

Agenda Distribution Factor Working Group

April 15, 2008 | 1–5 p.m.
April 16, 2008 | 8 a.m.–12 p.m.
Midwest ISO Office
1125 Energy Park Drive
St. Paul, Minnesota

Administrative

1. Arrangements
2. Review NERC Antitrust Compliance Guidelines (**Attachment 1**).
3. Determination of Quorum: The rule for NERC working groups is that half of the members (that are entitled to vote) of the working group constitutes a quorum, and a motion passes if it receives two-thirds affirmative votes of the votes cast.
4. Summary of Parliamentary Procedures (**Attachment 2**).
5. Approve and set timing for the agenda. (Closed sessions will be conducted as required.)
6. Review DFWG roster (**Attachment 3**).
7. Review and approve minutes of the January 8, 2008 meeting (**Attachment 4**).
8. Election of vice chair.
9. Future meetings and conference calls.
 - A. None scheduled.

Projects and Model Development

1. Book of Flowgates
 - A. Project Status – Mohamad Yassin
 - B. BoF CO-01 (Conversion of IDC Data Format to PSS/E Version 30) (**Attachment 5**)

2. Discussion of IDC and SDX model data exchange practices.
 - A. Conversion to PSS/E Version 30
3. Revisit of the assigned BoF flowgates ranges (**Attachment 6**).
4. Lessons learned from first use of new BoF data management system for April 2008 model upload.
5. Resolution and communication of BoF errors and warnings with industry representatives.
6. Member comments.
7. Other.

Antitrust Compliance Guidelines

I. General

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

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

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

II. Prohibited Activities

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

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.

- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.
- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

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

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

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

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

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

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

Parliamentary Procedures

Based on Robert's Rules of Order, Newly Revised, 10th Edition, plus "Organization and Procedures Manual for the NERC Standing Committees"

Motions

Unless noted otherwise, all procedures require a "second" to enable discussion.

When you want to...	Procedure	Debatable	Comments
Raise an issue for discussion	Move	Yes	The main action that begins a debate.
Revise a Motion currently under discussion	Amend	Yes	Takes precedence over discussion of main motion. Motions to amend an amendment are allowed, but not any further. The amendment must be germane to the main motion, and can not reverse the intent of the main motion.
Reconsider a Motion already approved	Reconsider	Yes	Allowed only by member who voted on the prevailing side of the original motion.
End debate	Call for the Question or End Debate	Yes	If the Chair senses that the committee is ready to vote, he may say "if there are no objections, we will now vote on the Motion." Otherwise, this motion is debatable and subject to 2/3 majority approval.
Record each member's vote on a Motion	Request a Roll Call Vote	No	Takes precedence over main motion. No debate allowed, but the members must approve by 2/3 majority.
Postpone discussion until later in the meeting	Lay on the Table	Yes	Takes precedence over main motion. Used only to postpone discussion until later in the meeting.
Postpone discussion until a future date	Postpone until	Yes	Takes precedence over main motion. Debatable only regarding the date (and time) at which to bring the Motion back for further discussion.
Remove the motion for any further consideration	Postpone indefinitely	Yes	Takes precedence over main motion. Debate can extend to the discussion of the main motion. If approved, it effectively "kills" the motion. Useful for disposing of a badly chosen motion that can not be adopted or rejected without undesirable consequences.
Request a review of procedure	Point of order	No	Second not required. The Chair or secretary shall review the parliamentary procedure used during the discussion of the Motion.

Notes on Motions

Seconds. A Motion must have a second to ensure that at least two members wish to discuss the issue. The "second" is not recorded in the minutes. Neither are motions that do not receive a second.

Announcement by the Chair. The Chair should announce the Motion before debate begins. This ensures that the wording is understood by the membership. Once the Motion is announced and seconded, the Committee "owns" the motion, and must deal with it according to parliamentary procedure.

Voting

Voting Method	When Used	How Recorded in Minutes
Unanimous Consent	When the Chair senses that the Committee is substantially in agreement, and the Motion needed little or no debate. No actual vote is taken.	The minutes show "by unanimous consent."
Vote by Voice	The standard practice.	The minutes show Approved or Not Approved (or Failed).
Vote by Show of Hands (tally)	To record the number of votes on each side when an issue has engendered substantial debate or appears to be divisive. Also used when a Voice Vote is inconclusive. (The Chair should ask for a Vote by Show of Hands when requested by a member).	The minutes show both vote totals, and then Approved or Not Approved (or Failed).
Vote by Roll Call	To record each member's vote. Each member is called upon by the Secretary,, and the member indicates either "Yes," "No," or "Present" if abstaining.	The minutes will include the list of members, how each voted or abstained, and the vote totals. Those members for which a "Yes," "No," or "Present" is not shown are considered absent for the vote.

Notes on Voting

(Recommendations from DMB, not necessarily Mr. Robert)

Abstentions. When a member abstains, he is not voting on the Motion, and his abstention is not counted in determining the results of the vote. The Chair should not ask for a tally of those who abstained.

Determining the results. The results of the vote (other than Unanimous Consent) are determined by dividing the votes in favor by the total votes cast. Abstentions are not counted in the vote and shall not be assumed to be on either side.

"Unanimous Approval." Can only be determined by a Roll Call vote because the other methods do not determine whether every member attending the meeting was actually present when the vote was taken, or whether there were abstentions.

Majorities. Robert's Rules use a simple majority (one more than half) as the default for most motions. NERC uses 2/3 majority for all motions.

**Distribution Factor Working Group
April 15–16, 2008 Meeting**

Attachment 3

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**NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
OATI IT SERVICES TASK ORDER #02 (BOOK OF FLOWGATES)
CHANGE ORDER #01**

NAME: DFWG
DATE: January 11, 2008
SUMMARY: Conversion of IDC Data Format to PSS/E Version 30
REVISION: 1.0

CHANGE REQUEST DETAIL:

ORIGINATION DATE: October 31, 2007

SPONSOR: NERC DFWG / Jim Busbin

REVISION: 1.0

Modify the base case import capability of the Book of Flowgates (BoF) to incorporate, and be consistent with, format changes made in Power Technologies Incorporated (PTI) PSS/E Version 30. These Version 30 format changes include a significant revision to the data format for Bus Numbers and Bus Names. Version 30 also includes the addition of a separate data category entitled, "Voltage Source Converter dc Line Data." The preference of the DFWG is to have this Change Order (CO) effective prior to implementation of the 2008 Summer IDC Base Case seasonal model and BoF update.

Discussion:

Base case creation for the IDC takes place as the culmination of a series of model development processes from across the Eastern Interconnection. All modeling processes presently flowing into the IDC base case creation process utilize PTI PSS/E power flow software. Software enhancements from PTI are released to PSS/E users in ascending Version numbers, some impacting certain modeling processes more than others. The latest Version release of PSS/E software that significantly affects development of the IDC base case model is Version 30. This Version substantially expands the character width fields of certain data transferred with PSS/E developed models, particularly in the areas of Bus Numbers and Bus Names. It is the modified formatting specified in PTI PSS/E Version 30 with which the DFWG seeks modification and consistency for development of future IDC base case models and BoF updates. IDC base case creation and initial validation takes place by staff at OATI. Presently, modeling data is received by OATI in PSS/E Version 30, 29 and 28 formats. In order to properly supply base case data to the IDC, the newly created model must be re-configured into PSS/E Version 28 format, again, the format presently utilized by IDC and BoF processes. This Change Order seeks to move all processes involved in the creation of IDC base case models to a format consistent with PSS/E Version 30.

A general and detailed description of format differences between PSS/E Versions 28 and 30 can be found in Appendix A of this Change Order (taken from the document entitled, "PSS/E Version 28 & 30 Differences.doc").

EVALUATOR'S SECTION:

EVALUATOR'S NAME: OATI.

DATE: January 14, 2008.

PROPOSED CHANGE DESCRIPTION:

Although the Change Order request is for modifications to the IDC and BoF, this Change Order is specific to BoF.

OATI will modify the data structures and applications associated with bus names and numbers so that bus name length and number range complies with PSSE Rev 30 format. These data structures and applications include:

- PSSE base case model in BoF:
 - Bus names
 - Generator bus names
 - Branch, two-winding and three-winding transformer names
- Flowgate model in BoF
- Base case upload into BoF
- Flowgate upload from IDC
- User interface
 - Flowgate (viewing and editing)
 - Phase shifter (viewing and editing)

Note: OATI understands that there is a potential that all existing flowgates in the IDC become invalid as the bus names in the PSSE Rev.30 are of different length. OATI is assuming that it will be incumbent on the BoF users to manually make individual changes to each and every flowgate that becomes invalid. As an option, OATI proposes that the DFWG provide OATI with a mapping of bus names between the PSSE Rev 28 and PSSE Rev 30, as a comma-delimited file (details to the file format to follow) so that the BoF could programmatically validate the flowgates' monitored and contingent elements between the existing IDC flowgates (PSSE Rev 28) and the base model (PSSE Rev 30).

APPENDIX A:

Taken from *PSS/E Version 28 and 30 Differences Document*

General Changes Reflected In PSS/E When Moving From V.28 To V.30.

A New Data category entitled, ‘Voltage Source Converter DC Line Data’ has been introduced in PSS/E Version 30. Systems should revise their processes to allow for this new data category. There are now, with Version 30, seventeen (17) data categories to read.

Please note that Table 1.1, found in the PSS/E documentation, should be reviewed for the maximum allowable number of entries of a variable in a model and revise their processes accordingly.

Detailed Changes Reflected In PSS/E When Moving From V.28 To V.30.

Case Identification Data:

There is no change from Version 28 to Version 30.

Bus Data:

There are three changes noted in Bus Data when moving from PSS/E Version 28 to Version 30.

- The Bus Number (“I”) field has been expanded by one character, from five to six. The bus number range in Version 28 is 1 to 99997 while the expanded bus number range in Version 30 is 1 to 999997. Systems should modify their existing processes to now accommodate a six character Bus Number field.
- The Bus Name (“NAME”) field has been expanded by four characters, from eight to twelve. A corresponding change in the Extended Bus Name field is noted as it also has expanded by four characters, from fourteen to eighteen. Systems should modify their existing processes to now accommodate a twelve character bus name field and an eighteen character Extended Bus Name field.
- The documentation in Version 28 is unclear as to the number of Owners (“OWNER”) allowed in that version however in Version 30 the total number of Owners in the case can be 1200. Note that in most instances the maximum number of Owners allowed per model element is four. Systems should modify their existing processes to accommodate a four character Owner field.

No other changes are noted for Bus Data.

Load Data:

Bus Number (“I”), Extended Bus Name (“I”) and Owner (“OWNER”) changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. No other changes are noted for Load Data.

Generator Data:

Bus Number (“I” and “IREG”), Extended Bus Name (“I” and “IREG”) and Owner (“Oi”) changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. This applies to the Bus identification field (“I”) as well as to the regulated bus field (“IREG”). Note that while a maximum of 1200 Owners may be possible when utilizing Version 30 (dependent on the bus size level of Version 30 being used), a total of four Owners per machine is allowed. No other changes are noted for Generator Data.

Non-Transformer Branch Data:

Bus Number (“I” and “J”), Extended Bus Name (“I” and “J”) and Owner (“Oi”) changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. No other changes are noted for Non-Transformer Branch Data.

Transformer Data:

Bus Number (“I”, “J”, “K”, “CONT1”, “CONT2” and “CONT3”), Extended Bus Name (“I”, “J”, “K”, “CONT1”, “CONT2” and “CONT3”) and Owner (“Oi”) changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. The expansion of the character field width from eight to twelve characters also applies to the Transformer Name (“NAME”) variable. Note that while a maximum of 1200 Owners may be possible when utilizing Version 30 (dependent on the bus size level of Version 30 being used), a total of four Owners per transformer is allowed. No other changes are noted for Transformer Data.

Area Interchange Data:

There are two changes noted in Area Interchange Data when moving from PSS/E Version 28 to Version 30.

- The character width of the Area Number (“I”) is not clear in the documentation. Systems should modify their existing processes to accept a four character Area Number (“I”).
- The Area Name (“ARNAME”) field has been expanded by four characters, from eight to twelve. Systems should modify their existing processes to now accommodate a twelve character Area Name field.

Bus Number (“ISW”) and Extended Bus Name (“ISW”) changes are identical to those found for Bus Number and Extended Bus Name notations under **Bus Data** heading. No other changes are noted for Area Interchange Data.

Two-Terminal DC Line Data:

Bus Number (“ICR,” “IFR,” “ITR” and “IPI”) and Extended Bus Name (“ICR,” “IFR,” “ITR” and “IPI”) changes are identical to those found for Bus Number and Extended Bus Name notations under **Bus Data** heading. No other changes are noted for Two-Terminal DC Line Data.

Voltage Source Converter DC Line Data:

This is a new data category found in PSS/E V.30. Systems should modify their processes to allow for this added data set. There are now seventeen (17) data categories (including Case Identification) found within PSS/E. This category incorporates the following character width for the Name variable.

- Voltage Source Converter (VSC) name (“NAME”) may have a character width of twelve (12) characters.

Bus Number (“IBUS” and “REMOT”), Extended Bus Name (“IBUS” and “REMOT”) and Owner (“Oi”) changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. No other changes are noted for Voltage Source Converter DC Line Data.

Switched Shunt Data:

There are three changes noted in Switched Shunt Data when moving from PSS/E Version 28 to Version 30. Two of the changes are the inclusion of two additional variables - “RMPCT” and “RMIDNT.”

- The “RMPCT” variable has been added and is the percent of the total MVAR required to hold the voltage by Bus “I” that is to be contributed by this switched shunt device.
- The “RMIDNT” variable has also been added and is only used when the control mode value is set at four (“MODSW” = 4). It is the name of the VSC DC line converter bus named in “SWREM.” When MODSW is not equal to four, the variable is left blank.

Systems should allow for the accommodation of these added variables in the existing processes where applicable.

The range of the existing control mode variable ("MODSW") has been increased from three (3) to six (6). Bus Number ("I", "SWREM" and "RMIDNT") and Extended Bus Name ("I", "SWREM" and "RMIDNT") changes are identical to those found for Bus Number and Extended Bus Name notations under **Bus Data** heading. No other changes are noted for Switched Shunt Data.

Transformer Impedance Correction Tables:

No changes are noted for Transformer Impedance Correction Tables data in moving from PSS/E Version 28 to Version 30.

Multi-Terminal DC Line Data:

Bus Number ("VCONV," "VCONVN," "IB," "IDC" and "JDC") and Extended Bus Name ("VCONV," "VCONVN," "IB," "IDC" and "JDC") changes are identical to those found for Bus Number and Extended Bus Name notations under **Bus Data** heading. No other changes are noted for Multi-Terminal DC Line Data.

Multisection Line Grouping Data:

Bus Number ("I", "J" and "DUM_i") and Extended Bus Name ("I", "J" and "DUM_i") changes are identical to those found for Bus Number and Extended Bus Name under **Bus Data** heading. No other changes are noted for Multi-Section Line Grouping Data.

Zone Data:

There is one change identified in this data when moving from PSS/E Version 28 to Version 30. The Zone Number ("ZONAME") variable's alphanumeric character width has been expanded from eight to twelve characters. No other changes are noted for Zone Data.

Interarea Transfer Data:

No changes are noted for Interarea Transfer Data in moving from PSS/E Version 28 to Version 30.

Owner Data:

Owner ("I") changes are similar to those found for "Owner" noted under the heading of **Bus Data**. No other changes are noted for Owner Data.

FACTS Device Data:

Bus Number ("I" and "J"), Extended Bus Name ("I" and "J") and Owner ("OWNER") changes are identical to those found for Bus Number, Extended Bus Name and Owner notations under **Bus Data** heading. No other changes are noted for FACTS Device Data.