



Underperformance Risk Management Senior Task Force Final Proposal Report

February xx, 2018

Issue Creation

[Underperformance Risk Management Problem Statement/Issue Charge](#) brought forward by PPGI Fund A/B Development, LLC and approved at the December 17, 2015 Markets & Reliability Committee

[External Capacity Performance Enhancements Problem Statement/Issue Charge](#) brought forward by PJM and approved at the May 26, 2016 Markets & Reliability Committee

[Underperformance Risk Management Senior Task Force Charter](#)

Issue Summary

The Underperformance Risk Management Senior Task Force (URMSTF) was tasked with two problem statements. The first, Underperformance Risk Management (URM) in RPM/CP, addresses the concern that the current capacity performance rules may not provide adequate options to manage the risk of underperformance during capacity performance compliance hour(s). The second, External Capacity Performance Enhancements (ECPE), addresses various internal (PJM) and external (MISO and other external entities) operational, markets, planning and seams coordination challenges associated with integrating external Capacity Performance (CP) resources into PJM.

Consensus-Based Issue Resolution Process

The URMSTF met 16 times in 2016 between April and December.

[Underperformance Risk Management in RPM/CP](#)

[Non-Binding Poll Results](#)

[Voting Results](#)

[Final Matrix](#)

[External Capacity Performance Enhancements](#)

[First Non-Binding Poll Results](#)

[Second Non-Binding Poll Results](#)

[First Voting Results](#)

[Second Voting Results](#)



[Final Matrix](#)

1. Recommended Proposal

Underperformance Risk Management in RPM/CP

The package which received majority support (54.76%) in the Underperformance Risk Management discussions comprises several parts:

- ❖ Changes to the Non-Performance Assessment Charge Rate to index to the highest Base Residual Auction (BRA) clearing price for any Locational Deliverability Area (LDA) in place of the Net Cost Of New Entry (CONE).
- ❖ Changes to the ownership requirements for the existing Retroactive Replacement Transactions so Unit Specific Transactions could be submitted retroactively up to 3 business days after a Performance Assessment Hour (PAH) as long as both resources are in the same PAH Area. The change would also no longer require resources to be in the same account on the day of the PAH.
- ❖ Introduction of a new mechanism used to offset under performance (MWh) with over performance (MWh). The new mechanism would allow unit specific transfer of bonus performance (MWh) to offset units with Performance Shortfalls in the same PAH between any capacity accounts if both resources are in the same PAH Area. A unit would not be required to have Available capacity to participate. The transfer could be submitted up to three business days after the publication of the final balancing ratio to be used on the first settlement statement containing the PAH.
- ❖ Changes to the calculation for the annual stop loss so it is based on 1.5 times the highest BRA clearing price for any LDA instead of 1.5 times the applicable LDA Net CONE times Max Daily UCAP Commitment during the Delivery Year through the end of the month for which the Non-Performance Charge was assessed.
- ❖ Introduction of a new monthly stop loss based on 0.5 times the highest BRA clearing price for any LDA.

External Capacity Performance Enhancements

The PJM package received majority support (68.49%) in the External Capacity Performance Enhancements discussions. The package addressed requirements for both existing and new external resources.

The existing external resource transition plan proposed these requirements:

- ❖ Starting in 2020/2021, performance will be assessed at sub RTO granularity based on operational requirements
- ❖ Affected Non-Market Areas must honor "Firm Status" for resources
- ❖ Beginning with the 2022/2023 Delivery Year the proposed new rules will apply. Therefore, the must offer requirement will be lifted for all existing pseudo-ties for the 2022/2023 BRA.



- ❖ External resource owners with long term contracts, that last for 10 years or longer and were entered into by June 1, 2016, with PJM load may be permitted to participate for the life of the asset if evidence of a long-term contract or equivalent documented agreement with internal PJM load to sell the capacity and energy of the external resource exists.

New external resources would be subject to these requirements:

- ❖ Planning – (1) the initial and on-going deliverability studies must be based on the applicable standards reviewed and approved by PJM to ensure uniformity for internal and external resource deliverability requirements and (2) the cost allocation methodology of the region in which the upgrade is required will be utilized for external upgrades and the RTEP process will be utilized for internal PJM upgrades.
- ❖ Transmission Service – (1) A process to determine the feasibility of a pseudo-tie will be initiated when the transmission service request is submitted, (2) Long-term Firm Point to Point with rollover rights for term of the service will be evaluated at a unit specific level and confirmed by the external Balancing Authority, and (3) Network External Designated will be required and Firm Point to Point will no longer be applicable
- ❖ Operations – (1) External resources must have a minimum electrical distance impedance equal to or less than 0.065 or within 1 station of a transmission bus with a minimum electrical distance impedance equal to or less than 0.065 within the network model, (2) network models for PJM and the External Area must be within 2% accuracy for potential coordinated flowgates, and (3) starting in 2020/2021, performance would be assessed at a sub RTO granularity based on operational requirements.
- ❖ Markets – (1) There must be at least one flexible internal PJM generator with at least 1.5% impact on any new potential flowgate that appears because of the pseudo-tie, (2) the Firm Flow Entitlement (FFE)/Firm Flow Limit (FFL) for flowgates must transfer ownership to PJM from the Host Entity, (3) External Capacity in BAs that are part of the Congestion Management Process is biddable only up to the quantity at which FFEs or FFLs are assigned to PJM, and (4) External Units affecting non-CMP BAs must have agreement from the non-CMP BA that the pseudo-tie does not require tagging.

2. Standing Committee Results

Underperformance Risk Management in RPM/CP

The Underperformance Risk Management in RPM/CP [proposal](#) which received majority support in the URMSTF was voted on at the November 17, 2016 Markets & Reliability Committee meeting. The proposal failed in a sector-weighted vote with 2.38 in favor.

External Capacity Performance Enhancements

The External Capacity Performance Enhancements [proposal](#) which received majority support in the URMSTF was voted on at the January 26, 2017 Markets & Reliability Committee meeting. The proposal failed in a sector-weighted vote with 2.79 in favor. Mr. Jason Barker moved and Mr. O'Connell seconded an alternate proposal comprising the URMSTF proposal modified to be applicable only prospectively (existing units being grandfathered). Mr. Horstmann proposed a friendly amendment to limit the motion to only those sections of the



proposal that apply to resources desiring to be pseudo-tied, but have not yet cleared a capacity auction, and that the remainder of the original URMSTF proposal to be returned to the URMSTF for additional consideration. Following discussion the committee endorsed the motion in a sector-weighted vote with 3.97 in favor.

The alternate proposal was [voted](#) at the Members Committee on January 26, 2017. The committee endorsed the proposal in a sector-weighted vote with 3.88 in favor.

At the February 23, 2017 Members Committee meeting Mr. Stu Bresler from PJM discussed action taken by the PJM Board of Managers to file PJM's External Capacity Performance Enhancements proposal which addressed both existing and new external resources as opposed to the alternate proposal endorsed at the January 26, 2017 Markets & Reliability Committee and Members Committee meeting which only addressed new resources.

Appendix I: Supplemental Documents

[Underperformance Risk Management Senior Task Force webpage](#)

[External Capacity Performance Enhancements Issue Tracking](#)

Appendix II: PJM Participation

Facilitator – Rebecca Carroll
 Secretary – Susan Kenney
 Advocate – Adam Keech
 Subject Matter Expert – Jeff Bastian
 Subject Matter Expert – Paul Scheidecker
 Subject Matter Expert – Patrick Bruno
 Subject Matter Expert – Terri Esterly
 Subject Matter Expert – John Baranowski
 Subject Matter Expert – Aaron Berner
 Subject Matter Expert – Tim Horger
 Subject Matter Expert – Asanga Perera
 PJM Legal – Jen Tribulski

Appendix III: Stakeholder Participation

Ainspan, Malcolm	Energy Curtailment Specialists, Inc.	Other Supplier
Anders, David	PJM Interconnection, LLC	Not Applicable
Baranowski, John	PJM Interconnection, LLC	Not Applicable
Barker, Jason	Exelon Business Services Company, LLC	Transmission Owner
Bastian, Jeff	PJM Interconnection, LLC	Not Applicable
Bencheck, Jim	FirstEnergy Solutions Corp.	Transmission Owner
Berner, Aaron	PJM Interconnection, LLC	Not Applicable
Bhavaraju, Murty	PJM Interconnection, LLC	Not Applicable
Bolan, Martin	FirstEnergy Solutions Corp.	Transmission Owner



Bonner, Charles	Virginia Electric & Power Company	Transmission owner
Borgatti, Michael	Gabel and Associates	Not Applicable
Bresler, Stu	PJM Interconnection, LLC	Not Applicable
Brodbeck, John	EDP Renewables North America, LLC	Other Supplier
Bruce, Susan	McNeese, Wallace and Nurick, LLC	Not Applicable
Bruno, Patrick	PJM Interconnection, LLC	Not Applicable
Bryson, Mike	PJM Interconnection, LLC	Not Applicable
Campbell, Bruce	EnergyConnect, Inc.	Other Supplier
Canchi, Devendra	Monitoring Analytics, LLC	Not Applicable
Canter, David	Appalachian Power Company	Transmission Owner
Carmean, Gregory	OPSI	Not Applicable
Carroll, Rebecca (Facilitator)	PJM Interconnection, LLC	Not Applicable
Ciabattoni, Joe	PJM Interconnection, LLC	Not Applicable
Cicero, Nick	FirstEnergy Solutions Corp.	Transmission Owner
Coll, Daniel	PJM Interconnection, LLC	Not Applicable
Collins, Leonard	DE Public Service Commission	Not Applicable
Cox, Jason	Dynegy Marketing and Trade, LLC	Generation Owner
Coyle, William	Dominion Virginia Power	Not Applicable
Dadourian, John	Monitoring Analytics, LLC	Not Applicable
D'Antonio, Phil	PJM Interconnection, LLC	Not Applicable
Davis, Connie	City of Cleveland, DPU, Division of Cleveland Public Power	Electric Distributor
DeLosa, Joseph	DE Public Service Commission	Not Applicable
Demuynck, Rene	New Jersey Board of Public Utilities	Not Applicable
DeNavas, Joseph	Potomac Electric Power Company	Electric Distributor
Dickson, Douglas	New Jersey Board of Public Utilities	Not Applicable
DiNicola, Laura	FirstEnergy Solutions Corp.	Transmission Owner
Dolan, James	PJM Interconnection, LLC	Not Applicable
Domian, Christin	Mitsubishi Electric Power Products Inc.	Not Applicable
Dorko, Keri	Marketing Analytics, LLC	Not Applicable
Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Erbrick, Michael	Dhastco	Not Applicable
Esposito-Hils, Pati	TransCanada Power Marketing Ltd.	Other Supplier
Esterly, Terri	PJM Interconnection, LLC	Not Applicable
Fabiano, Janell	PJM Interconnection, LLC	Not Applicable
Farber, John	Delaware Public Service Commission	Not Applicable
Filomena, Guy	Customized Energy Solutions, Ltd.*	Not Applicable
Fitch, Neal	NRG Power Marketing LLC	Generation Owner
Flamm, Sean	PJM Interconnection, LLC	Not Applicable
Flynn, Paul	Wright & Talisman	Not Applicable



Foladare, Kenneth	IMG Midstream LLC	Generation Owner
Freeman, Michael	Emerald Energy Consulting, LLC	Not Applicable
Furnish, Jeanna	MISO	Not Applicable
Garnett, Bryan	Duke Energy Ohio, Inc.	Transmission Owner
Gebolys, Debbie	Public Utilities Commission of Ohio (The)	Not Applicable
Gilani, Rehan	ConEdison Energy, Inc.	Other Supplier
Gindling, Jeff	Duke Energy Business Services LLC	Generation Owner
Greening, Michele	Talen Energy Marketing, LLC	Generation Owner
Greiner, Gary	PSEG Energy Resources and Trade, LLC	Other Supplier
Griffiths, Dan	Pennsylvania Office of Consumer Advocate	End-use Customer
Guerry, Katie	EnerNOC, Inc.	Other Supplier
Hagaman, Derek	GT Power Group	Not Applicable
Hart, Joy	North Carolina Electric Membership Corporation	Electric Distributor
Hastings, David	DHASt Co.	Not Applicable
Hauske, Thomas	PJM Interconnection, LLC	Not Applicable
Hayes, Pat	Ameren Energy, Inc.	Not Applicable
Haymes, Alan	Federal Energy Regulatory Commission (The)	Not Applicable
Heise, Randi	Dominion Virginia Power	Not Applicable
Helms, Joseph	Rainbow Energy Marketing Corp.	Other Supplier
Herling, Steve	PJM Interconnection, LLC	Not Applicable
Hoatson, Tom	Riverside Generating, LLC	Other Supplier
Horger, Timothy	PJM Interconnection, LLC	Not Applicable
Horstmann, John	Dayton Power & Light Company (The)	Transmission Owner
Horton, Dana	Appalachian Power Company	Transmission Owner
Hsia, Eric	PJM Interconnection, LLC	Not Applicable
Hudis, Gabriella	Gabel and Associates	Not Applicable
Hugee, Jacquelynn	PJM Interconnection, LLC	Not Applicable
Hunt, Jim	Allegheny Electric Cooperative, Inc.	Electric Distributor
Hyzinski, Tom	Talen Energy Marketing, LLC	Generation Owner
Jardot, Gina	Essential Power, LLC	Generation Owner
Johnson, Carl	Customized Energy Solutions, Ltd*	Not Applicable
Johnson, Nick	Tenaska Power Services Co.	Generation Owner
Josyula, Siva	Monitoring Analytics, LLC	Not Applicable
Kauffman, Brian	NRG Curtailment Solutions	Other Supplier
Keech, Adam	PJM Interconnection, LLC	Not Applicable
Kelly, Stephen	Brookfield Energy Marketing LP	Other Supplier
Kenney, Susan (Secretary)	PJM Interconnection, LLC	Not Applicable
Kerecman, Joe	Calpine Energy Services, L.P.	Generation Owner
Kingston, Amber	North Carolina Electric Membership Corporation	Electric Distributor



Kogut, George	New York Power Authority	Other Supplier
Kopinski, John	ITC Mid-Atlantic Development LLC	Other Supplier
Kothakapu, Rakesh	Illinois Municipal Electric Agency	Electric Distributor
Lacy, Catharine	Dominion Virginia Power	Not Applicable
Leasure, Jill	Keystone Projects	Not Applicable
Liang-Nicol, Cecilia	Monongahela Power Company d/b/a Allegheny Power	Transmission Owner
Loomis, Harold	PJM Interconnection, LLC	Not Applicable
Loudenburg, Zack	Aces Power Marketing	Not Applicable
Mabry, David	McNees Wallace & Nurick LLC	Not Applicable
MacGibbon, Douglas	PJM Interconnection, LLC	Not Applicable
Manning, James	North Carolina Electric Membership Corporation	Electric Distributor
Marton, David	FirstEnergy Solutions Corp.	Transmission Owner
Matzen, Jeff	Dominion Retail, Inc.	Not Applicable
Midgley, Sharon	Exelon Business Services Company, LLC	Transmission Owner
Miehlke, Tracy	PJM Interconnection, LLC	Not Applicable
Militello, Nicole	PJM Interconnection, LLC	Not Applicable
Mok, Alan	Duke Energy Kentucky, Inc.	Transmission Owner
Norton, Chris	American Municipal Power, Inc.	Electric Distributor
O'Connell, Robert	Main Line Electricity Market Consultants	Not Applicable
Olinger, Robert	Gen Ops, LLC	Other Supplier
Ondayko, Brock	Appalachian Power Company	Transmission Owner
Pakela, Gregory	DTE Energy Trading, Inc.	Other Supplier
Patten, Kevin	Appalachian Power Company	Transmission Owner
Perera, Asanga	PJM Interconnection, LLC	Not Applicable
Phillips, Amanda	Wabash Valley Power Association, Inc.	Electric Distributor
Pilong, Christopher	PJM Interconnection, LLC	Not Applicable
Pratzon, David	GT Power Group	Not Applicable
Prokop, Brenda	ITC Mid-Atlantic Development LLC	Other Supplier
Rajan, Abhijit	Virginia Electric & Power Company	Transmission Owner
Reid, Ryan	Buckeye Power, Inc.	Electric Distributor
Rich, Edward	PJM Interconnection, LLC	Not Applicable
Rohrbach, John	Southern Maryland Electric Cooperative	Electric Distributor
Rugh, Chris	EverPower Commercial Services, LLC	Other Supplier
Rushing, Joseph	PJM Interconnection, LLC	Not Applicable
Rutigliano, Tom	Achieving Equilibrium LLC	Other Supplier
Salaneck, Alexandra	Monitoring Analytics, LLC	Not Applicable
Sasser, Jonathan	Customized Energy Solutions, Ltd.	Not Applicable
Scarpignato, David	Calpine Energy Services, L.P.	Generation Owner
Schafer, Anita	Duke Energy Business Services LLC	Transmission Owner



Scheidecker, Paul	PJM Interconnection, LLC	Not Applicable
Schneider, Jon	FirstEnergy Solutions Corp.	Transmission Owner
Schum, Alice	Illinois Municipal Electric Agency	Electric Distributor
Shanker, Roy	H.O. Energy Services (U.S.), Inc.	Other Supplier
Sillin, John	Federal Energy Regulatory Commission (The)	Not Applicable
Singer, Chad	Fellon McCord	Not Applicable
Snyder, John	The Energy Authority	Other Supplier
Sock, Bryan	PSEG Energy Resources and Trade, LLC	Other Supplier
Spoke, John	Tenaska Power Services Co.	Generation Owner
Stadlmeyer, Rebecca	PJM Interconnection, LLC	Not Applicable
Stewart, Travis	Gable and Associates	Not Applicable
Tacka, Natalie	PJM Interconnection, LLC	Not Applicable
Thompson, Heather	Mid-Atlantic Renewable Energy Coalition	Not Applicable
Tribulski, Jennifer	PJM Interconnection, LLC	Not Applicable
Vargo, Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Wehr, Christopher	Metropolitan Edison Company	Transmission Owner
Weiss, Glenn	PJM Interconnection, LLC	Not Applicable
Whitehead, Jeffrey	Direct Energy Business Marketing, LLC	Other Supplier
Wilhite, Chad	FirstEnergy Solutions Corp.	Transmission Owner
Williams, Stanley	PJM Interconnection, LLC	Not Applicable
Wilmoth, Emily	Dominion Virginia Power	Not Applicable
Wilson, James	Wilson Energy Economics	Not Applicable
Yannarell, Dave	Talen Energy Marketing, LLC	Generation Owner
Yu, Joel	Rockland Electric Company	Transmission Owner

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