

To: Transmission Owners
Generator Owners
Distribution Providers
Industry Stakeholders

RE: Request for Public Comment on Protection System Misoperation Data Collection

To All Interested Parties:

The North American Electric Reliability Corporation (“NERC”) requests public comment by 8:00 p.m. EST, September 23, 2013, on its proposal to collect Protection System Misoperation¹ data as noted below. Comments must be submitted in an electronic document to metrics@nerc.net.

In accordance with Section 1600 of the NERC *Rules of Procedure*,² NERC may request data or information (“Data Request”) necessary in order to meet its obligations under Section 215 of the Federal Power Act, as authorized by Section 39.2(d)³ of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations.

Standard development Project 2010-05.1—Protection System Misoperations involves the revision of Reliability Standard PRC-004-2a (Analysis and Mitigation of Transmission and Generation Protection System Misoperations). The revised standard will combine Reliability Standard PRC-003-1 – Regional Procedure for Analysis of Misoperations of Transmission and Generation Protection Systems and Reliability Standard PRC-004-2a. The revised Reliability Standard, PRC-004-3 (Protection System Misoperation Identification and Correction), is currently projected to be presented to the NERC Board of Trustees (“Board”) in November 2013.

The Standards Authorization Request, which sets the scope of work for combining Reliability Standards PRC-003-1 and PRC-004-2a, includes instructions to address the following in Project 2010-05.1:

- Clarify the definition of “Misoperation”;

¹ “Misoperation” is a defined term in the NERC *Glossary of Terms Used in NERC Reliability Standards* available at: http://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf.

² NERC’s *Rules of Procedure* are available at:

http://www.nerc.com/files/NERC_Rules_of_Procedure_EFFECTIVE_20111117.pdf.

³ 18 C.F.R. § 39.2(d) (2013).

- Establish a consistent metric for measuring Protection System performance with uniform applicability;
- Clarify reporting requirements and processes;
- Review all Faults or Protection System operations on the Bulk Electric System (“BES”) to identify those that are BES Protection System Misoperations;
- Analyze BES Protection System Misoperations to determine cause(s); and
- Develop and implement Corrective Action Plans to address the causes of BES Protection System Misoperations.

The Standard Drafting Team has proposed to remove from the revised standard the data reporting obligation included in Reliability Standard PRC-004-2a⁴ and proposes instead that NERC request under Section 1600 of the NERC *Rules of Procedure* the data required for performance analysis purposes. The revised Reliability Standard PRC-004-3 will continue to require retention of data or evidence of compliance in the “Compliance” section of the standard.

The purpose of this proposed Data Request is to continue consistent reporting of Misoperation data to NERC through a standardized template for performance analysis. NERC will analyze the data to:

- Develop meaningful metrics to assess Protection System performance;
- Identify trends in Protection System performance that negatively impact reliability;
- Identify remediation techniques to reduce the rate of occurrence and severity of Misoperations;
- Provide focused assistance to entities in need of guidance; and
- Publicize lessons learned to the industry.

Monitoring, analyzing, and tracking trends in Protection System Misoperations are critical to improve BES reliability. Historically, Protection System Misoperations have exacerbated the severity of most cascading power outages. For example, Protection System Misoperations played a significant role in expanding the impacts of the August 14, 2003 Northeast blackout.⁵ In the 2012 State of Reliability report,⁶ Misoperations were identified as one of the top risks to reliability. Additionally, Protection System Misoperations were cited as being one of the primary risk factors in the 2013 State of

⁴ Requirement R3 of PRC-004-2a requires Transmission Owners, any Distribution Providers that own a transmission Protection System, and Generator Owners to provide to its Regional Entity documentation of its Misoperations analyses and Corrective Action Plans according to the Regional Entity’s procedures.

⁵ *U.S.-Canada Power System Outage Task Force Study: August 14th Blackout: Causes and Recommendations* at 109, available at: <https://reports.energy.gov/BlackoutFinal-Web.pdf>

⁶ *2012 State of Reliability*, available at: http://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/2012_SOR.pdf

Reliability report.⁷ Following the recommendations in the 2012 State of Reliability report, the Protection System Misoperations Task Force was formed to review Misoperations and provide recommendations for reducing Misoperations. The task force analyzed the top three causes of Misoperations between the second quarter of 2011 and the second quarter of 2012 and developed targeted Misoperation reduction plans. This analysis relied heavily on the data collected in Reliability Standard PRC-004-002a. Absent this information, the analysis would not have been possible.

Further, Misoperation data collection provides several benefits to BES reliability and supports NERC's mission of ensuring the reliability of the Bulk Power System ("BPS") in North America. The proposed Data Request will make available the information necessary for NERC to provide high value risk analysis. This data will also allow NERC to identify areas for improvement in Misoperation rates through quantitative data analysis. For these reasons, NERC is proposing to continue collection of the data immediately upon the retirement of the data reporting obligation in Reliability Standard PRC-004-2a.

Accordingly, NERC is posting this proposed Data Request in accordance with the requirements of Section 1606 of the NERC *Rules of Procedure* for public comment. On July 23, 2013, NERC provided this proposed data request to FERC for review as required by Section 1602 of the NERC *Rules of Procedure*. The customary 21-day FERC review period was shortened to 15 days to allow for simultaneous consideration by the Board of proposed Reliability Standard PRC-004-3 and this Data Request. The 45-day public comment period will run from August 8, 2013 to September 23, 2013. NERC will present this proposed Data Request, revised as appropriate in response to comments received, to the Board for approval as required by Section 1602 of the NERC *Rules of Procedure*. This Data Request will become mandatory concurrently with the retirement of the data reporting obligation in Reliability Standard PRC-004-2a.

NERC Contact Information

The Data Request must be completed in electronic format. Should the submitting entity experience any issues with submitting its data, contact Andrew Slone via email at Andrew.Slone@nerc.net or by telephone at (404) 446-9719. If the respondent believes that any of the responses to this survey should remain confidential, contact the project manager directly for further instructions.

Official correspondence may be mailed to:
NERC – Misoperations

⁷ *State of Reliability 2013*, available at:
http://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/2013_SOR_May%2015.pdf

C/O Andrew Slone
3353 Peachtree Road, Suite 600, North Tower
Atlanta, GA 08540

Authority

Under Section 215 of the Federal Power Act (16 U.S.C. § 824o), Congress entrusted FERC with the duties of approving and enforcing rules to ensure the reliability of the BPS, and with the duties of certifying an Electric Reliability Organization (“ERO”) that would be charged with developing and enforcing mandatory Reliability Standards, subject to FERC approval. NERC was certified as the ERO on July 20, 2006. NERC’s authority for issuing this survey is derived from Section 215 of the Federal Power Act, and from the following sources:

NERC is requesting this information in accordance with its authority provided in 18 C.F.R. §39.2(d), which provides:

Each user, owner or operator of the BPS within the United States (other than Alaska and Hawaii) shall provide the Commission, the ERO, and the applicable Regional Entity such information as is necessary to implement section 215 of the Federal Power Act as determined by the Commission and set out in the Rules of the ERO and each applicable Regional Entity. The ERO and each Regional Entity shall provide the Commission such information as is necessary to implement section 215 of the Federal Power Act.

Section 1600 of NERC’s Rules of Procedure provides:

1601. Scope of a NERC or Regional Entity Request for Data or Information

Within the United States, NERC and Regional Entities may request data or information that is necessary to meet their obligations under Section 215 of the Federal Power Act, as authorized by Section 39.2(d) of the Commission’s regulations, 18 C.F.R. § 39.2(d). In other jurisdictions, NERC and Regional Entities may request comparable data or information, using such authority as may exist pursuant to these rules and as may be granted by ERO governmental authorities in those other jurisdictions. The provisions of Section 1600 shall not apply to requirements contained in any Reliability Standard to provide data or information; the requirements

in the Reliability Standards govern. The provisions of Section 1600 shall also not apply to data or information requested in connection with a compliance or enforcement action under Section 215 of the Federal Power Act, Section 400 of these Rules of Procedure, or any procedures adopted pursuant to those authorities, in which case the Rules of Procedure applicable to the production of data or information for compliance and enforcement actions shall apply.

1602. Procedure for Authorizing a NERC Request for Data or Information

1. *NERC shall provide a proposed request for data or information or a proposed modification to a previously-authorized request, including the information specified in paragraph 1602.2.1 or 1602.2.2 as applicable, to the Commission's Office of Electric Reliability at least twenty-one (21) days prior to initially posting the request or modification for public comment. Submission of the proposed request or modification to the Office of Electric Reliability is for the information of the Commission. NERC is not required to receive any approval from the Commission prior to posting the proposed request or modification for public comment in accordance with paragraph 1602.2 or issuing the request or modification to reporting entities following approval by the Board.*
2. *NERC shall post a proposed request for data or information or a proposed modification to a previously authorized request for data or information for a forty-five (45) day public comment period.*
 - 2.1. *A proposed request for data or information shall contain, at a minimum, the following information: (i) a description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements; (ii) a description of how the data or information will be collected and validated; (iii) a description of the entities (by functional class and jurisdiction) that will be required to provide the data or information ("reporting entities"); (iv) the schedule or due date for the data or information; (v) a description of any restrictions on disseminating the data or information (e.g., "confidential," "critical energy infrastructure information," "aggregating" or "identity*

- masking”); and (vi) an estimate of the relative burden imposed on the reporting entities to accommodate the data or information request.*
- 2.2. A proposed modification to a previously authorized request for data or information shall explain (i) the nature of the modifications; (ii) an estimate of the burden imposed on the reporting entities to accommodate the modified data or information request, and (iii) any other items from paragraph 1.1 that require updating as a result of the modifications.*
 - 3. After the close of the comment period, NERC shall make such revisions to the proposed request for data or information as are appropriate in light of the comments. NERC shall submit the proposed request for data or information, as revised, along with the comments received, NERC’s evaluation of the comments, and recommendations, to the Board.*
 - 4. In acting on the proposed request for data or information, the Board may authorize NERC to issue it, modify it, or remand it for further consideration.*
 - 5. NERC may make minor changes to an authorized request for data or information without Board approval. However, if a reporting entity objects to NERC in writing to such changes within 21 days of issuance of the modified request, such changes shall require Board approval before they are implemented.*
 - 6. Authorization of a request for data or information shall be final unless, within thirty (30) days of the decision by the Board, an affected party appeals the authorization under this Section 1600 to the ERO governmental authority.*

1603. Owners, Operators, and Users to Comply

Owners, operators, and users of the BPS registered on the NERC Compliance Registry shall comply with authorized requests for data and information. In the event a reporting entity within the United States fails to comply with an authorized request for data or information under Section 1600, NERC may request the Commission to exercise its

enforcement authority to require the reporting entity to comply with the request for data or information and for other appropriate enforcement action by the Commission. NERC will make any request for the Commission to enforce a request for data or information through a non-public submission to the Commission's enforcement staff.

1605. Confidentiality

If the approved data or information request includes a statement under Section 1602.1.1(v) that the requested data or information will be held confidential or treated as Critical Energy Infrastructure Information, then the applicable provisions of Section 1500 will apply without further action by a Submitting Entity. A Submitting Entity may designate any other data or information as Confidential Information pursuant to the provisions of Section 1500, and NERC or the Regional Entity shall treat that data or information in accordance with Section 1500. NERC or a Regional Entity may utilize additional protective procedures for handling particular requests for data or information as may be necessary under the circumstances.

1606. Expedited Procedures for Requesting Time-Sensitive Data or Information

- 1. In the event NERC or a Regional Entity must obtain data or information by a date or within a time period that does not permit adherence to the time periods specified in Section 1602, the procedures specified in Section 1606 may be used to obtain the data or information. Without limiting the circumstances in which the procedures in Section 1606 may be used, such circumstances include situations in which it is necessary to obtain the data or information (in order to evaluate a threat to the reliability or security of the BPS, or to comply with a directive in an order issued by the Commission or by another Applicable Governmental Authority) within a shorter time period than possible under Section 1602. The procedures specified in Section 1606 may only be used if authorized by Board prior to activation of such procedures.*
- 2. Prior to posting a proposed request for data or information, or a modification to a previously-authorized request, for public comment*

- under Section 1606, NERC shall provide the proposed request or modification, including the information specified in paragraph 1602.2.1 or 1602.2.2 as applicable, to the Commission's Office of Electric Reliability. The submission to the Commission's Office of Electric Reliability shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information. The submission shall be made to the Commission's Office of Electric Reliability as far in advance, up to twenty-one (21) days, of the posting of the proposed request or modification for public comments as is reasonably possible under the circumstances, but in no event less than two (2) days in advance of the public posting of the proposed request or modification.*
- 3. NERC shall post the proposed request for data or information or proposed modification to a previously-authorized request for data or information for a public comment period that is reasonable in duration given the circumstances, but in no event shorter than five (5) days. The proposed request for data or information or proposed modification to a previously-authorized request for data or information shall include the information specified in Section 1602.2.1 or 1602.2.2, as applicable, and shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information.*
 - 4. The provisions of Sections 1602.3, 1602.4, 1602.5 and 1602.6 shall be applicable to a request for data or information or modification to a previously-authorized request for data or information developed and issued pursuant to Section 1606, except that (a) if NERC makes minor changes to an authorized request for data or information without Board approval, such changes shall require Board approval if a Reporting Entity objects to NERC in writing to such changes within five (5) days of issuance of the modified request; and (b) authorization of the request for data or information shall be final unless an affected party appeals the authorization of the request by the Board to the Applicable Governmental Authority within five (5) days following the decision of the Board authorizing the request, which decision shall be promptly posted on NERC's website.*

Data Requested

A. Proposed Data Request Information

The italicized language is information that must accompany this Data Request.

1. *A description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements.*

The response is provided in subparts a, b, and c below.

- a. *A description of the data or information requested.*

Effective immediately upon the retirement of Reliability Standard PRC-004-2a, data included in Table 1 will be collected on a per-entity basis:

Table 1: Protection System Misoperation Fields	
Field Name	Field Description
Total Protection System Operations by Voltage Class	The total number of Protection System operations by voltage class based on the definition in the reporting template.
Misoperation Identifier	An entity-specific Misoperation identifier.
Regional Entity	The entity’s Regional Entity. If the entity is registered in multiple Regional Entities, use the Regional Entity where the Misoperation occurred.
NERC ID	The entity’s NERC compliance registry number. If the entity does not have a NERC compliance registry number, use the company name.
Misoperation Date	The date of the Misoperation.
Misoperation Time	The time of the Misoperation.
Misoperation Time Zone	The time zone of the Misoperation.
Facility Name (Location of Misoperation)	The name of the facility (i.e., substation or generating station) where the Misoperation occurred.

Table 1: Protection System Misoperation Fields	
Field Name	Field Description
Equipment Name	The name of the generator, transmission line, transformer, bus, or equipment protected by the Protection System that misoperated.
Facility Voltage Class	The voltage class of the facility. If the facility is a transformer, use the high-side voltage class.
Equipment Removed from Service (Permanently or Temporarily) as the result of the Misoperation	Enter names of the equipment becoming unavailable due to the Misoperation (Equipment refers only to circuits, transformers, busses, but not breakers UNLESS the breaker is the only element). Breaker should be used only if a single breaker tripped and did not disconnect any element at one of its terminals (one breaker in a multiple breaker protected line, bus tie breaker, etc.).
Event Description	Provide a brief description of the event including: <ol style="list-style-type: none"> 1. Initiating event: include a description of any internal or external fault causes, any abnormal system conditions which may have contributed to the Misoperation, or state that the Misoperation occurred under normal operating conditions. 2. Facilities involved that operated correctly and/or incorrectly concurrent with the Misoperation. 3. Component(s) of the Protection System(s) that failed and/or did not function correctly. 4. Detailed description of root causes determined by completed Corrective Action Plans.
Equipment Type	The type of equipment being protected (e.g., line, transformer, etc.).

Table 1: Protection System Misoperation Fields	
Field Name	Field Description
Misoperation Category	<p>The category of the Misoperation:</p> <ul style="list-style-type: none"> • Failure to Trip – During Fault • Failure to Trip – Other Than Fault • Slow Trip – During Fault • Slow Trip – Other Than Fault • Unnecessary Trip – During Fault • Unnecessary Trip – Other Than Fault
Cause(s) of Misoperation	<p>The primary cause of the Misoperation:</p> <ul style="list-style-type: none"> • AC system • As-left personnel error • Communication failures • DC system • Incorrect settings • Logic errors • Design errors • Relay failures/malfunctions • Unknown/unexplainable • Other/Explainable
Misoperation Mitigation	Describe how the Misoperation was ultimately mitigated.
Protection Systems/Components that Misoperated	Information on the Protection Systems/components that Misoperated. If the "Cause of Misoperation" is "Relay failures/malfunctions" or "Incorrect settings/logic/design errors" and the cause is associated with a relay, list the relay models (types) and protection schemes.

Table 1: Protection System Misoperation Fields	
Field Name	Field Description
Relay Technology	<p>If the Cause of Misoperation is “Relay failures/malfunctions” or “Incorrect settings/logic/design errors”, identify the relay technology installed.</p> <p>Field Values:</p> <ul style="list-style-type: none"> • Electromechanical • Solid State • Microprocessor
Is this a Transmission Availability Data System (TADS) reportable event?	Whether the Misoperation involved the automatic outage of a TADS-reportable transmission element.
Select one or more TADS "Element IDs" of any TADS reportable elements outaged in the Misoperation.	If a TADS reportable element was outaged due to the Misoperation, report the element(s) in a comma-separated list.
Is this a Generation Availability Data System (GADS) reportable event?	Whether the Misoperation involved the automatic outage of a GADS-reportable transmission element.
If the Misoperation caused a generator forced outage, select one or more Generation Availability Data System (GADS) "Unit IDs" of any GADS reportable elements outaged in the Misoperation.	For improved consistency with transmission outage reporting and more complete information, the GADS Element ID is requested for each generator that tripped.
Misoperation Mitigation Status	Indicates whether Misoperation mitigation is in-progress or complete.
Reported By	The person who filled out the report should be entered.
Reporter’s Telephone Number	The reporting person's phone number should be entered.
Reporter’s E-Mail Address	The e-mail address of the reporter should be entered.

Table 1: Protection System Misoperation Fields	
Field Name	Field Description
Date Reported	The report date should be entered.

There are several differences between the data fields used in previous reporting and the proposed data fields. These differences are summarized in the table below.

Table 2: Changes to Misoperation Data Fields	
Field Name	Field Description
Misoperation Category	The Failure to Trip and Slow Trip categories have been divided into four categories with the addition of “During Fault” and “Other than Fault”.
Cause(s) of Misoperation	The “Incorrect settings/logic/design errors” cause has been separated into three causes: “Incorrect settings”, “Logic errors”, and “Design errors”.
Misoperation Mitigation	All of the data fields related to the Corrective Action Plan were condensed into two fields: Misoperation Mitigation and Misoperation Analysis Status. The Misoperation Mitigation field is requested to provide information on the ultimate mitigation of the Misoperation to supplement the Event Description field.
Is this a Generation Availability Data System (GADS) reportable event?	Whether the Misoperation involved the automatic outage of a GADS-reportable transmission element.
If the Misoperation caused a generator forced outage, select one or more Generation Availability Data System (GADS) "Unit IDs" of any GADS reportable elements outaged in the Misoperation.	For improved consistency with transmission outage reporting and more complete information, the GADS Element ID is requested for each generator that tripped.

Table 2: Changes to Misoperation Data Fields

Field Name	Field Description
Misoperation Mitigation Status	All of the data fields related to the Corrective Action Plan were condensed into two fields: Misoperation Mitigation and Misoperation Mitigation Status. The Misoperation Mitigation Status will provide an indication on the completion of Misoperation mitigation while removing the burden of providing completion dates for analysis and mitigation as requested by the previous data collection.

b. How the data or information will be used?

NERC will use the information to develop statistics regarding the Misoperation rates for the BES. Without knowledge of the Misoperation rates across NERC, normalized measurement of Misoperation reduction will not be possible. In addition, NERC and the Regional Entities will analyze the raw data to identify trends in Protection System Misoperations. Finally, the Misoperation data will be used to support statistical analysis of risks to the BES.

c. How is the availability of the data or information necessary for NERC to meet its obligations under applicable laws and agreements?

Section 215(g) of the Federal Power Act requires NERC to make periodic assessments on the reliability of the BPS in North America. This Data Request will provide NERC the data necessary to make periodic risk-based assessments to evaluate BPS reliability and provide for continuous analysis of performance and reliability risk. A better understanding of Protection System Misoperations will allow NERC to develop effective requirements to address one of the top risks to the BES.

2. A description of how the data or information will be collected and validated.

The new data will be manually entered or bulk uploaded by Transmission Owners, Generator Owners, and Distribution Providers that own a BES Protection System into the Misoperation module of the webTADS system. After the software checks for errors, data will be further validated by the Regional Entities and by NERC. A draft of the template to be used for bulk uploads is available at:

http://www.nerc.com/pa/RAPA/ProtectionSystemMisoperations/Section_1600_Misop_Draft_Template.xlsx. Data will be entered manually through a graphical user interface using the same fields.

3. *A description of the entities that will be required to provide the data or information (“reporting entities”).*

The submission of Protection System Misoperation data is mandatory for all U.S. Transmission Owners, Generator Owners and Distribution Providers who are on the NERC Compliance Registry. Non-U.S. Transmission Owners, Generator Owners, and Distribution Providers who are also NERC members are required to comply with NERC’s *Rules of Procedure*. Accordingly, because the data is being requested in accordance with Section 1600, the submission of Protection System Misoperation data is mandatory for non-U.S. Transmission Owners, Generator Owners, and Distribution Providers as NERC members.

4. *The schedule or due date for the data or information.*

Upon Board approval, the Protection System Misoperation data must be submitted by the reporting deadline for the first reporting period after the retirement of Reliability Standard PRC-004-2a and on a quarterly basis thereafter as described in Table 3 below. As of June 2013, all eight Regional Entities are already collecting this, or very similar, information using a common template. Reporting Entities are already reporting Misoperations data under the regional procedures as required in Reliability Standard PRC-004-2a and minimal changes should be necessary to comply with this Data Request. Table 3 provides a detailed schedule for this Data Request.

Table 3: Data Request Schedule	
Milestone	Target Date/Date Range
FERC Review	July 23, 2013 – August 7, 2013
45-day Stakeholder Comment Period	August 8, 2013 – September 23, 2013
NERC Planning Committee Review	September 19, 2013
NERC Board of Trustees Approval	November 6-7, 2013
First Protection System Misoperation Reporting Deadline (Reporting Entities)	60 Days after the end of the first quarter following retirement of Reliability Standard PRC-004-2a

Table 3: Data Request Schedule	
Milestone	Target Date/Date Range
Subsequent Quarterly Reporting Deadline (Reporting Entities)	60 Days after the end of the quarter

5. *A description of any restrictions on disseminating the data or information (e.g., “confidential,” “critical energy infrastructure information,” “aggregating” or “identity masking”).*

NERC’s treatment of confidential information is governed by Section 1500 of NERC’s *Rules of Procedure*. Individual Misoperation reports are considered confidential. Aggregated Misoperation information is considered public information. However, aggregated Misoperation data public reports will not inadvertently release confidential information by the display of regional or NERC information from which an entity’s confidential information could be ascertained.

6. *An estimate of the relative burden imposed on the reporting entities to accommodate the data or information request:*

Because entities have been reporting similar data since 2011, there is minimal additional burden for this Data Request.

B. Comment Questions

While each commenter is not restricted in the format of their comments, your answers to the following questions would be appreciated:

1. *Is the data requested similar in substance and form to the data presently collected pursuant to Reliability Standard PRC-004-2a?*
2. *What incremental increase in effort beyond that needed to comply with Reliability Standard PRC-004-2a will be required to fulfill the proposed Data Request?*
3. *Is the data requested reasonable and obtainable? If “no,” please explain.*
4. *Is the implementation schedule for the request reasonable? If “no,” please explain.*
5. *If you will have to develop a system to export the Misoperation data, what is the incremental cost of this reporting?*

Comments are due by 8:00 p.m. EST on September 23, 2013 and must be submitted in an electronic document to metrics@nerc.net. If you have any questions, please contact Andrew Slone at (404) 446-9719 or by e-mail at Andrew.Slone@nerc.net.

Sincerely,

Thomas Burgess
Vice President and Director, Reliability Assessments and Performance Analysis