

Regional Reliability Standards Working Group

April 30, 2007 — 1–5 p.m. Eastern Time

WebEx and Conference Call

- ☎ Consortium conference server at phone number 1(732) 694-2061
Conference code is 1160043007
WebEx Meeting number: 714 515 648
WebEx Meeting password: standards

Agenda

1. Administrative Items

a) Introductions/Attendance

David Taylor will lead the welcome of the Regional Reliability Standards Working Group (RRSWG) members and guests. NERC RRSWG Roster (**Attachment 1a**)

Patrick Huntley — SERC Reliability Corporation
Robert (Bob) Millard — ReliabilityFirst Corporation
Steven Myers — Electric Reliability Council of Texas, Inc.
Farzaneh Tafreshi — Electric Reliability Council of Texas, Inc.
Mak Nagle — Southwest Power Pool
John E. Odom — Florida Reliability Coordinating Council
Kenneth Wilson — Western Electricity Coordinating Council
Guy V. Zito — Northeast Power Coordinating Council, Inc.
Larry Brusseau — Midwest Reliability Organization
David Taylor — North American Electric Reliability Corporation

b) Antitrust Compliance Guidelines

David Taylor will review the NERC Antitrust Compliance Guidelines provided in **Attachment 1b**. It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

c) Meeting Notes

The group will select a “volunteer” to take the notes for the meeting.

2) Review of Action Items from Last Meeting

David Taylor will review the action item list developed at the March 19–20, 2007 RRSWG meeting with the group:

Action Items	Status:	Assigned To:
<ul style="list-style-type: none"> Discuss the regions’ UFLS programs at the UFLS standards drafting team meeting. 	<p>Overviews of each region's UFLS program are to be provided at the initial meeting of the standard drafting team for Project 2007-01</p> <p>Remains Open</p>	RRSWG
<ul style="list-style-type: none"> NERC Regional Reliability Standards Evaluation Procedure - Dave is to correct bullet number 1 under step 2 to match the form. 	<p>At their March 13, 2007 meeting the Standards Committee voted for no involvement in regional standards development process. So the NERC Regional Reliability Standards Evaluation Procedure will be updated to correct bullet number 1 under step 2 to match the form at the end of the document. Also, Dave Taylor will change rules for urgent action such that a standard developed under an urgent action will remain a standard and will not expire after 1 year</p>	David Taylor

Action Items	Status:	Assigned To:
	Remains Open	
<ul style="list-style-type: none"> David Taylor is to provide the draft Scope of the RRSWG to the NERC technical writer for review and revision prior to the next RRSWG meeting. 	New	David Taylor
<ul style="list-style-type: none"> David Taylor is to check to see if RRSWG needs to follow rules of committee (governance) similar to OC/PC. 	New	David Taylor
<ul style="list-style-type: none"> David Taylor is to check with Cherie Broderick to understand how she is handling the Compliance Manager meetings as compared to how we are handling the RRSWG meetings including the frequency and face-to-face vs. Webex/conference call. 	New	David Taylor
<ul style="list-style-type: none"> David Taylor is to check to see on “Working Group” status is still appropriate for the group or if another designation should be used. 	New	David Taylor
<ul style="list-style-type: none"> David Taylor is to check to see if RRSWG scope needs to be approved by anyone. 	New	David Taylor
<ul style="list-style-type: none"> Taylor is to post the latest version of the NERC Regional Reliability Standards Evaluation Procedure on the Regional Standards portion of the NERC website. 	New	David Taylor
<ul style="list-style-type: none"> David Taylor is to update Appendix A of the NERC Regional Reliability Standards Evaluation Procedure to add more detail to the justification section of the submittal form for a request for a regional standard. 	New	David Taylor
<ul style="list-style-type: none"> All to discuss ways for creating more uniform standards across all the regions. For example, assigning regional coordinators to standard drafting teams, NERC identification of expectations for submittal of regional standard requests, increased level of detail needed for “procedures”, what is available for “tool boxes”, etc. 	New	All members of the RRSWG
<ul style="list-style-type: none"> David Taylor is to issue a letter requesting the regional entities to incorporate this numbering system into your regional reliability standards development process. 	New	David Taylor
<ul style="list-style-type: none"> Each region is to regularly check the website to ensure the information posted for their regions on the Regional Standards Under-development is up to date. 	New	All members of the RRSWG
<ul style="list-style-type: none"> Ken Wilson is to provide David Taylor with revisions to the WECC portion of the Regional Standards Under-development page. 	New	Ken Wilson
<ul style="list-style-type: none"> David Taylor to issue letter to each region requesting a catalog listing of all regional reliability criteria and further requesting each region notify NERC of changes to the listing. 	New	David Taylor
<ul style="list-style-type: none"> Each region to provide a catalog listing of regional reliability criteria. 	New	All members of the RRSWG
<ul style="list-style-type: none"> David Taylor to develop a rotation for assigning review of all posted standards and SARs for “fill-in-the-blank” characteristics and regional impacts. 	New	David Taylor

3) RRSWG Scope

At the March 19–20 RRSWG meeting the group discussed a draft scope for the RRSWG moving forward prepared by Pat Huntley. The scope was revised per the group’s discussion and will be presented to the group for endorsement (**Attachment 3**).

4) WECC Regional Standard Request – ATEC

On April 12, 2007, WECC posted for public comment a draft regional standard for Automatic Time Error Correction (**Attachment 4**). Ken Wilson will provide an overview of the standard for the group’s discussion.

5) NERC Regional Reliability Standards Web Page

David Taylor will review recent updates of NERC’s regional reliability Web page with the group. Each region will be asked if the information posted for their region on the Regional Standards Under Development page is up to date.

6) Regional Standard versus Regional Criteria

Each of the regions will present their catalog listing of regional reliability criteria to the group per the action item created at the March 19–20 RRSWG meeting.

7) Creating Uniform Regional Standards

David Taylor will discuss ways to improve the development of uniform standards across the regions. Included will be a discussion of potential tools and “tool box” for use by regional standards drafting teams. The group will create a list of action items for developing the tools needed by the regions in developing their regional standards.

8) RRSWG Review of Recent SAR and Standard Postings

At the March 19–20 meeting of the RRSWG the group agreed to begin reviewing all posted standards and SARs for “fill-in-the-blank” characteristics and regional impacts. David Taylor was given the authority to assign each posting to a single RRSWG representative who in turn will make a recommendation to the RRSWG for action (if any). David Taylor will present a rotation for assigning review of all posted standards and SARs for “fill-in-the-blank” characteristics and regional impacts.

- a) SAR for Project 2007-07 Vegetation Management – Since the rotation for assigning review of posted SARs and standards has not been discussed, the entire group is asked to review the SAR for Project 3007-07 Vegetation Management (**Attachment 8a**).

9) Review of Action Items

David Taylor will review the list of outstanding action items and action items generated during the meeting and confirm assignments:

Action Items	Status:	Assigned To:
<ul style="list-style-type: none">• Discuss the regions’ UFLS programs at the UFLS standards drafting team meeting.	Overviews of each region’s UFLS program are to be	RRSWG

Action Items	Status:	Assigned To:
	<p>provided at the initial meeting of the standard drafting team for Project 2007-01</p> <p>Remains Open</p>	
<ul style="list-style-type: none"> NERC Regional Reliability Standards Evaluation Procedure - Dave is to correct bullet number 1 under step 2 to match the form. 	<p>At their March 13, 2007 meeting the Standards Committee voted for no involvement in regional standards development process. So the NERC Regional Reliability Standards Evaluation Procedure will be updated to correct bullet number 1 under step 2 to match the form at the end of the document. Also, Dave Taylor will change rules for urgent action such that a standard developed under an urgent action will remain a standard and will not expire after 1 year</p> <p>Remains Open</p>	David Taylor
<ul style="list-style-type: none"> David Taylor is to provide the draft Scope of the RRSWG to the NERC technical writer for review and revision prior to the next RRSWG meeting. 	New	David Taylor
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Action Items	Status:	Assigned To:
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10)Next Steps

The group will discuss and identify the next steps and establish future meeting dates and locations.

Next meetings:

- May 22–23, 2007 — SPP offices (Little Rock, Arkansas)
1–5 p.m. Central Time on May 22
8 a.m.–3 p.m. Central Time on May 23
- June 29, 2007
10 a.m.–1 p.m. Eastern Time
WebEx and conference call

- August 1–2 — WECC offices (Salt Lake City, Utah)
1–5 p.m. Mountain Time on August 1
8 a.m.–3 p.m. Mountain Time on August 2
- September 4, 2007
1–5 p.m. Eastern Time
WebEx and conference call
- October 2–3, 2007 — FRCC offices (Tampa, Florida)
1–5 p.m. Eastern Time on October 2
8 a.m.–3 p.m. Eastern Time on October 3

Regional Reliability Standards Working Group

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NPCC	Guy V Zito Assistant Vice President of Standards	Northeast Power Coordinating Council, Inc. 1515 Broadway 43rd Floor New York, New York 10036	(212) 840-1070 (212) 302-2782 Fx gzito@npcc.org
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NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

NERC ANTITRUST COMPLIANCE GUIDELINES

I. GENERAL

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. PROHIBITED ACTIVITIES

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

Approved by NERC Board of Trustees, June 14, 2002
Technical revisions, May 13, 2005

III. ACTIVITIES THAT ARE PERMITTED

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation and Bylaws are followed in conducting NERC business. Other NERC procedures that may be applicable to a particular NERC activity include the following:

- Reliability Standards Process Manual
- Organization and Procedures Manual for the NERC Standing Committees
- System Operator Certification Program

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

Regional Reliability Standards Working Group (RRSWG) Scope

Purpose

The NERC Regional Reliability Standards Working Group (RRSWG) manages the development of specific regional reliability standards and the development of regional information for certain NERC reliability standards, as set forth in the Reliability Standards Work Plan: 207 — 2009. The group coordinates regional activities that are intrinsically related to the development of regional reliability standards between the eight regional entities, NERC staff, and industry volunteers working on NERC reliability standards.

Scope

The RRSWG was formed in April 2007 to develop a specific work plan to address fill-in-the-blank standards, the [Work Plan for Addressing Fill-In-The-Blank Reliability Standards](#). This plan was incorporated into the Reliability Standards Work Plan: 2207 — 2009, a plan to guide the development and coordination of all standards projects scheduled during the three-year time frame.

In December 2006, the focus shifted from developing a work plan, to providing support for the execution of the regional reliability standards activities in the three-year work plan for all standards projects. The RRSWG:

1. Promotes consistency and uniformity in regional reliability standards development, evaluation, and presentation
2. Identifies NERC reliability standard requirements that should be developed by the regions and filed through the ERO
3. Identifies NERC reliability standards with fill-in the-blank characteristics

Reporting

The RRSWG carries out its objectives within the confines of the Electric Reliability Organization's (ERO) Rules of Procedure, Section 300, and the NERC Antitrust Compliance Guidelines.

Activities

1. Review draft NERC reliability standards and Standard Authorization Requests (SARs) for potential fill-in the-blank characteristics and provide comments. This may include recommendations for the development of regional reliability standards.
2. Serve as the requester for a SAR for any project identified in Reliability Standards Work Plan: 2007 — 2009, resulting from a RRSWG recommendation absent any other requester for such SARs in the timeframe identified in the work plan (i.e., the RRSWG will not attempt to accelerate the time frame of a standard).
3. Review and provide comments to the NERC Manager of Regional Standards concerning the NERC Regional Reliability Standards Evaluation Procedure as needed.
4. Share knowledge among RRSWG members related to regional procedures and processes to develop and maintain regional reliability standards.
5. Share knowledge among RRSWG members related to regional standards under development.
6. Provide status reports to NERC subgroups (committees, working groups, task force, etc.), as appropriate.
7. Review and ensure accuracy of regional standards related information posted on the regional standards portion of the NERC website as required by the ERO legislation and/or other regulatory rulings.

Membership

The RRSWG membership consists of nine individuals, including the NERC staff manager of regional standards, and one representative from each regional entity. Each region appoints one RRSWG member to serve at the leisure of the region:

- [Electric Reliability Council of Texas](#)
- [Florida Reliability Coordinating Council](#)
- [Midwest Reliability Organization](#)
- [Northeast Power Coordinating Council](#)
- [ReliabilityFirst Corporation](#)
- [SERC Reliability Coordination](#)
- [Southwest Power Pool](#)
- [Western Electricity Coordinating Council](#)

RRSWG members may be asked to serve as a liaison to work alongside other NERC subgroups as appropriate. Subgroups include, but are not limited to, committees, working groups, and task forces.

Documentation

Information on all RRSWG activities and access to documents may be accessed from the NERC Website at http://www.nerc.com/~filez/regional_standards/. When and if each region establishes a regional Website, links to those documents will be added to this document.

Governance

Meetings

The RRSWG meets at least once every other month for half a day. NERC staff provides Webcasts between meetings as needed to facilitate business.

Chair

The RRSWG elects an individual to chair and facilitate the meetings. The RRSWG can elect the NERC staff Manager of Regional Standards to this position. The chair:

- Facilitates meetings and Webcasts
- Develop agendas

The RRSWG elects an individual to serve as the vice chair.

Each position is held for a two-year term that commences on July 1 of the appointment year and end on June 30 of the second year. The vice chair will succeed the chair.

NERC Staff

NERC staff provides support to the RRSWG, and will arrange the RRSWG meetings and Webcasts, and maintain official RRSWG minutes and other records.

Voting

RRSWG makes its decisions and recommendations generally by consensus. If a vote is required, each member, except for the NERC staff member(s), shall have one vote. Approval of any motion or a vote requires a quorum of the RRSWG members present at a scheduled meeting or Webcast. For the purposes of the RRSWG, a quorum consists of a simple majority of the full RRSWG membership. Proxies are permitted.

Standard BAL-STD-004-1 — Automatic Time Error Correction

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:**Description of Current Draft:**

The Automatic Time Error Correction (ATEC) component is now included in the NI_s term instead of as a separate term in the ACE equation. This only changes the order of the terms in the ATEC ACE equation, not the calculated ACE.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Post Draft Standard for initial industry comments	October, 2006
2. Drafting Team to review and respond to initial industry comments	December, 2006
3. WECC ballots proposed standard	January, 2007
4. Revised standard posted for comments	April, 2007

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these definitions will be removed from the standard and added to the Glossary.

Automatic Time Error Correction: A frequency control automatic action that a Balancing Authority uses to offset its frequency contribution to support the Interconnection's scheduled frequency.

Primary Inadvertent Interchange: The component of area (n) inadvertent interchange caused by the regulating deficiencies of the area (n).

Secondary Inadvertent Interchange: The component of area (n) inadvertent interchange caused by the regulating deficiencies of area (i).

A. Introduction

Title: Automatic Time Error Correction

Number: BAL-STD-004-1

Purpose: To maintain Interconnection frequency within a predefined frequency profile under all conditions (i.e. normal and abnormal), and to ensure that Time Error Corrections are *effectively* conducted in a manner that does not adversely affect the reliability of the Interconnection.

Applicability:

1. Balancing Authorities (BA) that operate synchronously to the Western Interconnection.

Effective Date: On the first day of the first quarter, after applicable regulatory approval.

B. Requirements

R1. Each BA that operates synchronously to the Western Interconnection shall continuously operate utilizing Automatic Time Error Correction (ATEC) in its Automatic Generation Control (AGC) system. [Risk Factor: Lower]

$$ACE_{ATEC} = (NI_A - NI'_S) - 10B_i(F_A - F_S) - T_{ob} + I_{ME}$$

Where:

NI_A = Net Interchange Actual (MW).

F_A = Frequency Actual (Hz).

F_S = Frequency Scheduled (Normally 60 Hz).

B_i = Frequency Bias for the Balancing Authority's Area (MW / 0.1 Hz).

T_{ob} = Remaining Bilateral Payback for Inadvertent Interchange created prior to implementing automatic payback (MW).

I_{ME} = Meter Error Correction (MW).

$$NI'_S = NI_S - \frac{\Pi_{Primary}^{on/off\ peak}}{(1 - Y) * H}$$

NI_S = Net Interchange Scheduled (MW).

$Y = B_i / B_S$.

H = Number of Hours used to payback Inadvertent Interchange Energy. The WECC Performance Work Group has set the value of H to 3.

B_S = Frequency Bias for the Interconnection (MW / 0.1 Hz).

$\Pi_{primary}^{on/off\ peak}$ = is the Balancing Authority's accumulated primary inadvertent interchange in MWh. An On-Peak and Off-Peak accumulation accounting is required.

Where:

$$\Pi_{primary}^{on/off\ peak} = \text{last period's } \Pi_{primary}^{on/off\ peak} + (1 - Y) * (\Pi_{actual} - B_i * \Delta TE / 6)$$

Π_{actual} is the hourly Inadvertent Interchange for the last hour.

ΔTE is the hourly change in system Time Error as distributed by the Interconnection Time Monitor.

Where:

$$\Delta TE = TE_{\text{end hour}} - TE_{\text{begin hour}} - TD_{\text{adj}} - (t) \cdot (TE \text{ offset})$$

TD_{adj} is any operator adjustment to the control center Time Error to correct for differences with the time monitor.

t is the number of minutes of Manual Time Error Correction that occurred during the hour.

$TE \text{ offset}$ is 0.000 or +0.020 or -0.020.

R1.1. The absolute value of the WECC Automatic Time Error Correction term is limited as follows:

$$\left| \frac{\prod_{\text{primary}}^{\text{on/off peak}}}{(1-Y) \cdot H} \right| \leq L_{\text{max}}$$

Where L_{max} is chosen by the Balancing Authority and is bounded as follows:

$$0.20 * |B_i| \leq L_{\text{max}} \leq L_{10}$$

L_{10} is the Balancing Authority CPS2 limit in MW. If the WECC Automatic Time Error Correction term is less than the upper limit, use the calculated WECC Automatic Time Error Correction term.

R1.2. Large accumulations of primary inadvertent point to an invalid implementation of ATEC, loose control, metering or accounting errors. A BA in such a situation should identify the source of the error(s) and make the corrections, recalculate the primary inadvertent from the time of the error, adjust the accumulated primary inadvertent caused by the error(s), validate the implementation of ATEC, set L_{max} equal to L_{10} and continue to operate with ATEC reducing the accumulation as system parameters allow.

R2. Each BA that is synchronously connected to the Western Interconnection and operates in any AGC operating mode other than ATEC shall notify all other BAs of its operating mode through the designated Interconnection communication system. Each BA while synchronously connected to the Western Interconnection will be allowed to have ATEC out of service for a maximum of 24 hours per calendar quarter, for reasons including maintenance and testing. [Risk Factor: Lower]

R3. BAs in the Western Interconnection shall be able to change their AGC operating mode between Flat Frequency (for blackout restoration); Flat Tie Line (for loss of frequency telemetry); Tie Line Bias; Tie Line Bias plus Time Error control (used in ATEC mode). The ACE used for NERC reports shall be the same ACE as the AGC operating mode in use. [Risk Factor: Lower]

R4. Regardless of the AGC operating mode each BA in the Western Interconnection shall compute its hourly Primary Inadvertent Interchange when hourly checkout is complete. If hourly checkout is not complete by 50 minutes after the hour, compute Primary Inadvertent Interchange with best available data. This hourly value shall be added to the appropriate accumulated Primary Inadvertent Interchange balance for either On-Peak or Off-Peak periods. [Risk Factor: Lower]

R4.1. Each BA in the Western Interconnection shall use the change in Time Error distributed by the Interconnection Time Monitor.

R4.2. All corrections to any previous hour Primary Inadvertent Interchange shall be added to the appropriate On- or Off-Peak accumulated Primary Inadvertent Interchange.

- R4.3.** Month end Inadvertent Adjustments are 100% Primary Inadvertent Interchange and shall be added to the appropriate On- or Off-Peak accumulated Primary Inadvertent Interchange, unless such adjustments can be pinpointed to specific hours in which case R4.2 applies.
- R4.4.** Each BA in the Western Interconnection shall synchronize its Time Error to the nearest 0.001 seconds of the system Time Error by comparing its reading at the designated time each day to the reading broadcast by the Interconnection Time Monitor. Any difference shall be applied as an adjustment to its current Time Error.

C. Measures

- M1.** For Requirement R1, a BA shall provide upon request a document showing that it is correctly calculating its hourly Primary Inadvertent Interchange number that is used to calculate its accumulated Primary Inadvertent Interchange and how it is used in its ACE equation for Automatic Time Error Correction.
- M2.** For Requirement R2, a BA shall record the date, time, reason, and notification [to other BAs within the Western Interconnection] for any time it is not operating utilizing Automatic Time Error Correction (ATEC) in its AGC system.
- M3.** For Requirement R3, a BA in the Western Interconnection must be able to demonstrate its ability to change its AGC operating mode when requested or during compliance audits and readiness reviews.
- M4.** For Requirement R4, a BA in the Western Interconnection must record its hourly Primary Inadvertent Interchange and keep an accurate record of its accumulation of Primary Inadvertent Interchange for both On-Peak and Off-Peak accounts. These records must be available for review when requested or during compliance audits and readiness reviews.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Entity

Compliance Monitoring Period and Reset time Frame

The reporting period for ATEC is one calendar quarter, starting on the first second of the quarter and ending on the final second of the quarter.

The Performance-reset Period is one calendar quarter.

1.2. Data Retention

Each Balancing Authority in the Western Interconnection shall retain its hourly calculation of total and Primary Inadvertent Interchange calculated hourly, as well as the amount of Primary Inadvertent paid back hourly for the preceding calendar year (January – December) plus the current year.

Each Balancing Authority in the Western Interconnection shall retain its total accumulated Inadvertent and total Primary Inadvertent, updated hourly, for On- and Off-Peak for the preceding calendar year (January – December) plus the current year.

Each Balancing Authority in the Western Interconnection shall retain its record of the amount of time it operated without ATEC and the notification to the Interconnection of these times for the preceding calendar year (January – December) plus the current year.

The Compliance Monitor shall retain audit data for three calendar years.

1.3. Additional Compliance Information

The Compliance Monitor shall use quarterly data to monitor compliance. The Compliance Monitor may also use periodic audits (on site, per a schedule), with spot reviews and investigations initiated in response to a complaint to assess performance.

The Balancing Authority in the Western Interconnection shall have the following documentation available for its Compliance Monitor to inspect during a scheduled, on-site review or within five business days of a request as part of a triggered investigation:

- 1.3.1. Source data for calculating Primary Inadvertent.
- 1.3.2. Data showing On- and Off-Peak Primary Inadvertent accumulations.
- 1.3.3. Data showing hourly payback of Primary Inadvertent.
- 1.3.4. Documentation on number of times not on ATEC and reasons for going off ATEC.

2. Violation Severity Levels

- 2.1. Lower:** Time not in ATEC Mode greater than one day and less than or equal to three days, or if a Balancing Authority in the Western Interconnection operates without ATEC and does not notify other Balancing Authorities in the Western Interconnection 2 times in quarter.
- 2.2. Moderate:** Time not in ATEC Mode greater than three days and less than or equal to five days, or if a Balancing Authority in the Western Interconnection operates without ATEC and does not notify other Balancing Authorities in the Western Interconnection 3 times in quarter.
- 2.3. High:** Time not in ATEC Mode greater than five days and less than or equal to seven days, or if a Balancing Authority in the Western Interconnection operates without ATEC and does not notify other Balancing Authorities in the Western Interconnection 4 times in quarter.
- 2.4. Severe:** Time not in ATEC Mode greater than seven days, or if a Balancing Authority in the Western Interconnection operates without ATEC and does not notify other Balancing Authorities in the Western Interconnection more than 4 times in quarter or Balancing Authority in the Western Interconnection cannot change AGC operating mode or Balancing Authority in the Western Interconnection incorrectly calculates Primary Inadvertent.

Version History

Version	Date	Action	Change Tracking
1	February 4, 2003	Effective Date.	New
1	October 17, 2006	Created Standard from Procedure.	Errata
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Standard BAL-STD-004-1 — Automatic Time Error Correction

Standard Development Roadmap

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed:

Description of Current Draft:

The Automatic Time Error Correction (ATEC) component is now included in the NI_s term instead of as a separate term in the ACE equation. This only changes the order of the terms in the ATEC ACE equation, not the calculated ACE.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. Post Draft Standard for initial industry comments	October, 2006
2. Drafting Team to review and respond to initial industry comments	December, 2006
3. WECC ballots proposed standard	January, 2007
4. Revised standard posted for comments	April, 2007

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these definitions will be removed from the standard and added to the Glossary.

Automatic Time Error Correction: A frequency control automatic action that a Balancing Authority uses to offset its frequency contribution to support the Interconnection's scheduled frequency.

Primary Inadvertent Interchange: The component of area (n) inadvertent interchange caused by the regulating deficiencies of the area (n).

Secondary Inadvertent Interchange: The component of area (n) inadvertent interchange caused by the regulating deficiencies of area (i).

A. Introduction

Title: Automatic Time Error Correction

Number: BAL-STD-004-1

Purpose: To maintain Interconnection frequency within a predefined frequency profile under all conditions (i.e. normal and abnormal), and to ensure that Time Error Corrections are *effectively* conducted in a manner that does not adversely affect the reliability of the Interconnection.

Applicability:

1. Balancing Authorities (BA) that operate synchronously to the Western Interconnection.

Effective Date: On the first day of the first quarter, after applicable regulatory approval.

B. Requirements

R1. Each BA that operates synchronously to the Western Interconnection shall continuously operate utilizing Automatic Time Error Correction (ATEC) in its Automatic Generation Control (AGC) system. [Risk Factor: Lower]

$$ACE_{ATEC} = (NI_A - NI'_S) - 10B_i(F_A - F_S) - T_{ob} + I_{ME}$$

Where:

NI_A = Net Interchange Actual (MW).

F_A = Frequency Actual (Hz).

F_S = Frequency Scheduled (Normally 60 Hz).

B_i = Frequency Bias for the Balancing Authority's Area (MW / 0.1 Hz).

T_{ob} = Remaining Bilateral Payback for Inadvertent Interchange created prior to implementing automatic payback (MW).

I_{ME} = Meter Error Correction (MW).

$$NI'_S = NI_S - \frac{\Pi_{Primary}^{on/off\ peak}}{(1 - Y) * H}$$

NI_S = Net Interchange Scheduled (MW).

$Y = B_i / B_S$.

H = Number of Hours used to payback Inadvertent Interchange Energy. The WECC Performance Work Group has set the value of H to 3.

B_S = Frequency Bias for the Interconnection (MW / 0.1 Hz).

$\Pi_{primary}^{on/off\ peak}$ = is the Balancing Authority's accumulated primary inadvertent interchange in MWh. An On-Peak and Off-Peak accumulation accounting is required.

Where:

$$\Pi_{primary}^{on/off\ peak} = \text{last period's } \Pi_{primary}^{on/off\ peak} + (1 - Y) * (\Pi_{actual} - B_i * \Delta TE / 6)$$

Π_{actual} is the hourly Inadvertent Interchange for the last hour.

ΔTE is the hourly change in system Time Error as distributed by the Interconnection Time Monitor.

Where:

$$\Delta TE = TE_{\text{end hour}} - TE_{\text{begin hour}} - TD_{\text{adj}} - (t) * (TE \text{ offset})$$

TD_{adj} is any operator adjustment to the control center Time Error to correct for differences with the time monitor.

t is the number of minutes of Manual Time Error Correction that occurred during the hour.

$TE \text{ offset}$ is 0.000 or +0.020 or -0.020.

R1.1. The absolute value of the WECC Automatic Time Error Correction term is limited as follows:

$$\left| \frac{\prod_{\text{primary}}^{\text{on/off peak}}}{(1-Y) \cdot H} \right| \leq L_{\text{max}}$$

Where L_{max} is chosen by the Balancing Authority and is bounded as follows:

$$0.20 * |B_i| \leq L_{\text{max}} \leq L_{10}$$

L_{10} is the Balancing Authority CPS2 limit in MW. If the WECC Automatic Time Error Correction term is less than the upper limit, use the calculated WECC Automatic Time Error Correction term.

R1.2. Large accumulations of primary inadvertent point to an invalid implementation of ATEC, loose control, metering or accounting errors. A BA in such a situation should identify the source of the error(s) and make the corrections, recalculate the primary inadvertent from the time of the error, adjust the accumulated primary inadvertent caused by the error(s), validate the implementation of ATEC, set L_{max} equal to L_{10} and continue to operate with ATEC reducing the accumulation as system parameters allow.

R2. Each BA that is synchronously connected to the Western Interconnection and operates in any AGC operating mode other than ATEC shall notify all other BAs of its operating mode through the designated Interconnection communication system. Each BA while synchronously connected to the Western Interconnection will be allowed to have ATEC out of service for a maximum of 24 hours per calendar quarter, for reasons including maintenance and testing. [Risk Factor: Lower]

R3. BAs in the Western Interconnection shall be able to change their AGC operating mode between Flat Frequency (for blackout restoration); Flat Tie Line (for loss of frequency telemetry); Tie Line Bias; Tie Line Bias plus Time Error control (used in ATEC mode). The ACE used for NERC reports shall be the same ACE as the AGC operating mode in use. [Risk Factor: Lower]

R4. Regardless of the AGC operating mode each BA in the Western Interconnection shall compute its hourly Primary Inadvertent Interchange when hourly checkout is complete. If hourly checkout is not complete by 50 minutes after the hour, compute Primary Inadvertent Interchange with best available data. This hourly value shall be added to the appropriate accumulated Primary Inadvertent Interchange balance for either On-Peak or Off-Peak periods. [Risk Factor: Lower]

R4.1. Each BA in the Western Interconnection shall use the change in Time Error distributed by the Interconnection Time Monitor.

R4.2. All corrections to any previous hour Primary Inadvertent Interchange shall be added to the appropriate On- or Off-Peak accumulated Primary Inadvertent Interchange.

- R4.3.** Month end Inadvertent Adjustments are 100% Primary Inadvertent Interchange and shall be added to the appropriate On- or Off-Peak accumulated Primary Inadvertent Interchange, unless such adjustments can be pinpointed to specific hours in which case R4.2 applies.
- R4.4.** Each BA in the Western Interconnection shall synchronize its Time Error to the nearest 0.001 seconds of the system Time Error by comparing its reading at the designated time each day to the reading broadcast by the Interconnection Time Monitor. Any difference shall be applied as an adjustment to its current Time Error.

C. Measures

- M1.** For Requirement R1, a BA shall provide upon request a document showing that it is correctly calculating its hourly Primary Inadvertent Interchange number that is used to calculate its accumulated Primary Inadvertent Interchange and how it is used in its ACE equation for Automatic Time Error Correction.
- M2.** For Requirement R2, a BA shall record the date, time, reason, and notification [to other BAs within the Western Interconnection] for any time it is not operating utilizing Automatic Time Error Correction (ATEC) in its AGC system.
- M3.** For Requirement R3, a BA in the Western Interconnection must be able to demonstrate its ability to change its AGC operating mode when requested or during compliance audits and readiness reviews.
- M4.** For Requirement R4, a BA in the Western Interconnection must record its hourly Primary Inadvertent Interchange and keep an accurate record of its accumulation of Primary Inadvertent Interchange for both On-Peak and Off-Peak accounts. These records must be available for review when requested or during compliance audits and readiness reviews.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Regional Entity

Compliance Monitoring Period and Reset time Frame

The reporting period for ATEC is one calendar quarter, starting on the first second of the quarter and ending on the final second of the quarter.

The Performance-reset Period is one calendar quarter.

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Standards Authorization Request Form

Standard Authorization Request Form

Revisions to FAC-003-1 Transmission Vegetation Management Program Project 2007-07	
Request Date	January 9, 2007
Revised Date	April 2, 2007

SAR Requestor Information	SAR Type (<i>Check a box for each one that applies.</i>)
Name Richard Dearman	<input type="checkbox"/> New Standard
Primary Contact Richard Dearman	<input checked="" type="checkbox"/> Revision to existing Standard
Telephone (256) 851-3523 Fax	<input type="checkbox"/> Withdrawal of existing Standard
E-mail redearman@tva.gov	<input type="checkbox"/> Urgent Action

<p>Purpose/Industry Need (Describe the purpose of the standard — what the standard will achieve in support of reliability.)</p> <p>The purpose of revising this standard is to:</p> <ol style="list-style-type: none"> 1. Provide an adequate level of reliability for the North American electric transmission system – by verifying that the standard is complete and that its requirements are set at an appropriate level to ensure reliability. 2. Incorporate other general improvements described in the attached Standard Review Guidelines to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines. 3. Consider comments received from ERO regulatory authorities and stakeholders, as noted in the attached review sheets. 4. Satisfy the standards procedure requirement for five-year review of the standards.

Detailed Description

This is a new standard that was approved in 2006. It has some 'fill-in-the-blank' components to eliminate. In addition, the following comments submitted by FERC and stakeholders need to be addressed in the refinement of the standard:

FERC Order 693 items

1. To address the issue regarding applicability:
 - The Standard DT shall work with the reliability entities and the ERO to collect and make available to the FERC, a list of critical lower voltage transmission lines. (Refer to Applicability 4.3 section of the standard.)
 - The standard DT may consider other criteria in determining applicability of the standard to sub 200kV lines.
2. To address the issue of clearances for lines on both federal and non-federal lands:
 - The standard drafting team shall collect and analyze outage data then consider defining clearances needed to avoid sustained vegetation-related outages that would apply to transmission lines crossing both federal and non-federal land.
3. To consider revising the definition of right of way to encompass required clearance areas.
4. To review the suitability of IEEE 516-2003 standard for minimum vegetation clearance.

Procedural items

5. Re-format standard to bring it into conformance with the latest version of the Reliability Standard Development Procedure and the ERO Sanctions Guidelines.
6. Remove references to RRO in the standard and substitute a responsible entity.
7. Add compliance elements such as time horizons, and violation severity levels.

Stakeholder items

8. The Standard DT shall prepare technical reference material such as a "white paper" to aid in understanding the technical basis for the standard.
9. The Standard DT shall review reporting criteria for Category 3 outages in the proposed technical reference material and may remove the reporting requirement of Category 3 outages in R.3 and R.4.
10. The Standard DT shall consider deleting requirement R.4.
11. The Standard DT will review the reporting exemptions to include all category outages under major disasters in Requirement R3.2.

Standards Authorization Request Form

Reliability Functions

The Standard will Apply to the Following Functions <i>(Check box for each one that applies.)</i>		
<input type="checkbox"/>	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
<input type="checkbox"/>	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports interconnection frequency in real time.
<input type="checkbox"/>	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced Interchange Schedules between Balancing Authority Areas.
<input type="checkbox"/>	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area..
<input type="checkbox"/>	Resource Planner	Develops a (>one year) plan for the resource adequacy of specific loads within a Planning Coordinator Area.
<input type="checkbox"/>	Transmission Planner	Develops a (>one year) plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator Area.
<input type="checkbox"/>	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input checked="" type="checkbox"/>	Transmission Owner	Owns and maintains transmission facilities.
<input type="checkbox"/>	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/>	Distribution Provider	Delivers electrical energy to the End-use customer.
<input type="checkbox"/>	Generator Owner	Owns and maintains generation facilities.
<input type="checkbox"/>	Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/>	Purchasing-Selling Entity	Purchases or sells energy, capacity, and all necessary reliability-related services as required.
<input type="checkbox"/>	Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/>	Load-Serving Entity	Secures energy and transmission (and related reliability-related services) to serve the End-use Customer.

Standards Authorization Request Form

Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
<input type="checkbox"/>	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all the following Market Interface Principles? <i>(Select "yes" or "no" from the drop-down box.)</i>	
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes	
2. An Organization Standard shall not give any market participant an unfair competitive advantage. Yes	
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes	
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes	
5. An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes	

Standards Authorization Request Form

Related Standards

Standard No.	Explanation

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Standard Review Guidelines

Applicability

Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose

Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements

Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability

Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations

Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness

Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Consequences for Noncompliance

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language

Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality

Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements

In general, requirements for entities to have ‘capabilities’ (this would include facilities for communication, agreements with other entities, etc.) should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to ‘maintain’ their capabilities.

Consistent Terminology

To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a ‘unique’ definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the ‘verb list’ from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of

failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures;

or a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. A requirement that is administrative in nature;

or a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

Time Horizon

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- Long-term Planning — a planning horizon of one year or longer.
- Operations Planning — operating and resource plans from day-ahead up to and including seasonal.
- Same-day Operations — routine actions required within the timeframe of a day, but not real-time.
- Real-time Operations — actions required within one hour or less to preserve the reliability of the bulk electric system.
- Operations Assessment — follow-up evaluations and reporting of real time operations.

Violation Severity Levels

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replace existing 'levels of non-compliance.')

The violation severity levels may be applied for each requirement or combined to cover multiple requirements, as long as it is clear which requirements are included.

The violation severity levels should be based on the following definitions:

- Lower: mostly compliant with minor exceptions — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details. Equivalent score: 95% to 99% compliant.
- Moderate: mostly compliant with significant exceptions — The responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements. Equivalent score: 85% to 94% compliant.
- High: marginal performance or results — The responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements. Equivalent score: 70% to 84% compliant.
- Severe: poor performance or results — The responsible entity has failed to meet the reliability objective of the requirement. Equivalent score: less than 70% compliant.

Compliance Monitor

Replace, 'Regional Reliability Organization' with 'Regional Entity'.

Fill-in-the-blank Requirements

Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization

Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity.

Effective Dates

Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan.

Associated Documents

If there are standards that are referenced within a standard, list the full name and number of the standard under the section called, 'Associated Documents'.

Functional Model Version 3

Review the requirements against the latest descriptions of the responsibilities and tasks assigned to functional entities as provided in pages 13 through 53 of the draft Functional Model Version 3.