

Distribution Factor Task Force

October 15–16, 1997

Hyatt Regency Minneapolis
Minneapolis, Minnesota

Meeting Minutes

Attendance

P. S. (Ben) Li, Chairman	Canada	Larry E. Brusseau	MAPP
Madison M. Long, Vice Chairman	SERC	Greg Campoli	NPCC
Jonathan Riley	ECAR	William R. Tiller	SERC
Thomas Vitez	ECAR	Chi Tang	Data Contact
Roberto Paliza	MAIN	Brian M. Nolan	NERC
Patrick J. Shanahan	MAIN		

Administrative Matters

The Distribution Factor Task Force (DFTF) meeting was called to order at 1 p.m. on October 15, 1997 by Chairman Ben Li. Each representative introduced himself. A current roster is included as Attachment A.

The July 21–22, 1997 meeting minutes were approved with modifications. The August 25–26, 1997 meeting minutes were approved with modifications.

Updates on SCS, iIDC, iTIS and SPSSTF Activities

Security Process Support System Task Force (SPSSTF) had a meeting on September 4–5, 1997 where Chairmen Li discussed the proposed table-top experiment. SPSSTF has asked DFTF to produce the TPF matrix to support this exercise. Chair of the SPSSTF also asked Ben and Paul Johnson, Chair of the ATCWG, to explore ways to line up reliability and commercial flowgates. In parallel, the ATCWG has been asked by the NERC EC to look into the interregional coordination, to ensure transmission constraints in neighboring Regions are considered in ATC calculations. This is a very difficult task, since the transactions that are being negotiated or just occurred may or may not be included in the models. Some of the responsibility of preventing overloading of systems could be placed on the users of the systems, the marketers, by posting ATCs on flowgates and applying a flow-based reservation approach. The IDC and a proposed Transmission Reservation and Scheduling system will support a study mode that the marketers can use to do the required calculation.

Transaction Information Systems (TIS) is currently attempting to simplify the tagging template, and dealing with issues raised by the cease and desist suit filed with FERC. Currently the tagging is required for all transaction schedules and a template is required to provide this information for transactions starting in four hours or more. Many marketers believe that the tagging is needed but are concerned about the amount of time that is needed to produce the tags.

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Chairman Li also attended the Security Coordinators Subcommittee (SCS) meeting to present the following five IDC design straw man proposals (see Attachment B):

1. TLR Modifier
2. Extended Application of TLR Modifier
3. Reload Curtailed Transactions with New Schedules
4. Halt Module
5. Transmission Line Outages

SCS accepted the first and second straw man proposals but asked that the linear program option be priced out separately for cost analysis. SCS also accepted the third and fourth straw man proposals in principle, but referred to CPWG for further discussion and concurrence. DFTF Chairman Li left the SCS meeting early and was unable to receive deliberation on the fifth straw man proposal. Dave Zwergel will provide Chairman Li with an update at the October 20 interim Distribution Calculator Self Directed Work Team (iDCSDWT) meeting.

DFTF further discussed the fifth straw man proposal. If an outage on one circuit of a two-circuit flowgate causes an overload on the second circuit, the pre- and post-contingency PTDF values will be very different, so what values should be applied? Also, transactions that fit under the cutoff threshold can still affect the flowgate. The cutoff threshold value is being revisited by SCS.

A proposal by iDCSDWT for the fifth straw man was to use the PTDF pre-contingency as a upper threshold and in the longer run use the PTDF post-contingency values.

PTDF pre = 40% on a four circuit flowgate (each carrying 10% of the transaction)

PTDF post = $3 \times (0.1 + 0.1 \times \text{ODF})$ where ODF is 0.25

PTDF post = $3 \times (0.1 + 0.1 \times 0.25) = 0.375$ or 37.5%

With the more frequent usage of TLR, the definitions of a flowgate needs to be revisited. One NERC group needs to take the task of redefining the flowgates, in a manner that is acceptable to all interested parties. Ben, Paul Johnson and Dave Zwergel have been charged by the SPSSTF to develop a proposal for the definition of a flowgate.

iIDC made two recommendations:

1. The data should be stored for as long as possible
2. Any updating of the modeling guidelines be made of all of the guidelines.

DFTF will send the iIDC a copy of the current modeling guidelines and calculation procedure.

The iIDCTF also identified a need to store data for auditing. Storage of the data is a big concern. What the iIDC is looking for is the storage of the PTDF matrix. What is also needed is the conditions and the requests that are being made at the time of the incident. DFTF will be able to make available the matrix that they need. There is also an effort to collect outage data on a more frequent basis for the ORNS system. Gordon and Roberto are looking into this.

When a TLR is invoked, there is a need to know what PTDF matrix is being used. Brian and Conrado will look into creating a matrix version field for the TLR. Chi will talk to Paul Melcher about a version control for the TLR and PTDF. An appropriate flowgate list as well as a matrix is needed. It might be useful to have a viewer that can hold historic and current PTDF matrices.

Not all of the transactions are being entered into the iIDC yet. NERC is looking into a auditing system to monitor the data entry, and to find out why entities are not entering their transactions. This may be a losing battle to try and get entities to enter their transactions for the following two reasons:

1. Since this is not required under Operating Policy 3.

2. NERC is still a voluntary organization.

Report on Transaction Management Workshop — September 25–26

The workshop was well attended, about 160 people. The main focus of the workshop was the going activities in the industry and what tools are being developed to aid the industry in these changing times. The make up of the audience was a good mix of operators, transmission providers, marketers and vendors, with the majority in the first two groups, followed by the third group and the last group (vendors). During the breakout sessions, 10 groups of about 16 people, the groups were asked to address the same issues/questions. The responses were then put into Power Point files and presented the next day. The marketers stated that they want the IDC up and running so that they can study the impact that their transactions will have on the system. ATC validity and responsiveness to service request were attacked by all groups. There was little discussion on tagging. A NERC list server has been created for the latest transaction management information. For more information on the workshop, visit the NERC web page and go to the hot topics section and the transaction management page.

Updates on PTDF Matrix Calculation

October Matrix was distributed and loaded onto the server. Most of the outages were received on time. MAPP and PJM sent information toward the end of September. For October the New England north-south interface has been removed. The nuclear generators in all Areas have been removed from the scaling of generation, starting with the October matrix. Some more stringent following of the guidelines may need to be followed, but that could result in less accurate PTDF values. For the weekly updates the guidelines need to be followed more strictly, for the monthly the dates can be floated to get better data. The changes for monthly data will be relaxed from the 15th but should not be submitted on the last day of the month. SERC and ECAR have experienced difficulty collecting the data.

If the outages are received by Thursday, then the calculation will take one day. Logistically the collection of data does not create any problems. If the data is submitted in PTI IDEV format, the process will be even easier. A summary of the outages should also be submitted with the data file, at the top of the file or a separate file. Bus numbers as well as bus names should be submitted, this will prevent some errors. What is being sought is a process that will not put any undue burden on Chi or the Regional representative.

MAPP suggested that DFTF move from the current control area-to-control area interface as a flowgate to a more representative process. By default, all interarea tie lines are defined as flowgates. Also, all control areas are responsible for their areas flowgates and should coordinate the definitions of the interarea flowgates. For TLR to be more effective a more descriptive naming conventions needs to be created for the flowgates. A flowgate definition file can then be linked into the PTDF viewer. These file will include the elements that make up the flowgates.

Some of the outage information is not finalized until Thursday afternoon and may or may not be included in the information that is submitted to Chi at noon on Thursday. A possible shift in the data submission window may create more accurate PTDF values. Due to the work schedule for creating the weekly PTDF values, the data is needed by noon on Thursday. The outage information will be tracked to see if there is a need to shift the window.

Generation outage information that is to be out for most of the month should be submitted to Chi to be removed from the model. DFTF had previously agreed to do this. Generators that are out for more than 15 days are to be submitted to Chi, and the MBase will be set to zero. This will prevent these units from being included in the scaling of generation. Using the Rechange function of PSS/E to change the

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Mbase and submitting an IDEV file would be the preferred method of submitting the data. Also, the bus numbers and names should be included.

When outage information is submitted for updating the PTDF models, this information should be treated as confidential data. Therefore, when the data is submitted to Chi it should stop there. A concern with this process is that there will be no mechanism for DFTF members to verify that their input data has been properly interpreted and incorporated into the base case update. This will be discussed with Dave Hilt, of the SCS, to determine a proper course of action.

Flow-based TRS Table-top Exercise and New Matrices

SPSSTF is proposing a tablet-top exercise to compare the existing contract path method with a proposed flow-based methodology. The proposed exercise would use a TPF system, similar to the GAPP system.

Chi has looked into the creation of TPF values. The net interchange between control area was taken into consideration. The default flowgates were used. Using the net interchange method any area that has a value greater than 100% TPF will need to be reviewed. About 38 control areas have TPF values greater than 100, some of these area may not have over-counting problems though. This should address the majority of the over and under counting issues, in the areas that participated in the GAPP system.

Chi will implement the special cases depicted in Appendix A of the GAPP modeling guideline and Calculation Procedure for the next iteration of TPF values. Some of the “fixes” are done on the fly and others will have to be done up front. When calculating one area’s value, the net interchange of adjacent areas are merged and then separated for the remaining calculations. Chi will also set the screening value at 101% to find the remaining areas that have over counting.

Mat Long will make a comparison between the summer GAPP base case and the October DFTF base case, to determine the consistency between the TPF values produced. One problem with this comparison is that the control areas in the GAPP base case may or may not be the same as in the DFTF base case. If the values are significantly different, both the DFTF and GAPP will need to do more work on the models and defend the values created and the assumptions made to get the values.

It was recognized that the modeling assumptions on PAR adjustments and on variable impedance between the iIDC and GAPP calculations were different. To arrive at proper results, after calculating the PTDF values, Chi will rerun the model with PAR settings similar to the GAPP model settings. The variable impedance will be at full compensation for iIDC calculation and at its normal values for the TPF calculation.

When the IDC comes on line, it will have the ability to store the PAR values and hence fully address the issues.

How to combine the two calculations process, PTDF and GAPP calculations? Currently the processes serve different needs. If the two groups started with the same model, some of the discrepancies will be removed. Another issue is the frequency of recalculation of the values. Starting with the summer of 1998 the two groups, DFTF and GAPP should be using the same base case but, the VEM/MEN group would need to begin the process. If DFTF is to use the VEM/MEN base case, any changes that are to be made to the base case will need to be concurred by the other Regions.

DFTF will make a determination on the base case that will be used for the 1998 summer, either the MMWG or the VEM/MEN base case, at the November meeting. The intent is to have a consistent base case with the GAPP calculation.

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Until such time that the groups will be using the same base cases, combining the two groups calculation is not an option.

Updates on NERC MMWG Base Case Development

The models are to be completed in the beginning of November instead of the end of October. The ECAR base case development effort has been divided up between the PSLF and PSS/E users. Once the two sides are developed, they will be sent to ECAR for final reconciliation.

For the Winter base case that DFTF will be using, Chi is waiting for SPP to reply on how to divide the Region into control areas.

Zone and area definition has and is being looked at.

Draft Calculation Procedure

The flowgates and control areas will not be provided in the appendices, but will be referenced via the web site where they reside. A TPF calculation procedures section will be added to the procedures, since the odds of having to eventually calculate TPF values are greater than not having to calculate TPF values.

Future Meetings

November 19-20, 1997	Atlanta	half day and half day
January 12-13, 1997	Orlando	half day and half day

Assignments

- Ben will call the SPP office to find out what its participation on DFTF will be.
- Ben will send the iIDC a copy of the modeling guidelines that currently exist.
- Ben will send the iIDC a copy of the calculation procedures that currently exist.
- Ben will contact Dave Zwergel for his writeup on flowgate definitions.
- Chi will talk to Paul Melcher about a version control for the TLR and PTDF.
- Roberto will discuss the naming conventions with the iIDC.
- Brian and Conrado will look into creating a matrix version field for the TLR.
- Brian will discuss the additions to the Viewer to include the a more descriptive naming convention, as well as the included elements with Conrado.
- Brian will develop a standard data submission form for the meeting travel expenses.
- Brian will build a link to the flowgate and control area web pages.
- 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. Must have something by January meeting, preferably by November. Discuss with MMWG.
- Roberto will update the Working Group on any accuracy testing at the November meeting.
- Roberto will ask the iIDC to review the existing flowgates and modify as appropriate.
- All are to submit to Brian their expenses for attending a meeting.
- All are to come prepared to discuss the zoning of a control area, bring a few options.

Adjournment

The meeting was adjourned at noon on October 16, 1997 by Chairman Li.

Distribution Factor Task Force (DFTF)

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