PJM Attachment H Transmission Owners Working Group

Proposed Regional Cost Allocation Principles for Order No. 1000

Presentation to

Organization of PJM States, PJM Members Committee and other PJM Stakeholders

July 18, 2012
Washington Marriott at Metro Center, Washington, DC

- **Welcome**
- **Introductions**
- **Overview of Meeting Schedule**

Agenda

- Overview and History
- TO Compliance Filing Rights and Obligations
- Overview of Order No. 1000 Stakeholder Process
- Summary and Applicability of Principles
- Allocation of Regional Extra High and Lower Capacity
- Solution-based DFAX
- Baseline Market Efficiency Projects
- Other Principles
- Elements Not Included
- Compliance with FERC Order No. 1000

Overview of Attachment H Transmission Owner Process

- **August 23, 2011 – June 7, 2012; 11 meetings, 7 conference calls**
- **Confidentiality and Common Interest Agreement**
- **PJM participation**
- **Candid exchanges of cost allocation views**
- **Negotiations with compromise proposals offered**
- **Cost Allocation proposal overwhelmingly supported by Transmission Owners**

History of RTEP Cost Allocation Issue

- **Nov. 4, 2003 – PJM Transmission Owners file cost allocation for new facilities**
- **Jan. 2, 2004 – FERC issues order establishing hearing procedures**
- **August 9, 2004 – FERC accepts settlement with Transmission Owners withdrawing cost allocation filing and committing to make new filing by January 31, 2005**
- **Jan. 31, 2005 – PJM Transmission Owners file intra-PJM cost allocation (existing and new facilities)**
- **May 31, 2005 – FERC sends cost allocation filing to hearing/settlement**
- **April 18-21, 2006 – Evidentiary Hearing**
- **July 13, 2006 – Judge Cowan issues Initial Decision**
- **April 19, 2007 – FERC issues Opinion No. 494**
- **Jan. 31, 2008 – FERC issues Opinion No. 494-A**
- **Aug. 6, 2009 – Seventh Circuit Remands allocation of new facilities 500kV and above**
- **May 28, June 28, 2010 – Testimony filed in Paper Hearing on Remand**
- **March 30, 2012 – FERC issues Order on Remand**
- **April 30, 2012 – Requests for Rehearing filed**

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PJM Transmission Owners' Filing Rights & Obligations

- **The TOs will file the PJM OATT amendments implementing the Cost Allocation Principles pursuant to Section 205 of the FPA, Section 9.1 of the PJM OATT and Article 7 of the PJM Consolidated TOA**
- **Under the PJM OATT and the Consolidated TOA, the TOs have the unilateral right to make filings "in or relating to the establishment and recovery of the Transmission Owners' transmission revenue requirements or the transmission rate design under the PJM Tariff . . . ."**
- **The TOs' filing rights extend to any changes in Schedule 12 and Schedule 12-Appendix, which allocate the costs of new RTEP transmission construction**

The *Atlantic City* Settlement

- **After the *Atlantic City* litigation over the TOs' filing rights under the FPA, the TOs and PJM agreed on the allocation of filing rights through a settlement approved by FERC**
- **The TOs voluntarily agreed to cede to PJM the right to file tariff terms and conditions, while preserving for the TOs the right to file the transmission rates and rate design**
- **The TOs must give the Members Committee and PJM at least 30 days' notice of any proposed tariff change**
- **The Settlement provides that PJM can file tariff changes prepared by the TOs. Since the implementation of the eTariff system, this is the way that TO tariff filings are made**

TO Compliance Filing Rights & Obligations

- **The TOs have the right and responsibility to file Section 206 compliance filings that address the rates and rate design of transmission service in PJM**
- **Any decision on how to comply with a FERC directive regarding transmission rates or rate design must be made or authorized by the TOs by a 2/3rd majority vote**
- **Order No. 1000 provides only a broad framework for transmission cost allocation, setting forth six principles, but "declin[ing] to prejudge any particular method or set of methods generically . . . ."**
- **The TOs, with input from PJM stakeholders, must craft a cost allocation methodology that complies with these six principles and applicable law**
- **The TOs may also propose changes to the PJM transmission cost allocation under Section 205 and demonstrate that with those changes, the PJM OATT cost allocation rules comply with the FPA and Order No. 1000**

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Overview of Order No. 1000 Stakeholder Process

- **RPPTF and TO responsibilities**
- **PJM support for Attachment H TO Working Group process and resulting principles**

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Overview and Applicability of Principles

- **All elements of the principles represent a compromise among the Attachment H TOs**
- **Apply only to RTEP projects approved by the PJM Board on or after the effective date of the compliance filing**
  - Precise effective date to be proposed in a Section 205 filing by the TOs
- **Regional cost allocation key elements**
  - Distinguish between Regional Extra High Capacity (EHC) Projects and Lower Capacity Projects
    - Double circuit 345kV and 500kV and above projects treated as Regional Extra High Capacity
  - Regional Extra High Capacity Projects allocated using hybrid approach
    - 50% allocated to identified beneficiaries
    - 50% allocated on postage stamp based on non-coincident zonal peak load ratio share
  - Lower Capacity Projects allocated to identified beneficiaries

Summary of Principles by Project

- **Baseline Reliability and Operational Performance Projects**
  - 50% postage stamp and 50% Solution-based DFAX for EHC projects
  - 100% Solution-based DFAX for all Lower Capacity projects
- **Market Efficiency Projects**
  - 50% postage stamp and 50% to zones that benefit through decreased load payments for EHC projects
  - 100% to zones that benefit through decreased load payments for all Lower Capacity projects
- **Notable changes to current methodology**
  - Definition of EHC includes double circuit 345kV
  - Hybrid model - Regional EHC Projects allocated 50% postage stamp and 50% to identified beneficiaries
  - Solution-based DFAX replaces Violation-based DFAX for Baseline Reliability and Operational Performance projects
    - DFAX results updated periodically
  - For EHC projects, Market Efficiency beneficiaries determined by zones that benefit through decreased load payments

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A Hybrid Model

- **The percentage split of 50/50 was an element of compromise**
- **50% postage stamp and 50% Solution-based DFAX are a recognition of both the system wide and more localized benefits of Regional Facilities consistent with principles established by FERC in Order No. 1000**
- **A hybrid model – combination of postage stamp and DFAX was recommended by some FERC Commissioners and others**
- **Having recognized that some of the benefits of Regional Facilities are difficult to quantify and assign, the next question became "which facilities provide system wide benefits?"**

Definition of Extra High Capacity & Lower Capacity

- **Current definition of Regional Facilities as 500kV and above has been highly controversial, arguments were made for including 345kV and 230kV facilities**
- **New EHC Definition: Double circuit 345kV; 500kV and above**
- **Rationale for new definition:**
  - Recognition that east and west PJM transmission zones were engineered differently
  - Unlike the east, the predominant high capacity facilities in the west are 345kV
  - Double circuit 345kV facilities are the functional equivalent of 500kV and therefore included in EHC definition
    - New double circuit 345kV RTEP projects can include existing RTEP 345kV circuits, but only new construction and remaining rate base of existing RTEP facilities are cost allocated
- **Lower Capacity projects continue to recognize that projects at lower voltages most often do not have system wide benefits**
  - An improvement is that 100% Solution-based DFAX allocation method identifies the beneficiaries of the new lower voltage RTEP facilities and can be recalculated periodically

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Solution-based DFAX

- **What is Solution-based DFAX?**
  - Power flow analysis calculating the non-contingency flow on the reinforcement identified to resolve the violation
  - Applied to Baseline Reliability and Operational Performance projects
- **What are the advantages of the Solution-based DFAX calculation method?**
  - Deals with concerns about Violation-based DFAX as to which violation to be used for DFAX (both largest/smallest issue and different years) and eliminates related complexities
  - Solution-based DFAX allocates a portion of the costs to those who benefit from the new facilities as opposed to only those that cause the violation
  - Solution-based DFAX lends itself to periodic recalculation as it uses the current planning model
  - Recalculating periodically allows for identifying changing beneficiaries over time

Recalculation of Solution-based DFAX

- **Periodic Recalculation of DFAX Portion of Allocation**
  - Solution-based DFAX can be recalculated periodically
  - The frequency of recalculating DFAX will need to balance the effort involved, the value of more frequent recalculations, and the value of rate certainty

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Baseline Market Efficiency Projects

- **Principles**
  - Cost allocation for benefits difficult to quantify and assign to follow that for reliability projects
  - Cost allocation for quantifiable benefits to follow that benefit calculation
- **Cost Allocation for Regional Extra High Capacity Projects**
  - 50% Postage Stamp, and
  - 50% to the zones that benefit from the project through decreased load payments
- **Cost Allocation for Lower Capacity Projects**
  - 100% to the zones that benefit from the project through decreased load payments
- **Related Changes to Market Efficiency Methodology**
  - Present methodology for justifying lower voltage projects only considers zones with positive net load payment reductions
  - Present methodology for justifying Regional Facilities considers all zones irrespective of positive or negative net load payment reductions
  - Additional tariff changes need to be considered for consistency in application
- **The current mechanisms of accelerating or modifying a baseline reliability project based on economic benefits to remain intact**

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Generator Interconnections and State RPS

- **Generation and Merchant Transmission Interconnections**
  - No change from the present – status quo
  - Generator and merchant transmission line interconnections responsible for all “but for” costs
  - Continue to receive the benefit of ARRs when applicable
- **State RPS Projects**
  - RPS requirements are not currently a reason in the RTEP to order transmission expansion
  - Projects not required for reliability, economics or operational performance are “supplemental” projects
  - RPS projects fall within the current definition of Supplemental Projects
  - Costs incurred for supporting state RPS requirements are paid for by load in that state (or states, as applicable)
  - If a TO proposes to charge customers in a single state for a RPS project, where its zone includes more than one state, a separate 205 filing must be made by the zonal Transmission Owner

Aging Infrastructure and under $5M Projects

- **Aging Infrastructure**
  - Typical replacement of existing facilities “in kind” is allocated to the respective zone
  - Exception: when replacement of facilities is required as part of a PJM directed project needed for Baseline Reliability, Market Efficiency or Operational Performance, cost will be allocated the same as the PJM directed project
- **Projects <$5M allocated to respective zone**

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What is Not Included

- **Cost Allocation proposal implements PJM RTEP process, including recent reforms (e.g., scenario consideration)**
- **Does not cover planning reform proposals not yet adopted**
  - Example: Stand-alone public policy projects
  - Example: Critical mass/multi-driver projects

Allocation of Direct Current Lines

- **TOs are still working on appropriate cost allocation rules for DC lines**
  - DC lines have different characteristics than AC lines
  - DC lines used in various applications
  - Applicability of DFAX analysis to controllable DC lines is complex

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Compliance with FERC Order No. 1000

- **Regional Cost Allocation Principles – Order 1000 and 1000-A**
  - Costs allocation should be at least roughly commensurate with distribution of estimated benefits
  - Those that do not benefit from transmission facilities, at present or in a likely future scenario, must not be allocated any of their costs
  - Any benefit-to-cost threshold must not be set at excessive levels; any threshold above 1.25:1 must be justified
  - Costs of a facility in a regional plan must be allocated within a region unless another entity or region volunteers to share the costs
  - Cost allocation method and data requirements for identifying benefits and beneficiaries must be transparent and adequately documented
  - Different cost allocation methods may be used for different types of facilities, such as facilities included in the plan to meet different types of needs
- **PJM TOs will continue process of developing tariff revisions and filing**
- **Filing expected on or before October 2012 compliance deadline**

Questions & Comments

Process Moving Forward

- **Submit written comments by August 1 to:**

  TO_Cost_Allocation@pjm.com

- **TOs will review and consider comments heard today and written comments to determine whether revisions should be made to Cost Allocation Principles**
- **September 5, 10 a.m. – Conference call to discuss revisions, if any, and to hear further comments**
- **Other meetings/conference calls?**

Closing Comments

Thank You for Participating

Appendix

Illustrative Examples

COST ALLOCATION PROPOSED METHOD	AEC	AEP	APS	ATSI	BGE	ComEd	ConEd	Dayton	DEOK	DL	DPL	Dominion	JCPL	ME	NEPTUNE	HTP	PECO	PENELEC	PEPCO	PPL	ECP	PSEG	RE
1. MAPP (Modeled as AC Line)																							
a. Possum Point - Burches Hill 500 kV	0.92%	7.56%	2.77%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	21.02%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	32.45%	2.39%	0.10%	3.37%	0.14%
b. Burches Hill - Chalk Point 500 kV	0.92%	7.56%	2.77%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	51.31%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	2.17%	2.39%	0.10%	3.37%	0.14%
c. Chalk Point - Hallowing 500 kV	0.92%	7.56%	2.77%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	51.31%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	2.17%	2.39%	0.10%	3.37%	0.14%
d. Hallowing - Mission 500 kV	0.92%	7.56%	2.77%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	51.31%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	2.17%	2.39%	0.10%	3.37%	0.14%
e. Hallowing - Gateway 500 kV	0.92%	7.56%	2.77%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	51.31%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	2.17%	2.39%	0.10%	3.37%	0.14%
2. PATH																							
a. Amos - Welton Spring 765 kV	0.92%	7.56%	18.37%	4.33%	16.91%	7.32%	0.28%	1.11%	0.00%	0.93%	5.66%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	17.53%	2.39%	0.10%	3.37%	0.14%
b. Welton Spring - Kemptown 765 kV	0.92%	7.56%	13.82%	4.33%	12.70%	7.32%	0.28%	1.11%	0.00%	0.93%	3.70%	25.30%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	9.15%	2.39%	0.10%	3.37%	0.14%
3. 2nd Davis Besse - Beaver 345 kV	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4. Chichester - Linwood 230 kV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.05%	0.00%	0.92%	0.46%	65.72%	0.00%	0.00%	0.00%	0.49%	22.46%	0.90%
5. TRAIL																							
a. 502 Junction - Mt. Storm 500 kV	0.92%	7.56%	25.47%	4.33%	10.20%	7.32%	0.28%	1.11%	0.00%	0.93%	1.31%	6.19%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	21.50%	2.39%	0.10%	3.37%	0.14%
b. Mt. Storm - Meadowbrook 500 kV	0.92%	7.56%	21.42%	4.33%	2.23%	7.32%	0.28%	1.11%	0.00%	0.93%	1.31%	26.96%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	12.74%	2.39%	0.10%	3.37%	0.14%
c. Meadowbrook - Loudoun 500 kV	0.92%	7.56%	2.77%	4.33%	6.11%	7.32%	0.28%	1.11%	0.00%	0.93%	1.31%	44.47%	2.04%	0.96%	0.21%	0.00%	2.77%	0.97%	10.01%	2.39%	0.10%	3.37%	0.14%

COST ALLOCATION EXISTING METHOD	AEC	AEP	APS	ATSI	BGE	ComEd	ConEd	Dayton	DEOK	DL	DPL	Dominion	JCPL	ME	NEPTUNE	HTP	PECO	PENELEC	PEPCO	PPL	ECP	PSEG	RE
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b. Burches Hill - Chalk Point 500 kV	1.83%	15.12%	5.53%	8.65%	4.46%	14.64%	0.55%	2.21%	0.00%	1.85%	2.61%	12.38%	4.07%	1.92%	0.41%	0.00%	5.54%	1.93%	4.33%	4.77%	0.19%	6.74%	0.27%
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4. Chichester - Linwood 230 kV	0.00%	0.00%	0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.02%	0.00%	0.59%	0.43%	69.62%	0.00%	0.00%	0.00%	0.45%	20.83%	0.83%
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