North American Energy Standards Board

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via email and posting

TO: NAESB WEQ Standards Review Subcommittee Participants and Interested Parties

FROM: Todd Oncken, Deputy Director

RE: Request for Comments on Initial Scoping Documents – due October 20, 2003

DATE: October 8, 2003

Dear SRS Participants and Interested Parties,

The WEQ Standards Review Subcommittee (SRS) held a conference call on September 29, 2003 where it revised the following draft documents: 1) Initial Review Document for NERC Standard for Determine Facility Ratings, System Operating Limits, and Transfer Capabilities; and 2) Initial Review Document for NERC Standard 300 - Balance Resource and Demand. Please submit any comments on the revised draft documents to the NAESB Office by October 20, 2003. Any comments received will be posted to the NAESB web site (http://www.naesb.org/weq/weq_standards_review.asp) and discussed at the October 21, 2003 SRS conference call scheduled from 1:00 p.m. to 3:00 p.m. Central. For your convenience, the revised Initial Review documents are posted on the NAESB web site and attached to this request for comments.

Please feel free to call the NAESB office should you have any questions or comments.

Best Regards,

Todd Oncken

cc: Rae McQuade, NAESB Executive Director

D R A F T

Initial Standard Review and Analysis Report
For
NERC Standard 600
Determine Facility Ratings, System Operating Limits, and Transfer Capabilities

NAESB WEQ Executive Committee
Standards Review Subcommittee
September29, 2003

Introduction

This document provides an initial review of the proposed NERC Standard 600 entitled "Determine Facility Ratings, System Operating Limits and Transfer Capabilities" in an effort to determine whether there is a need for companion business practice standards. This initial review does not constitute, but may result in, a proposed recommendation by the Standards Review Subcommittee to develop or propose a NAESB Standard.

Purpose and Status of NERC Standard 600

The stated purpose of Standard 600 is to determine facility ratings, system operating limits, and transfer capabilities necessary to plan and operate the bulk electric system within predefined facility and operating limits such that cascading outages, uncontrolled system separation, and voltage and transient instability are avoided. The standard is intended to apply to entities defined in the NERC functional model, but until such entities are certified, the standards will apply to existing entities effective upon adoption by the NERC Board of Trustees.

This document reviews Draft Standard Version 1 posted for comment from July 1, 2003 to August 29, 2003. Prior to the posting of the draft standard, four versions of a draft Standards Authorization Request were posted, with comment periods ranging from April 2, 2002 to January 31, 2003.

Actions Required Within the Standard

The standard is subdivided into six requirements and associated measures, two for each of the three components identified in the title to the standard. The first requirement is the development and availability of a methodology, and the second is the application of the defined methodology to determine and communicate the necessary values to those entities performing the reliability authority, planning authority, and transmission operator functions (i.e., the users). This results in the following standard requirements:

Facility Ratings	601	Transmission and generator owners document the methodology used to rate their facilities, identifying any assumptions and referencing industry rating practices or other standards.
	602	Transmission and generator owners establish their facility ratings based on the defined methodology, and communicate these to the user on a schedule established by that user.

System Operating Limits	603	The reliability authority, planning authority, and transmission operators document the methodology to determine the operating limits that do not violate applicable facility ratings, and that avoid system performance outside pre-defined normal and contingency conditions. The methodology must address applicable contingencies, accuracy and level of detail of system models, SPSs or remedial action plans, transmission system configuration, generation dispatch and load level, and any reliability margins. (Of note is the inclusion of regional differences for NPCC consisting of pre-defined conditions for loss of multiple elements.)
	604	The responsible entities establish their system operating limits based on the defined methodology, and communicate these to the transmission service providers and transmission operators on a schedule established by those users.
Transfer Capabilities	605	The reliability and planning authorities document the methodology used to determine transfer capabilities that adhere to system operating limits with reference to transmission system topology, system demand, generation dispatch, current and projected transmission uses, and applicable reliability margins.
	606	The responsible entities establish their transfer capabilities based on the defined methodology, and communicate them, as requested, to NERC and its Regions, reliability authorities, transmission service providers, planning authorities, and transmission operators on a schedule established by each.

Items for Consideration for a Companion Business Practice Standard

NERC's standard focuses on requirements that entities establish facility ratings and does not specify how or what methodology entities will employ to rate facilities. NAESB could consider establishing standard methodologies for ratings.

- Develop a standard methodology to rate transmission and/or generator facilities. At a minimum, such a standard could identify a minimum level of acceptable assumptions and relevant industry rating practices.
- Define standard formats and protocols for communication of facility ratings, operating limits and transfer capability.
- Develop a standard methodology for determining system operating limits. The NERC standard requires only that the methodology by which system operating limits are calculated be documented and made available to the compliance monitor, the Reliability Authority and the Planning Authority. In addition, the system operating limits must be made available to transmission service providers, presumably so they can provide transmission service up to the defined limit. The NERC standard does **not** require:
  - The publication, to the market, of the methodology used including an identification of the assumptions used for elements such as generator dispatch and reliability margins. The assumptions used could have significant commercial impacts.

  - The development of a standard methodology to determine what portion of the operating limit is being used at any point in time.
  - How the transmission service provider determines the remaining available capability.
- Footnotes to Table 1 of the Draft NERC Standard defining normal and contingency conditions permit system adjustments, includes "curtailments of contracted firm (non-recallable reserved) electric power transfers" to prepare for the next contingency. The methodology to undertake such curtailments should be defined in a business practice standard, as a companion to this reliability standard or in conjunction with another reliability standard.
- Develop a standard methodology to determine transfer capabilities. The transfer capability is defined as "the measure of the ability to move electric power from one area to another over all transmission lines between those areas under specified system conditions". This definition requires that the adjacent areas coordinate the calculation of the transfer capability, and define and agree on a methodology to incorporate simultaneous transfers. In the event transfers may occur over several lines, a standard methodology to calculate and assess simultaneous transfer feasibility may be required. The NERC standard requires only that the methodology by which transfer capabilities are calculated be documented and made available to the compliance monitor, the Reliability Authority and the Planning Authority. The assumptions used could have significant commercial impacts.

Discussion Issues for Consideration

The SRS identified some concerns regarding development of a NAESB Business Practice Standard to complement the NERC standard.

- What level of standardization is possible given the diverse regional and market methodologies and requirements employed today?
- What level of "granularity" (i.e.- general/broad requirements in a methodology) could a business practice standard be possible?
- What information (ratings) should be provided to the marketplace?
  - How and when should such information be communicated?
- What added value would such a standard provide to the market participants?
- Should NAESB set the numerical levels for ATC?

Initial Standard Review and Analysis Report
For
NERC Standard 300 - Balance Resources and Demand

NAESB WEQ Executive Committee
Standards Review Subcommittee
September ~~22~~29, 2003

This initial Standard Review and Analysis Report is intended to provide information for the NAESB Wholesale Electric Quadrant (WEQ) to make informed decisions on the disposition of a proposed standard that impacts the wholesale electric industry. The Standards Review Subcommittee provides this Report as an initial review of a proposed Standard that may impact current or future NAESB Wholesale Electric Quadrant standards. This Report contains no recommendations to develop or propose a NAESB Standard. A White Paper may be developed to propose a NAESB standard if the WEQ finds it necessary.

This **Initial Standard Review and Analysis Report** reviews the following standard(s):

Proposing Organization(s): North American Electric Reliability Council (NERC)

Proposed Standard(s) and date: Standard 300 – Balance Resources and Demand, consisting of the following sections:

- 301 – Balance of Resources and Demand
- 302 – Frequency and Area Control Error
- 303 – Reliability Authority Directives

Description and Background

The objective of this standard is to maintain interconnection scheduled frequency within a predefined frequency profile under both normal and abnormal operating conditions. To accomplish this objective, this standard provides several measures for assessing a Balancing Authority's performance, including control performance, discrete event metric (DEM) and abnormal operations metric (AOM). This standard defines the compliance monitoring process and non-compliance levels for each of these measures. This standard will replace portions of NERC Policy 1, Generation Control and Performance.

This standard will address the following areas:

- the Balancing Authority's (BA) responsibility to control its area control error (ACE)
  - proposed measures of frequency control
    - After the fact long term
      - Control Performance Measure 1 (CPM-1)
      - Control Performance Measure 60 (CPM-60)
    - After the fact intermediate
      - Abnormal Operations Measure (AOM)

        - Discrete Event Metric (DEM)

- the Reliability Authority's (RA) response to frequency deviations not controlled by the BA's under its control
  - Real Time
    - Frequency Relay Limits
    - Frequency Abnormal Limits
    - Frequency Trigger Limits

- the Balancing Authority (BA) response to Reliability Authority (RA) directives
  - actions the BA is expected to take

This is a very "technical" oriented standard. The drafting team has proposed new performance measures for the industry to consider. Some benchmarking will be required. Finally, note that the drafting team has composed four documents (*Introduction to the Balance Resources and Demand Standard, Procedure for Determining Balancing Authority Frequency Bias, Procedure for Determining Interconnection Frequency Limits, and Procedure for Determining Balancing Authority ACE Limits*) in support of this standard that should also be carefully reviewed.

Requirements deal with the relationship between RAs and BAs that are relevant for purposes of balancing resources to loads in real-time for purposes of maintaining frequency. It is unclear to what extent obligations may need to be extended to resources and loads to provide data or perform operations in a manner as required by the standard. (This needs further clarification from NERC)

Potential business practice standards and related impacts

The proposed standard impacts the following NAESB activities/standards:

- Inadvertent Interchange Payback Business Practice

The proposed standard raises the following possible business practice concerns:

- The standard does not provide detail as to the format of the monthly compliance reports or how such reports are to be delivered (e.g. electronically, via first class mail, etc.). Business practices/standards may be useful to make the data submittal process as efficient as possible.
- Business practice standards may be needed to allow for entities to payback inadvertent energy as identified by the NERC measurements. The existing activities of the NAESB Inadvertent Interchange Payback Task Force complements the current NERC CPS1, and CPS2 measurements that establish triggers or limits as to when inadvertent energy may have been ~~exhanged~~exchanged. Such complementary business practices may be required for these new NERC measures.

Notes/Comments regarding NERC-NAESB Coordination

The SRS discussed the possibility of NAESB complementary business practices to support each of the proposed NERC measures. Several concerns were raised regarding the co-existence of NERC and NAESB standards that relate to balancing and system frequency.

- If NAESB will pursue development of complementary business practice standards to these NERC standards, which standard (NERC or NAESB) will establish the valuation "triggers", i.e.- when inadvertent is identified as to have been exchanged.
    - Which organization would be responsible to monitor and house the needed data must also be addressed.

- There was concern that the new NERC compliance (as well as any additional Regional compliance) penalties may be ~~overlayed~~overlaid by ~~payements~~payments for inadvertent energy that may be determined by a NAESB standard business practice.
    - There was also concern that certain measures, specifically DCS, may not have any business practice solutions.
    - Generally, the goal of any NAESB business practice, which may be identified as necessary, should be to provide market ~~particiaptns~~participants with the correct incentives to behave in ways as to avoid violation of NERC ~~requriemsnts~~requirements and their resultant penalties.