

# Distribution Factor Task Force

November 19–20, 1997

Atlanta Airport Hilton and Towers  
Atlanta, Georgia

## 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
Roberto Paliza	MAIN	P. S. (Ben) Li	SPSSTF
Patrick Shanahan	MAIN	Conrado Caunan	NERC
Larry Brusseau	MAPP	Brian M. Nolan	NERC

### Administrative Matters

The Distribution Factor Task Force (DFTF) meeting was called to order at 1 p.m. on November 19, 1997 by Chairman Madison Long. Each representative introduced himself.

The October 15-16, 1997 meeting minutes were approved with modifications.

### Assignments from October 15–16, 1997 Meeting

A more descriptive naming convention was added to the PTDF Viewer program. Some areas will need to look at what name is currently in the system and make appropriate modifications. Once the data is changed, both the PTDF Viewer and IDC database will have the new names.

Lanny Nickell will talk to Steve Busby about the length of the flowgate names.

A list of control areas and its corresponding flowgates is being built onto the DFTF's Internet site. This should be completed by the DFTF January meeting.

Roberto Paliza handed out an benchmark accuracy test summary. The error between the NERC November PTDF values and the full ac power flow were small, compared to the previous test. The participation points and participation factors affect the accuracy of the calculated values. To improve the accuracy DFTF needs to pay close attention to the participation points and factors.

### Update on PTDF Matrix Calculation

#### November Matrix

The matrix was loaded onto the NERC server on November 1, 1997. Since then two changes have been made.

### **97/98 Winter Base Case**

Trial two was sent out in November. This includes a detailed version of SPP. Currently, trial two includes a November PJM model. PJM will send a December model for inclusion.

The M-BASE for nuclear units will be set to zero so that the nuclear data will not need to be submitted every month, therefore they will not be scaled. Each month the Regional representatives are to pickup the previous months outage list, modify its Region and resubmit the case to Chi.

Chi is still waiting for the December outage information. MAAC, MAIN, and MAPP each have a central location to coordinate its outage information. ECAR is currently not having problems collecting outage information.

### **Flowgate Definition**

What should a flowgate be defined as, a limiting facility or something else? The NERC definition is rather vague as to what constitutes a flowgate. David Zwergal is currently writing a paper on the subject of flowgates, and is asking for input from DFTF to help define a flowgate. Some areas use interfaces, stability limiting elements, and thermally limiting elements. For TLR should the flowgates be constrained elements? Should the ATC flowgates be the same as the TLR flowgates?

Possible definitions of a flowgate:

- FERC is defining a flowgate as anything with a commercial value or has had transactions curtailed within the past 12 months.
- SPP believes that there are three things that need to be present for defining a flowgate: commonality between its elements, it needs to be able to be monitored, and the limit that is calculated must be justifiable.
- A group of related lines (one or more) that have a reliability limit should be defined as a flowgate.
- NPCC and MAPP evaluated its systems to find where the system constrains occur and then list these constrained areas as flowgates. These flowgates limits are posted on the OASIS.
- When one Region has a problem because of a limit that occur in another Region, then the constraint in the neighboring Region may need to be defined as a flowgate, for the Region that has the problem.

### **Future PTDF/TPF Matrix Calculations**

#### **Zoned Generation**

In place of a real-time generation dispatch, DFTF could place the generation into smaller groupings or "Zones." These generators could then be switched on and off as groups. The nuclear units would be excluded from these Zones.

Another concept would be for the different unit types be placed into different zones. An example would be to put the hydro units in one zone the gas units into another and so on. This will allow for the scaling of one type of units instead of the entire are.

The options that the Regions have are to create zones for the models or to develop a more detailed list of units that should be excluded from the scaling, similar to what is being done with the nuclear units or scale all of the load with no exclusion lists.

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GAPP scales load and DFTF scales generation. GAPP was more concerned with the compensation aspects of the transmission system, where as DFTF is creating PTDF values for reliability issues. One of the reasons that GAPP scaled load was to reduced the ability to game the system. With zoning units into scaling and non-scaling zones, DFTF is concerned about getting more accurate PTDF values and not the gaming issue.

Zoning would be the easiest method of handling the implementation of scaling and non-scaling of generation. The other option is to change the M-BASE values of the units that are not being scaled.

DFTF agreed that it will modify the M-BASE of the units that are not to be scaled. The Regional representatives should send Chi a RDCH file of all units that should not be scaled. This list should include the nuclear units that have already been submitted. The type of units that should be included are: nuclear, hydro, IPPs. This list is also area dependent. A summary of what units were included and why they were included should also be submitted. This would act as a check to prevent gaming the system. This list will be for the winter months (December, January, and February). The exclusion file should be submitted to Chi, a RDCH file, by December 12, 1998. Chi will have some comparison results for the group at the January meeting.

**1998 Summer Case**

Currently DFTF is proposing using the MEN/VEM base case. If there are no changes to the MAPP Regions, MAPP does not have a problem using the MEN/VEM base case. John Riley believes that, since DFTF started with the NERC base cases that it should continue to use the NERC base cases, especially since MEN/VEM is not sure what cases it will be developing.

MAAC is planning on replacing its Regional model. NPCC will be submitting changes that will be similar or the same as those submitted to MEN/VEM. To get an identical version as the MEN/VEM base case NPCC would resubmit the Region. ECAR would submit modifications to the base case and not an entire new model.

DFTF will use the 1998 Spring MMWG base case for March, April, and May and then switch to the 1998 Summer MMWG base case for June, July, and August.

The use of the MEN/VEM base case will be revisited at a later date.

**NERC MMWG Base Case Development Update**

MMWG base cases are nearly completed. One area that needs to be finalized is area interchange. There is a possibility of double counting which is being corrected. The base cases should be finalized by November 28, 1998.

**DFTF Meeting Expenses Spreadsheet**

Personal meeting expenses ranged from about \$650 to \$1400, with the least expensive location being Tampa, Florida. The Tampa meeting included one person staying the weekend and two people going to multiple meetings at that location. The two meetings in Toronto had an average cost of \$730 and \$940. The cost differential was mostly due to number of respondents.

For those who have not submitted the expense spreadsheet, they are to do so by December 1, 1997. All are to submit the Atlanta expenses by December 1, 1997.

**SPSSTF, iIDC, etc. Update**

Ben Li gave a brief history of what has happened since FERC Order 888 and 889, and how they relate to the current on goings in the industry.

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In the current system, the ISN is developed to support the real-time information that the security coordinators need. To accommodate the need for additional information exchange there is the NERCNet, which is currently under development.

The Security Coordinators Subcommittee (SCS) developed the transmission loading relief procedures. To assist in the development, they approached a small group to develop the needed PTDF values that would show the effects of transactions. The current GAPP Information System would work for the upcoming summer, but it was not the complete information that was needed. To facilitate the creations of a system that SCS could use for TLR two new groups were formed: iIDCTF and iTISTF. The iIDC was scoped and the iIDCTF was charged with making the needed changes to the GAPP system to meet the needs of the SCS. The modified GIS is not the future ISN, the future ISN is in development and will use a frame relay system. The last ISN node is to be installed by February 1998. The ISN has a full-time project manager, Andy Moon.

Two other groups that were created were OASIS II and CPWG, which are predominately industry working groups. The CPWG is facilitated by Gerry Cauley, Dave Nevius, and Bob Cummings. The OASIS II group is facilitated by Gerry Cauley.

The IOS develops operating policies for the SCS. The SPSSTF is charged with developing the tools that are needed for the policies, and the future of OASIS.

Under the SPSSTF are four task forces: DFTF, IDCSDWT, TISSDWT, TRSSDWT. The DFTF has thus far developed a number of PTDF matrices, modeling guidelines, calculations procedures, and an ongoing effort to enhance accuracy. The IDCSDWT has developed a strawman document for loading relief procedures, currently this has not been approved. The TISSDWT has modified the tagging template, and some changes to the operating principles. The development of an RFP will be developed but the work team would like to speak with vendors first and then get a technical writer to draft the RFP. TRSSDWT is developing a four-stage proposal for scheduling transactions, it has begun a table-top experiment, and will write a white paper on the proof of concept of the flow-based system.

The end stage has the following advantages: quick and easy calculation of ATC values when transmission is requested and granted, and a linkage to the commercial world aspects of the transmission system. The end stage is a few years away.

Currently the SPSSTF does not report to the EC, but makes a presentation at the Joint EC/OC meeting. At the November EC meeting a panel that included Paul Johnson from the ATCWG, Ben Li from the SPSSTF and Gerry Cauley from CPWG discussed the related issues between the three groups. Ben Li received an action item to send the EC the white paper on transmission reservation and scheduling on a flow base system when it is available.

TPF values, the over and under counting values are the remaining issues that need to be addressed. The TPF values will be used to support the Table top experiment. If and when a flow-based method is implemented, then the TPF values will need to be created on a continuous basis.

To make the IDC work correctly, there are four components that need to be present: the matrix, the hardware, the software, and the transactions. To get the transactions starting January 1, 1998 compliance with the operating policies will become mandatory. Enforcing compliance will be difficult. Transactions that do not have tags associated with them could be given the lowest priority when curtailment is required, this would work on a coordinated pool level, but would be difficult on a control area level. As stated in Policy 3, transactions that start less than four hours in the future, the tag can be sent in by phone or fax with the following minimum requirements: start and stop time, source and sink, energy profile, service priority, and a unique number ID. Transactions that start more than four hours in

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the future must use the full template. The marketers thought that even for the next hour requests that they needed to use the template to submit the tag.

**Review Action Items (Who/What/When)**

- Brian Nolan will continue to build flowgate and control area web pages.
- Brian Nolan will add links to the PTDF viewer and data files to the DFTF web page.
- Brian will continue to look into creating a standardized Control Area Names as well as a mechanism to go from one version of a name to another.
- Roberto and Lanny will ask the iIDC the status of the transaction data entry.
- Lanny Nickell will talk to Steve Busby about the length of the flowgate names.
- For those who have not submitted the December outage information, submit it to Chi ASAP.
- Chairman Long will relate the recommended definitions of a flowgate to David Zwergel.
- All are to submit to Chi their exclusion file, in a RDCH file, by December 12, 1998
- For those who have not submitted the expense spreadsheet they are to do so by December 1, 1997.
- All are to submit the Atlanta expenses by December 1, 1997.

**Future Meetings**

January 12-13, 1998	Orlando	half day and half day
March 3-4, 1998	Washington DC	half day and half day

**Adjournment**

The meeting was adjourned at noon on November 20, 1997 by Chairman Long.