



# **NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL**

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

## **Distribution Factor Task Force**

February 2–3, 1998

Hyatt Regency Tampa

Tampa, Florida

### **Meeting Minutes**

#### **Attendance**

Madison Long, Chairman	SERC	Greg Campoli	NPCC
Jonathan Riley, Vice Chairman	ECAR	William Tiller	SERC
Thomas Vitez	ECAR	Lanny Nickell	SPP
Greg Krajnik	MAAC	Chi Tang	Canada
Ed Ruck	MAIN	Conrado Caunan	NERC
Patrick Shanahan	MAIN	Brian M. Nolan	NERC
Larry E. Brusseau	MAPP		

#### **Administrative Matters**

The Distribution Factor Task Force (DFTF) meeting was called to order at 1 p.m. on February 2, 1998 by Chairman Madison Long. Each representative introduced himself.

The January 12-13, 1998 meeting minutes were approved with modifications.

#### **Update on PTDF matrix calculation**

Pumped Storage units will be left up to the Region/subregion as to whether or not those units will be scaled. DFTF will only remove nuclear units from the generation scaling. If other units are to be excluded from the scaling, it is up to the Region/subregion to submit those units and a reason why it should not be included in the scaling.

The list of changes should be maintained in one location for auditing capabilities. Since the request will be directed to Chi, then Chi would be the most likely person to maintain the archive of excluded units. If a unit is to be excluded a comment of why a unit is being excluded should be in the IDEV file submitted to Chi. A statement describing the exclusion of units will be included in the Modeling Guidelines.

Is it possible to have the PTDF database and viewer downloadable from the GAPP server? This will alleviate some of the concerns and problems of downloading these files and transferring the data to the GAPP server at a control center. Conrado will discuss the distribution of the files with Lou Leffler.

Chi has made two changes to the spring base case. One was the merger of all of the FRCC control areas back into one area. The second change was the replacement of the PJM section of the base case with the April PJM model.

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Only the Seasonal models are available for download at the NERC DFTF web site. The monthly models are only distributed to DFTF. This will protect the sensitivity of the transmission line outage data.

Conrado will convert the raw data that Chi has distributed into the PTDF viewer file; this will allow DFTF members to review the data. DFTF representatives are to have comments to Chi by March 6, 1998.

**Daily Update of Eastern Interconnection Model**

For the creation of PTDF values, some NERC groups are recommending that an Eastern Interconnection model be created and updated daily. It had been discussed that, at previous DFTF meeting that a facility outage table should be created for each flowgate. Another NERC group is proposing that outage data be exchanged via the SCIS. The proposed data would be daily data for eight days, weekly data for four weeks and monthly data for twelve months. The data that would be transferred would be: forecast peak and hour ending, net export, operating reserve. The generation and transmission outage data would also be included. The outage information would include, bulk system facility outages that start, end or span the above time frames including generator outages > 150 MW, and transmission outages of 200 kV and above, and all control area ties.

At one time DFTF discussed the use of a second matrix that would have ODF values that would act as interim values until a new PTDF matrix could be calculated. DFTF believed that the model could be adjusted and recalculated in a short period of time. The bottleneck would be loading the matrix onto the server.

If an Eastern Interconnection model is developed, for daily update, should DFTF use the model? DFTF believes that it would like to test the model. DFTF will continue to use the model that it develops and will evaluate the model that is developed for daily updating. At the time that the model is evaluated DFTF will determine the value of such a system. One item that will need to be evaluated is, will the accuracy of the daily matrix be better than that of the monthly matrix.

Chairman Long will talk to Marty Means about the DFTF proposal, to review the flowgates and the removal of the SPP and MAPP control area to control area flowgates.

A different approach would be to evaluate the system and determine if the matrix should be recalculated. A notification process would need to be set up, to keep the other areas informed of the outages.

What will the incremental cost of developing a daily matrix be? Is the incremental increase in accuracy worth the incremental cost? Future updates including the monthly are to be approved by the NERC office. The future enhancements must be approved by the SCS.

Scaling of load vs. scaling of generation: if scaling of load to load is not changed by similar amounts, for internal flowgates, the results are suspect. NPCC informs its members that it should not be doing the scaling of load or generation for internal flowgates.

What makes generation shift better or worse than load shift? An area would not increase or decrease load to improve imports and exports. No matter which method is chosen the result is still just a best guess. Updating a matrix daily would just get the similar type of results. Those results could be grossly wrong.

MAIN will send a list of participation factors to DFTF, so it can review these values with the PTDF values based on scaling load and scaling generation. If participation factors are available, for limiting facilities, from interregional studies then these values should be compared to both of the PTDF

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values. If other Regions have participation factors that are easily retrieved then they should pass them on for the review.

**NERC MMWG Base Case Development Updates**

ECAR is making changes to the MMWG base cases. The changes are as follows:

1. For all cases, impedance correction tables reassigned for the MAPP, NPCC, and SPP regions to reflect what should be per the manual. For example, SSP was reassigned Table 50 per the manual instead of Table 12 which is meant for NPCC. In a few cases, SPP used Table 12 instead of 50.
2. For the 1998 summer base case, the interchange matrix would not reflect the interchanges modeled in the case. The interchange for the Southern system was changed from 821 to 820 MW.
3. Area interchange tolerance to be used by each area in all cases was not uniform. It ranged anywhere from 1 MW to 50 MW. The interchange tolerances for all areas in all cases were revised to 5 MW.
4. A tie line from Oneil to 6KingsIn (Florida to Southern) was missing in the 2007 summer base case. This was corrected based on the information provided by Alfred McNeill of FPC.
5. Swing buses are missing for area #419, 521, 604, and 707. No changes were made. However, it is suggested to model these areas as zones in the future if there is no generation to model the swing bus for that area.
6. Zones were reassigned to SPP from SERC, per the SERC/SPP request.
7. NPCC gave a series of changes, which were not incorporated in the original series.

Chi will run a DIF with the cases to see all of the changes that were done.

**SPSSTF, iIDC, etc. Update**

1. FONT List – would it be possible for DFTF to develop this list?
  - NPCC – it is a function of the volume of data that will determine the difficulty. The list would be about 100 long.
  - ECAR – it is a function of the volume of data that will determine the difficulty. The list would be about 100 long.
  - MAPP – the list would be about 50 to 60, these are the outages that are reviewed.
  - If DFTF were not the primary participant in the development process, then we would like the opportunity to be the first group to review it for validity.
  - In the development of this list, where do you start? Where do you end?
  - As a first run get the critical outages out of the interregional studies and show the effect on the PTDF values.
  - Each Regional representative is to review its internal studies and interregional studies to get a list of contingencies and critical facilities and discuss them with its iIDC representative.
2. Revisit the flowgates
  - Each Regional representative is to review its flowgates.
  - Of the flowgates that are currently defined, what criteria were used to define them?
  - When the flowgates are review, try to differentiate the flowgates that are there for informational purposes and which ones are truly reliability flowgates. This should be done by May 15, and will be an ongoing process
  - If the control area to control area flowgates is removed from the PTDF values, should they be removed from the server?

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- The naming convention of the flowgates should also be reviewed.

**Other Issues**

Who has the responsibility to correct the duplicate flowgate names? Since DFTF is more familiar with the flowgates, DFTF might be the appropriate group to make recommendations on duplicate flowgate names. DFTF will make this recommendation to SCS.

The control area to control area defaults will remain in the base case, unless a request is made to remove them. The request needs to be received from both affected parties.

Currently the cutoff for a flowgate is 5%, when there are multiple facilities in a flowgate then the cutoff value should be a smaller percent per facility, with the aggregate value being larger than the 5% cutoff.

The threshold criteria could be used to review the flowgates or use the review of the flowgates could be used to develop these threshold criteria. To ensure that the criteria and flowgates are still functional the flowgates should be reviewed periodically. This will allow for a more descriptive definition of a flowgate. In the review process the Regional representatives should see if any additional information or description could be added to Dave Zwergal's white paper on flowgate definitions.

PAR factors, is this request from NPCC or from DFTF? The current server can handle either fixed MW or fixed PAR. The iIDC will not be changed to incorporate this, but it would be something that should be included in the IDC. Currently, most all PAR are fixed angle.

**Future Meetings**

May 5-6, 1998

Toronto

half day and half day

**Assignments**

- Brian Nolan will continue to build flowgate and control area web pages. The following changes were recommended: the interface column will be removed from the HTML files and a 40 character descriptive name will be use in place of the current flowgate description
- Greg Campolli will update the guidelines
- Chairman Long will talk to Marty Means about DFTFs proposal to review the flowgates and the removal of the SPP and MAPP control area to control area flowgates.
- Chairman Long will talk to Marty Means, to inform him that DFTF will review the flowgates.
- Chairman Long will ask Dave Zwergal to send the latest version of his white paper on flowgate definitions.
- Each Regional representative is to review its flowgates.
- Billy Tiller will discuss the daily model with Warren Wo, to determine the origin of the request and who is to support it.
- Each Regional representative is to review its internal studies and interregional studies to get a list of contingencies and critical facilities and discuss them with its iIDC representative.
- Each Regional representative is to review its flowgates.
- Each Regional representative is to submit to Chi its units that are to be excluded from the April matrix by March 15.
- All need to submit meeting expenses by March 13, 1998, this should include prior meetings.
- Recommend to IDC that PAR be included in the final designs of the system. PAR can be modeled as another means to relive TLR.

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**Adjournment**

Chairman Long adjourned the meeting at noon on February 3, 1998.