



April 7, 2009

**VIA OVERNIGHT MAIL**

Claudine Dutil-Berry, Secretary of the Board  
National Energy Board  
444 Seventh Avenue SW  
Calgary, Alberta  
T2P 0X8

Re: *North American Electric Reliability Corporation*

Dear Ms. Dutil-Berry:

The North American Electric Reliability Corporation (“NERC”) hereby submits this filing seeking approval for one Reliability Standard: BAL-004-1 — Time Error Correction that is contained in **Exhibit A** to this petition. This proposed Reliability Standard BAL-004-1 supersedes the BAL-004-0 Reliability Standard.

This proposed standard was approved by the NERC Board of Trustees on March 26, 2008. NERC requests that BAL-004-1 be made effective in accordance with the effective date provisions set forth in the proposed Reliability Standard.

NERC’s petition consists of the following:

- This transmittal letter;
  - A table of contents for the entire petition;
  - A narrative description justifying the proposed Reliability Standard;
  - Reliability Standard BAL-004-1 submitted for approval (**Exhibit A**); and
  - The complete development record of the proposed Reliability Standard (**Exhibit B**).
- “Time Monitoring Reference Document” (**Exhibit C**).

Ms. Claudine Dutil-Berry  
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Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Rebecca J. Michael

Rebecca J. Michael

*Assistant General Counsel for North  
American Electric Reliability  
Corporation*

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**BEFORE THE  
NATIONAL ENERGY BOARD**

**NORTH AMERICAN ELECTRIC                    )  
RELIABILITY CORPORATION                 )**

**PETITION OF THE  
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION  
FOR APPROVAL OF BAL-004-1 RELIABILITY STANDARD**

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April 7, 2009

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## **I. INTRODUCTION**

The North American Electric Reliability Corporation (“NERC”) hereby requests approval of one Reliability Standard, BAL-004-1 — Time Error Correction Reliability Standard. This proposed Reliability Standard is intended to supersede the existing BAL-004-0 Reliability Standard.

The principal purpose of this change is to ensure that Interconnection Time Monitors, who undertake to perform that task on a voluntary basis on behalf of the entire Interconnection, will continue in that role during the time NERC and the industry are considering, through the standards development process, significant changes in how to manage Time Error Correction. The change removes the requirement for an entity, Reliability Coordinator and Interconnection Time Monitor, to comply with the North American Energy Standards Board (“NAESB”) business practices. Currently, the Midwest ISO performs this service for the Eastern Interconnection, the Electric Reliability Council of Texas, Inc. (“ERCOT”) for the Texas Interconnection and the Western Electricity Coordinating Council (“WECC”) for the Western Interconnection.

On March 26, 2008, the NERC Board of Trustees approved BAL-004-1 Reliability Standard proposed by NERC. NERC requests approval of the Reliability Standard and make it effective in accordance with the effective date provisions set forth in the proposed Reliability Standard. **Exhibit A** to this filing sets forth the proposed Reliability Standard. **Exhibit B** contains the complete development record of the Reliability Standard. **Exhibit C** contains a reference document, “Time Monitoring Reference Document,” which was prepared to support and supplement the implementation of the proposed Reliability Standard.

NERC also filed this Reliability Standard with the Federal Energy Regulatory Commission (“FERC”) and with the other applicable governmental authorities in Canada.

## **II. NOTICES AND COMMUNICATIONS**

Notices and communications with respect to this filing may be addressed to the following:

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## **III. BACKGROUND**

### **a. Reliability Standards Development Procedure**

NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC *Reliability Standards Development Procedure*, which is incorporated into the Rules of Procedure as Appendix 3A.<sup>1</sup> NERC’s proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards and thus satisfies certain of the criteria for approving Reliability Standards.

The development process is open to any person or entity with a legitimate interest in the reliability of the bulk power system. NERC considers the comments of all

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<sup>1</sup> See NERC’s *Reliability Standards Development Procedure*, Approved by the NERC Board of Trustees on March 12, 2007, and Effective June 7, 2007 (“Reliability Standards Development Procedure”), available at [http://www.nerc.com/files/Appendix3A\\_StandardsDevelopmentProcess.pdf](http://www.nerc.com/files/Appendix3A_StandardsDevelopmentProcess.pdf).

stakeholders, and a vote of stakeholders and the NERC Board of Trustees is required to approve a Reliability Standard for submission to the applicable governmental authorities.

The proposed Reliability Standard set out in **Exhibit A** has been developed and approved by industry stakeholders using NERC's *Reliability Standards Development Procedure*, and it was approved by the NERC Board of Trustees on March 26, 2008 for filing with the applicable governmental authorities.

The proposed Reliability Standard is accompanied by a document entitled "Time Monitoring Reference Document." This document is set out in **Exhibit C**, and supports the changes in requirements being proposed in the BAL-004-1 Reliability Standard. This document is presented for informational purposes only, and NERC is not requesting approval of the Reference Document.

#### **b. Progress in Improving Proposed Reliability Standards**

NERC continues to develop new and revised Reliability Standards that address the issues NERC identified in its initial filing of proposed Reliability Standards on April 4, 2006. NERC has incorporated these activities into its *Reliability Standards Development Plan: 2009-2011*, which was submitted to FERC on February 3, 2009, and which will be filed with the applicable governmental authorities in Canada. The Reliability Standard proposed for approval addresses a key reliability goal that was not directly subject to governmental review during NERC's filings of its Reliability Standards. Because the proposed Reliability Standard is completed and approved, it is not included in NERC's current version of the standards development work plan.

#### **IV. JUSTIFICATION FOR APPROVAL OF PROPOSED RELIABILITY STANDARD**

This section summarizes the development of the proposed Reliability Standard and provides evidence that the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential and in the public interest. This section also describes the reliability objectives to be achieved by approving the Reliability Standard. In addition, this section discusses the stakeholder ballot results and how balloter comments were considered and addressed.

The complete development record for the proposed Reliability Standard is available in **Exhibit B**. This record includes the draft of the Standard Authorization Request (“SAR”) and Reliability Standard as proposed by the requester, the ballot pool and the final ballot results by registered ballot body members, stakeholder comments received during the development of the Reliability Standard and how those comments were considered in developing the Reliability Standard.

##### **a. Basis and Purpose of BAL-004-1 — Time Error Correction**

The purpose of the proposed Reliability Standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection. Time error is created when an Interconnection operates on the aggregate at a frequency different than the intended 60 Hertz or cycles. Time error itself is not a reliability issue. NAESB has developed a business practice standard to correct for time error, and the Interconnection Time Monitor is responsible for monitoring time error in accordance with NAESB standards and initiating corrective procedures. While time error itself is not a reliability issue, correcting for time error can affect reliability, and therefore the methods used for Time Error Correction must be carried out by the Balancing



Authorities and the Reliability Coordinators in each Interconnection in accordance with NERC Reliability Standards. To correct time error per NERC Reliability Standard BAL-004-0 and proposed standard BAL-004-1, Balancing Authorities are directed to offset their frequency schedule. Currently, the requirements in BAL-004-0 — Time Error Correction state:

**BAL-004-0 — Time Error Correction**

- R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.
- R2.** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.
- R3.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:
  - R3.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or
  - R3.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e. 20% of the Frequency Bias Setting).
- R4.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.
  - R4.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

The Reliability Standard proposed in this filing contain the following revisions to Requirements R1 and R2:

## **BAL-004-1 — Time Error Correction**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~

**R2.** ~~The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~

The Requirement R1 change removes the obligation for the NERC Operating Committee to designate an entity to serve as the Interconnection Time Monitor and ultimately vests such authority in the NERC Board of Trustees based on NERC Operating Committee review and recommendation. As noted above, currently Midwest ISO serves as Interconnection Time Monitor for the Eastern Interconnection, ERCOT serves that role for the Texas Interconnection and WECC does the same for the Western Interconnection. Once this proposed standard is approved, the NERC Board of Trustees will formally designate the Interconnection Time Monitors.

Under the former Operating Policy that addressed Time Error Correction prior to the implementation of the Version 0 standards, an entity (Reliability Coordinator) volunteered to serve as the Interconnection Time Monitor. After the translation to the Version 0 Reliability Standards, and now that these standards are mandatory and enforceable, much of the process to implement Time Error Corrections became a NAESB voluntary procedure since Time Error Correction itself is not a reliability issue. As such, the requirement directs the entity serving as the Interconnection Time Monitor to implement Time Error Corrections in accordance with a NAESB procedure. NERC Reliability Standards should not compel an entity to comply with NAESB business practices. The elimination of Requirement R2 accomplishes this purpose.

NERC believes approval of the proposed BAL-004-1 — Time Error Correction Standard serves the best interest of reliability in the near-term. In the first instance, approval will preserve the status quo for Time Error Correction while a permanent solution is developed in conjunction with standards Project 2007-05 — Balancing Authority Controls. Second, there are no outstanding concerns with the performance of the Interconnection Time Monitor in a voluntary capacity in accordance with the NAESB procedure. NERC, through its Operating Committee, has acted for many years to review and address the performance of the Interconnection Time Monitor, as necessary, and will continue to do so in the future.

The proposed Reliability Standard proposes three primary requirements. Requirement R1 requires that only a Reliability Coordinator shall act as an Interconnection Time Monitor. Requirement R2 directs that Balancing Authorities shall participate in a Time Error Correction when directed by the Reliability Coordinator serving as the Interconnection Time Monitor. Requirement R3 states that any Reliability Coordinator, either on its own accord or by request of a Balancing Authority within its footprint, can request the Interconnection Time Monitor to terminate a Time Error Correction for reliability reasons.

The most significant reliability aspects of the existing approved BAL-004-0 and the proposed BAL-004-1 are two-fold: that all Balancing Authorities are obligated to participate in the Time Error Correction procedure when requested by the Reliability Coordinator serving as the Interconnection Time Monitor; and that any applicable entity can request to terminate the Time Error Correction procedure when faced with a reliability concern. The fact that a Reliability Coordinator serving as an Interconnection

Time Monitor chooses to act and initiate a Time Error Correction based on the NAESB procedure has no reliability relevance. The import of those actions becomes relevant when the Reliability Coordinator serving as the Interconnection Time Monitor directs the Balancing Authorities to participate using one of the methods identified in proposed Requirements R2.1 and R2.2.

During the consideration of this proposed Reliability Standard, a number of justifications in support of the proposed Reliability Standard were identified as follows:

- Approving the proposed Reliability Standard allows the *status quo* to be preserved, that is, a Reliability Coordinator would continue to be available to serve in the heretofore voluntary role of Interconnection Time Monitor. Because there are no current issues with the performance of the Interconnection Time Monitor today, approval of the proposed Reliability Standard would serve in the best interest of reliability.
  - Designating an Interconnection Time Monitor is primarily an issue for the Eastern Interconnection. Midwest ISO is currently performing this function for the Eastern Interconnection just as it has historically and voluntarily since June 2003. The situation for WECC is somewhat different in that WECC uses automatic Time Error Correction, although periodic manual corrections are still required and are coordinated by one of its two reliability coordinator centers. ERCOT and Hydro Quebec Interconnections are single Balancing Authority Interconnections and the respective Reliability Coordinators perform the function for these Interconnections.
- Removing the obligation for the NERC Operating Committee to designate the Interconnection Time Monitor is appropriate. The NERC Operating Committee is not a user, owner or operator of the bulk power system and it is not appropriate for this committee solely to assign requirements to users, owners or operators of the bulk power system without NERC Board of Trustee approval; however, it is reasonable for it to make recommendations to the NERC Board of Trustees. Furthermore, in the current regulatory environment, a stakeholder-based committee should not be in a position to designate a particular entity to be held accountable to a Reliability Standard requirement. The proposed Reliability Standard eliminates this concern.
- The currently effective Reliability Standard obligates the Reliability Coordinator chosen as the Interconnection Time Monitor to follow a NAESB standard business practice, which many believe is not appropriate. This proposed Reliability Standard eliminates this concern.

- The proposed Reliability Standard ensures that a Reliability Coordinator will be available to perform the services of an Interconnection Time Monitor until a more permanent solution to Time Error Correction is implemented. This potential permanent solution is incorporated in the scope of Project 2007-05 — Balancing Authority Controls in the standards three-year development plan. The SAR for this project was approved and the standard drafting team is currently considering the issue as part of its scope.
- The NERC Operating Committee has reviewed and addressed the performance of the Interconnection Time Monitor for many years and is committed to doing so in the future.
- The NERC Operating Committee approved the “Time Monitoring Reference Document,” included as **Exhibit C**. This document outlines the responsibilities of Reliability Coordinators serving as time monitors for the North American Interconnections and includes that:
  - There will be one Interconnection Time Monitor within each Interconnection, nominated by the Operating Reliability Subcommittee, accepted by the Operating Committee, and proposed for approval by the NERC Board of Trustees;
  - The term of each Interconnection Time Monitor is three years with automatic renewal unless notified to the contrary at least six months in advance;
  - The Operating Reliability Subcommittee will work with an Interconnection Time Monitor that fails to fulfill its responsibilities to resolve the problem;
  - The Operating Reliability Subcommittee will report any frequency or time error issues caused by or aggravated by time error practices or the Interconnection Time Monitor to the Operating Committee;
  - The Interconnection Time Monitor will initiate and terminate Time Error Corrections as outlined in NERC Reliability Standards and NAESB business practices;
  - The Interconnection Time Monitor will terminate any Time Error Corrections negatively impacting reliability; and
  - The Interconnection Time Monitor will provide accumulated time error following each correction or at least monthly to the Balancing Authorities within its Interconnection.
- The proposed Reliability Standard received 93.93 percent industry consensus when balloted.

NERC identified and considered several arguments asserted by stakeholders against approving the proposed Reliability Standard, summarized as follows:

- The removal of the obligation of the NERC Operating Committee to designate a Reliability Coordinator to serve as the Interconnection Time Monitor and the

removal of the obligation to perform in accordance with the NAESB business practice standard appears to weaken the Reliability Standard.

- The proposed Reliability Standard renders unclear the process to identify the Reliability Coordinator that will serve as the Interconnection Time Monitor.
- The proposed Reliability Standard establishes no requirement that only one Reliability Coordinator would serve as the Interconnection Time Monitor in an Interconnection.
- The proposed Reliability Standard does not establish an obligation for the Interconnection Time Monitor to perform any actions such as initiate and terminate time error directives. Thus, the authority to act is ambiguous.
- It is also not clear who the Interconnection Time Monitor must notify to direct Time Error Correction actions. The proposed Reliability Standard clearly articulates that the Balancing Authorities have an obligation to act when directed but there is no specificity on the communication expectations that connect the Interconnection Time Monitor directives to the Balancing Authorities.

After careful deliberation on the benefits and concerns with the proposed Reliability Standard, and for the reasons discussed below, NERC believes that the best interest of reliability is served through the approval of the proposed Reliability Standard. The key reliability objective of the Reliability Standard is maintained from the original BAL-004-0 through Requirements R2 and R3 that direct Balancing Authorities to participate in a Time Error Correction upon request using one of two methods, and then provides a means to request the procedure be terminated if a reliability concern is identified. NERC further notes that the issue of Time Error Correction will also be addressed as part of the Project 2007-05 – Balancing Authority Controls.

**Demonstration that the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential and in the public interest**

**1. Proposed Reliability Standard is designed to achieve a specified reliability goal**

Proposed reliability standard BAL-004-1 — Time Error Correction specifically establishes within Requirement R2 and its sub-requirements that Balancing Authorities must participate in Time Error Correction when requested by implementing one of two

methods identified. By requiring Balancing Authorities to participate in a Time Error Correction, the Interconnection Time Monitor effectively coordinates the Interconnection approach to time error such that the reliability of the Interconnection is preserved. Additionally, Requirement R3 specifies that any Reliability Coordinator, on its own or by request of a resident Balancing Authority may request to terminate a Time Error Correction for reliability reasons. This also preserves bulk power system reliability by making available the option to return the system frequency back to 60 Hertz or cancel the net interchange offsets.

**2. Proposed Reliability Standard contains a technically sound method to achieve the goal**

The proposed Reliability Standard contains technically sound methods to achieve the goal. If a Reliability Coordinator serving as an Interconnection Time Monitor determines through adherence to the associated NAESB business practice standard, but not the NERC Reliability Standard, that a Time Error Correction is needed, it will initiate the request to enter into the Time Error Correction procedure. The salient points of this procedure for reliability are that the Balancing Authorities implement the directive using one of two acknowledged methods, and that the vehicle to terminate the action for reliability concerns is plainly available.

Reliability of an Interconnection would not be at risk if a Reliability Coordinator acting as an Interconnection Time Monitor chose never to implement the Time Error Correction procedure. However, it is important that the entities responsible for implementing the mechanics of Time Error Correction do so in a coordinated fashion. This aspect is supported by Requirements R2 and R3.

**3. Proposed Reliability Standard is applicable to users, owners and operators of the bulk power system, and not others**

The proposed Reliability Standard is applicable to users, owners and operators of the bulk power system, and not others. The proposed standard is specifically applicable to Reliability Coordinators and Balancing Authorities, each clearly a user, owner or operator of the bulk power system.

**4. Proposed Reliability Standard is clear and unambiguous as to what is required and who is required to comply**

The proposed Reliability Standard is clear and unambiguous as to what is required and who is required to comply. Each requirement clearly states what applicable entities are required to do. Within the Reliability Standard, Requirement R1 requires that only a Reliability Coordinator shall act as an Interconnection Time Monitor. Requirement R2 directs that Balancing Authorities shall participate in a Time Error Correction when directed by the Reliability Coordinator serving as the Interconnection Time Monitor. Requirement R3 states that any Reliability Coordinator, either on its own accord or by request of a Balancing Authority within its footprint, can request the Interconnection Time Monitor to terminate a Time Error Correction for reliability reasons.

**5. Proposed Reliability Standard includes clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation**

The proposed Reliability Standard includes clear and understandable consequences. Each primary requirement in the original BAL-004-0 version of the Reliability Standard was assigned a Violation Risk Factor (“VRF”) and a Violation Severity Level (“VSL”). With the exception of Requirement R2 that is being eliminated



in the proposed standard, the assigned VRFs and VSLs in Version 0, carry forward<sup>2</sup> and are intended to apply in proposed Version 1 of the standard. These elements will support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in standards, as defined in the ERO Sanction Guidelines.

**6. Proposed Reliability Standard identifies clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner**

The proposed Reliability Standard identifies clear and objective criteria in the language of the requirements so that that the standard can be enforced in a consistent and non-preferential manner. Version 0 of BAL-004 did not include specific measures, and neither does BAL-004-1. Rather, each requirement is clear in its expectations such that development of compliance enforcement objectives through the Reliability Standard Audit Worksheets is straightforward. Requirement R1 states that a Reliability Coordinator is the only eligible entity to be the Interconnection Time Monitor. Requirement R2 and its subparts clearly delineate that the Balancing Authority shall participate in a Time Error Correction when requested and describes one of two methods to implement the request. Requirement R3 and its subpart states that the Reliability Coordinator can terminate a proposed or implemented Time Error Correction for reliability considerations. The language in the requirements is unambiguous with respect to the applicable entity expectations. In this regard, the intent of this criterion is satisfied.

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<sup>2</sup> In the proposed BAL-004-1, Requirements R2 and R3 and its subparts were identified as Requirements R3 and R4 and its subparts in BAL-004-0. Therefore, the VRFs and VSLs proposed for proposed Version 1 should be mapped accordingly from Version 0.

**7. Proposed Reliability Standard achieves a reliability goal effectively and efficiently - but does not necessarily have to reflect “best practices” without regard to implementation cost**

The proposed Reliability Standard achieves its reliability goal effectively and efficiently, without necessarily having to reflect “best practices” without regard to implementation costs. The relevant reliability aspects of BAL-004-0 have been carried forward in BAL-004-1 in the form of Requirements R2 and R3. Therefore, there is no change in effectiveness or efficiency of process from the version of the BAL-004-0 Reliability Standard.

**8. Proposed Reliability Standard is not “lowest common denominator,” *i.e.*, does not reflect a compromise that does not adequately protect bulk power system reliability**

The proposed Reliability Standard is not a “lowest common denominator,” and does not reflect a compromise that fails to adequately protect bulk power system reliability. The proposed Reliability Standard continues to require that when an Interconnection Time Monitor determines the need to implement a Time Error Correction, per a NAESB business practice standard but not a NERC Reliability Standard, the entities responsible for implementing that directive, that is the Balancing Authority, must comply per Requirement R2 using one of two tried and true approaches contained in sub-requirements R2.1 and R2.2. If a Time Error Correction proposed or in progress is deemed to detrimental to the state of the bulk power system within that particular Interconnection, Requirement R3 and sub-requirement R3.1 provide that a Reliability Coordinator may request the procedure be terminated. These requirements reflect the significant reliability impacts of the proposed standard and are identical to the Requirements R4 and sub-requirement R4.1 in BAL-004-0. Thus, there is no change in impact between proposed Version 1 and Version 0 of the standard that would render the

standard “least common denominator.” The reliability of the bulk power system is protected through the requirements assigned to the Balancing Authorities and their Reliability Coordinators in Requirements R2 and R3.

**9. Proposed Reliability Standard considers costs to implement for smaller entities but not at consequence of less than excellence in operating system reliability**

Because Version 0 of BAL-004 and proposed Version 1 are not substantively different in the obligations assigned to the responsible entities, the proposed Reliability Standard does not alter the costs to implement, especially for smaller entities. Reliability Coordinators and Balancing Authorities continue to be identified as applicable entities with no changes from the original BAL-004-0 version.

**10. Proposed Reliability Standard is designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one area or approach**

The proposed Reliability Standard is designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one area or approach. The standard as drafted proposes no regional differences or variances.

**11. Proposed Reliability Standards causes no undue negative effect on competition or restriction of the grid**

Because Version 0 of BAL-004 and proposed Version 1 are not substantively different in the obligations assigned to the responsible entities, the proposed Reliability Standard should cause no change in the effect on competition or restrict the grid beyond that which is necessary for reliability, making it acceptable with regard to this factor.

## **12. The implementation time for the proposed Reliability Standard is reasonable**

The proposed Reliability Standard includes the effective date of the proposed Reliability Standard. NERC believes the proposed effective date presents a reasonable time frame to allow all entities to be in compliance, particularly given that compliance is already required with respect to BAL-004-0.

## **13. The Reliability Standard development process was open and fair**

NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC *Reliability Standards Development Procedure*, which was incorporated into the Rules of Procedure as Appendix 3A. NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards. The development process is open to any person or entity with a legitimate interest in the reliability of the bulk power system. NERC considers the comments of all stakeholders and a vote of stakeholders and the NERC Board of Trustees is required to approve a Reliability Standard for submission to the applicable governmental authorities.

The proposed Reliability Standard set out in **Exhibit A** has been developed and approved by industry stakeholders using the urgent action process found in NERC's *Reliability Standards Development Procedure*, and was approved by the NERC Board of Trustees on March 26, 2008 for filing with the applicable governmental authorities. Therefore, NERC has utilized its approved standard development process in good faith and in a manner that is open and fair.

#### **14. Proposed Reliability Standard balances with other vital public interests**

No environmental, social, or other goals are reflected, nor do they enter into consideration, apart from ensuring that Time Error Corrections are implemented in such a manner that Interconnection reliability is maintained.

#### **15. Proposed Reliability Standards considers any other relevant factors**

NERC does not propose any additional factors for consideration at this time.

### **V. SUMMARY OF THE RELIABILITY STANDARD DEVELOPMENT PROCEEDINGS**

#### **a. Development History**

On July 11, 2007, the NERC Operating Committee submitted to the Standards Committee a SAR and proposed red-lined changes to BAL-004-0 — Time Error Correction Reliability Standard Requirements R1 and R2. The stated purpose of this standard was “to ensure that Time Error Corrections are conducted in a manner that does not adversely impact the reliability of the Interconnection.” In the SAR, the NERC Operating Committee requested the use of the Urgent Action process to effect the proposed revisions. The purpose of the SAR was to:

1. Address issues regarding compliance requirements for Reliability Coordinators who voluntarily agree to serve as Interconnection Time Monitors;
2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator; and
3. Remove inappropriate requirements to follow the NAESB business practices.

According to the requester, the proposed Reliability Standard ensures that the Reliability Coordinators continue to voluntarily agree to serve as Interconnection Time Monitors. In practice, the NERC Operating Committee would continue to approve the Interconnection Time Monitors and review their performance.

At its September 11, 2007 meeting, the Standards Committee approved the posting of the SAR and proposed standard changes using the Urgent Action process, citing that the potential loss of a willing Reliability Coordinator to serve as the Interconnection Time Monitor to be a matter worthy of the Urgent Action process. As a result of this action, per the *Reliability Standards Development Procedure*, the SAR and proposed Reliability Standard were posted for a 30-day pre-ballot window from September 17, 2007 through October 17, 2007. NERC conducted an initial ballot from October 18, 2007 through October 29, 2007 and achieved a quorum of 96.18 percent and had a weighted segment vote of 93.93 percent. The ballot included ten negative ballots, seven with a comment, initiating the need to conduct a recirculation ballot. Some balloters listed more than one reason for submitting a negative ballot:

- All seven balloters who submitted a negative ballot with a comment indicated that the revisions left unclear what entity will assume the responsibility for serving as the time monitor for each Interconnection.
- Three balloters indicated that the revisions left unstated the responsibility for directing the implementation of a Time Error Correction.
- Two balloters indicated that Reliability Standards should include requirements to comply with NAESB business practices because the NAESB business practice is also FERC-approved.
- One balloter suggested revising Requirement R2 to omit the reference to the NAESB business practice
- One balloter disagreed with the use of the Urgent Action Process.

In response to these comments, the NERC Operating Committee indicated that it was working on a documented process for identifying the entity that will serve as the Interconnection Time Monitor for each Interconnection and for reviewing the performance of the Interconnection Time Monitor on a forward-going basis as it has done for many years. In practice, Interconnection Time Monitors have been very diligent in carrying out their time monitoring responsibilities.

On November 8, 2007, NERC posted the response to the comments and conducted a recirculation ballot from November 16, 2007 through December 4, 2007. The revised standard passed with 97.45 percent of the 157 ballot pool participants voting resulting in a weighted segment approval of 94.10 percent.

Between the initial ballot and the recirculation ballot several voters changed their ballots, but none of the changed ballots was accompanied by a comment to explain the reason for the change and there was no discernable pattern in the modifications made:

- Two balloters changed from negative to affirmative;
- Two balloters changed from affirmative to negative;
- One balloter changed from abstain to negative;
- One balloter changed from abstain to affirmative; and
- Two balloters who did not vote initially voted in the affirmative.

Per the *Reliability Standard Development Procedure*, a standard approved through the Urgent Action process must be processed through the routine standards development process. Accordingly, the topic of this Reliability Standard is included in the scope of Project 2007-05 – Balancing Authority Controls currently underway.

## **VI. CONCLUSION**

NERC requests approval of BAL-004-1 — Time Error Correction, as set out in **Exhibit A**. NERC requests that BAL-004-1 — Time Error Correction be made effective as requested herein and in accordance with the effective date provisions of the proposed Reliability Standard.

Respectfully submitted,

Rick Sergel  
President and Chief Executive Officer  
David N. Cook  
Vice President and General Counsel  
North American Electric Reliability Corporation  
116-390 Village Boulevard  
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/s/ Rebecca J. Michael  
Rebecca J. Michael  
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**Exhibit A**

**Reliability Standards Proposed for Approval**

### A. Introduction

1. **Title:** Time Error Correction

2. **Number:** BAL-004-1

3. **Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

4. **Applicability:**

4.1. Reliability Coordinators

4.2. Balancing Authorities

5. **Proposed Effective Date:** First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

### B. Requirements

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor.

**R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

### C. Measures

Not specified.

### D. Compliance

Not specified.

### E. Regional Differences

None identified.

## Standard BAL-004-1 — Time Error Correction

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### Version History

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**Exhibit B**

**Record of Development of Proposed Reliability Standards**

**SAR - Urgent Action - BAL-004-1 - Time Error Correction**  
[Registered Ballot Body](#) | [Related Files](#) | [Drafting Team Rosters](#)

**Status**

Approved by Board of Trustees on March 26, 2008. Pending regulatory approval.

**Purpose/Industry Need**

In Requirement 1, remove requirement that Operating Committee designate Interconnection Time Monitor because the Operating Committee is not a user/owner/operator.

Remove Requirement R2 because the Interconnection Time Monitor is a voluntary service and, therefore, should not be penalized for non compliance. Considering the penalty for non-compliance could be as high as \$335k, the Interconnections run the risk of having no one offer to monitor time error and manage time error corrections. While time error itself does not jeopardize Interconnection reliability, time correction methods that depend on either frequency or bias offsets can affect Interconnection reliability. Therefore, it is important for reliability coordinators to continue to provide this voluntary service.

Finally, it is not appropriate for NERC standards to compel an entity to comply with NAESB business practices.

| Proposed Standard   | Supporting Materials | Comment Period   | Comments Received | Response to Comments   |
|---|----------------------|--|-------------------|------------------------|
| Draft 2 Urgent Action for Revision to BAL-004-1<br>Posted for Board of Trustees Approval<br>March 26, 2008.<br><br>Final SAR Version 2 (17)<br><br>BAL-004-1<br>Clean (18)   Redline (19) to last approval                  |                      |  |                   |                        |
| Announcement (12)<br><br>Draft 2 Urgent Action for Revision to<br>BAL-004-1 Posted for 10-day Recirculation<br>Ballot Window<br><br>Draft SAR Version 2 (13)<br><br>BAL-004-1<br>Clean (14)   Redline (15) to last approval |                      | 11/16/07 -<br>12/04/07<br>(closed)<br><br>Recirculation<br>Ballot Window |                   | Ballot Summary<br>(16) |
| Announcement (5)  |                      | 10/18/07 -<br>10/29/07   |                   | Announcement           |

|   |  |  |  |  |
|---|--|--|--|--|
| <p>Draft 1<br/>         Urgent Action for Revision to<br/>         BAL-004-1<br/>         Posted for 10-day Ballot Window</p> <p>Draft SAR Version 1 (6)</p> <p>BAL-004-1<br/>         Clean (7)   Redline (8) to last approval</p>   |  | <p>(closed)<br/><br/>         Ballot Window</p>  |  | <p>(9)<br/><br/>         Ballot Summary (10)<br/><br/>         Consideration of<br/>         Ballot<br/>         Comments (11)</p> |
| <p>Announcement (1)</p> <p>Draft 1 Urgent Action for Revision to BAL-004-1<br/>         Posted for 30-day Pre-ballot Window</p> <p>Draft SAR Version 1 (2)</p> <p>BAL-004-1<br/>         Clean (3)   Redline (4) to last approval</p> |  | <p>09/17/07 -<br/>         10/18/07<br/>         (closed)<br/><br/>         Pre-ballot<br/>         Window</p> |  |  |

September 17, 2007

TO: REGISTERED BALLOT BODY

Ladies and Gentlemen:

**Announcement: Pre-ballot Window and Ballot Pool Open September 17, 2007**

**The Standards Committee (SC) announces the following standards actions:**

**Pre-ballot Window and Ballot Pool for Urgent Action Revisions to BAL-004 Open September 17, 2007**

The NERC Operating Committee has submitted an [Urgent Action SAR](#) to revise BAL-004-0 — Time Error Correction to remove the following from BAL-004:

- **Requirement 1, second sentence:** A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.
  - **Reason for removal:** The entities who have been serving as the Interconnection Time Monitors have done so voluntarily. The NERC Operating is not a user, owner, or operator and has no authority to assign a reliability coordinator to serve as the Interconnection Time Monitor. The entities who have been serving as “volunteers” don’t want to continue to serve in this role if they are subject to sanctions for non-compliance with Requirement 2, which supports a business practice.
- **Requirement 2:** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.
  - **Reason for removal:** This requires the Reliability Coordinator to execute a time error correction in accordance with a NAESB business practice.

A new [ballot pool](#) to vote on the revisions to BAL-004 has been formed and will remain open up until 8 a.m. (EDT) on Wednesday, October 17 2007. During the pre-ballot window, members of the ballot pool may communicate with one another by using their “ballot pool list server.” The list server for this ballot pool is called: [bp-ua\\_sar\\_bal-004\\_in@nerc.com](mailto:bp-ua_sar_bal-004_in@nerc.com)

The initial ballot for the removal of the Urgent Action revisions to BAL-004 will be conducted from 8 a.m. (EDT) on Wednesday, October 17, 2007 through 8 p.m. (EDT) on Friday, October 26, 2007.

**Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate. If you have any questions, please contact me at 813-468-5998 or [maureen.long@nerc.net](mailto:maureen.long@nerc.net).

Sincerely,

*Maureen E. Long*

cc: Registered Ballot Body Registered Users  
Standards Mailing List  
NERC Roster

116-390 Village Boulevard, Princeton, New Jersey 08540-5721

Phone: 609.452.8060 • Fax: 609.452.9550 • [www.nerc.com](http://www.nerc.com)



NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

## Standard Authorization Request Form

|                            |  |
|----------------------------|--|
| Title of Proposed Standard | Standard BAL-004-0 – Time Error Correction |
| Request Date               | July 11, 2007                              |

| SAR Requester Information                                | SAR Type ( <i>Check a box for each one that applies.</i> )        |
|--|---|
| Name            NERC Operating Committee                 | <input type="checkbox"/> New Standard                             |
| Primary Contact    Don Benjamin                          | <input checked="" type="checkbox"/> Revision to existing Standard |
| Telephone    609-452-8060<br>Fax            609-452-9550 | <input type="checkbox"/> Withdrawal of existing Standard          |
| E-mail            don.benjamin@nerc.net                  | <input checked="" type="checkbox"/> Urgent Action                 |



**Purpose (Describe what the standard action will achieve in support of bulk power system reliability.)**

1. Remove inappropriate compliance requirements on reliability coordinators who voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service.
2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator.
3. Remove inappropriate requirements to follow NAESB business practices.

**Industry Need (Provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)**

Ensure the reliability coordinators will continue to voluntarily agree to serve as Interconnection Time Monitors. The OC would continue to approve the Interconnections' time error monitors and review their performance, but not via a standard with its attendant compliance requirements and possible sanctions. Otherwise, it is likely that one or more reliability coordinators may no longer voluntarily agree to perform the service.

**Brief Description (Provide a paragraph that describes the scope of this standard action.)**

1. In Requirement 1, remove requirement that Operating Committee designate Interconnection Time Monitor because the Operating Committee is not a user/owner/operator.
2. Remove Requirement R2 because the Interconnection Time Monitor is a voluntary service and, therefore, should not be penalized for non compliance. Considering the penalty for non-compliance could be as high as \$335k, the Interconnections run the risk of having no one offer to monitor time error and manage time error corrections. While time error itself does not jeopardize Interconnection reliability, time correction methods that depend on either frequency or bias offsets can affect Interconnection reliability. Therefore, it is important for reliability coordinators to continue to provide this voluntary service.

Finally, it is not appropriate for NERC standards to compel an entity to comply with NAESB business practices.

**Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR.)**

**B. Requirements**

- R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~
- R2.** ~~The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~
- R3.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:
  - R3.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or
  - R3.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e. 20% of the Frequency Bias Setting).
- R4.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.
  - R4.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**Standards Authorization Request Form**

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***Reliability Functions***

| <b>The Standard will Apply to the Following Functions</b> <i>(Check box for each one that applies.)</i> |                               |   |
|---|-------------------------------|---|
| <input checked="" 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 its 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 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 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 service (and reliability-related services) to serve the End-use Customer.   |

**Reliability and Market Interface Principles**

|  |   |
|--|---|
| <b>Applicable Reliability Principles</b> <i>(Check box for all that apply.)</i>  |   |
| <input checked="" type="checkbox"/>  | 1. Interconnected bulk power 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 checked="" type="checkbox"/>  | 2. The frequency and voltage of interconnected bulk power 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 power 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 power systems shall be developed, coordinated, maintained and implemented.   |
| <input type="checkbox"/>   | 5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.  |
| <input type="checkbox"/>   | 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.                  |
| <input type="checkbox"/>   | 7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.  |
| <input type="checkbox"/>   | 8. Bulk power systems shall be protected from malicious physical or cyber attacks.  |
| <b>Does the proposed Standard comply with all of the following Market Interface Principles?</b> <i>(Select 'yes' or 'no' from the drop-down box.)</i>  |   |
| 1. A reliability standard shall not give any market participant an unfair competitive advantage. Yes   |   |
| 2. A reliability standard shall neither mandate nor prohibit any specific market structure. Yes  |   |
| 3. A reliability standard shall not preclude market solutions to achieving compliance with that standard. Yes  |   |
| 4. A reliability 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**

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***Related Standards***

| <b>Standard No.</b> | <b>Explanation</b> |
|---------------------|--------------------|
|                     |                    |
|                     |                    |
|                     |                    |
|                     |                    |

***Related SARs***

| <b>SAR ID</b>   | <b>Explanation</b>  |
|-----------------|---|
| Project 2007-05 | Balancing Authority Controls project already includes revision of BAL-004 – Time Error Correction |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |

***Regional Variances***

| <b>Region</b> | <b>Explanation</b> |
|---------------|--------------------|
| ERCOT         |                    |
| FRCC          |                    |
| MRO           |                    |
| NPCC          |                    |
| SERC          |                    |
| RFC           |                    |
| SPP           |                    |
| WECC          |                    |

**A. Introduction**

**1. Title:** Time Error Correction

**2. Number:** BAL-004-1

**3. Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

**4. Applicability:**

**4.1.** Reliability Coordinators

**4.2.** Balancing Authorities

**5. Proposed Effective Date:** First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor.

**R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

## Standard BAL-004-1 — Time Error Correction

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### Version History

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**A. Introduction**

1. **Title:** Time Error Correction

2. **Number:** BAL-004-~~0~~1

3. **Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

4. **Applicability:**

4.1. Reliability Coordinators

4.2. Balancing Authorities

**Proposed Effective Date:** ~~April 1, 2005~~ First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

5.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~

~~**R2.** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~

**R3.R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R3.1.R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R3.2.R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R4.R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R4.1.R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.



**Version History**

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

October 18, 2007

TO: REGISTERED BALLOT BODY

Ladies and Gentlemen:

**Announcement: Initial Ballot Windows, Pre-ballot Review Period, and Ballot Pool Open**

**The Standards Committee (SC) announces the following standards actions:**

**Initial Ballot Window for Urgent Action Revisions to BAL-004 is Open**

The NERC Operating Committee has submitted an [Urgent Action SAR](#) to revise BAL-004-0 — Time Error Correction to remove the following from BAL-004:

- **Requirement 1, second sentence:** A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.
  - **Reason for removal:** The entities who have been serving as the Interconnection Time Monitors have done so voluntarily. The NERC Operating Committee is not a user, owner, or operator and has no authority to assign a reliability coordinator to serve as the Interconnection Time Monitor. The entities who have been serving as “volunteers” don’t want to continue to serve in this role if they are subject to sanctions for non-compliance with Requirement 2, which supports a business practice.
- **Requirement 2:** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.
  - **Reason for removal:** This requires the reliability coordinator to execute a time error correction in accordance with a NAESB business practice.

The initial [ballot](#) for the Urgent Action revisions to BAL-004 is open and will remain open until 8 p.m. on Monday, October 29, 2007.

**Initial Ballot Window for Interpretation of CIP-006-1 (for SCE&G) is Open**

South Carolina Electric & Gas Company submitted a [Request for an Interpretation](#) of CIP-006-1 — Physical Security of Critical Cyber Assets. The request asked if dial-up remote terminal units (RTUs) that use non-routable protocols and have dial-up access are required to have six-wall perimeters or are only required to have electronic security perimeters.

The [Interpretation](#) clarifies that if dial-up assets are classified as critical cyber assets in accordance with CIP-002-1, the assets must reside within an electronic security perimeter; however, physical security control over a critical cyber asset is not required if that asset does not have a routable protocol. Entities are not required to enclose dial-up RTUs that do not use routable protocols within a six-wall border.

The initial [ballot](#) for the interpretation of CIP-006-1 is open and will remain open until 8 p.m. on Monday, October 29, 2007.

**Initial Ballot Window for Interpretation of BAL-005 Requirement R17 (for PGE) is Open**

Portland General Electric Company submitted a [Request for an Interpretation of BAL-005-1](#) Automatic Generation Control Requirement R17. The Interpretation asked if the requirement to annually check and calibrate time error and frequency devices applies to the following measuring devices:

- Only equipment within the operations control room
- Only equipment that provides values used to calculate automatic generation control area control error
- Only equipment that provides values to its SCADA system
- Only equipment owned or operated by the balancing authority
- Only to new or replacement equipment
- To all equipment that a balancing authority owns or operates

The [Interpretation](#) clarifies that Requirement 17 applies only to the time error and frequency devices that provide, or in the case of back-up equipment may provide, input into the ACE equation or provide real-time time error or frequency information to the system operator. The time error and frequency measurement devices may not necessarily be located in the operations control room or owned by the balancing authority; however, the balancing authority has the responsibility for the accuracy of the frequency and time error measurement devices. No other devices are included in Requirement 17.

New or replacement equipment that provides the same functions noted above requires the same calibrations. Some devices used for time error and frequency measurement cannot be calibrated as such. In this case, these devices should be cross-checked against other properly calibrated equipment and replaced if the devices do not meet the required level of accuracy.

The initial [ballot](#) for this interpretation of BAL-005 Requirement 17 is open and will remain open until 8 p.m. on Monday, October 29, 2007.

**Pre-ballot Window and Ballot Pool for PRC-023-1 — Relay Loadability Opens October 18, 2007**

A new standard, PRC-023-1 — [Relay Loadability](#), is posted for a 30-day pre-ballot review through 8 a.m. on November 19, 2007.

This standard was developed to address the cascading transmission outages that occurred in the August 2003 blackout when backup distance and phase relays operated on high loading and low voltage without electrical faults on the protected lines. This is the so-called ‘zone 3 relay’ issue that has been expanded to address other protection devices subject to unintended operation during extreme system conditions. The proposed standard establishes minimum loadability criteria for these relays to minimize the chance of unnecessary line trips during a major system disturbance.

The ballot for this standard will also include the Relay Loadability [Implementation Plan](#).

REGISTERED BALLOT BODY

October 18, 2007

Page Three

The [ballot pool](#) to vote on this standard was formed earlier this year and has been re-opened. Anyone who joined the ballot pool earlier this year and is still a valid member of the Registered Ballot Body will not need to re-join the ballot pool. The ballot pool will remain open until 8 a.m. Monday, November 19, 2007. During the pre-ballot window, members of the ballot pool may communicate with one another by using their “ballot pool list server.” The list server for this ballot pool is:

[bp-Relay Loadability\\_in@nerc.com](mailto:bp-Relay Loadability_in@nerc.com)

**Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate. If you have any questions, please contact me at 813-468-5998 or [maureen.long@nerc.net](mailto:maureen.long@nerc.net).

Sincerely,

*Maureen E. Long*

cc: Registered Ballot Body Registered Users  
Standards Mailing List  
NERC Roster



## Standard Authorization Request Form

|                            |  |
|----------------------------|--|
| Title of Proposed Standard | Standard BAL-004-0 – Time Error Correction |
| Request Date               | July 11, 2007                              |

| <b>SAR Requester Information</b>                         | <b>SAR Type</b> ( <i>Check a box for each one that applies.</i> ) |
|--|---|
| Name            NERC Operating Committee                 | <input type="checkbox"/> New Standard                             |
| Primary Contact    Don Benjamin                          | <input checked="" type="checkbox"/> Revision to existing Standard |
| Telephone    609-452-8060<br>Fax            609-452-9550 | <input type="checkbox"/> Withdrawal of existing Standard          |
| E-mail            don.benjamin@nerc.net                  | <input checked="" type="checkbox"/> Urgent Action                 |

**Purpose (Describe what the standard action will achieve in support of bulk power system reliability.)**

1. Remove inappropriate compliance requirements on reliability coordinators who voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service.
2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator.
3. Remove inappropriate requirements to follow NAESB business practices.

**Industry Need (Provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)**

Ensure the reliability coordinators will continue to voluntarily agree to serve as Interconnection Time Monitors. The OC would continue to approve the Interconnections' time error monitors and review their performance, but not via a standard with its attendant compliance requirements and possible sanctions. Otherwise, it is likely that one or more reliability coordinators may no longer voluntarily agree to perform the service.

**Brief Description (Provide a paragraph that describes the scope of this standard action.)**

1. In Requirement 1, remove requirement that Operating Committee designate Interconnection Time Monitor because the Operating Committee is not a user/owner/operator.
2. Remove Requirement R2 because the Interconnection Time Monitor is a voluntary service and, therefore, should not be penalized for non compliance. Considering the penalty for non-compliance could be as high as \$335k, the Interconnections run the risk of having no one offer to monitor time error and manage time error corrections. While time error itself does not jeopardize Interconnection reliability, time correction methods that depend on either frequency or bias offsets can affect Interconnection reliability. Therefore, it is important for reliability coordinators to continue to provide this voluntary service.

Finally, it is not appropriate for NERC standards to compel an entity to comply with NAESB business practices.

**Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR.)**

**B. Requirements**

- R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~
- R2.** ~~The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~
- R3.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:
- R3.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or
- R3.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e. 20% of the Frequency Bias Setting).
- R4.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.
- R4.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**Standards Authorization Request Form**

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***Reliability Functions***

| <b>The Standard will Apply to the Following Functions</b> <i>(Check box for each one that applies.)</i> |                               |   |
|---|-------------------------------|---|
| <input checked="" 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 its 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 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 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 service (and reliability-related services) to serve the End-use Customer.   |



**Reliability and Market Interface Principles**

|  |   |
|--|---|
| <b>Applicable Reliability Principles</b> <i>(Check box for all that apply.)</i>  |   |
| <input checked="" type="checkbox"/>  | 1. Interconnected bulk power 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 checked="" type="checkbox"/>  | 2. The frequency and voltage of interconnected bulk power 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 power 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 power systems shall be developed, coordinated, maintained and implemented.   |
| <input type="checkbox"/>   | 5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.  |
| <input type="checkbox"/>   | 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.                  |
| <input type="checkbox"/>   | 7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.  |
| <input type="checkbox"/>   | 8. Bulk power systems shall be protected from malicious physical or cyber attacks.  |
| <b>Does the proposed Standard comply with all of the following Market Interface Principles?</b> <i>(Select 'yes' or 'no' from the drop-down box.)</i>  |   |
| 1. A reliability standard shall not give any market participant an unfair competitive advantage. Yes   |   |
| 2. A reliability standard shall neither mandate nor prohibit any specific market structure. Yes  |   |
| 3. A reliability standard shall not preclude market solutions to achieving compliance with that standard. Yes  |   |
| 4. A reliability 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**

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***Related Standards***

| <b>Standard No.</b> | <b>Explanation</b> |
|---------------------|--------------------|
|                     |                    |
|                     |                    |
|                     |                    |
|                     |                    |

***Related SARs***

| <b>SAR ID</b>   | <b>Explanation</b>  |
|-----------------|---|
| Project 2007-05 | Balancing Authority Controls project already includes revision of BAL-004 – Time Error Correction |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |

***Regional Variances***

| <b>Region</b> | <b>Explanation</b> |
|---------------|--------------------|
| ERCOT         |                    |
| FRCC          |                    |
| MRO           |                    |
| NPCC          |                    |
| SERC          |                    |
| RFC           |                    |
| SPP           |                    |
| WECC          |                    |

**A. Introduction**

**1. Title:** Time Error Correction

**2. Number:** BAL-004-1

**3. Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

**4. Applicability:**

**4.1.** Reliability Coordinators

**4.2.** Balancing Authorities

**5. Proposed Effective Date:** First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor.

**R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

## Standard BAL-004-1 — Time Error Correction

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### Version History

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**A. Introduction**

1. **Title:** Time Error Correction

2. **Number:** BAL-004-~~0~~1

3. **Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

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4.1. Reliability Coordinators

4.2. Balancing Authorities

**Proposed Effective Date:** ~~April 1, 2005~~ First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

5.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~

~~**R2.** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~

**R3.R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

~~**R3.1.R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or~~

~~**R3.2.R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).~~

**R4.R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

~~**R4.1.R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.~~

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

**Version History**

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
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|         |                |  |                 |
|         |                |  |                 |

October 31, 2007

TO: REGISTERED BALLOT BODY

Ladies and Gentlemen:

### **Announcement of Initial Ballot Results for Three Ballots**

**The Standards Committee (SC) announces the following:**

#### **Initial Ballot Results for Urgent Action Revisions to BAL-004-0**

The initial ballot for the [Urgent Action Revisions to BAL-004-0](#) — Time Error Correction was conducted from October 18 through October 29, 2007. The proposed revision removes the following from BAL-004:

- **Requirement 1, second sentence:** A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.
  - **Reason for removal:** The entities who have been serving as the Interconnection Time Monitors have done so voluntarily. The NERC Operating is not a user, owner, or operator and has no authority to assign a reliability coordinator to serve as the Interconnection Time Monitor. The entities who have been serving as ‘volunteers’ don’t want to continue to serve in this role if they are subject to sanctions for non-compliance with Requirement 2, which supports a business practice.
- **Requirement 2:** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.
  - **Reason for removal:** This requires the reliability coordinator to execute a time error correction in accordance with a NAESB business practice.

The ballot achieved a quorum; however, there were some negative ballots with comments, initiating the need to undergo a re-circulation ballot. The drafting team will be reviewing comments submitted with the ballot and preparing its consideration of those comments. ([Detailed Ballot Results](#))

Quorum: 96.18 %  
Approval: 93.93 %

#### **Initial Ballot Results for Interpretation of CIP-006-1 (for SCE&G)**

The initial ballot for the [Interpretation of CIP-006-1 — Physical Security of Critical Cyber Assets](#) was conducted from October 18 through October 29, 2007. The request for an interpretation asked if dial-up remote terminal units (RTUs) that use non-routable protocols and have dial-up access are required to have six-wall perimeters or are only required to have electronic security perimeters.

The [Interpretation](#) clarifies that if dial-up assets are classified as critical cyber assets in accordance with CIP-002-1, the assets must reside within an electronic security perimeter, however, physical security

## REGISTERED BALLOT BODY

October 31, 2007

Page Two

control over a critical cyber asset is not required if that asset does not have a routable protocol. Entities are not required to enclose dial-up RTUs that do not use routable protocols within a six-wall border.

The ballot achieved a quorum; however, there were some negative ballots with comments, initiating the need to undergo a re-circulation ballot. The drafting team will be reviewing comments submitted with the ballot and preparing its consideration of those comments. ([Detailed Ballot Results](#))

Quorum: 97.37%  
Approval: 92.24%

### **Initial Ballot Results for Interpretation of BAL-005 Requirement R17 (for PGE)**

The initial ballot for the [Interpretation of BAL-005-1 — Automatic Generation Control Requirement R17](#) was conducted from October 18 through October 29, 2007. The request for an interpretation asked if the requirement to annually check and calibrate time error and frequency devices applies to the following measuring devices:

- Only equipment within the operations control room
- Only equipment that provides values used to calculate automatic generation control area control error
- Only equipment that provides values to its SCADA system
- Only equipment owned or operated by the balancing authority
- Only to new or replacement equipment
- To all equipment that a balancing authority owns or operates

The [Interpretation](#) clarifies that Requirement R17 applies only to the time error and frequency devices that provide, or in the case of back-up equipment may provide, input into the ACE equation or provide real-time time error or frequency information to the system operator. The time error and frequency measurement devices may not necessarily be located in the operations control room or owned by the balancing authority; however, the balancing authority has the responsibility for the accuracy of the frequency and time error measurement devices. No other devices are included in Requirement 17.

New or replacement equipment that provides the same functions noted above requires the same calibrations. Some devices used for time error and frequency measurement cannot be calibrated as such. In this case, these devices should be cross-checked against other properly calibrated equipment and replaced if the devices do not meet the required level of accuracy.

The ballot achieved a quorum however there were some negative ballots with comments, initiating the need to undergo a re-circulation ballot. The drafting team will be reviewing comments submitted with the ballot and preparing its consideration of those comments. ([Detailed Ballot Results](#))

Quorum: 96.48%  
Approval: 85.91%



REGISTERED BALLOT BODY

October 31, 2007

Page Three

### **Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate. If you have any questions, please contact me at 813-468-5998 or [maureen.long@nerc.net](mailto:maureen.long@nerc.net).

Sincerely,

*Maureen E. Long*

cc: Registered Ballot Body Registered Users  
Standards Mailing List  
NERC Roster



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| Ballot Results                |   |
|-------------------------------|---|
| <b>Ballot Name:</b>           | Urgent Action SAR for BAL-004-0_in                        |
| <b>Ballot Period:</b>         | 10/18/2007 - 10/29/2007                                   |
| <b>Ballot Type:</b>           | Initial   |
| <b>Total # Votes:</b>         | 151   |
| <b>Total Ballot Pool:</b>     | 157   |
| <b>Quorum:</b>                | <b>96.18 % The Quorum has been reached</b>                |
| <b>Weighted Segment Vote:</b> | 93.93 %   |
| <b>Ballot Results:</b>        | <b>The standard will proceed to recirculation ballot.</b> |

| Summary of Ballot Results |             |                |             |            |              |           |              |          |          |
|---------------------------|-------------|----------------|-------------|------------|--------------|-----------|--------------|----------|----------|
| Segment                   | Ballot Pool | Segment Weight | Affirmative |            | Negative     |           | Abstain      | No Vote  |          |
|                           |             |                | # Votes     | Fraction   | # Votes      | Fraction  | # Votes      |          |          |
| 1 - Segment 1.            |             | 49             | 1           | 41         | 0.911        | 4         | 0.089        | 3        | 1        |
| 2 - Segment 2.            |             | 8              | 0.8         | 8          | 0.8          | 0         | 0            | 0        | 0        |
| 3 - Segment 3.            |             | 36             | 1           | 31         | 0.939        | 2         | 0.061        | 2        | 1        |
| 4 - Segment 4.            |             | 8              | 0.8         | 8          | 0.8          | 0         | 0            | 0        | 0        |
| 5 - Segment 5.            |             | 23             | 1           | 20         | 0.952        | 1         | 0.048        | 1        | 1        |
| 6 - Segment 6.            |             | 16             | 1           | 13         | 0.867        | 2         | 0.133        | 0        | 1        |
| 7 - Segment 7.            |             | 1              | 0.1         | 1          | 0.1          | 0         | 0            | 0        | 0        |
| 8 - Segment 8.            |             | 2              | 0.2         | 2          | 0.2          | 0         | 0            | 0        | 0        |
| 9 - Segment 9.            |             | 6              | 0.5         | 5          | 0.5          | 0         | 0            | 0        | 1        |
| 10 - Segment 10.          |             | 8              | 0.7         | 6          | 0.6          | 1         | 0.1          | 0        | 1        |
| <b>Totals</b>             |             | <b>157</b>     | <b>7.1</b>  | <b>135</b> | <b>6.669</b> | <b>10</b> | <b>0.431</b> | <b>6</b> | <b>6</b> |

| Individual Ballot Pool Results |  |                      |             |                      |
|--------------------------------|--|----------------------|-------------|----------------------|
| Segment                        | Organization                                 | Member               | Ballot      | Comments             |
| 1                              | AEP Service Corp. -- Transmission System AEP | Scott P. Moore       | Affirmative |                      |
| 1                              | Ameren Services Company                      | Kirit S. Shah        | Affirmative |                      |
| 1                              | American Public Power Association            | E. Nick Henery       | Negative    | <a href="#">View</a> |
| 1                              | Arizona Public Service Co.                   | Cary B. Deise        | Affirmative |                      |
| 1                              | Avista Corp.                                 | Scott Kinney         | Affirmative |                      |
| 1                              | Bonneville Power Administration              | Donald S. Watkins    | Affirmative |                      |
| 1                              | Consolidated Edison Co. of New York          | Edwin E. Thompson PE | Affirmative |                      |
| 1                              | Duke Energy Carolina                         | Doug Hills           | Affirmative |                      |
| 1                              | Entergy Corporation                          | George R. Bartlett   | Negative    | <a href="#">View</a> |
| 1                              | FirstEnergy Energy Delivery                  | Robert Martinko      | Negative    | <a href="#">View</a> |

|   |   |                           |             |                      |
|---|---|---------------------------|-------------|----------------------|
| 1 | Florida Keys Electric Cooperative Assoc.        | Dennis Minton             | Affirmative |                      |
| 1 | Florida Power & Light Co.                       | C. Martin Mennes          | Affirmative |                      |
| 1 | Gainesville Regional Utilities                  | Luther E. Fair            | Abstain     |                      |
| 1 | Great River Energy                              | Gordon Pietsch            | Affirmative |                      |
| 1 | Hoosier Energy Rural Electric Cooperative, Inc. | Damon Holladay            | Affirmative |                      |
| 1 | Hydro One Networks, Inc.                        | Ajay Garg                 | Affirmative |                      |
| 1 | Hydro-Quebec TransEnergie                       | Julien Gagnon             | Affirmative |                      |
| 1 | Idaho Power Company                             | Ronald D. Schellberg      | Affirmative |                      |
| 1 | JEA   | Ted E. Hobson             | Affirmative |                      |
| 1 | Kansas City Power & Light Co.                   | Jim Useldinger            | Affirmative |                      |
| 1 | Keyspan LIPA                                    | Richard J. Bolbrock       | Affirmative |                      |
| 1 | Lincoln Electric System                         | Doug Bantam               | Affirmative |                      |
| 1 | Manitoba Hydro                                  | Robert G. Coish           | Affirmative |                      |
| 1 | Minnesota Power, Inc.                           | Carol Gerou               | Affirmative |                      |
| 1 | Municipal Electric Authority of Georgia         | Jerry J Tang              | Affirmative |                      |
| 1 | Nebraska Public Power District                  | Richard L. Koch           | Negative    | <a href="#">View</a> |
| 1 | New Brunswick Power Transmission Corporation    | Wayne N. Snowdon          | Affirmative |                      |
| 1 | New York Power Authority                        | Ralph Rufrano             | Affirmative |                      |
| 1 | Northeast Utilities                             | David H. Boguslawski      | Affirmative |                      |
| 1 | Northern Indiana Public Service Co.             | Joseph Dobes              | Affirmative |                      |
| 1 | Oklahoma Gas and Electric Co.                   | Melvin H. Perkins         |             |                      |
| 1 | Oncor Electric Delivery                         | Charles W. Jenkins        | Affirmative |                      |
| 1 | Otter Tail Power Company                        | Lawrence R. Larson        | Affirmative |                      |
| 1 | PacifiCorp                                      | Robert Williams           | Affirmative |                      |
| 1 | Potomac Electric Power Co.                      | Richard J. Kafka          | Affirmative |                      |
| 1 | PP&L, Inc.                                      | Ray Mammarella            | Abstain     |                      |
| 1 | Sacramento Municipal Utility District           | Dilip Mahendra            | Affirmative |                      |
| 1 | Salt River Project                              | Robert Kondziolka         | Affirmative |                      |
| 1 | San Diego Gas & Electric                        | Linda Brown               | Abstain     |                      |
| 1 | Santee Cooper                                   | Terry L. Blackwell        | Affirmative |                      |
| 1 | SaskPower                                       | Wayne Guttormson          | Affirmative |                      |
| 1 | Seattle City Light                              | Christopher M. Turner     | Affirmative |                      |
| 1 | Southern Company Services, Inc.                 | Horace Stephen Williamson | Affirmative |                      |
| 1 | Southwest Transmission Coop., Inc.              | Alan H. Wilkinson         | Affirmative |                      |
| 1 | Tri-State G & T Association Inc.                | Bruce A Sembrick          | Affirmative |                      |
| 1 | Tucson Electric Power Co.                       | Ronald P. Belval          | Affirmative |                      |
| 1 | Westar Energy                                   | Allen Klassen             | Affirmative |                      |
| 1 | Western Area Power Administration               | Robert Temple             | Affirmative |                      |
| 1 | Xcel Energy, Inc.                               | Gregory L. Pieper         | Affirmative |                      |
| 2 | Alberta Electric System Operator                | Anita Lee                 | Affirmative |                      |
| 2 | California ISO                                  | David Hawkins             | Affirmative |                      |
| 2 | Independent Electricity System Operator         | Don Tench                 | Affirmative | <a href="#">View</a> |
| 2 | ISO New England, Inc.                           | Kathleen Goodman          | Affirmative |                      |
| 2 | Midwest ISO, Inc.                               | Terry Bilke               | Affirmative |                      |
| 2 | New Brunswick System Operator                   | Alden Briggs              | Affirmative |                      |
| 2 | New York Independent System Operator            | Gregory Campoli           | Affirmative |                      |
| 2 | PJM Interconnection, L.L.C.                     | Tom Bowe                  | Affirmative |                      |
| 3 | Alabama Power Company                           | Robin Hurst               | Affirmative |                      |
| 3 | Arizona Public Service Co.                      | Thomas R. Glock           | Affirmative |                      |
| 3 | Atlantic City Electric Company                  | James V. Petrella         | Affirmative |                      |
| 3 | Bonneville Power Administration                 | Rebecca Berdahl           | Affirmative |                      |

|   |   |                                     |             |                      |
|---|---|-------------------------------------|-------------|----------------------|
| 3 | City of Tallahassee                           | Rusty S. Foster                     | Negative    |                      |
| 3 | City Public Service of San Antonio            | Edwin Les Barrow                    | Affirmative |                      |
| 3 | Consumers Energy Co.                          | David A. Lapinski                   | Affirmative |                      |
| 3 | Delmarva Power & Light Co.                    | Michael R. Mayer                    | Affirmative |                      |
| 3 | Dominion Resources, Inc.                      | Jalal (John) Babik                  | Affirmative |                      |
| 3 | Entergy Services, Inc.                        | Matt Wolf                           | Abstain     |                      |
| 3 | Farmington Electric Utility System            | Alan Glazner                        | Affirmative |                      |
| 3 | FirstEnergy Solutions                         | Joanne Kathleen Borrell             | Negative    | <a href="#">View</a> |
| 3 | Florida Municipal Power Agency                | Michael Alexander                   | Affirmative |                      |
| 3 | Florida Power & Light Co.                     | W.R. Schoneck                       | Affirmative |                      |
| 3 | Florida Power Corporation                     | Lee Schuster                        | Abstain     |                      |
| 3 | Georgia Power Company                         | Leslie Sibert                       | Affirmative |                      |
| 3 | Great River Energy                            | Sam Kokkinen                        | Affirmative |                      |
| 3 | Gulf Power Company                            | William F. Pope                     |             |                      |
| 3 | Hydro One Networks, Inc.                      | Michael D. Penstone                 | Affirmative |                      |
| 3 | JEA   | Garry Baker                         | Affirmative |                      |
| 3 | Lincoln Electric System                       | Bruce Merrill                       | Affirmative |                      |
| 3 | Manitoba Hydro                                | Ronald Dacombe                      | Affirmative |                      |
| 3 | Mississippi Power                             | Don Horsley                         | Affirmative |                      |
| 3 | New York Power Authority                      | Christopher Lawrence de Graffenried | Affirmative |                      |
| 3 | Northern Indiana Public Service Co.           | William SeDoris                     | Affirmative |                      |
| 3 | Orlando Utilities Commission                  | Ballard Keith Mutters               | Affirmative |                      |
| 3 | Platte River Power Authority                  | Terry L Baker                       | Affirmative |                      |
| 3 | Potomac Electric Power Co.                    | Robert Reuter                       | Affirmative |                      |
| 3 | Progress Energy Carolinas                     | Sam Waters                          | Affirmative |                      |
| 3 | Public Utility District No. 2 of Grant County | Greg Lange                          | Affirmative |                      |
| 3 | Salt River Project                            | John T. Underhill                   | Affirmative |                      |
| 3 | Santee Cooper                                 | Zack Dusenbury                      | Affirmative |                      |
| 3 | Seattle City Light                            | Dana Wheelock                       | Affirmative |                      |
| 3 | Tennessee Valley Authority                    | Cynthia Herron                      | Affirmative |                      |
| 3 | Wisconsin Electric Power Marketing            | James R. Keller                     | Affirmative |                      |
| 3 | Xcel Energy, Inc.                             | Michael Ibold                       | Affirmative |                      |
| 4 | American Municipal Power - Ohio               | Chris Norton                        | Affirmative |                      |
| 4 | Consumers Energy Co.                          | David Frank Ronk                    | Affirmative |                      |
| 4 | Florida Municipal Power Agency                | William S. May                      | Affirmative |                      |
| 4 | Northern California Power Agency              | Fred E. Young                       | Affirmative |                      |
| 4 | Old Dominion Electric Coop.                   | Mark Ringhausen                     | Affirmative |                      |
| 4 | Public Utility District No. 2 of Grant County | Kevin J. Conway                     | Affirmative |                      |
| 4 | Seattle City Light                            | Hao Li                              | Affirmative |                      |
| 4 | Wisconsin Energy Corp.                        | Anthony Jankowski                   | Affirmative |                      |
| 5 | AEP Service Corp.                             | Brock Ondayko                       | Affirmative |                      |
| 5 | Avista Corp.                                  | Edward F. Groce                     | Affirmative |                      |
| 5 | BC Hydro and Power Authority                  | Clement Ma                          |             |                      |
| 5 | Black Hills Power                             | Pamela Pahl                         | Affirmative |                      |
| 5 | Bonneville Power Administration               | Francis J. Halpin                   | Affirmative |                      |
| 5 | Colmac Clarion/Piney Creek LP                 | Harvie D. Beavers                   | Affirmative |                      |
| 5 | Conectiv Energy Supply, Inc.                  | Richard K. Douglass                 | Affirmative |                      |
| 5 | Detroit Edison Company                        | Ronald W. Bauer                     | Affirmative |                      |
| 5 | Dominion Energy                               | Harold W. Adams                     | Affirmative |                      |
| 5 | Entegra Power Group, LLC                      | Kenneth Parker                      | Affirmative |                      |
| 5 | FirstEnergy Solutions                         | Kenneth Dresner                     | Negative    |                      |
| 5 | Florida Municipal Power Agency                | Douglas Keegan                      | Affirmative |                      |
| 5 | Great River Energy                            | Cynthia E Sulzer                    | Affirmative |                      |
| 5 | Lincoln Electric System                       | Dennis Florom                       | Affirmative |                      |

|    |  |                              |             |                      |
|----|--|------------------------------|-------------|----------------------|
| 5  | Manitoba Hydro   | Mark Aikens                  | Affirmative |                      |
| 5  | Municipal Electric Authority of Georgia                      | Roger Brand                  | Affirmative |                      |
| 5  | PPL Generation LLC   | Mark A. Heimbach             | Abstain     |                      |
| 5  | Progress Energy Carolinas                                    | Wayne Lewis                  | Affirmative |                      |
| 5  | Salt River Project   | Glen Reeves                  | Affirmative |                      |
| 5  | Southern Company Services, Inc.                              | Roger D. Green               | Affirmative |                      |
| 5  | U.S. Army Corps of Engineers Northwestern Division           | Karl Bryan                   | Affirmative |                      |
| 5  | Wisconsin Electric Power Co.                                 | Linda Horn                   | Affirmative |                      |
| 5  | Xcel Energy, Inc.  | Stephen J. Beuning           | Affirmative |                      |
| 6  | AEP Service Corp.  | Dana E. Horton               | Affirmative |                      |
| 6  | Black Hills Power  | Larry Williamson             | Affirmative |                      |
| 6  | Bonneville Power Administration                              | Brenda S. Anderson           | Affirmative |                      |
| 6  | Entergy Services, Inc.                                       | William Franklin             | Negative    | <a href="#">View</a> |
| 6  | First Energy Solutions                                       | Alfred G. Roth               | Negative    |                      |
| 6  | Florida Municipal Power Agency                               | Robert C. Williams           |             |                      |
| 6  | Great River Energy   | Donna Stephenson             | Affirmative |                      |
| 6  | Lincoln Electric System                                      | Eric Ruskamp                 | Affirmative |                      |
| 6  | Manitoba Hydro   | Daniel Prowse                | Affirmative |                      |
| 6  | New York Power Authority                                     | Thomas Papadopoulos          | Affirmative |                      |
| 6  | Progress Energy Carolinas                                    | James Eckelkamp              | Affirmative |                      |
| 6  | Sacramento Municipal Utility District                        | Robert D. Schwermann         | Affirmative |                      |
| 6  | Santee Cooper  | Suzanne Ritter               | Affirmative |                      |
| 6  | Seminole Electric Cooperative, Inc.                          | Trudy S. Novak               | Affirmative |                      |
| 6  | Southern Company Generation and Energy Marketing             | J. Roman Carter              | Affirmative |                      |
| 6  | Xcel Energy, Inc.  | David F. Lemmons             | Affirmative |                      |
| 7  | Eastman Chemical Company                                     | Lloyd Webb                   | Affirmative |                      |
| 8  | Energy Mark, Inc.  | Howard F. Illian             | Affirmative |                      |
| 8  | JDRJC Associates   | Jim D. Cyrulewski            | Affirmative |                      |
| 9  | California Energy Commission                                 | William Mitchell Chamberlain | Affirmative |                      |
| 9  | California Public Utilities Commission                       | Laurence Chaset              |             |                      |
| 9  | Commonwealth of Massachusetts Department of Public Utilities | Donald E. Nelson             | Affirmative |                      |
| 9  | National Association of Regulatory Utility Commissioners     | Diane J. Barney              | Affirmative |                      |
| 9  | New York State Public Service Commission                     | James T. Gallagher           | Affirmative |                      |
| 9  | North Carolina Utilities Commission                          | Kimberly J. Jones            | Affirmative |                      |
| 10 | Electric Reliability Council of Texas, Inc.                  | Kent Saathoff                | Affirmative |                      |
| 10 | Florida Reliability Coordinating Council                     | Linda Campbell               | Affirmative |                      |
| 10 | Midwest Reliability Organization                             | Larry Brusseau               |             |                      |
| 10 | New York State Reliability Council                           | Alan Adamson                 | Affirmative |                      |
| 10 | Northeast Power Coordinating Council, Inc.                   | Edward A. Schwerdt           | Affirmative |                      |
| 10 | SERC Reliability Corporation                                 | Gerry W. Cauley              | Negative    | <a href="#">View</a> |
| 10 | Southwest Power Pool   | Charles H. Yeung             | Affirmative |                      |
| 10 | Western Electricity Coordinating Council                     | Louise McCarren              | Affirmative |                      |
|    |  |                              |             |                      |

609.452.8060 (Voice) - 609.452.9550 (Fax)  
 116-390 Village Boulevard, Princeton, New Jersey 08540-5721

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A New Jersey Nonprofit Corporation

**Consideration of Comments on Initial Ballot of Urgent Action Revisions to BAL-004-0**

**Summary Consideration:** The Operating Committee did not make any changes to the Urgent Action Revisions to BAL-004-0 based on comments submitted with ballots.

|                      |   |
|----------------------|---|
| <b>Organization:</b> | <b>American Public Power Association</b>  |
| <b>Member:</b>       | E. Nick Henery  |
| <b>Comment:</b>      | It is agreed that a NERC Committee cannot select the Interconnection Time Monitor (The RC). However, someone, perhaps the RE, must be required appoint an RC for the interconnection, otherwise if two RCs wanted the job, which RC does the BA follows?  |
| <b>Response:</b>     | <p>At its December 2007 meeting, the Operating Committee will consider developing a procedure for selecting and reviewing the performance of the time error correction monitors, and the details for how time corrections are initiated and terminated.</p> <p>Actually, the committee has been doing this all along – but it needs to be documented and added to the Operating Manual. The Operating Committee has approved the time monitor assignments in the Eastern Interconnection (AEP for many years, followed by MAPP, and now MISO). And the time monitors have always brought time correction issues to the OC or the Reliability Coordinator Working Group (now that the reliability coordinators perform this task) for resolution. The OC and RCWG have discussed time correction problems and reviewed correction orders that, for whatever reason, weren't effective. They have changed the start and end times, and readjusted the error boundaries as needed. We will continue doing these things, and will work with NAESB as needed.</p>  |
| <b>Organization:</b> | <b>Entergy Corporation</b>  |
| <b>Member:</b>       | George R. Bartlett  |
| <b>Comment:</b>      | The new version removes the responsibility for the NERC OC to designate the Interconnection Time Monitor without indicating how this responsibility will be assigned in the future. Additionally, this revision now removes the responsibility of who initiates or terminates TE corrections, thus leaving it vague as to who actually directs the RCs and BAs to perform TE corrections.   |
| <b>Response:</b>     | <p>The Operating Committee will make this clear.</p> <p>At its December 2007 meeting, the Operating Committee will consider developing a procedure for selecting and reviewing the performance of the time error correction monitors, and the details for how time corrections are initiated and terminated.</p> <p>Actually, the committee has been doing this all along – but it needs to be documented and added to the Operating Manual. The Operating Committee has approved the time monitor assignments in the Eastern Interconnection (AEP for many years, followed by MAPP, and now MISO). And the time monitors have always brought time correction issues to the OC or the Reliability Coordinator Working Group (now that the reliability coordinators perform this task) for resolution. The OC and RCWG have discussed time correction problems and reviewed correction orders that, for whatever reason, weren't effective. They have changed the start and end times, and readjusted the error boundaries as needed. We will continue doing these things, and will work with NAESB as needed.</p> |
| <b>Organization:</b> | <b>FirstEnergy Energy Delivery</b>  |



|                  |  |
|------------------|--|
| <b>Member:</b>   | Robert Martinko  |
| <b>Comment:</b>  | <p>FE is presently voting against the proposed SAR because of the concerns outlined below and respectfully requests that NERC consider our comments and suggestions while addressing the potential issues. SAR Purpose Statements and FE Positions</p> <p><b>1. Remove inappropriate compliance requirements on reliability coordinators who voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service.</b><br/> FE Position: FE understands the issue at hand but simply removing the requirement can be detrimental from a reliability standpoint. While time-error in and of itself is not a reliability issue, it is an indicator that frequency control and ACE are not being maintained by some Balancing Authorities. Therefore, it is FE's view that the requirement for performing Time Monitor functions is an important reliability issue that should reside under the purview of mandatory enforcement. Additionally, as NERC has stated in this proposed SAR, time correction methods depend on frequency or bias offsets which can affect Interconnection reliability. Since a single Reliability Coordinator must be designated as the Time Monitor for a given Interconnection, we propose NERC consider a format where the responsibility would rotate on some periodic basis, annually, every two years, etc. among registered Reliability Coordinators throughout the Interconnection. This rotation schedule could be added as an Appendix of the standard and would remove the voluntary service aspect that is presently utilized.</p> <p><b>2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator.</b><br/> FE Position: We agree with this because reliability standard requirements should not be the responsibility of the ERO since they are not a user, owner or operator of the bulk power system.</p> <p><b>3. Remove inappropriate requirements to follow NAESB business practices.</b><br/> FE Position: FE understands that NERC believes that referencing NAESB business practices within a NERC standard may not be appropriate. However, we believe that NAESB's Manual Time Error Correction standard WEQ-006 provides a set of requirements for proper time error correction. It sets a uniform method for this procedure that we believe should be adhered to and visible throughout the industry. The NAESB WEQ-006 is a FERC Approved Standard and required to be reflected by public utilities in their open access transmission tariffs (OATT). Therefore, FE believes it is appropriate to reference the NAESB WEQ-006 within the BAL-004 standard.</p> |
| <b>Response:</b> | <p>These are all important topics that the OC believes can be more effectively explained and implemented in an OC procedure rather than in this standard.</p> <p>From a practical standpoint, the Committee's experience over the decades has shown that organizations are very willing to provide this service. AEP was the Eastern Interconnection time monitor for many years. Then MAPP volunteered once we required the monitors to be Reliability Coordinators. And now MISO performs the service. The OC has found the monitors to be serious about their responsibilities, forthcoming in bringing time correction problems to the OC and Reliability Coordinator Working Group, and in tune with the needs and concerns of the balancing authorities.</p> <p>The Committee will most likely expect Reliability Coordinators to be the time monitors and has every reason to believe the RCs will carry out these tasks responsibly. The OC will consult with the Reliability Coordinator Working Group on the merits of rotating the time monitor responsibilities.</p> <p>It would seem very appropriate to reference the NAESB WEQ-006 in such an OC procedure.</p>   |



**Consideration of Comments on Initial Ballot of Urgent Action Revisions to BAL-004-0**

|                      |  |
|----------------------|--|
| <b>Organization:</b> | <b>Nebraska Public Power District</b>  |
| <b>Member:</b>       | Richard L. Koch  |
| <b>Comment:</b>      | <p>I believe the revised standard is incomplete in that it does not say who is responsible and authorized to initiate or terminate Time Error Corrections. For example, I can argue the proposed revision does not prevent a Generator Owner, Transmission Operator, etc. from initiating or terminating a Time Error Correction. As proposed, the BA must respond to any GO's request to participate in a Time Error Correction or be non-compliant with the Requirement. In my opinion, rather than deleting R2, the Standard is more complete by revising R2 to say: R2. The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate Time Error Correction orders. Only an Interconnection Time Monitor can initiate or terminate Time Error Correction orders. This approach will:</p> <ol style="list-style-type: none"> <li>1) Outline the role and responsibility of the Interconnection Time Monitor yet remain ambiguous enough to reduce the risk of sanctions for non-compliance.</li> <li>2) Limit who can initiate or terminate a Time Error Correction. Neither the existing Standard or the proposed Urgent Action limits who can initiate or terminate the order.</li> <li>3) Removes the reference to the NAESB business practice. I also believe this Urgent Action should be expanded to revise R3 to say... R3. Each Balancing Authority, when requested by the Interconnection Time Monitor, shall participate in a Time Error Correction by one of the following methods: This revision clarifies who's request the BA must respond. As written today, R3 requires the BA to respond to all requests regardless of who initiated the request. Note my proposed revision to R2 above may eliminate the need for this revision to R3.</li> </ol> |
| <b>Response:</b>     | <p>The Operating Committee will make all these items clear. This list is helpful.</p> <p>At its December 2007 meeting, the Operating Committee will consider developing a procedure for selecting and reviewing the performance of the time error correction monitors, and the details for how time corrections are initiated and terminated.</p> <p>Actually, the committee has been doing this all along – but it needs to be documented and added to the Operating Manual. The Operating Committee has approved the time monitor assignments in the Eastern Interconnection (AEP for many years, followed by MAPP, and now MISO). And the time monitors have always brought time correction issues to the OC or the Reliability Coordinator Working Group (now that the reliability coordinators perform this task) for resolution. The OC and RCWG have discussed time correction problems and reviewed correction orders that, for whatever reason, weren't effective. They have changed the start and end times, and readjusted the error boundaries as needed. We will continue doing these things, and will work with NAESB as needed.</p>   |
| <b>Organization:</b> | <b>Independent Electricity System Operator</b>   |
| <b>Member:</b>       | Don Tench  |
| <b>Comment:</b>      | Although we support the change to the standard we question the use of the urgent action process to affect the change. It is our view the change does not constitute the need to exercise the urgent action process.  |
| <b>Response:</b>     | The OC discussed this and agreed the issue needed to be dealt with quickly.  |
| <b>Organization:</b> | <b>FirstEnergy Solutions</b>   |
| <b>Member:</b>       | Joanne Kathleen Borrell  |
| <b>Comment:</b>      | FE is presently voting against the proposed SAR because of the concerns outlined below and respectfully requests that NERC consider our comments and suggestions while addressing the potential issues. SAR Purpose Statements and FE Positions 1. Remove inappropriate compliance requirements on reliability coordinators who  |

**Consideration of Comments on Initial Ballot of Urgent Action Revisions to BAL-004-0**

|                             |   |
|-----------------------------|---|
|                             | <p>voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service. FE Position: FE understands the issue at hand but simply removing the requirement can be detrimental from a reliability standpoint. While time-error in and of itself is not a reliability issue, it is an indicator that frequency control and ACE are not being maintained by some Balancing Authorities. Therefore, it is FE's view that the requirement for performing Time Monitor functions is an important reliability issue that should reside under the purview of mandatory enforcement. Additionally, as NERC has stated in this proposed SAR, time correction methods depend on frequency or bias offsets which can affect Interconnection reliability. Since a single Reliability Coordinator must be designated as the Time Monitor for a given Interconnection, we propose NERC consider a format where the responsibility would rotate on some periodic basis, annually, every two years, etc. among registered Reliability Coordinators throughout the Interconnection. This rotation schedule could be added as an Appendix of the standard and would remove the voluntary service aspect that is presently utilized. 2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator. FE Position: We agree with this because reliability standard requirements should not be the responsibility of the ERO since they are not a user, owner or operator of the bulk power system. 3. Remove inappropriate requirements to follow NAESB business practices. FE Position: FE understands that NERC believes that referencing NAESB business practices within a NERC standard may not be appropriate. However, we believe that NAESB's Manual Time Error Correction standard WEQ-006 provides a set of requirements for proper time error correction. It sets a uniform method for this procedure that we believe should be adhered to and visible throughout the industry. The NAESB WEQ-006 is a FERC Approved Standard and required to be reflected by public utilities in their open access transmission tariffs (OATT). Therefore, FE believes it is appropriate to reference the NAESB WEQ-006 within the BAL-004 standard.</p> |
| <p><b>Response:</b></p>     | <p>These are all important topics that the OC believes can be more effectively explained and implemented in an OC procedure rather than in this standard.</p> <p>From a practical standpoint, the Committee's experience over the decades has shown that organizations are very willing to provide this service. AEP was the Eastern Interconnection time monitor for many years. Then MAPP volunteered once we required the monitors to be Reliability Coordinators. And now MISO performs the service. The OC has found the monitors to be serious about their responsibilities, forthcoming in bringing time correction problems to the OC and Reliability Coordinator Working Group, and in tune with the needs and concerns of the balancing authorities.</p> <p>The Committee will most likely expect Reliability Coordinators to be the time monitors and has every reason to believe the RCs will carry out these tasks responsibly. The OC will consult with the Reliability Coordinator Working Group on the merits of rotating the time monitor responsibilities.</p> <p>It would seem very appropriate to reference the NAESB WEQ-006 in such an OC procedure.</p>  |
| <p><b>Organization:</b></p> | <p><b>Entergy Services, Inc.</b></p>  |
| <p><b>Member:</b></p>       | <p>William Franklin</p>   |
| <p><b>Comment:</b></p>      | <p>The proposed new version removes the responsibility for the NERC OC to designate the Interconnection Time Monitor without indicating how this responsibility will be assigned in the future. Additionally, this revision now removes the responsibility of who initiates or terminates TE corrections, thus leaving it vague as to who actually directs the RCs and BAs to perform TE corrections. If it is a matter of the ITM being a voluntary service and NERC determines that it is a service that is needed for reliability, then maybe it should be a contracted service, for which an entity receives payment as well as the</p>   |

**Consideration of Comments on Initial Ballot of Urgent Action Revisions to BAL-004-0**

|                             |   |
|-----------------------------|---|
|                             | <p>responsibility (liability). Reliability functions should have assigned entities who are responsible for those activities. If the activity is not a reliability function, then a more appropriate action would be to remove the activity entirely from the Reliability Standards.</p>   |
| <p><b>Response:</b></p>     | <p>The Operating Committee will make this clear.</p> <p>At its December 2007 meeting, the Operating Committee will consider developing a procedure for selecting and reviewing the performance of the time error correction monitors, and the details for how time corrections are initiated and terminated.</p> <p>Actually, the committee has been doing this all along – but it needs to be documented and added to the Operating Manual. The Operating Committee has approved the time monitor assignments in the Eastern Interconnection (AEP for many years, followed by MAPP, and now MISO). And the time monitors have always brought time correction issues to the OC or the Reliability Coordinator Working Group (now that the reliability coordinators perform this task) for resolution. The OC and RCWG have discussed time correction problems and reviewed correction orders that, for whatever reason, weren't effective. They have changed the start and end times, and readjusted the error boundaries as needed. We will continue doing these things, and will work with NAESB as needed.</p>   |
| <p><b>Organization:</b></p> | <p><b>SERC Reliability Corporation</b></p>  |
| <p><b>Member:</b></p>       | <p>Gerry W. Cauley</p>  |
| <p><b>Comment:</b></p>      | <p>This action is incorrectly labeled as a "SAR" when in fact the action is to approve a proposed revision to the standard. The changes requested are unnecessary to improve reliability. The reason cited that no RC will volunteer to be the time error monitor presents a false logic. There is not a single requirement within the standard that could be violated by the volunteer RC. All the requirements place obligations BA's and NERC, not the volunteer RC. Finally, this request does not come close to being an urgent action. The very same arguments presented to justify the change - that time error correction is not essential to reliability also means that removing it from the standard would have even less benefit for reliability. This is a perfect example of a standard that should proceed through the regular process. If the EI time monitor needs a letter stating the RC performing the time monitor function has no liability under this standard, that would be the correct and appropriate approach, not modifying the standard so that no time monitor is required. The time monitor does perform a valuable and long-standing function for the benefit of the interconnection and its users. It should not be undone so cavalierly.</p> |
| <p><b>Response:</b></p>     | <p>The Committee was quite worried that the RC's might no longer agree to voluntarily serve as time monitors if they were liable for compliance under this standard, and there is no obvious way NERC can compel an RC to take on this responsibility.</p> <p>Before considering a change in the standard, the OC inquired about a letter as Mr. Cauley suggests. However, such a letter absolving the time monitor from compliance is tantamount to a compliance waiver, which the Compliance Program cannot provide.</p> <p>This left the Committee with no choice but request a change in the standard.</p> <p>From a practical standpoint, the Committee's experience with time monitors over the past decades has shown the monitors to be serious about their responsibilities and in tune with the needs and concerns of the balancing authorities. The Operating Committee believes these requirements are better explained and implemented through an OC procedure.</p>  |

November 16, 2007

TO: REGISTERED BALLOT BODY

Ladies and Gentlemen:

**Announcement: Recirculation Ballot Windows Open**

**The Standards Committee (SC) announces the following standards actions:**

**Recirculation Ballot Window for Urgent Action Revisions to BAL-004-0 is Open**

The [recirculation ballot](#) for the [Urgent Action revisions to BAL-004-0](#) — Time Error Correction requested by the NERC Operating Committee is open through 8 p.m. (EST) Tuesday, December 4, 2007. The Standards Committee encourages all members of the Ballot Pool to review the Operating Committee's [consideration of initial ballot comments](#).

Members of the ballot pool may:

- Reconsider and change their vote from the first ballot.
- Vote in the second ballot even if they did not vote on the first ballot.
- Take no action if they do not want to change their original vote.

In the recirculation ballot, votes are counted by exception only — if a Ballot Pool member does not submit a revision to that member's original vote, the vote remains the same as in the first ballot.

**Recirculation Ballot Window for Interpretation of CIP-006-1 (for SCE&G) is Open**

The [recirculation ballot](#) for the [Interpretation of CIP-006-1](#) — Physical Security of Critical Cyber Assets requested by South Carolina Electric & Gas Company is open through 8 p.m. (EST) Tuesday, December 4, 2007. The Standards Committee encourages all members of the Ballot Pool to review the drafting team's [consideration of initial ballot comments](#).

Members of the ballot pool may:

- Reconsider and change their vote from the first ballot.
- Vote in the second ballot even if they did not vote on the first ballot.
- Take no action if they do not want to change their original vote.

In the recirculation ballot, votes are counted by exception only — if a Ballot Pool member does not submit a revision to that member's original vote, the vote remains the same as in the first ballot.

**Standards Development Process**

The [Reliability Standards Development Procedure](#) contains all the procedures governing the standards development process. The success of the NERC standards development process depends on stakeholder participation. We extend our thanks to all those who participate. If you have any questions, please contact me at 813-468-5998 or [maureen.long@nerc.net](mailto:maureen.long@nerc.net).

Sincerely,

*Maureen E. Long*

cc: Registered Ballot Body Registered Users  
Standards Mailing List  
NERC Roster



## Standard Authorization Request Form

|                            |  |
|----------------------------|--|
| Title of Proposed Standard | Standard BAL-004-0 – Time Error Correction |
| Request Date               | July 11, 2007                              |

| <b>SAR Requester Information</b>                         | <b>SAR Type</b> ( <i>Check a box for each one that applies.</i> ) |
|--|---|
| Name            NERC Operating Committee                 | <input type="checkbox"/> New Standard                             |
| Primary Contact    Don Benjamin                          | <input checked="" type="checkbox"/> Revision to existing Standard |
| Telephone    609-452-8060<br>Fax            609-452-9550 | <input type="checkbox"/> Withdrawal of existing Standard          |
| E-mail            don.benjamin@nerc.net                  | <input checked="" type="checkbox"/> Urgent Action                 |

**Purpose (Describe what the standard action will achieve in support of bulk power system reliability.)**

1. Remove inappropriate compliance requirements on reliability coordinators who voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service.
2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator.
3. Remove inappropriate requirements to follow NAESB business practices.

**Industry Need (Provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)**

Ensure the reliability coordinators will continue to voluntarily agree to serve as Interconnection Time Monitors. The OC would continue to approve the Interconnections' time error monitors and review their performance, but not via a standard with its attendant compliance requirements and possible sanctions. Otherwise, it is likely that one or more reliability coordinators may no longer voluntarily agree to perform the service.

**Brief Description (Provide a paragraph that describes the scope of this standard action.)**

1. In Requirement 1, remove requirement that Operating Committee designate Interconnection Time Monitor because the Operating Committee is not a user/owner/operator.

2. Remove Requirement R2 because the Interconnection Time Monitor is a voluntary service and, therefore, should not be penalized for non compliance. Considering the penalty for non-compliance could be as high as \$335k, the Interconnections run the risk of having no one offer to monitor time error and manage time error corrections. While time error itself does not jeopardize Interconnection reliability, time correction methods that depend on either frequency or bias offsets can affect Interconnection reliability. Therefore, it is important for reliability coordinators to continue to provide this voluntary service.

Finally, it is not appropriate for NERC standards to compel an entity to comply with NAESB business practices.

**Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR.)**

**B. Requirements**

- R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~
- R2.** ~~The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~
- R3.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:
  - R3.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or
  - R3.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e. 20% of the Frequency Bias Setting).
- R4.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.
  - R4.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**Standards Authorization Request Form**

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***Reliability Functions***

| <b>The Standard will Apply to the Following Functions</b> <i>(Check box for each one that applies.)</i> |                               |   |
|---|-------------------------------|---|
| <input checked="" 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 its 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 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 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 service (and reliability-related services) to serve the End-use Customer.   |



**Reliability and Market Interface Principles**

|  |   |
|--|---|
| <b>Applicable Reliability Principles</b> <i>(Check box for all that apply.)</i>  |   |
| <input checked="" type="checkbox"/>  | 1. Interconnected bulk power 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 checked="" type="checkbox"/>  | 2. The frequency and voltage of interconnected bulk power 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 power 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 power systems shall be developed, coordinated, maintained and implemented.   |
| <input type="checkbox"/>   | 5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.  |
| <input type="checkbox"/>   | 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.                  |
| <input type="checkbox"/>   | 7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.  |
| <input type="checkbox"/>   | 8. Bulk power systems shall be protected from malicious physical or cyber attacks.  |
| <b>Does the proposed Standard comply with all of the following Market Interface Principles?</b> <i>(Select 'yes' or 'no' from the drop-down box.)</i>  |   |
| 1. A reliability standard shall not give any market participant an unfair competitive advantage. Yes   |   |
| 2. A reliability standard shall neither mandate nor prohibit any specific market structure. Yes  |   |
| 3. A reliability standard shall not preclude market solutions to achieving compliance with that standard. Yes  |   |
| 4. A reliability 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**

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***Related Standards***

| <b>Standard No.</b> | <b>Explanation</b> |
|---------------------|--------------------|
|                     |                    |
|                     |                    |
|                     |                    |
|                     |                    |

***Related SARs***

| <b>SAR ID</b>   | <b>Explanation</b>  |
|-----------------|---|
| Project 2007-05 | Balancing Authority Controls project already includes revision of BAL-004 – Time Error Correction |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |

***Regional Variances***

| <b>Region</b> | <b>Explanation</b> |
|---------------|--------------------|
| ERCOT         |                    |
| FRCC          |                    |
| MRO           |                    |
| NPCC          |                    |
| SERC          |                    |
| RFC           |                    |
| SPP           |                    |
| WECC          |                    |

**A. Introduction**

**1. Title:** Time Error Correction

**2. Number:** BAL-004-1

**3. Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

**4. Applicability:**

**4.1.** Reliability Coordinators

**4.2.** Balancing Authorities

**5. Proposed Effective Date:** First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor.

**R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

## Standard BAL-004-1 — Time Error Correction

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### Version History

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**A. Introduction**

1. **Title:** Time Error Correction

2. **Number:** BAL-004-~~0~~1

3. **Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

4. **Applicability:**

4.1. Reliability Coordinators

4.2. Balancing Authorities

**Proposed Effective Date:** ~~April 1, 2005~~ First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

5.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~

~~**R2.** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~

**R3.R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

~~**R3.1.R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or~~

~~**R3.2.R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).~~

**R4.R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

~~**R4.1.R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.~~

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

**Version History**

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

User Name

Password

Log in

Register

- Ballot Pools
- Current Ballots
- Ballot Results
- Registered Ballot Body
- Proxy Voters

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| Ballot Results                |  |
|-------------------------------|--|
| <b>Ballot Name:</b>           | Urgent Action SAR for BAL-004-0_rc         |
| <b>Ballot Period:</b>         | 11/16/2007 - 12/4/2007                     |
| <b>Ballot Type:</b>           | recirculation                              |
| <b>Total # Votes:</b>         | 153  |
| <b>Total Ballot Pool:</b>     | 157  |
| <b>Quorum:</b>                | <b>97.45 % The Quorum has been reached</b> |
| <b>Weighted Segment Vote:</b> | 94.10 %                                    |
| <b>Ballot Results:</b>        | <b>The Standard has Passed</b>             |

| Summary of Ballot Results |             |                |             |            |              |           |                 |          |          |
|---------------------------|-------------|----------------|-------------|------------|--------------|-----------|-----------------|----------|----------|
| Segment                   | Ballot Pool | Segment Weight | Affirmative |            | Negative     |           | Abstain # Votes | No Vote  |          |
|                           |             |                | # Votes     | Fraction   | # Votes      | Fraction  |                 |          |          |
| 1 - Segment 1.            |             | 49             | 1           | 41         | 0.891        | 5         | 0.109           | 2        | 1        |
| 2 - Segment 2.            |             | 8              | 0.8         | 8          | 0.8          | 0         | 0               | 0        | 0        |
| 3 - Segment 3.            |             | 36             | 1           | 32         | 0.941        | 2         | 0.059           | 1        | 1        |
| 4 - Segment 4.            |             | 8              | 0.8         | 8          | 0.8          | 0         | 0               | 0        | 0        |
| 5 - Segment 5.            |             | 23             | 1           | 19         | 0.905        | 2         | 0.095           | 1        | 1        |
| 6 - Segment 6.            |             | 16             | 1           | 15         | 0.938        | 1         | 0.063           | 0        | 0        |
| 7 - Segment 7.            |             | 1              | 0.1         | 1          | 0.1          | 0         | 0               | 0        | 0        |
| 8 - Segment 8.            |             | 2              | 0.2         | 2          | 0.2          | 0         | 0               | 0        | 0        |
| 9 - Segment 9.            |             | 6              | 0.5         | 5          | 0.5          | 0         | 0               | 0        | 1        |
| 10 - Segment 10.          |             | 8              | 0.8         | 7          | 0.7          | 1         | 0.1             | 0        | 0        |
| <b>Totals</b>             |             | <b>157</b>     | <b>7.2</b>  | <b>138</b> | <b>6.775</b> | <b>11</b> | <b>0.426</b>    | <b>4</b> | <b>4</b> |

| Individual Ballot Pool Results |  |                   |             |                      |
|--------------------------------|--|-------------------|-------------|----------------------|
| Segment                        | Organization                                 | Member            | Ballot      | Comments             |
| 1                              | AEP Service Corp. -- Transmission System AEP | Scott P. Moore    | Affirmative |                      |
| 1                              | Ameren Services                              | Kirit S. Shah     | Affirmative |                      |
| 1                              | American Public Power Association            | E. Nick Henery    | Negative    | <a href="#">View</a> |
| 1                              | Arizona Public Service Co.                   | Cary B. Deise     | Affirmative |                      |
| 1                              | Avista Corp.                                 | Scott Kinney      | Affirmative |                      |
| 1                              | Bonneville Power Administration              | Donald S. Watkins | Affirmative |                      |
| 1                              | Consolidated Edison Co. of New York          | Edwin Thompson    | Affirmative |                      |
| 1                              | Duke Energy Carolina                         | Douglas E. Hills  | Affirmative |                      |

|   |   |                           |             |                      |
|---|---|---------------------------|-------------|----------------------|
| 1 | Entergy Corporation                             | George R. Bartlett        | Negative    |                      |
| 1 | FirstEnergy Energy Delivery                     | Robert Martinko           | Negative    | <a href="#">View</a> |
| 1 | Florida Keys Electric Cooperative Assoc.        | Dennis Minton             | Affirmative |                      |
| 1 | Florida Power & Light Co.                       | C. Martin Mennes          | Affirmative |                      |
| 1 | Gainesville Regional Utilities                  | Luther E. Fair            | Affirmative |                      |
| 1 | Great River Energy                              | Gordon Pietsch            | Affirmative |                      |
| 1 | Hoosier Energy Rural Electric Cooperative, Inc. | Damon Holladay            | Affirmative |                      |
| 1 | Hydro One Networks, Inc.                        | Ajay Garg                 | Affirmative |                      |
| 1 | Hydro-Quebec TransEnergie                       | Julien Gagnon             | Affirmative |                      |
| 1 | Idaho Power Company                             | Ronald D. Schellberg      | Affirmative |                      |
| 1 | JEA   | Ted E. Hobson             | Affirmative |                      |
| 1 | Kansas City Power & Light Co.                   | Jim Useldinger            | Affirmative |                      |
| 1 | Keyspan LIPA                                    | Richard J. Bolbrock       | Affirmative |                      |
| 1 | Lincoln Electric System                         | Doug Bantam               | Affirmative |                      |
| 1 | Manitoba Hydro                                  | Robert G. Coish           | Affirmative |                      |
| 1 | Minnesota Power, Inc.                           | Carol Gerou               | Affirmative |                      |
| 1 | Municipal Electric Authority of Georgia         | Jerry J Tang              | Affirmative |                      |
| 1 | Nebraska Public Power District                  | Richard L. Koch           | Negative    | <a href="#">View</a> |
| 1 | New Brunswick Power Transmission Corporation    | Wayne N. Snowdon          | Negative    |                      |
| 1 | New York Power Authority                        | Ralph Rufrano             | Affirmative |                      |
| 1 | Northeast Utilities                             | David H. Boguslawski      | Affirmative |                      |
| 1 | Northern Indiana Public Service Co.             | Joseph Dobes              | Affirmative |                      |
| 1 | Oklahoma Gas and Electric Co.                   | Melvin H. Perkins         |             |                      |
| 1 | Oncor Electric Delivery                         | Charles W. Jenkins        | Affirmative |                      |
| 1 | Otter Tail Power Company                        | Lawrence R. Larson        | Affirmative |                      |
| 1 | PacifiCorp                                      | Robert Williams           | Affirmative |                      |
| 1 | Potomac Electric Power Co.                      | Richard J. Kafka          | Affirmative |                      |
| 1 | PP&L, Inc.                                      | Ray Mammarella            | Abstain     |                      |
| 1 | Sacramento Municipal Utility District           | Dilip Mahendra            | Affirmative |                      |
| 1 | Salt River Project                              | Robert Kondziolka         | Affirmative |                      |
| 1 | San Diego Gas & Electric                        | Linda Brown               | Abstain     |                      |
| 1 | Santee Cooper                                   | Terry L. Blackwell        | Affirmative |                      |
| 1 | SaskPower                                       | Wayne Guttormson          | Affirmative |                      |
| 1 | Seattle City Light                              | Christopher M. Turner     | Affirmative |                      |
| 1 | Southern Company Services, Inc.                 | Horace Stephen Williamson | Affirmative |                      |
| 1 | Southwest Transmission Cooperative, Inc.        | Alan H. Wilkinson         | Affirmative |                      |
| 1 | Tri-State G & T Association Inc.                | Bruce A Sembrick          | Affirmative |                      |
| 1 | Tucson Electric Power Co.                       | Ronald P. Belval          | Affirmative |                      |
| 1 | Westar Energy                                   | Allen Klassen             | Affirmative |                      |
| 1 | Western Area Power Administration               | Robert Temple             | Affirmative |                      |
| 1 | Xcel Energy, Inc.                               | Gregory L. Pieper         | Affirmative |                      |
| 2 | Alberta Electric System Operator                | Anita Lee                 | Affirmative |                      |
| 2 | California ISO                                  | David Hawkins             | Affirmative |                      |
| 2 | Independent Electricity System Operator         | Don Tench                 | Affirmative | <a href="#">View</a> |
| 2 | ISO New England, Inc.                           | Kathleen Goodman          | Affirmative |                      |
| 2 | Midwest ISO, Inc.                               | Terry Bilke               | Affirmative |                      |
| 2 | New Brunswick System Operator                   | Alden Briggs              | Affirmative |                      |
| 2 | New York Independent System Operator            | Gregory Campoli           | Affirmative |                      |
| 2 | PJM Interconnection, L.L.C.                     | Tom Bowe                  | Affirmative |                      |
| 3 | Alabama Power Company                           | Robin Hurst               | Affirmative |                      |
| 3 | Arizona Public Service Co.                      | Thomas R. Glock           | Affirmative |                      |
| 3 | Atlantic City Electric Company                  | James V. Petrella         | Affirmative |                      |
| 3 | Bonneville Power Administration                 | Rebecca Berdahl           | Affirmative |                      |
| 3 | City of Tallahassee                             | Rusty S. Foster           | Affirmative |                      |
| 3 | City Public Service of San Antonio              | Edwin Les Barrow          | Affirmative |                      |
| 3 | Consumers Energy                                | David A. Lapinski         | Affirmative |                      |
| 3 | Delmarva Power & Light Co.                      | Michael R. Mayer          | Affirmative |                      |
| 3 | Dominion Resources, Inc.                        | Jalal (John) Babik        | Affirmative |                      |
| 3 | Entergy Services, Inc.                          | Matt Wolf                 | Negative    |                      |
| 3 | Farmington Electric Utility System              | Alan Glazner              | Affirmative |                      |
| 3 | FirstEnergy Solutions                           | Joanne Kathleen Borrell   | Negative    | <a href="#">View</a> |
| 3 | Florida Municipal Power Agency                  | Michael Alexander         | Affirmative |                      |
| 3 | Florida Power & Light Co.                       | W. R. Schoneck            | Affirmative |                      |
| 3 | Florida Power Corporation                       | Lee Schuster              | Abstain     |                      |
| 3 | Georgia Power Company                           | Leslie Sibert             | Affirmative |                      |



|   |  |                            |             |                      |
|---|--|----------------------------|-------------|----------------------|
| 3 | Great River Energy                                 | Sam Kokkinen               | Affirmative |                      |
| 3 | Gulf Power Company                                 | William F. Pope            |             |                      |
| 3 | Hydro One Networks, Inc.                           | Michael D. Penstone        | Affirmative |                      |
| 3 | JEA  | Garry Baker                | Affirmative |                      |
| 3 | Lincoln Electric System                            | Bruce Merrill              | Affirmative |                      |
| 3 | Manitoba Hydro                                     | Ronald Dacombe             | Affirmative |                      |
| 3 | Mississippi Power                                  | Don Horsley                | Affirmative |                      |
| 3 | New York Power Authority                           | Christopher de Graffenried | Affirmative |                      |
| 3 | Northern Indiana Public Service Co.                | William SeDoris            | Affirmative |                      |
| 3 | Orlando Utilities Commission                       | Ballard Keith Mutters      | Affirmative |                      |
| 3 | Platte River Power Authority                       | Terry L Baker              | Affirmative |                      |
| 3 | Potomac Electric Power Co.                         | Robert Reuter              | Affirmative |                      |
| 3 | Progress Energy Carolinas                          | Sam Waters                 | Affirmative |                      |
| 3 | Public Utility District No. 2 of Grant County      | Greg Lange                 | Affirmative |                      |
| 3 | Salt River Project                                 | John T. Underhill          | Affirmative |                      |
| 3 | Santee Cooper                                      | Zack Dusenbury             | Affirmative |                      |
| 3 | Seattle City Light                                 | Dana Wheelock              | Affirmative |                      |
| 3 | Tennessee Valley Authority                         | Cynthia Herron             | Affirmative |                      |
| 3 | Wisconsin Electric Power Marketing                 | James R. Keller            | Affirmative |                      |
| 3 | Xcel Energy, Inc.                                  | Michael Ibold              | Affirmative |                      |
| 4 | American Municipal Power - Ohio                    | Chris Norton               | Affirmative |                      |
| 4 | Consumers Energy                                   | David Frank Ronk           | Affirmative |                      |
| 4 | Florida Municipal Power Agency                     | William S. May             | Affirmative |                      |
| 4 | Northern California Power Agency                   | Fred E. Young              | Affirmative |                      |
| 4 | Old Dominion Electric Coop.                        | Mark Ringhausen            | Affirmative |                      |
| 4 | Public Utility District No. 2 of Grant County      | Kevin J. Conway            | Affirmative |                      |
| 4 | Seattle City Light                                 | Hao Li                     | Affirmative |                      |
| 4 | Wisconsin Energy Corp.                             | Anthony Jankowski          | Affirmative |                      |
| 5 | AEP Service Corp.                                  | Brock Ondayko              | Affirmative |                      |
| 5 | Avista Corp.                                       | Edward F. Groce            | Affirmative |                      |
| 5 | BC Hydro and Power Authority                       | Clement Ma                 |             |                      |
| 5 | Black Hills Power                                  | Pamela Pahl                | Affirmative |                      |
| 5 | Bonneville Power Administration                    | Francis J. Halpin          | Affirmative |                      |
| 5 | Colmac Clarion/Piney Creek LP                      | Harvie D. Beavers          | Affirmative |                      |
| 5 | Conectiv Energy Supply, Inc.                       | Richard K. Douglass        | Affirmative |                      |
| 5 | Detroit Edison Company                             | Ronald W. Bauer            | Affirmative |                      |
| 5 | Dominion Energy                                    | Harold W. Adams            | Affirmative |                      |
| 5 | Entegra Power Group, LLC                           | Kenneth Parker             | Affirmative |                      |
| 5 | FirstEnergy Solutions                              | Kenneth Dresner            | Negative    |                      |
| 5 | Florida Municipal Power Agency                     | Douglas Keegan             | Affirmative |                      |
| 5 | Great River Energy                                 | Cynthia E Sulzer           | Negative    |                      |
| 5 | Lincoln Electric System                            | Dennis Florom              | Affirmative |                      |
| 5 | Manitoba Hydro                                     | Mark Aikens                | Affirmative |                      |
| 5 | Municipal Electric Authority of Georgia            | Roger Brand                | Affirmative |                      |
| 5 | PPL Generation LLC                                 | Mark A. Heimbach           | Abstain     |                      |
| 5 | Progress Energy Carolinas                          | Wayne Lewis                | Affirmative |                      |
| 5 | Salt River Project                                 | Glen Reeves                | Affirmative |                      |
| 5 | Southern Company Services, Inc.                    | Roger D. Green             | Affirmative |                      |
| 5 | U.S. Army Corps of Engineers Northwestern Division | Karl Bryan                 | Affirmative |                      |
| 5 | Wisconsin Electric Power Co.                       | Linda Horn                 | Affirmative |                      |
| 5 | Xcel Energy, Inc.                                  | Stephen J. Beuning         | Affirmative |                      |
| 6 | AEP Service Corp.                                  | Dana E. Horton             | Affirmative |                      |
| 6 | Black Hills Power                                  | Larry Williamson           | Affirmative |                      |
| 6 | Bonneville Power Administration                    | Brenda S. Anderson         | Affirmative |                      |
| 6 | Entergy Services, Inc.                             | William Franklin           | Negative    | <a href="#">View</a> |
| 6 | First Energy Solutions                             | Alfred G. Roth             | Affirmative |                      |
| 6 | Florida Municipal Power Agency                     | Robert C. Williams         | Affirmative |                      |
| 6 | Great River Energy                                 | Donna Stephenson           | Affirmative |                      |
| 6 | Lincoln Electric System                            | Eric Ruskamp               | Affirmative |                      |
| 6 | Manitoba Hydro                                     | Daniel Prowse              | Affirmative |                      |
| 6 | New York Power Authority                           | Thomas Papadopoulos        | Affirmative |                      |
| 6 | Progress Energy Carolinas                          | James Eckelkamp            | Affirmative |                      |
| 6 | Sacramento Municipal Utility District              | Robert Schwermann          | Affirmative |                      |
| 6 | Santee Cooper                                      | Suzanne Ritter             | Affirmative |                      |
| 6 | Seminole Electric Cooperative, Inc.                | Trudy S. Novak             | Affirmative |                      |
| 6 | Southern Company Generation and Energy             | J. Roman Carter            | Affirmative |                      |



|    | Marketing  |                              |             |                      |
|----|--|------------------------------|-------------|----------------------|
| 6  | Xcel Energy, Inc.  | David F. Lemmons             | Affirmative |                      |
| 7  | Eastman Chemical Company                                     | Lloyd Webb                   | Affirmative |                      |
| 8  | Energy Mark, Inc.  | Howard F. Illian             | Affirmative |                      |
| 8  | JDRJC Associates   | Jim D. Cyrulewski            | Affirmative |                      |
| 9  | California Energy Commission                                 | William Mitchell Chamberlain | Affirmative |                      |
| 9  | California Public Utilities Commission                       | Laurence Chaset              |             |                      |
| 9  | Commonwealth of Massachusetts Department of Public Utilities | Donald E. Nelson             | Affirmative |                      |
| 9  | National Association of Regulatory Utility Commissioners     | Diane J. Barney              | Affirmative |                      |
| 9  | New York State Public Service Commission                     | James T. Gallagher           | Affirmative |                      |
| 9  | North Carolina Utilities Commission                          | Kimberly J. Jones            | Affirmative |                      |
| 10 | Electric Reliability Council of Texas, Inc.                  | Kent Saathoff                | Affirmative |                      |
| 10 | Florida Reliability Coordinating Council                     | Linda Campbell               | Affirmative |                      |
| 10 | Midwest Reliability Organization                             | Larry Brusseau               | Affirmative |                      |
| 10 | New York State Reliability Council                           | Alan Adamson                 | Affirmative |                      |
| 10 | Northeast Power Coordinating Council, Inc.                   | Edward Schwerdt              | Affirmative |                      |
| 10 | SERC Reliability Corporation                                 | Gerry Cauley                 | Negative    | <a href="#">View</a> |
| 10 | Southwest Power Pool   | Charles H. Yeung             | Affirmative |                      |
| 10 | Western Electricity Coordinating Council                     | Louise McCarren              | Affirmative |                      |
|    |  |                              |             |                      |

Legal and Privacy : 609.452.8060 voice : 609.452.9550 fax : 116-390 Village Boulevard : Princeton, NJ 08540-5721  
 Washington Office: 1120 G Street, N.W. : Suite 990 : Washington, DC 20005-3801

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116-390 Village Boulevard, Princeton, New Jersey 08540-5721

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## Standard Authorization Request Form

|                            |  |
|----------------------------|--|
| Title of Proposed Standard | Standard BAL-004-0 – Time Error Correction |
| Request Date               | July 11, 2007                              |

| <b>SAR Requester Information</b>                         | <b>SAR Type</b> ( <i>Check a box for each one that applies.</i> ) |
|--|---|
| Name            NERC Operating Committee                 | <input type="checkbox"/> New Standard                             |
| Primary Contact    Don Benjamin                          | <input checked="" type="checkbox"/> Revision to existing Standard |
| Telephone    609-452-8060<br>Fax            609-452-9550 | <input type="checkbox"/> Withdrawal of existing Standard          |
| E-mail            don.benjamin@nerc.net                  | <input checked="" type="checkbox"/> Urgent Action                 |

**Purpose (Describe what the standard action will achieve in support of bulk power system reliability.)**

1. Remove inappropriate compliance requirements on reliability coordinators who voluntarily agree to serve as Interconnection Time Monitors. This will help ensure that reliability coordinators continue to provide this voluntary service.
2. Remove inappropriate compliance requirements on the NERC Operating Committee, which is not a user, owner, or operator.
3. Remove inappropriate requirements to follow NAESB business practices.

**Industry Need (Provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)**

Ensure the reliability coordinators will continue to voluntarily agree to serve as Interconnection Time Monitors. The OC would continue to approve the Interconnections' time error monitors and review their performance, but not via a standard with its attendant compliance requirements and possible sanctions. Otherwise, it is likely that one or more reliability coordinators may no longer voluntarily agree to perform the service.

**Brief Description (Provide a paragraph that describes the scope of this standard action.)**

1. In Requirement 1, remove requirement that Operating Committee designate Interconnection Time Monitor because the Operating Committee is not a user/owner/operator.
2. Remove Requirement R2 because the Interconnection Time Monitor is a voluntary service and, therefore, should not be penalized for non compliance. Considering the penalty for non-compliance could be as high as \$335k, the Interconnections run the risk of having no one offer to monitor time error and manage time error corrections. While time error itself does not jeopardize Interconnection reliability, time correction methods that depend on either frequency or bias offsets can affect Interconnection reliability. Therefore, it is important for reliability coordinators to continue to provide this voluntary service.

Finally, it is not appropriate for NERC standards to compel an entity to comply with NAESB business practices.

**Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR.)**

**B. Requirements**

- R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~
- R2.** ~~The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~
- R3.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:
- R3.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or
- R3.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e. 20% of the Frequency Bias Setting).
- R4.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.
- R4.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**Standards Authorization Request Form**

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***Reliability Functions***

| <b>The Standard will Apply to the Following Functions</b> <i>(Check box for each one that applies.)</i> |                               |   |
|---|-------------------------------|---|
| <input checked="" 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 its 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 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 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 service (and reliability-related services) to serve the End-use Customer.   |

**Reliability and Market Interface Principles**

|  |   |
|--|---|
| <b>Applicable Reliability Principles</b> <i>(Check box for all that apply.)</i>  |   |
| <input checked="" type="checkbox"/>  | 1. Interconnected bulk power 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 checked="" type="checkbox"/>  | 2. The frequency and voltage of interconnected bulk power 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 power 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 power systems shall be developed, coordinated, maintained and implemented.   |
| <input type="checkbox"/>   | 5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.  |
| <input type="checkbox"/>   | 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.                  |
| <input type="checkbox"/>   | 7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.  |
| <input type="checkbox"/>   | 8. Bulk power systems shall be protected from malicious physical or cyber attacks.  |
| <b>Does the proposed Standard comply with all of the following Market Interface Principles?</b> <i>(Select 'yes' or 'no' from the drop-down box.)</i>  |   |
| 1. A reliability standard shall not give any market participant an unfair competitive advantage. Yes   |   |
| 2. A reliability standard shall neither mandate nor prohibit any specific market structure. Yes  |   |
| 3. A reliability standard shall not preclude market solutions to achieving compliance with that standard. Yes  |   |
| 4. A reliability 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**

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***Related Standards***

| <b>Standard No.</b> | <b>Explanation</b> |
|---------------------|--------------------|
|                     |                    |
|                     |                    |
|                     |                    |
|                     |                    |

***Related SARs***

| <b>SAR ID</b>   | <b>Explanation</b>  |
|-----------------|---|
| Project 2007-05 | Balancing Authority Controls project already includes revision of BAL-004 – Time Error Correction |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |
|                 |   |

***Regional Variances***

| <b>Region</b> | <b>Explanation</b> |
|---------------|--------------------|
| ERCOT         |                    |
| FRCC          |                    |
| MRO           |                    |
| NPCC          |                    |
| SERC          |                    |
| RFC           |                    |
| SPP           |                    |
| WECC          |                    |

**A. Introduction**

**1. Title:** Time Error Correction

**2. Number:** BAL-004-1

**3. Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

**4. Applicability:**

**4.1.** Reliability Coordinators

**4.2.** Balancing Authorities

**5. Proposed Effective Date:** First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor.

**R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

**R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or

**R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).

**R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

**R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

## Standard BAL-004-1 — Time Error Correction

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### Version History

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**A. Introduction**

1. **Title:** Time Error Correction

2. **Number:** BAL-004-~~0~~1

3. **Purpose:**

The purpose of this standard is to ensure that Time Error Corrections are conducted in a manner that does not adversely affect the reliability of the Interconnection.

4. **Applicability:**

4.1. Reliability Coordinators

4.2. Balancing Authorities

**Proposed Effective Date:** ~~April 1, 2005~~ First day of first quarter after applicable regulatory approval or, in those jurisdictions where regulatory approval is not required, upon Board of Trustees approval.

5.

**B. Requirements**

**R1.** Only a Reliability Coordinator shall be eligible to act as Interconnection Time Monitor. ~~A single Reliability Coordinator in each Interconnection shall be designated by the NERC Operating Committee to serve as Interconnection Time Monitor.~~

~~**R2.** The Interconnection Time Monitor shall monitor Time Error and shall initiate or terminate corrective action orders in accordance with the NAESB Time Error Correction Procedure.~~

**R3.R2.** Each Balancing Authority, when requested, shall participate in a Time Error Correction by one of the following methods:

~~**R3.1.R2.1.** The Balancing Authority shall offset its frequency schedule by 0.02 Hertz, leaving the Frequency Bias Setting normal; or~~

~~**R3.2.R2.2.** The Balancing Authority shall offset its Net Interchange Schedule (MW) by an amount equal to the computed bias contribution during a 0.02 Hertz Frequency Deviation (i.e., 20% of the Frequency Bias Setting).~~

**R4.R3.** Any Reliability Coordinator in an Interconnection shall have the authority to request the Interconnection Time Monitor to terminate a Time Error Correction in progress, or a scheduled Time Error Correction that has not begun, for reliability considerations.

~~**R4.1.R3.1.** Balancing Authorities that have reliability concerns with the execution of a Time Error Correction shall notify their Reliability Coordinator and request the termination of a Time Error Correction in progress.~~

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

None identified.

**Version History**

| Version | Date           | Action                                 | Change Tracking |
|---------|----------------|--|-----------------|
| 0       | April 1, 2005  | Effective Date                         | New             |
| 0       | August 8, 2005 | Removed "Proposed" from Effective Date | Errata          |
|         |                |  |                 |
|         |                |  |                 |

**Exhibit C**

**“Time Monitoring Reference Document”**

## Time Monitoring Reference Document

### Introduction

This procedure outlines responsibilities of reliability coordinators serving as time monitors in the North American interconnections. Changes to this reference document will be at the direction of the NERC Operating Committee (OC) with the participation of the NERC Resources Subcommittee (RS) and the Operating Reliability Subcommittee (ORS).

This document applies to current and future frequency or time related procedural responsibilities assigned to the time monitor in NERC standards or NAESB business practices.

### Designation of Time Monitor

There will be one time monitor within each interconnection. NERC ORS will nominate a time monitor for each interconnection. The ORS will present the nomination to the NERC OC for acceptance. The NERC OC will forward the nomination to the NERC Board of Trustees for approval.

The term of each time monitor shall be three (3) years. The time monitor term shall be automatically renewed unless requested otherwise by providing a minimum of six (6) months notice to the NERC ORS. Should an existing time monitor no longer be willing or able to fulfill its responsibilities, the NERC Operating Committee will direct the NERC ORS to nominate a replacement and communicate the transition plan.

If a time monitor fails to fulfill its responsibilities, the NERC ORS will work with the time monitor to resolve the problem. The NERC ORS will submit a report to the NERC OC either identifying corrective measures taken or provide a recommendation for a new time monitor.

The NERC RS will report to the NERC OC and ORS any frequency or time error issues that may have been caused or aggravated by the time monitor or time error correction (TEC) practices.

### Responsibilities of the Time Monitor

The time monitor will start and stop time error corrections as outlined in NERC standards and NAESB business practices.

The time monitor will terminate any TEC believed to be negatively impacting reliability. Requests for termination may come from any transmission operator or balancing authority operator to its respective reliability coordinator, who will notify the respective Interconnection's time monitor.

The time monitor will provide accumulated time error following each TEC or at least monthly to the BAs within its interconnection.

### **References**

Links to each time monitor's local procedures to meet this procedure will be posted at the NERC RS Web site (<http://www.nerc.com/~filez/rs.html>).

### **Interconnection Time Monitors**

Each interconnection has identified the following reliability coordinator as its time monitor:

1. ERCOT Interconnection – ERCOT reliability coordinator
2. Québec Interconnection – Hydro-Québec TransÉnergie reliability coordinator
3. Eastern Interconnection – Midwest ISO reliability coordinator
4. WECC Interconnection – California Mexico reliability coordinator