

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

Demand Response Compensation in	)	Docket No. RM10-17-000
Organized Wholesale Energy Markets	)	
	)	

**COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM<sup>1</sup> (“Market Monitor”), submits these comments in response to the notice of proposed rulemaking (“NOPR”) issued in this proceeding on March 18, 2010.

The Market Monitor appreciates the Commission’s ongoing commitment to the development of the demand side of wholesale power markets. The Market Monitor has consistently cited the need to address the underdevelopment of the demand side of the organized wholesale markets administered by PJM Interconnection, L.L.C. by promoting the legal, regulatory, administrative and technical infrastructure needed to provide appropriate price signals, remove barriers to demand side entry and ensure measurement and verification.<sup>2</sup>

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<sup>1</sup> PJM Interconnection, L.L.C., a FERC approved Regional Transmission Organization. Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”).

<sup>2</sup> See, e.g., 2009 State of the Market Report for PJM at 103 (“Markets require both a supply side and a demand side to function effectively. The demand side of wholesale electricity markets is underdeveloped. Wholesale power markets will be more efficient when the demand side of the

The Commission should, to the extent that it can, provide incentives for the development of this infrastructure and lead the effort to coordinate the development of demand side across and within regions.

The NOPR proposes a policy that would compensate participants in economic demand response programs in the organized wholesale markets at the prevailing price for wholesale electric power (“locational marginal price” or “LMP”). The Market Monitor agrees that the LMP is the “marginal cost of the last unit necessary to efficiently balance supply and demand” and is the correct price signal to generation and load.<sup>3</sup>

However, the result of the proposed implementation of this policy would be that demand side participants would receive the LMP plus the avoided cost of purchasing power. For customers already paying retail rates equal to the LMP, such compensation would be twice LMP. This proposal is inconsistent with fundamental economics and, if adopted by the Commission would over compensate participants in economic load response programs, negatively affect the efficient operation of the energy markets and provide no offsetting social benefit.

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electricity market becomes fully functional.”); Market Monitor, “Barriers to Demand Response in PJM,” filed Docket No. ER09-1063, et al. (July 1, 2009) (“Barriers Report”).

<sup>3</sup> NOPR at P 14.

## I. COMMENTS

The NOPR requests comments (at PP 20–22) on a number of issues pertaining to the efficient and effective compensation for demand side resources (“DSR”) and whether uniform treatment of such resources is appropriate. The Market Monitor specifically addresses below the first two topics of inquiry.

### **A. Whether there is a need to compensate demand response acting as a resource in organized wholesale energy markets.**

The assertion that customers who agree to reduce energy use during an hour should receive full LMP is correct. The assertion that such customers require a payment under the PJM DR programs equal to full LMP is not correct. The difference between these two assertions has been the source of much confusion. The confusion turns, in part, on what is meant by “compensation.”

In the energy market, as in all markets, sellers sell products and buyers buy products. These are two distinct activities and are not comparable. When a seller sells a product, the seller receives the market price. When a buyer buys a product, the buyer pays the market price. If a buyer does not buy a product, the buyer avoids paying the market price. The buyer is not compensated in any other way. The interaction of sellers selling and buyers buying results in a market clearing price, which defines the market value of the product.

The only reason that this basic market dynamic does not work in wholesale power markets is that retail customers do not pay the market price on a real time basis. If

customers paid the market price, there would be no need for demand side programs and no need for any discussion of compensation.

One of the central preconditions for complete markets does not yet exist for power markets. Customers, as a general matter, do not know and do not pay the market price of wholesale power. Customers pay a retail price that frequently bears only an attenuated relationship to the real time hourly LMP. This is the fundamental barrier to the development of the demand side of wholesale power markets. The market price for wholesale power is the LMP in organized markets and more specifically the price that reflects actual supply and demand conditions at the specific location and time that power is purchased. This barrier has led to the creation of demand side “programs” designed to work around the absence of price information rather than to the direct provision of wholesale prices to customers.

A fully functional demand side of the electricity market means that end use customers or their designated intermediaries will have the ability to see real time energy price signals in real time, will have the ability to react to real time prices in real time, and will have the ability to receive the direct benefits or costs of changes in real time energy use. When these conditions are met, customers can and will make decisions about how much power to use, including investments in demand side management technologies, based on their own evaluations of the tradeoffs among the price of power, the value of particular activities and the costs of those technologies.

Today, most end use customers do not face the market price of energy, that is, the locational marginal price of energy (LMP). This results in a market failure because when customers do not know the market price and do not pay the market price, the behavior of those customers is inconsistent with the market value of electricity. The transition to a more functional demand side requires that the default energy price for all customers be the day ahead or real time hourly LMP. When the default price for customers is the hourly locational price of energy, customers will have the ability to enter into contracts with intermediaries for fixed price contracts under which the intermediaries take the risks of volatile prices. The intermediaries would then have the incentive to respond to price signals and to incent the customers to respond to price signals.

The most basic barrier to a fully functional demand side of the market is that not all customers are exposed to the actual incremental cost of energy.

The assertion that demand side participants should be paid full LMP, regardless of their retail tariff rate, because the current approach of paying LMP minus G represents an intervention into retail rate design, cannot be correct. The entire demand side program exists only because of the disconnect between wholesale and retail rates. The assertion that the program design should not account for the details of retail rate design leads to the conclusion that there should be no demand side program at all.

Demand side programs are generally designed to work around this market failure rather than to address it directly. PJM's Economic Load Response Program is designed

to work around this market failure by attempting to replicate the price signal to customers that would exist if customers were exposed to the real time wholesale price of energy and by providing settlement services to facilitate the participation of third party Curtailment Service Providers (CSPs) in the market.<sup>4</sup>

The term “demand side resource” means the willingness of customers to respond to prices by reducing usage when the price of power exceeds the value to the customer. This willingness can take the form of an agreement to reduce usage when the price is above a certain level or an agreement to reduce usage whenever the customer wants to respond to price.

PJM’s demand side programs are designed to address this barrier to the full development of a demand side of the wholesale power markets. Ultimately, all of the barriers to demand side participation must be addressed directly. The integration of demand resources into PJM markets through PJM’s demand side programs should be understood as one relatively small part of the transition to a fully functional demand side for PJM markets. The complete transition to a fully functional demand side will require explicit agreement and coordination among the Commission, state public utility commissions and RTOs/ISOs.

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<sup>4</sup> The design of PJM’s Load Management (LM) Program in the RPM market also attempts to replicate the price signal to customers that would exist if customers were exposed to the locational market price of capacity.

When customers directly face market prices and have the ability to respond to such prices and to directly receive the benefits of their choices, there will be only a limited need for demand side programs. There will be a need for clear market rules governing the participation of demand side resources in energy, capacity and ancillary services markets, but there will be a sharply reduced need for elaborate measurement and verification programs. Customers will choose to consume or not consume energy based on the price. The metered usage and the bill will reflect that choice, and the assessment of that choice will belong to the customer. In the capacity market, a fully functional demand side will require that customers who wish to avoid paying for capacity provide an enforceable commitment to be interruptible by the RTO above a defined level of capacity, based on a clear and transparent market signal.

The assertion that the reduction of market prices is a social benefit is not correct. In a market with no externalities, the market price reflects the decisions of sellers and buyers and represents the efficient outcome. There is no reason to provide an incentive to reduce the market price below this efficient outcome. The result would be to provide an incentive for those who use energy, e.g. productive businesses in other markets, to produce less of their product and to use fewer workers. If there are relevant externalities associated with the production of electricity, these should be incorporated in the costs of generating power and thus reflected in the price of power.

**B. Whether current compensation for demand response providers acting as a resource in the organized wholesale energy markets is adequately procuring demand response.**

The NOPR cites to the Market Monitor's findings of recent declines in participation by PJM loads in PJM's Economic Load Response Program.<sup>5,6</sup> The State of the Market Report for

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<sup>5</sup> NOPR at P 10 ("Indeed, there are indications that demand response resources react correspondingly to increases or decreases in payment. PJM provides a case study on this point. It first implemented its Economic Load Response Program (Economic Program) providing for demand response compensation in June 2002.[footnote omitted] Several years later, starting in January 2008, when PJM reduced its compensation for demand response, settled demand reductions began decreasing from previous years.[footnote omitted] Specifically, PJM's Market Monitor noted that, from 2007 to 2008, following the decrease in compensation, settled demand reductions decreased by 36.8 percent, from 714,200 MWh to 458,300 MWh, and the decline has continued at least through March 2009.[footnote omitted] Although the Commission had rejected a request to prevent the compensation decrease from occurring as per the terms of PJM's then-existing tariff, the Commission encouraged PJM and its stakeholders to continue analyzing the effectiveness of PJM's demand response program with the decreased payments for demand response.[footnote omitted] Based upon our own review, the Commission is now concerned that evidence of demand reductions in PJM, and inadequate demand response participation, now and in the future, may be the result of compensation that is no longer just and reasonable, because, as detailed below, the existing and varying levels of compensation generally fail to reflect the marginal value of demand response resources to ISO and RTO energy markets.").

<sup>6</sup> NOPR, Commissioner Moeller's Dissent ("While the majority claims that it is "concerned that compensation for demand response in PJM and other RTO and ISO markets may no longer be just and reasonable", the NOPR lacks a thorough discussion of the evidence that they relied upon to substantiate their concerns.[footnote no. 6: In support of the conclusion that compensation may no longer be just and reasonable, the preamble provides an example involving PJM's Economic Load Response Program and the drop of settled demand reductions experienced after the subsidy payments expired per the terms of PJM's tariff. NOPR at P 10. While the cited level of reduction is a fact, the PJM market monitor stated that "[w]hile the removal of the incentive program, effective November 2007, may have reduced participation, the exact role of the elimination of the incentive program is not known because there were changes to other key factors which directly impact participation." Citing Monitoring Analytics, Barriers to Demand Side Response in PJM, at 22 (July 1, 2009). More recently, the PJM market monitor recognized that between 2008 and 2009, "[t]here were many factors contributing to the lower levels of participation and lower revenues in the Economic Program, including lower price levels in 2009, lower load levels, and improved measurement and verification." Notably, while payments from the Economic Program have fallen substantially since 2007, capacity revenue for demand response has increased significantly (rising 114% to \$303 million from 2008 to 2009.) Citing Monitoring Analytics, State of the Market Report



2009 state that there were many factors contributing to lower levels of participation and lower revenues in the Economic Program, including lower prices, lower loads and improved measurement and verification. The Market Monitor's Barriers to Demand Side Response in PJM report states that the evidence does not support the claim that the removal of the incentive program resulted in a reduction of activity in the Economic Program.<sup>7</sup> Although the Commission is rightfully concerned to promote increased participation in economic demand side demand side programs, and to be concerned when such participation drops, the Commission should regard efficient, market based pricing as the guiding principle for the regulation of the organized wholesale markets. The Commission has a variety of policy tools available to promote greater participation in economic demand side demand side response programs that do not require modifying market prices.

Perhaps more importantly, total compensation to demand side resources increased in 2009, despite the decline in compensation under the Economic Program. Although participation has declined in the Economic Load Response Program, the participation of

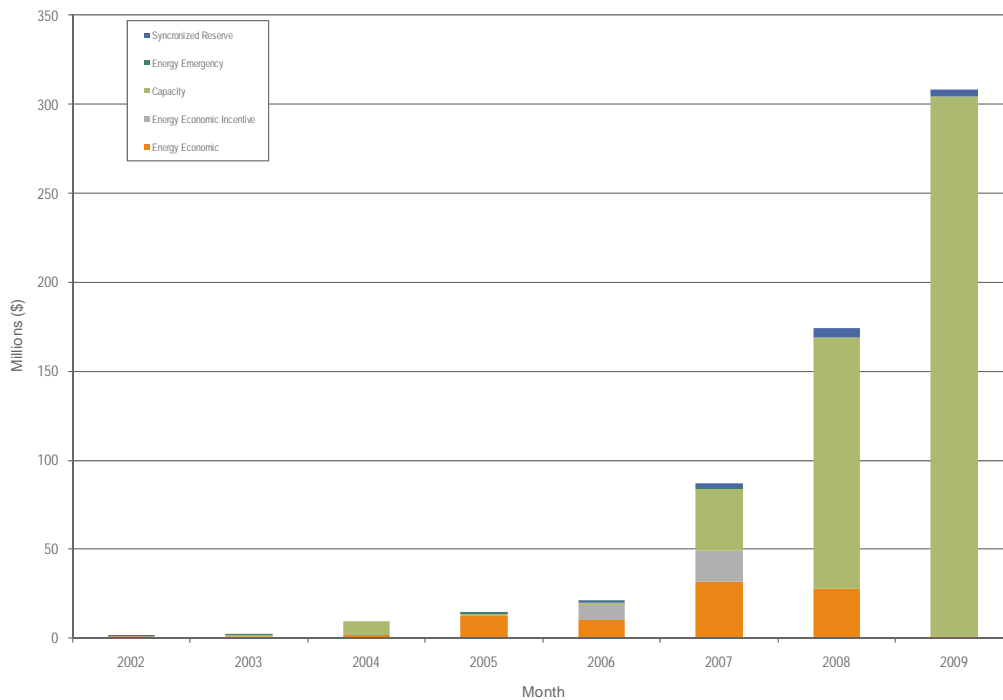
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for PJM, at 111 (March 11, 2010).] The NOPR also lacks a sufficient explanation of the "experience" that FERC has recently gained that would otherwise support the conclusion that the organized electric markets "fail to compensate demand response at levels that reflect the marginal value of the resource being used by the RTO or ISO to balance supply and demand." [citation omitted]).

<sup>7</sup> Barriers Report at 22.

Demand Resources in the RPM Capacity Market has increased substantially since its inception in 2007.<sup>8,9</sup> In 2009, while payments from the Economic Program decreased from 2008 by \$26 million or 96 percent, from \$27.7 million to \$1.2 million, capacity market revenue increased from 2008 by \$161 million or 114 percent, from \$141 million to \$303 million. Synchronized Reserve credits decreased by \$1.1 million from 2008 to 2009, from \$5.1 million to \$4.0 million. Thus, total credits in PJM Load Response Programs from 2008 to 2009 increased 77 percent, from \$174 million to \$308 million.<sup>10</sup> See Figure 1.

**Figure 1 Demand Response revenue by market: Calendar Years 2002 through 2009**



<sup>8</sup> 2009 State of the Market Report for PJM at 121 & Table 2-105.

<sup>9</sup> See 2009 State of the Market Report for PJM at 122 & Table 2-106.

<sup>10</sup> See 2009 State of the Market Report for PJM at 305–306.

## II. CONCLUSION

The Market Monitor respectfully requests that the Commission accept and afford due consideration to these comments as it resolves the issues addressed in the NOPR.

Respectfully submitted,



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Dated: May 13, 2010

## CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,  
this 13<sup>th</sup> day of May, 2010.



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