegated enforcement authority pursuant to section 215(e)(4) of that Act are not departments, agencies, or instrumentalities of the United States Government.