



DR Plan Enhancement Final Report

March 28, 2013

Demand Response Plan Enhancement

PJM Transmission Planning has identified concerns regarding the lack of information available for planned Demand Response (DR) resources cleared in the Reliability Pricing Model (RPM) auctions. The current requirements for DR plans do not provide sufficient information for PJM to adequately understand the quantity and location of DR to include in the reliability-based planning analyses.

PJM staff has also observed that zonal DR (existing and planned) offered in the 2015/16 Base Residual Auction (BRA) as a percentage of the Preliminary Zonal Peak Load Forecast has exceeded 20% for some zones. PJM is concerned that such high levels of zonal DR offered may not reflect a practical level of DR penetration because DR providers may be depending on acquiring the same resources.

Current requirements for DR plan submissions (filed in advance of an RPM Auction) are provided as guidelines rather than manual language, which results in inconsistent plan data being submitted by participants. Plan requirements should be more clearly documented to avoid potential confusion and provide clear and consistent guidelines for all submissions.

The Market Implementation Committee (MIC) approved the Problem Statement for this group on December 12, 2013 and asked the group to provide recommendations for ways to enhance the DR Plan documentation requirements and to incorporate those recommendations into Manual 18.

In following the Consensus-based Issue Resolution (CBIR) process, this group used polling and surveying to test for consensus of packages. In the case of the proposals listed below, all of the packages have undergone significant changes since the poll; therefore the polling data has been omitted from the narrative.

The two proposals listed below (“Alternate 1 Proposal” and “Alternate 2 Proposal”) are the final proposals being put forth for final consideration. The two proposals are identical for all components, except Design Component 3.

1. Alternate 1 Proposal

This package is listed in the matrix as “Package A”



Design Component 1 – Intent of Physical Delivery of Offered MWs

An Officer Certification was included in the proposal to reinforce that Curtailment Service Providers (CSPs) and other market participants must submit their plans with the intention of physically delivering the Demand Resources that are included in the DR Sell Offer Plan. The certification would be a template letter (that PJM would make available in Manual 18 and on PJM.com) where companies would certify their intention to deliver the total amount of MWs offered by the specified delivery year.

Design Component 4 – Enhanced Sell Offer Plan Template

In an effort to improve the consistency of the RPM Auction Sell Offer Plans for all Demand Response resources, a fixed template is being proposed that members must complete. The template would be accompanied by documentation (contained in Manual 18) to guide CSPs through what is expected in each field. The template and accompanying manual-based documentation would be published to pjm.com.

Design Component 2, 2a, 2b, 2c – Zonal Screen

These design components address the definition of the method that will be used to identify areas of high Demand Response resource penetration. The proposed design components call for PJM to make a predetermination of DR penetration levels for zones in an LDA group (EMAAC, SWMAAC, Rest of MAAC and Rest of RTO) based on the maximum of the following percentages determined for each zone in the LDA group: Maximum zonal DR penetration (expressed as a percentage of zonal peak) determined by PJM based on “Expanded Business as Usual” scenario in the 2009 FERC study (<http://www.ferc.gov/legal/staff-reports/06-09-demand-response.pdf>) or the maximum zonal registered DR from past delivery years (expressed as a percentage of zonal peak). Updates, if any, made to the 2009 FERC Staff Report will be subject to stakeholder review and considered for use in the establishment of thresholds in the future.

A zone will be flagged (for higher scrutiny) if the calculation of the percent of cleared DR resources (cleared DR resources divided by forecast peak load in the last BRA) for a zone/sub-zone exceeds the applicable LDA group metric described in the paragraph above. This determination is made each year prior to the Base Residual Auction and is applicable to all auctions conducted for that delivery year. Zones or sub-zones remain on the identified list unless the threshold is not exceeded for three consecutive years.

Design Component 3 – Identifying MWs that require additional documentation

For the flagged zones, all CSP DR Sell Offer Plans would be assessed to determine, for each CSP, how much of their total offered MW in the flagged zone would require additional documentation. Any offered MWs in excess of the higher of 1) the CSP’s maximum zonal DR/ILR registrations from previous three delivery years; 2) a CSP’s cleared MWs from prior BRAs (for the next three future delivery years); or 3) 10 MW would be identified as requiring additional information.

Design Component 5 – Additional documentation for identified MWs



In the problem statement, PJM raised a concern about high penetration levels of DR in some zones and the possibility of the same MWs being offered multiple times. The proposal language put forth in Package A requires that the additional documentation include site-specific details. By requiring this information, it is believed that PJM will gain a greater level of assurance that the MWs are not duplicated and are able to be brought to market.

To address the duplication concerns, the following additional information would be required for identified MWs: DR resources that are Commercial and Industrial (C&I) should provide the following information: Electric Distribution Company (EDC) account number (if known), customer name, customer premise address, business segment, zone/subzone and estimated nominated capacity value.

DR resources that fall into the residential category would require the following additional documentation: estimated number of customers, estimated nominated capacity value per customer, dwelling type (optional) and county/ZIP codes (optional).

Design Component 6 – If additional documentation identified a resource overlap

In the event of an identified resource overlap, MWs associated with the resource would not be approved for offering into the RPM Auction, unless supported by evidence, such as a letter of support from the end-use customer. If an end-use customer issues multiple letters of support to multiple CSPs, the MWs associated with those resources would also not be approved for offering into the RPM auction.

2. Alternate 2 Proposal

This proposal is listed in the matrix as Package D and is identical to Alternate 1 proposal listed above, with one exception: Design Component 3 (sub-bullet 2).

Design Component 1 – Intent of Physical Delivery of Offered MWs

An Officer Certification was included in the proposal to reinforce that Curtailment Service Providers and other market participants (CSPs) must submit their plans with the intention of physically delivering the Demand Resources that are included in the DR Sell Offer Plan. The certification would be a template letter (that PJM would make available in Manual 18 and on PJM.com) where companies would certify their intention to deliver the total amount of MWs offered by the specified delivery year.

Design Component 4 – Enhanced Sell Offer Plan Template

In an effort to improve the consistency of the RPM Auction Sell Offer Plans for all Demand Response resources, a fixed template is being proposed that members must complete. The template would be accompanied by documentation (contained in Manual 18) to guide CSPs through what is expected in each field. The template and accompanying manual-based documentation would be published to pjm.com.

Design Component 2, 2a, 2b, 2c – Zonal Screen



These design components address the definition of the method that will be used to identify areas of high Demand Response resource penetration. The proposed design components call for PJM to make a predetermination of DR penetration levels for zones in an LDA group (EMAAC, SWMAAC, Rest of MAAC and Rest of RTO) based on the maximum of the following percentages determined for each zone in the LDA group: Maximum zonal DR penetration (expressed as a percentage of zonal peak) determined by PJM based on “Expanded Business as Usual” scenario in the 2009 FERC study (<http://www.ferc.gov/legal/staff-reports/06-09-demand-response.pdf>) or the maximum zonal registered DR from past delivery years (expressed as a percentage of zonal peak). Updates, if any, made to the 2009 FERC Staff Report will be subject to stakeholder review and considered for use in the establishment of thresholds in the future.

A zone will be flagged (for higher scrutiny) if the calculation of the percent of cleared DR resources (cleared DR resources divided by forecast peak load in the last BRA) for a zone/sub-zone exceeds the applicable LDA group metric described in the paragraph above. This determination is made each year prior to the Base Residual Auction and is applicable to all auctions conducted for that delivery year. Zones or sub-zones remain on the identified list unless the threshold is not exceeded for three consecutive years.

Design Component 3 – Identifying MWs that require additional documentation

For the flagged zones, all CSP DR Sell Offer Plans would be assessed to determine, for each CSP, how much of their total offered MW in the flagged zone would require additional documentation. Additional information would be required for any offered MWs in excess of the higher of 1) the CSP’s maximum zonal DR/ILR registrations from previous three delivery years; 2) a CSP’s cleared MWs from prior BRAs (for the next three future delivery years) would be netted with the DR repurchase share percentage by the CSP or the market participant for the last DY for which complete data is available; or 3) 10 MW.

Design Component 5 – Additional documentation for identified MWs

In the problem statement, PJM raised a concern about high penetration levels of DR in some zones and the possibility of the same MWs being offered multiple times. The proposal language put forth in Package D requires that the additional documentation include site-specific details. By requiring this information, it is believed that PJM will gain a greater level of assurance that the MWs are not duplicated and are able to be brought to market.

To address the duplication concerns, that the following additional information would be required for identified MWs: DR resources that are Commercial and Industrial (C&I) should provide the following information: Electric Distribution Company (EDC) account number (if known), customer name, customer premise address, business segment, zone/subzone and estimated nominated capacity value.



DR resources that fall into the residential category would require the following additional documentation: estimated number of customers, estimated nominated capacity value per customer, dwelling type (optional) and county/ZIP codes (optional).

Design Component 6 – If additional documentation identified a resource overlap

In the event of an identified resource overlap, this proposal puts forth that the identified MWs associated with the resource would not be approved for offering into the the RPM Auction, unless supported by evidence, such as a letter of support from the end-use customer. If an end-use customer issues multiple letters of support to multiple CSPs, the MWs associated with those resources would also not be approved for offering into the RPM auction.

3. Comparative Summary

The only difference between package A and D is the metric used to determine how much of a CSP's bid would be exempt from providing additional information in the flagged zones. In Package A, the exemption level is set as the maximum of: A CSP's max registered DR from the last three delivery years; A CSP's max cleared DR from the previous BRAs; 10 MW.

In Package D, this exemption level is set as the maximum of: A CSP's max registered DR from the last three delivery years; A CSP's max cleared DR from the previous BRAs would be netted with the DR repurchase share percentage by the CSP or the market participant for the last DY for which complete data is available; 10 MW.

Package D takes into consideration the amount of replacement capacity procured by the CSP between the BRA and the delivery year. This would increase the amount of MWs for which CSPs would have to submit additional documentation (in the flagged zones).

4. Appendix I: Supplemental Documents

- [Problem Statement](#)
- [Solutions Matrix](#)
- [Officer Certification](#)
- [Tariff Support for Physical Market](#)
- [Manual Language](#)



5. Appendix II: Stakeholder Participation

Last Name	First Name	Company Name	Sector
Ainspan	Malcolm	Energy Curtailment Specialists, Inc.	Other Supplier
Alston	Rick	Old Dominion Electric Cooperative	Electric Distributor
Anders	David	PJM Interconnection	Not Applicable
Barker	Jason	Exelon Energy	Transmission Owner
Barone	Richard	Navigant Consulting, Inc.	None
Bash	David	Mirant Americas Energy Marketing, LP	Generation Owner
Bastian	Jeff	PJM Interconnection	Not Applicable
Batta	Michael	Virginia Electric & Power Company	Transmission Owner
Bearden	Joel	Cargill Power Markets LLC	Other Supplier
Benckek	Jim	FirstEnergy Solutions Corporation	Transmission Owner
Berman	Emily	Unknown	None
Bhavaraju	Murty	PJM Interconnection	Not Applicable
Bloom	David	Baltimore Gas and Electric Company	Transmission Owner
Bolan	Martin	FirstEnergy Solutions Corporation	Transmission Owner
Borchers	Dylan	Bricker	Not Applicable
Bowring	Joe	Monitoring Analytics, LLC	Not Applicable
Breidenbaugh	Aaron	EnerNOC, Inc.	Other Supplier
Brodbeck	John	Potomac Electric Power Company	Electric Distributor
Bruce	Susan	McNees Wallace & Nurick LLC	Not Applicable
Callis	Joseph	PJM Interconnection (Facilitator)	Not Applicable
Campbell	Bruce	EnergyConnect, Inc.	Other Supplier
Canter	David	AEP	Transmission Owner
Carmean	Gregory	OPSI	Not Applicable
Carretta	Kenneth	PSE&G ER&T	Transmission Owner
Citrolo	John	PSE&G ER&T	Transmission Owner
Coulbeck	Rob	ENBALA Power Networks Inc.	Other Supplier
Covino	Susan	PJM Interconnection	Not Applicable
Cox	Jason	Dynegy Power Marketing, Inc.	Generation Owner
David "Scarp"	Scarpignato	Direct Energy Business, LLC	Other Supplier
Dean	Kevin	McNees Wallace & Nurick LLC	Not Applicable
DeGeeter	Ralph	Maryland Public Service Commission	Not Applicable
DeNavas	Joe	Potomac Electric Power Company	Electric Distributor
Desmarais	Michael	EnerNOC, Inc.	Other Supplier
Dimailig	Josh	AEP Energy Partners, Inc.	Other Supplier



Dorn	Andrew	Demand Response Partners	Curtailment Service Provider
Dugan	William	Market Monitoring Unit	Not Applicable
Eakin	Brian	Navigant Consulting, Inc.	None
Eber	Jim	Commonwealth Edison Company	Transmission Owner
Ellis	Jeff	Edison Mission Marketing and Trading	Transmission Owner
Esposito	Patricia	NRG Power Marketing LLC	Generation Owner
Esterly	Teri	PJM Interconnection	Not Applicable
Farber	John	DE Public Service Commission	Not Applicable
Feliks	Kent	American Electric Power	Transmission Owner
Fereshetian	Damon	Viridity Energy, Inc.	Other Supplier
Filomena	Guy	Customized Energy Solutions, Ltd.*	Not Applicable
Fitch	Neal	GenOn Energy Management, LLC	Generation Owner
Flaherty	Dale	Duquesne Light Company	Transmission Owner
Ford	Adrien	PJM Interconnection	Not Applicable
Fraley	Craig	Allegheny Power	Transmission Owner
Fuess	Jay	Unknown	
Gil	David	NextEra Energy Power Marketing, LLC	Generation Owner
Gilani	Rehan	ConEdison Energy, Inc.	Other Supplier
Gilkey	Rick	Customized Energy Solutions, Inc.	Not Applicable
Gockley	Beatrice	EnergyConnect	Other Supplier
Godson	Gloria	Potomac Electric Power Company	Transmission Owner
Greening	Michele	PPL EnergyPlus, L.L.C.	Transmission Owner
Griffiths	Daniel	Enerwise Global Technologies, Inc.	Other Supplier
Guerry	Katie	Hess Corporation	Other Supplier
Habre	Alex	PJM Interconnection	Not Applicable
Hall	Walter R.	Maryland Public Service Commission	Not Applicable
Heizer	Fred	Ohio PUC	Not Applicable
Henry	Michelle	Unknown	
Hewett	Christopher	Virginia Electric and Power Company	Transmission Owner
Hoatson	Tom	Riverside Generating, LLC	Other Supplier
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Howley	Rachel	Hess Corporation	Other Supplier
Huntoon	Stephen	NextEra Energy Power Marketing, LLC	Generation Owner
Irwin-Wedbush	Craig	Unknown	None
Jennings	Ken	Duke Energy	Power Marketer
Jobin	Patrick	Credit Suisse	Other Supplier



Jones	Kim	North Carolina Utilities Commission	Not Applicable
Kazerooni	Hamid	PPL EnergyPlus, L.L.C.	Not Applicable
Kerecman	Joseph	Calpine Energy Services	Generation Owner
Keshavamurthy	Bhavana	PJM Interconnection	Not Applicable
Kingston	Amber	Aces Power Marketing	Not Applicable
Kirby	James	PJM Interconnection	Not Applicable
Kogut	George	FirstEnergy Solutions Corporation	Transmission Owner
Kopon	Owen	Brickfield, Burchett, Ritts, and Stone, PC	Not Applicable
Krajnik	Gregory	Viridity Energy, Inc.	Other Supplier
Langbein	Pete	PJM Interconnection	Not Applicable
Leyko	James	Maryland Public Service Commission	Not Applicable
Lieberman	Steve	Old Dominion Electric Cooperative	Electric Distributor
Lindeman	Tony	First Energy Solutions Corporation	Transmission Owner
Loudenburg	Zack	Pennsylvania Renewable Resources, Associates	Generation Owner
Lukach	Jaclynn	PJM Interconnection (Secretary)	Not Applicable
Mabry	Dave	PJM Industrial Customer Coalition	Not Applicable
Mahoney	Julia	New York State Electric & Gas Corporation	Other Supplier
Manalansan	Paul	Dynegy Marketing and Trade, LLC	Generation Owner
Mancuso	Maria	Baltimore Gas and Electric Company	Transmission Owner
Mandloi	Maheep	Credit-Suisse	Other Supplier
Mariam	Yohannes	Office of the Peoples Counsel for the District of Columbia	Not Applicable
Martin	Valerie	The Federal Energy Regulatory Commission	Not Applicable
Marton	David	FirstEnergy Solutions Corp.	Power Marketer
Marzewski	Skyler	Monitoring Analytics	Not Applicable
Maucher	Andrea	Division of the Public Advocate of State of Delaware	Not Applicable
Maye	Shelly-Ann	North America Power Partners LLC	Other Supplier
McCartha	Esrick	PJM Interconnection	Not Applicable
McDonald	Steve	Customized Energy Solutions, Ltd.*	Not Applicable
Melgoza	Moises	APX Power Markets Inc.	Not Applicable
Mendelsohn	Mark	Noble Americas Gas & Power Corp.	Other Supplier
Miller	Don	FirstEnergy Solutions Corporation	Transmission Owner
Miller	John	Commonwealth Edison Company	Transmission Owner
Millien	Sachiel	Noble Americas Gas & Power Corp.	Power Marketer
Mosier	Kevin	Maryland Public Service Commission	Not Applicable
Moss	James	Monitoring Analytics	Not Applicable
Moss	Skip	Syntil, Inc	None



Nguyen	John	Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
Norton	Chris	American Municipal Power, Inc.	Electric Distributor
Nowell	Cynthia	Potomac Electric Power Company	Transmission Owner
Nowicki	Linda	New Jersey Board of Public Utilities	Not Applicable
O'Neill	Jack	PJM Interconnection	Not Applicable
Ondayko	Brock	Appalachian Power Company (AEP)	Transmission Owner
Pasupatham	Ramaswamy	Exelon Generation Co., LLC (ComEd CPP Annual)	Transmission Owner
Pengidore	Carolyn	NRG Energy	Generation Owner
Peters	James	The Federal Energy Regulatory Commission	Not Applicable
Pieniasek	Marie	Energy Curtailment Specialist, Inc	Other Supplier
Polakowski	Ray	Hess Corporation	Other Supplier
Poulos	Greg	EnerNoc, Inc	Other Supplier
Powers	Sean	Linde Energy Services, Inc.	End Use Customer
Pratzon	David	GT Power Group	Not Applicable
Price	Dann	Constellation NewEnergy, Inc.	Other Supplier
Quinlan	Pamela	Rockland Electric Company	Transmission Owner
Renninger	Matt	Energy Curtailment Specialists, Inc.	Other Supplier
Richter	David	PSE&G ER&T	Transmission Owner
Rismiller	Randy	Illinois Commerce Commission	Not Applicable
Rutigliano	Tom	Constellation NewEnergy, Inc.	Other Supplier
Sailers	Bruce	Duke Energy	Power Marketer
Schlemmer	Carl	APX Power Markets Inc.	Not Applicable
Schofield	William	Customized Energy Solutions, Inc.	Not Applicable
Shissler	Ken	EnerNoc, Inc	Other Supplier
Sillin	John	Federal Energy Regulatory Commission	Not Applicable
Simms	Chris	North America Power Partners LLC	Other Supplier
Smith	Thomas	City of Cleveland, DPU, Division of Cleveland Public Power	Electric Distributor
Snow	Robert	Federal Energy Regulatory Commission	Not Applicable
Sotkiewicz	Paul	PJM Interconnection	Not Applicable
Stadlmeyer	Rebecca	Exelon Business Services Company, LLC	Transmission Owner
Stein	Ed	FirstEnergy Solutions Corporation	Transmission Owner
Stuchell	Jeff	FirstEnergy Solutions Corporation	Transmission Owner
Sudhakara	Raghu	Rockland Electric Company (CIEP Load)	Transmission Owner
Suh	Jung	Noble Americas Energy Solutions LLC	Other Supplier
Swalwell	Brad	Tangent Energy	Other Supplier
Thompson	Matt	North America Power Partners LLC	Other Supplier

Trayers	Barry	Citigroup Energy, Inc.	Other Supplier
Trott	Jeff	Galt Power	Other Supplier
Vickers	Justin	Environmental Law & Policy Center	Not Applicable
Walker	William	PJM Interconnection	Not Applicable
Watson	Jeanine	PJM Interconnection	Not Applicable
Wehr	Chris	Metropolitan Edison Company	Transmission Owner
Weishaar	Bob	McNees Wallace & Nurick LLC	Not Applicable
Wiegand-Jackson	Laurie	North America Power Partners LLC	Other Supplier
Wilmoth	Emily	Dominion Virginia Power	Not Applicable
Wisersky	Megan	Madison Gas & Electric Co	Other Supplier
Wolfe	Samuel	Viridity Energy, Inc.	Other Supplier
Worthem	Dennis	Sierra Globe	None

6. Appendix III: Proposals Not Meeting The Threshold

The following two proposals did not secure the necessary 50% vote at the MIC. The packages are listed as “Package B” and “Package C” in the matrix:

- Package B follows a similar approach to Package A. Zones would be flagged (following the same mechanism as PJM) as requiring a higher level of scrutiny. The differences are in the types and level of details to be provided by CSPs. Package B calls for the additional documentation to be targeted industry, location and estimated nominated value. When duplicated MWs are identified, the duplicated MWs would be distributed on a *pro rata* basis out to all CSPs who submitted the overlapping plans.
- Package C proposal used an allocation process for the distribution of the DR planned MWs in a particular zone when the DR plans are not “Fully Documented.” MWs were allocated according to (i) delivery year contracts, DR programs approved by state commissions and end users offering their own facilities (“Fully Documented MWs”) (ii) auction year contracts (but not delivery year) and (iii) a general allocation of the remaining MWs up to a theoretical maximum penetration amount for customer types (20% of peak load for commercial and industrial, 15% for residential for the 2016/2017 Delivery Year and subject to yearly studies for future delivery years). However, if the level of Fully Documented MWs for any customer type exceeded the maximum penetration level determined through a study, the level of Fully Documented MWs would be approved.



The following proposals did not receive 3:2 support (based on polling data conducted by the DR Plan Enhancement Facilitation Team):

- Package F (see Matrix included in the “Supplemental Documents” section)
- Package G (see Matrix included in the “Supplemental Documents” section)

The following proposals were withdrawn from consideration due to the need for Tariff changes (which were deemed out-of-scope for the DR Plan Enhancement sessions):

- Package E

7. Standing Committee Results

The results from the DR Plan Enhancement discussions were presented at the MIC for a second-read on March 6, 2013. Through the voting process, Package A received 81% approval, Package B and C both received less than 50%. A fourth proposal was submitted for consideration during the meeting. That package (D) received 73% approval.

DM# [740181]