

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

**Wholesale Competition in Regions with)  
Organized Wholesale Electric Markets )**

**Docket Nos. RM07-19-000  
and AD07-07-000**

**Comments of the Demand Response and Advanced Metering Coalition on the  
Notice of Proposed Rulemaking**

April 21, 2008

**I. Introduction**

The Demand Response and Advanced Metering Coalition (DRAM) is a non-profit organization whose members include the leading companies in the United States involved in providing demand response (DR) technologies and services<sup>1</sup>. DRAM applauds the leadership of the Federal Energy Regulatory Commission (Commission) in issuing this Notice of Proposed Rulemaking (NOPR), the aim of which is to introduce proposals designed to improve organized wholesale markets relative to the increased use of demand response and its enabling technologies in those markets. DRAM finds the Commission's proposals both wise and prudent, particularly given the increasing understanding among all parties that demand response and its enabling technologies are the foundational elements of a competitive smart grid, and that demand response will allow the planning, operation and costs of the nation's electricity system to be optimized.

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<sup>1</sup> DRAM is a 501 c (3) non-profit organization whose mission is to educate all parties on the benefits of demand response and its enabling technologies. More information on DRAM, including a list of members, may be found at [www.dramcoalition.org](http://www.dramcoalition.org).

DRAM agrees with the Commission's primary policy components and associated goals as set forth in the NOPR, and specifically wishes to note its concurrence with the following:

- The NOPR proposals are *designed to ensure just and reasonable rates and to remedy undue discrimination and preference and to improve wholesale competition in regions and organized markets.* (NOPR pg. 4)
- The Commissions proposals to *use ... market prices to elicit demand response, particularly to include requirements to: (1) accept bids from demand response resources in their markets for certain ancillary services, comparable to any other resources; (2) eliminate, during a system emergency, a charge to a buyer in the energy market for taking less energy in the real-time market than purchased in the day-ahead market; (3) permit an aggregator of retail customers (ARC) to bid demand response on behalf of retail customers directly into the organized market; 4) modify existing rules, as necessary, to allow the market-clearing price, during periods of operating reserve shortage, to reach a level that rebalances supply and demand so as to maintain reliability while providing sufficient provisions for mitigating market power] and 5) study whether further reforms are necessary to eliminate barriers to demand response in organized markets.* (NOPR, pp. 4-5)
- Regarding market monitoring *that each RTO and ISO provide its [Market Monitoring Unit] with access to sufficient data, resources, and personnel...and that the MMU...report directly to the RTO or ISO board.* (NOPR, pp. 5-6)
- That *the MMU functions include (1) identifying ineffective market rules and recommending proposed rules and tariff changes; (2) reviewing and reporting on*

*the performance of wholesale markets...; and (3) notifying appropriate Commission staff of instances in which a market participant's behavior requires investigation. (NOPR, PP. 5-6)*

- *Proposed new criteria to ensure an RTO or ISO is responsive to its customers and stakeholders, and ultimately to the consumers who benefit from and pay for electricity services, specifically principles of (1) inclusiveness, (2) fairness in balancing diverse interests, (3) representation of minority positions; and (4) ongoing responsiveness, and require RTOs and ISOs to consult with their stakeholders and make a compliance filing consistent with these four principles.*

*(NOPR, pg. 6)*

- *To require each RTO or ISO to study whether further reforms are necessary to eliminate barriers to demand response in organized markets to ensure demand response resources are treated on a comparable basis as other resources.*

*(NOPR, pp. 6-7)*

- *For each RTO or ISO to provide a forum for affected consumers to voice specific concerns on how to improve the efficiency of competitive markets. (NOPR, pg. 7)*

Following the outline of the NOPR, DRAM offers comments in response to these proposals and concerns which largely support the Commission's proposed reforms, particularly those that will move organized markets more rapidly towards full comparability for demand response as a resource, as compared to supply-side resources.

## **II. Commission Proposals to Ensure Market Participation of Demand Resources**

### **A. Removing Barriers to DR – Comparability is Crucial**

The largest single barrier in the Commission's wholesale regulatory scheme is that demand response does not receive treatment that can be considered comparable to the treatment accorded supply-side resources. DRAM contends that comparability between demand response and supply-side resources is essential, as without comparability, supply-side proposals could win-out over demand response even if the latter is least-cost and demonstrated to be a more valuable resource.

Comparable treatment of demand resources vis-à-vis supply resources is a longstanding plea of the demand response industry and community. While strides have been made in the direction of comparability, it may be that confusion has existed over what is really meant by the term and what is really being sought by the demand response industry. This confusion may have slowed elimination of comparability as a primary barrier to demand response.

Demand resources still find themselves either excluded from certain markets or trying to fit into market rules that were not designed for them. The result is non-comparable status for demand resources and an unlevel playing field for demand response in organized markets. Demand response needs to be treated comparable to supply-side as a resource and demand response participants need to obtain comparable treatment in RTO/ISO governance, while in each case recognizing that the demand response resource clearly may have some different attributes and technical needs.

Such is the case in the area of Ancillary Services, and DRAM submits that the Commission is on the right track when it proposes that bids in organized markets from demand response resources be accepted for such services, provided that such resources can meet appropriate technical requirements. DRAM believes that allowing demand

response to participate in ancillary services markets and other types of wholesale markets is one of the thresholds to a more viable and sustainable demand response industry, and thus to the availability of a larger overall demand response resource.

This last point is significant because demand response resources are no different than generation resources in terms of their need to be able to utilize a variety of revenue streams that exist in the organized markets in order to create the kind of positive business case that will allow sustainable, long-term and reliable resources to be part of the overall market. Thus, comparability must be extended to demand response where it provides substantial, needed value.

It is widely accepted at this point in time that demand resources should be able to participate in ancillary services markets. Also, few would also argue against the concept or principle of comparable treatment. The key is for parties to understand that comparability does not necessarily mean all resources must meet technical requirements in the same way. Demand resources may have different characteristics that lead them to participate in the ancillary market differently than supply resources in some respects. Importantly, however, is that the end result can be the same from the standpoint of whether ancillary services were adequately provided and whether the same value was obtained from demand response resources.

A particular example of where improvements and enhancements to achieve comparability are necessary is seen where demand resources capable of providing ancillary services may nevertheless find participation unattractive due to accompanying requirements that the resources be dispatched to provide energy for periods that are inappropriately long for the type of resource.

Energy markets typically allow market participants to specify parameters or constraints on generation unit dispatch that account for physical limitations and other considerations of those resources. Such parameters include specifying start-up costs and minimum run times. These parameters are integrated into the bidding process to ensure efficient unit dispatch in light of the specified constraints. Such bidding parameters are not necessarily appropriate for demand response resources.

The typical parameters in today's markets were designed primarily with supply resources in mind. Some of these parameters may not in fact present a barrier to demand response. What can be a barrier is the lack of parameters that are designed with demand response in mind. For example, generation resources may specify a minimum run time in a bid in order to ensure profitable operation and minimize wear from more frequent start-up and shut-downs. By contrast, while demand response resources may be concerned about event frequency, they are likely to be generally less concerned about a short duration, or fast ramping requirement. Instead they will likely need to focus on the fact that participating customers (e.g. the load resource being dispatched) may not wish to be a resource for an extended period of time in a given instance

This difference in the nature of the two resources does not prevent either from providing appropriate and satisfactory ancillary service. Rather, each kind of resource has different characteristics that contribute to the value of the ancillary service. In the case above, the demand response resource may provide faster ramping capacity, but does not want to be use for a longer duration. The supply-side resource may be the converse, i.e. be slower ramping but appropriate for a longer duration. Both need to be accommodated; fast ramping is highly valuable, as can be duration when it is needed.

This issue is addressed in the NOPR via a proposal that several potential additional bidding parameters be added to bidding rules that are appropriate for demand response resources which will allow them to participate. The proposal would institute demand response-oriented parameters as follows: a): 1) maximum duration in hours, 2) maximum number times that the demand response resources may be dispatched during a day, and 3) the maximum amount of electric energy that a demand response resource may be required to provide either daily or weekly.

The incorporation of these additional parameters will lead to greater deployment of demand response resources as it will accommodate the customer-derived characteristics of demand response. The incorporation of such parameters, if done correctly, will not provide any new preference for demand resources but instead enable comparability so that all resources can fairly compete.

Comparability is essential for supply-side and demand resources to be optimized in the planning and operation of the nation's electricity system, and therefore for the rates that stem from that system to be just and reasonable.

This suggests, for example, that operating reserves are primary wholesale services that demand response and generation alike must be allowed to participate in to prevent undue discrimination. Moreover, the use of demand response to provide operating reserves is critical to protect the reliability of interstate transmission, consistent with the Commission's statutory framework and legal precedent. Accordingly, comparability is essential to preclude anticompetitive behavior and discrimination.

Presently, non-comparable treatment of demand response manifests itself in many ways, including:

- Exclusion from operating reserve and other markets. Demand response should at least accrue concurrent benefits from both capacity markets (or resource-adequacy) and operating reserves markets, just as generation does, but this has not been the case. Also, demand response cannot provide Operating Reserves under OATT tariff provisions as it is excluded from comparable treatment as a result of the accompanying market rules and protocols in some organized markets.
- Requirements to meet terms and conditions designed expressly for generators. Capacity markets are an alternative to hourly scarcity pricing, to address the missing money problem – recovery of revenue precluded by imposition of price-caps -- but capacity markets can impose long daily and seasonal terms that only generators can satisfy.
- Use of average seasonal prices. Capacity markets use average seasonal prices instead of time-of-day differentiation, to the advantage of generators that can serve more hours of the year to recover sufficient revenue.
- Non-differentiation of resources. Demand response that can provide clean, fast, dispatchable ramping capacity is placed in the same category as polluting, slow-response, partially dispatchable fossil-fuel plants.
- Requirements for extended operations. As the NOPR explains (pp. 27-30, mimeo), market rules that require extended operations (e.g., 12 hours), do not allow a demand response provider to limit its frequency and duration of participation, restrict the type of bid, or require co-optimization. These are conditions that restrict demand response entry into these related markets. .

DRAM suggests that like the Commission’s use of reciprocity, each utility regulated under the Federal Power Act (FPA), including all holders of an Open Access Transmission Tariff (OATT), should ensure “its provisions must be substantially conforming or superior” (Order 890 at pg. 125, mimeo) in terms of comparability. As Commission Order 888-A explains, the basis for open-access transmission is the “agreement to offer comparable (not unduly discriminatory services) in return” (30,285). Thus, the Commission should impose a similar rule to ensure that related demand response provisions are conforming or superior in terms of comparability. This aims to bolster the core of nondiscriminatory open access provisions that aim to ensure competition prevails.

The Commission in Order 890 adopted processes to ensure more comparable OATT service to limit undue discrimination and anticompetitive conduct, as well as to satisfy statutory responsibilities under section 217 of the FPA.<sup>2</sup> The Commission should now proceed with the steps in the NOPR to ensure comparable treatment for demand response resources.

## **B. Demand Response and Pricing Issues in Organized Markets**

DRAM agrees with the Commission’s proposals for moving to comparable treatment of demand response resources in all markets. Specifically these are: (1) to allow bids for demand response to provide ancillary services, Operating Reserves in particular; (2) to eliminate specific charges to buyers in the energy markets for voluntary reduced demand – and not only related to system emergencies, and (3) to permit demand response

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<sup>2</sup> In the case of transmission providers they must submit proposals that comply with eight principles – coordination, openness, transparency, information exchange, comparability, dispute resolution, regional participation and congestion studies. Order 890, at pg. 241, mimeo.

providers (ARCs) to bid on behalf of retail customers into RTO/ISO markets. (NOPR at pg. 17)

Thus, DRAM agrees with the Commission that market rules be designed to ensure demand response can participate directly in all energy and ancillary services markets. Additionally, as the NOPR proposes, DRAM supports RTO/ISO adoption of reasonable standards needed for system operators to call on demand response, including measurement and verification to ensure compliance with such standards.

DRAM also agrees with the Commission's summary of the pricing-related benefits of demand response in competitive wholesale markets, including that demand response bids result in lower demand thus lower prices, that demand response tempers the wholesale market when it reduces the need for retail power needs, and that demand response reduces the need for Load Serving Entities (LSEs) to purchase resource adequacy requirements, operating reserves, and energy. Further, demand response flattens the local and regional load profile, increases system load factor, reduces generator market power, provides downward pressure on prices, reduces peak prices, and decreases price volatility.

### **1. Bid Caps and Price Caps in Wholesale Market Design**

DRAM wishes to also comment on a related issue – price averaging. We believe that such averaging, particularly to remove or reduce peak and super-peak price signals, dramatically reduces the incentives for demand response and its ability to be deployed.

Whereas generators can compete based on average capacity prices by operating for a greater number of hours in the year, dispatchable, firm demand response generally is designed to meet only 100 hours of super-peak operation per year. Critical peak pricing

(CPP), which is more of a non-firm product, may at the most be used for 250 hours per year. These numbers, respectively for dispatchable demand response and CPP, amount to approximately 1 to 3 percent of total hours per year, and are far less than the expected 1,600 plus hours of operation of a combustion turbine (CT) or 7,000 plus hours of operation for a traditional fossil-fuel plant.

A number of arguments are used to justify averaging of electricity prices, particularly in capacity markets. Although capacity markets are used to remedy the missing money pricing, e.g. as a substitute for lifting energy price caps and scarcity pricing, capacity market prices are never time-differentiated like the hourly energy market prices they replace. Rather, it is argued that for *computational simplicity* capacity prices are defined on a daily basis for specific months, so are only differentiated seasonally. If demand response is available for only 100 or 200 hours per year, the effect of seasonally differentiated capacity prices, leaving these price signals as uniform daily prices, is hugely to the detriment of demand response providers.

Loss-of-load-probability (LOLP) and loss-of-load-expectation (LOLE) are probably the best understood and the most widely techniques used to define time-based differences in electricity system reliability. LOLP or LOLE, on an hourly or sub-hourly basis, varies tremendously during any peak or super-peak day, which should be but is not reflected in RTO/ISO capacity market prices. Similarly, existing peak and super-peak energy prices, though muted by bid caps and price caps, vary tremendously during any peak or super-peak day. Peak and super-peak energy prices are primary indicators of the value and the scarcity of power, as reflected in the underlying function called reliability.

The point is, therefore, that although capacity markets are designed as a substitute to un-capped hourly or sub-hourly energy prices, capacity market prices are in fact grossly averaged daily prices without daily time-differentiation and with only seasonal variance.

The best-practice for capacity pricing – prorationing by LOLP or LOLE -- is not being used in organized markets. DRAM believes most experts and analysts would concur that if true market prices cannot be used, as is the case in organized capacity markets, that hourly LOLP or LOLE should be used to proration the seasonal, daily average capacity prices that are now used in lieu of uncapped markets and scarcity pricing. This LOLP/LOLE approach would substantially de-average capacity prices and provide better signals for both demand response and generation. Hence, the use of LOLP or LOLE is the recommended option as an alternative to the use of un-capped energy market pricing, as this approach will achieve the de-averaging that scarcity pricing aims to address.

Finally, as the NOPR explains, certain demand response programs (e.g. emergency programs) may dampen prices during a period of shortage. (NOPR, pg. 29) It has been suggested that in some organized markets that one of the best ways to use demand response is before emergency conditions are triggered (i.e., before operating reserves dip to lower levels), as this also produces a substantial price reduction effect. This suggests that demand response should be included as an economic option, dispatched on that basis, and that some demand response may be held for emergency operations. Certainly demand response should not be used exclusively as an emergency resource. Demand response that is relegated to be triggered only when an emergency occurs, again, reflects the non-comparability of demand response and supply-side resources. Demand response

should be seen as a resource that can participate equally with at least peak and super-peak generation, for energy and capacity, ancillary services, environmental mitigation, price-response, market power mitigation, and when appropriate, for emergency response.

## **2. Accept Bids from Demand Response for Certain Ancillary Services**

Currently, many demand response resources are not able to participate in some Operating Reserve markets, particularly spinning reserve and non-spinning reserve markets. In contrast, generators obtain revenues for the same basic resource concurrently from both capacity markets (or Resource Adequacy) and Operating Reserve Markets. This is clearly not comparable. The Commission's directives in Orders 888 and 890 call for all RTOs/ISOs to provide for a specific set of Ancillary Services, particularly spinning and non-spinning reserve. Accordingly, the Commission's proposal that RTOs/ISOs accept bids from demand response providers is most appropriate, particularly to enable simultaneous participation in capacity markets or resource adequacy, as well as in operating reserve markets, and then be triggered based on price and/or reliability to provide energy and congestion benefits.

Certainly it is appropriate for specific rules to be imposed that require all resources, generators and comparable demand response, to respond within specific time frames, and to meet reasonable size, telemetry, metering, and bidding requirements. (NOPR, pg. 32) The demand response industry does not want subsidy or special treatment. Rather, it simply wants comparable treatment and opportunities to provide true economic value in the market consistent with specific demand response capabilities and market needs.

## **Allow Aggregators of Retail Customers to bid Demand Response**

DRAM supports the Commission's specific proposal and recommendations for aggregators of retail customers (ARCS) to bid demand response on behalf of retail customers (NOPR, pp. 54-55), including the following:

- Meet the same requirements as demand response provided by a load-serving entity (LSE);
- Meet comparable RTO/ISO membership and measurement and verification requirements;
- Use single aggregated bids for demand response from a single area;
- Comply with restrictions to avoid double-counting of the same demand response;
- Require explicit notification from the retail authority to the RTO/ISO to disqualify an ARC; and
- Not require demand response bids if this is not permitted by the relevant retail electricity authority.

Furthermore, DRAM agrees that demand response providers should be allowed to sell into the ancillary services markets without being required to sell into the energy market, unless energy schedules are consistent with expectations about demand response curtailment/load-drop, i.e., energy is provided voluntarily. Accordingly, DRAM supports the commission's proposal for competitive ancillary services bidding, specifically if demand response resources (1) provide appropriate technical value under necessary requirements, and (2) comply with applicable bidding rules at or below market-clearing prices. DRAM respectfully requests that the Commission ensure that overly

technical and burdensome requirements are not imposed where not appropriate for demand response resources, for example for spinning and non-spinning reserves.

DRAM notes that the Commission suggests its proposal would apply to any competitively-bid market, but only lists energy imbalance, spinning reserves, supplemental reserves, reactive supply and voltage control, and regulation and frequency response. DRAM agrees with this but asks the Commission to include two other key services, which demand response has generally been excluded from participating in: Out-of-Market (OOM) and Scarcity Pricing. Comparable treatment for demand response should be extended to all relevant markets, including OOM and Scarcity Pricing.

Also, the concept suggested by the Commission to specify limits on the frequency and duration of service in their bids (NOPR, pg. 40) seems prudent and is acceptable to DRAM. This is a critical feature for demand response providers, as most readily recognize.

#### **Small Loads Should be Allowed to be Bid**

DRAM supports the Commission's proposal in the NOPR to require an assessment of the ability of smaller loads to participate in ancillary services markets. DRAM believes that there may be greater demand response potential in the residential and commercial customer segments. DRAM also believes that efforts to include this sector are important to reaching the consensus goal of all those involved in expanding and enhancing demand response at the wholesale level, i.e. creating a market framework and design that helps to bridge the regulatory divide between wholesale and retail rate regulation.

As raised above in DRAM's general comments on comparable treatment in ancillary markets, the important thing is for parties to understand that comparable treatment may mean different rules for different resources. Such rules would need to be comparable and equivalent, and obviously meet the test of fairness, but such rules need not be identical if the same end result is met, i.e. allowing more resources to compete in ancillary markets.

DRAM requests that the Commission support assessments to identify where certain technical requirements for demand response participation in markets would place an undue and unnecessary barrier, such as where the technical requirements exceed what is necessary in order to ensure reliable system operations. An example of this in the case of smaller loads is where telemetry requirements that are not appropriate for such loads act as a barrier to the participation of these customers. DRAM believes the envisioned assessments would allow parties to focus on how best to modify requirements for demand resources participation, which would not tilt the scales against supply resources but result in comparability for all resources.

DRAM believes that there is no reason to delay moves to address the participation of smaller loads. DRAM notes that work in this area is already underway in the New England organized market that may inform assessments and actions in other markets. In its final rules, the Commission should make it clear that smaller loads need not be identified as a future concern or for future action but that steps should be taken to address such in the present and near term.

It is also important that the Commission in its final rules make it clear that the goal in addressing smaller loads is not to create a separate ancillary market for such, but

to provide comparable rules and requirements for smaller loads that will allow these resources to participate in the primary ancillary services markets. This argues further for expeditious assessment of smaller load participation so that the information from such an assessment can be applied to the main issue of allowing demand resources to fairly and comparably participate in providing ancillary services.

**Ancillary Services must not be the Exclusive Domain of Generation**

DRAM fully agrees that demand response providers must meet the same requirements as generators that provide ancillary services, particularly in bidding, response-time, and measurement and verification. As most all generators use communications systems to provide data to RTOs/ISOs, communications protocols to provide ancillary services can be made very complicated and foreclose demand response providers, particularly because communications from a large number of demand response devices or customers is more expensive. Accordingly, it seems appropriate to streamline ancillary services rules and related protocols to reduce the complexity and burden for demand response providers. Generators will face fare more competition in these markets if demand response is enabled. Demand response providers should of course be subject to registration, creditworthiness, and other requirements, as generators are, but should not face requirements that act to exclude demand response providers. Thus, in moving towards comparability, it is important that the Commission's steps ensure that comparability is not used to create new and different barriers to demand response participation.

**c) A FERC Forum to Establish Standard DR Services is appropriate**

As stated earlier, DRAM believes that comparability should be in part defined as allowing demand resources to provide the same service or product or meet the same system need, but allowing such resources to do so in different – but comparable – ways. Similarly, DRAM suggests that the Commission establish a forum to define standard demand response services, starting with the six well established services that are defined in Commission Orders 888 AND 890. The most important ancillary services for demand response providers to initially have standardized are spinning and non-spinning reserves. Comparability in all bid-based and market services, however, is essential to enable new, innovative demand response services to fully participate. Further definition of such services will allow individual market operators to implement reforms in ways that are most appropriate to them.

### **3. Eliminate Deviation Charges under Certain Circumstances**

DRAM fully supports the Commission’s proposal to address deviation charges to buyers in the energy market for taking less energy when an RTO/ISO seeks to avoid an operating reserve shortage or declares an operating reserve shortage. Removal of this disincentive is indeed important to ensure that load reductions are available when they are most valuable to the system. DRAM also supports the Commission’s proposal that any real differences in market costs that result, otherwise included as deviation charges, be allocated as uplift to all customers of an RTO or ISO. (NOPR, pg. 47) It appears, however, that the Commission has not fully defined the circumstances when deviation charges would be eliminated, as the circumstances where an RTO/ISO seeks to avoid an operating reserve shortage are significantly different than circumstances where an operating reserve shortage – emergency – has occurred. This suggests the Commission

take measures to ensure that the circumstances to avoid an operating reserve shortage are carefully defined.

DRAM believes that the proposal outlined in the NOPR to eliminate “deviation charges” for demand response resources during system emergencies is correct. Eliminating deviation charges would be helpful in bringing incremental demand response resources to bear during times of system emergencies, especially from customers already participating in reliability-based demand response programs.

Customers participating in demand response programs can work with the ARC with whom they contract to develop a pre-arranged demand response plan that describes what equipment will be called upon to provide load response when an event is called, and how the response will be achieved. An estimate of the volume of load reduction under this plan is then nominated in the load response program. The estimated volume of load response that customers and ARCs nominate is generally a fairly conservative estimate of the level of curtailment the customer can deliver during an event. This is because customers and ARCs want to avoid penalties for underperforming during events.

It is often therefore possible that customers and ARCs are capable of delivering more demand response resources in real time than are committed to the emergency demand response program. This is especially true when the system emergency grows increasingly severe. Customers who participate in demand response programs are much more aware of system conditions than customers who do not participate. As members of the community, they have a stake in preserving system reliability beyond the payment they may receive for providing demand response resources. During system emergencies, participating customers will often try to do all they can to provide load relief.

Deviation charges provide a particular disincentive for load response over-performance during system emergencies. It could be argued that the potential for a deviation charge is factored in customers' demand response business decision when it makes a commitment to participate in the program. However, in real time during a system emergency, we should want participating customers to deliver as much demand response as is possible, without having to worry about the severity of a deviation charge.

Eliminating deviation charges should enhance system reliability. DRAM agrees with the Commission assessment in the NOPR that this reliability value justifies the socialization of related uplift costs<sup>3</sup>, which is likely to be a relatively small amount in any event.

#### **4. Permit ARCs to Bid DR for Retail Customers into RTOs/ISOs**

Experience to date in organized markets has demonstrated that allowing ARCS to participate directly in wholesale markets can provide value to those markets. ARC participation has increased market efficiency and led to a greater diversity of demand response options being made available to customers. Yet the introduction of ARCs to organized markets is a relatively new component of those markets and action by the Commission pursuant to the NOPR to further ratify the rights and abilities of ARCs to participate in markets should lead to a greater attainment of such benefits noted. It should also lead to an increase in the consistency across organized markets in how ARCs are allowed to participate in the different markets. Such consistency will allow demand response resources provided by ARCs, as well as other entities, to grow faster and larger in a more efficient and effective manner.

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<sup>3</sup> NOPR at ¶79.

The ability for ARCs to aggregate retail customers and bid into RTOs/ISOs has already been demonstrated in some organized markets. It is unclear to DRAM exactly how demand response providers or ARCs will gain advantage where capacity markets are in place, except to allow ARCs to bid into other related RTO/ISO markets, including operating reserves and other economic markets. As the Commission remarks, double payment must of course be avoided. (NOPR, pg. 48)

DRAM supports initiatives to standardize several technical issues, including i) the method for determining baseline compensation, ii) tools to establish uniform baselines and verification, iii) interface tools for demand response to use a common portal and protocol in organized markets, and iv) telemetry and metering requirements. (NOPR, pg. 50)

The Commission proposal to amend RTO/ISO rules and permit ARCs to bid demand response for retail customers is consistent with comparability under the Federal Power Act and Orders 888 and 890. The requirements and the markets they bid into must be accessible to demand response providers, as well as supply-side resources, and not be overly burdensome.

#### **5. Modify Market Rules to Allow Market-Clearing Prices during Shortage**

The Commission proposal to permit ARCs to bid demand response during periods of operating reserve shortage is entirely comparable with the related role that generators occupy. As some market operators and others have pointed out, the rules governing price formation should be modified to allow demand response to be able to fully participate during times of shortage.

#### **6. Agree on Need for Technical Conference for DR Related RTO/ISO Studies**

The Commission's proposal to convene a technical conference where ISOs/RTOs and others report on standards for demand response, as well as remaining barriers to demand response, is indeed welcome and fully supported by DRAM.

### **7. Specific Issues with Information Withholding**

DRAM strongly believes that a consistent policy and protocol is needed to enable timely transfer of customer information to demand response providers in order to enable demand response operations to be effective. When customer information is not provided on a timely basis, the targeting and application of demand response strategies is hampered, undercutting the achievement of cost-effective results, and causing expectations of performance for retail and wholesale customers alike to not be met and the status of demand response as a valid system resource to be diminished.

## **III. Price Formation during Operating Reserve Shortage**

### **A. Proposals that Ensure Capacity Markets are Sustained**

The market condition that occurs when resources, including demand response, fall short of demand plus operating reserve requirements obviously threatens reliability and should be remedied so that proper price signals prevail and demand response value is not muted. The four approaches defined by the Commission to address this are as follows

(NOPR, pp. 58-59):

- Increase energy supply offer caps and demand bid caps above current levels during an emergency;
- Require RTOs/ISOs to allow only demand response bid caps to be raised above current levels, keeping generation offer caps in place;
- Require a demand curve for operating reserves in each RTO/ISO market;

- Require RTOs/ISOs to modify market rules to set market clearing price for all supply and demand response at the same level of payment as participants in emergency demand programs.

DRAM is concerned about how these proposed approaches would impact existing capacity markets, particularly in the longer term.

The Commission has identified that price and bid caps during periods of operating reserves shortages diminish market efficiency by sending price signals that may not be reflective of scarcity conditions prevailing in the market, and may therefore inhibit demand response and deter new entry of demand response.

In pursuing a course where modifications are made to the use of price caps, it is important for the Commission to consider and prevent any adverse impact on existing demand response programs that relate less to price caps and are more reliability-based.

For example, the Commission notes that one effect of scarcity pricing would be to reduce revenues recovered in capacity markets and shift those revenues from the capacity market to the energy market.<sup>4</sup> The envisioned result is scarcity pricing encouraging “greater demand response, as demand response may face fewer barriers to participating in energy markets than in forward capacity markets.”<sup>5</sup>

As the development, integration and deployment of demand resources continues to mature it will become increasingly important for all parties to understand that not all such resources are the same in all respects. Some may be more appropriate to energy-based markets and others more suited to capacity-based markets. In developing its

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<sup>4</sup> NOPR at ¶¶112, 114.

<sup>5</sup> NOPR at ¶114. DRAM is not in a position to confirm the Commission’s suggestion that demand response may face fewer barriers to participating in energy markets than capacity markets. Indeed, there are barriers in both types markets that present challenges for demand response resources.

policies around scarcity pricing, the Commission should attempt to encourage demand response resources to be able to be more broadly available in general, but do so in a way that is most appropriate for a particular type of demand response resource. DRAM does not believe that scarcity pricing should be pursued in a way that requires participation in the energy market.

While some demand response resources are capable of responding to day ahead and real time prices, as noted by the Commission, not all customers are suited to or interested in interaction with the energy markets.<sup>6</sup> These customers may however participate in a reliability-based demand response program that helps preserve reliability and which allows them to be paid to be a reliability resource. These resources need a stable revenue stream available from the capacity market, and any energy payment received during reliability events is of secondary importance.

In other cases, customers are more price elastic and are more ready and able to participate in price responsive programs. However, a number of factors may result in such a customer deciding not to respond at a given time, despite the pricing in the market at that time. With no contractual obligation to curtail at times of reliability concerns, price responsive demand resources are generally unavailable to be counted upon as a reliability resource.<sup>7</sup> Given that they are not being compensated as a reliability resource, they should not be counted on in such a manner.

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<sup>6</sup> NOPR at ¶110

<sup>7</sup> Some customers may choose to participate only in voluntary price responsive programs because they may not be able to respond on relatively short notice of a reliability event on times beyond their control. In other words, because of the nature of the demand response resource, they may not be able to reliably perform at unexpected times. ARCs work with customers to identify the appropriate level of participation to capture the value of the demand response resource, while not placing unacceptable risks or disruptions on customers.

Reliability-based demand response resources and price responsive demand response resources (and hybrid forms of both) each have important market benefits. Price responsive demand response instills pricing discipline in both the energy market and the capacity market (through lower demand charges). Reliability-based demand response provides pricing discipline in the capacity market because it tends to be less expensive capacity than peaking generation. While reliability-based demand response does not directly impact energy prices, it does impact energy prices indirectly, and has the important attribute of being able to be counted on by system operators to preserve reliability.

The challenge is for the Commission to support a market design that preserves the positive attributes of reliability-based demand response and price responsive demand response. It must balance its scarcity pricing policy to maximize and optimize the development of demand response resources of all types to participate in power markets and not take steps to enhance one type that might be detrimental to another type.

#### **B. DRAM's Recommendations on the Commission's Proposal**

DRAM agrees with the Commission's assessment *that existing market rules appear to be unjust, unreasonable and unduly discriminatory or preferential during times of scarcity ... as they do not reflect the true value of energy...* (NOPR, pg. 62) DRAM further agrees with the Commission that i) price caps constitute a barrier to new generation and demand response, ii) market prices can elicit demand response to maintain reliability, iii) with bid and offer caps the optimum level of demand response or generator response cannot be obtained, and iv) use of demand response to deter market power and gaming, particularly during operating reserve shortages.

With respect to the Commission's proposal to reflect the value of energy during times of scarcity, DRAM is supportive, but asks the Commission to carefully weigh the impact on capacity markets of each proposal put forward, especially to know how capacity prices will trade-off with energy prices under each of the suggested approaches. A strong factual record is of course needed, as is evidence of the impact on market power.

DRAM supports each of the six proposed criteria to demonstrate the merits of new energy market rules (NOPR, pp. 67-68) and the Commission's proposed rulemaking approach for each respective RTO/ISO. The six criteria offered by the Commission seem appropriate and well reasoned, but DRAM asks that the Commission add a seventh criterion, which is to require, if applicable, a detailed assessment of the impact of the proposed new energy market rule on the respective capacity market participants.

#### **IV. Responsiveness of RTOs and ISOs to Stakeholders and Customers**

##### **A. Comments on Proposals and the Commission's Suggested Reforms**

DRAM members support the Commission's focus on practices and procedures relative to the responsiveness of RTOs/ISOs to customers and other stakeholders. The proposed criteria to ensure more responsiveness (inclusiveness, fairness, representation of minority positions, and responsiveness) all seem appropriate.

The *independence* aspect of RTO/ISO governance is critical to ensure greater balance and further support of demand response. Balanced representation on stakeholder committees is an important aspect of governance. Also important is the fair representation and participation of all types of users of the system to ensure comparability, limit anticompetitive behavior, and avoid discrimination.

DRAM supports the Commission's proposal to increase responsiveness of RTO/ISO boards and the Commission's proposed reform to require each RTO/ISO to demonstrate compliance based on the stated criteria (inclusiveness, fairness, representation, and responsiveness). Furthermore, DRAM agrees with the Commission's preference to use a representative board advisory committee.

DRAM suggests that the Commission continue to address this issue with a view similar to what DRAM has outlined in its discussion of comparability, i.e. recognizing that demand resources are different but can be considered equal if the rules are designed and written to allow them equal status. This can be the challenge with boards and committees at the organized market level, i.e. rules and operating structures that are designed with the majority in mind and which do not allow sufficient direction and outcomes relative to the needs of the minority.

#### **B. The Need to Comparably Enable Concurrent Benefits for DR**

DRAM supports the Commission's views on comparability of demand response and supply-side resources, recognizing as the Commission does that demand response resources often are available during limited times of the year and for a limited number of hours of use. Just as generation and transmission can obtain concurrent benefits through optimization, demand response resources should be allowed the same treatment, given specific constraints, by scheduling or bidding-in the demand response to an ISO/RTO through an LSE or ARC, as follows:

- a. To meet Planning Reserve Margin (15-17%) for regional or local Resource Adequacy and capacity market needs;

- b. As Operating Reserves in the market or separately by the LSE to *self-provide* Operating Reserves;
- c. To lower super-peak prices and to obtain congestion benefits (directly and/or through transmission rights contracts);
- d. To avoid T&D capital costs on specific circuits, which may have repeating outages or substantial congestion;
- e. As environmental mitigation and for environmental dispatch to reduce NOx/SOx and GHG;
- f. For scarcity pricing or OOM during super-peak and emergency periods;
- g. To exploit the option value of demand response.

Each of these options can be tapped based on normal demand response operations with proper triggers and without double-dipping.<sup>8</sup> A demand response resource can, with proper operations, concurrently be available to provide Local Resource Adequacy (LRA), Non-Spinning Reserves, and T&D avoidance, and then be dispatched to provide energy and congestion benefits, lower grid losses, and lower NOx/SOx and GHG emissions. ISO/RTO rules are appropriate to preclude participants from over-committing demand response and generation, such as *ancillary services no-pay*, so that capacity and energy remain truly available to be called upon. Thus, the Commission should enable market rules to enable targeted demand response for locational needs that can simultaneously be available for resource adequacy or the capacity market, Operating Reserves, and T&D avoidance. This same demand response can then be available for dispatched to net

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<sup>8</sup> Double-dipping in this context may refer to benefits to the LDC from the wholesale market, and T&D avoided, as well as to retail customers. Concurrent demand response benefits need not translate to double-dipping.

energy and congestion benefits, lower grid losses, and lower NO<sub>x</sub>/SO<sub>x</sub> and GHG emissions.

## **VII. Conclusion**

Few parties can argue that the electricity system has not entered a new era – an era of optimization, where information and technology is applied to the planning and operation of the nation’s electricity system such that it is forever transformed and such that new benefits – economic and otherwise – accrue to customers, industry participants and the nation’s economy and security.

In order for this optimization to occur, it is essential for the demand side of the electricity system to become a viable part of the electricity system. This is increasingly being recognized in federal and state law, as exemplified by Section 1252 (f) of the Energy Policy Act of 2005, which states:

*(f) Federal Encouragement of Demand Response Devices- It is the policy of the United States that time-based pricing and other forms of demand response, whereby electricity customers are provided with electricity price signals and the ability to benefit by responding to them, shall be encouraged, the deployment of such technology and devices that enable electricity customers to participate in such pricing and demand response systems shall be facilitated, and unnecessary barriers to demand response participation in energy, capacity and ancillary service markets shall be eliminated. It is further the policy of the United States that the benefits of such demand response that accrue to those not deploying such technology and devices, but who are part of the same regional electricity entity, shall be recognized.*

Even absent the new body of law being established in this area, the fact that an entirely new technical capability for “dynamic efficiency” via demand response now exists for integrating the demand side into the electricity system means that such new resources and capabilities simply must be deployed. Given rising energy prices and the

need to reduce generation-related emissions where possible for environmental reasons, to not so do so will no longer be acceptable to any party.

That said, expansion and integration of demand response, and the creation of a smart, optimized grid, will not happen in one fell swoop. It will not happen in one “big bang”. It will happen via a number of steps taken by many different policy makers, and many different companies, and by many different customers.

In the Commission’s NOPR, it is taking such steps. It is making reasonable, balanced, and fair proposals which once implemented will have a significant positive impact on the growth and expansion of the nation’s demand response resource and its full integration into the electricity system. These steps represent sound public policy and the Commission is to be commended for putting them forward.

Respectfully submitted,

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