UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Assessment of Demand Response Resources} Docket. No. AD06-2-000

Statement of Jay Morrison
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for the
Technical Conference on Demand Response and Advanced Metering

Executive Summary

1. Electric cooperatives are strong supporters of demand response. Nationwide, cooperatives can control approximately 6% of their peak load through demand response programs, including approximately 1,440 MW of residential load control. Although cooperatives serve only about 10% of the country's total load, their combined residential demand response resources equal approximately 80% of the residential demand response capacity of all investor owned utilities. In a recent survey of electric cooperatives, 40% of respondents had demand response programs, including direct load control, interruptible contracts, voluntary "share the savings" interruption programs, time-of-use rates, and control of customer-owned generation.
2. Demand response is a critical cost and risk management tool for cooperatives and other load serving entities ("LSEs"). Demand response enables cooperatives to shape their load, reduce contractual demand costs, and reduce their risks in wholesale markets. It is an important part of cooperatives' strategy for providing their member-owners with stable and affordable electric rates.
3. The Commission should not allow enthusiasm for demand response to distract it from the reason for this exercise: lowering costs and improving service for consumers.
    - Demand response programs must be subjected to the same due diligence as any other investment in infrastructure. The fact that demand response has not achieved 100% penetration across the country does not mean that there are regulatory or industry barriers to its implementation. Some utilities have chosen not to invest in demand response programs because they do not make economic sense for their consumers. Some consumers have likewise chosen not to participate in market-based demand response programs because they prefer uninterrupted service at stable rates.

- The Commission should not permit bypass of LSE demand response programs. Wholesale demand response programs should permit retail consumers to participate directly only if the consumers: (i) are located in states and service territories that have established retail competition; (ii) are served by a competitive supplier – not a default supplier with a traditional obligation to serve at a regulated rate; and, (iii) can meter or otherwise confirm the time and quantity of their actual load reduction. An LSE-focused approach should lead to as much or more load response in wholesale markets as one that permits bypass, while preserving LSEs' ability to provide all of their consumers with low, stable rates.
- Markets should be designed to serve consumers – consumers should not be required to change their behavior or their expectations to make markets work. NRECA opposes the view that either wholesale or retail consumers should be involuntarily subjected to unmitigated market volatility in order to promote demand response and short-term economic efficiency.
- Demand response is not a substitute for much needed investment in the transmission system. Demand response cannot provide LSEs in a load pocket with the long-term economic and reliability benefits of access to generation outside the load pocket that would be available from transmission improvements. NRECA commends the Commission for looking, in other dockets, at how best to encourage needed transmission investment.

1) Background

My name is Jay Morrison. I am a Senior Regulatory Counsel with the National Rural Electric Cooperative Association. Thank you very much for this opportunity to share with you NRECA's perspective on the issues before the Commission in this Docket.

NRECA is the not-for-profit national service organization representing approximately 930 not-for-profit, member-owned rural electric cooperatives. The great majority of these cooperatives are distribution cooperatives that provide retail electric service to over 39 million consumer-owners in 47 states. Kilowatt-hour sales by rural electric cooperatives account for approximately 10 percent of total electricity sales in the United States. In addition, NRECA members include approximately 65 generation and transmission ("G&T") cooperatives that supply wholesale power to their distribution cooperative owner-members. Both distribution and G&T cooperatives were formed to provide electric service to their owner-members at the lowest reasonable cost consistent with adequate and reliable service. While some electric cooperatives generate their own power and sell limited power in excess of their members' needs to third parties in wholesale markets, most cooperatives are net buyers of power. Overall, cooperatives purchase nearly half of their energy requirements from other wholesale suppliers.

2) Cooperatives Are Active Supporters of Demand Response.

NRECA's member cooperatives are actively developing and operating demand response programs. Nationwide, cooperatives can control approximately 6% of their peak load, including approximately 1,440 MW of residential load control. To provide some context, while cooperatives serve about 10% of the country's total load, their combined residential demand response resources add up to about 80% of the residential demand response capacity of all IOUs put together.

In a 2004 survey of its members, NRECA found that 40% of respondents had some kind of demand response program in place. Of those:

- 77% have programs in place for direct control of water heaters, pool heaters, and air conditioners.
- 44% have interruptible contracts with some of their consumers.
- 30% have time-of-use or real-time rates.
- 16% have arrangements for voluntary "share-the-savings" interruptions.
- 11% have another demand response program in place. Most of these involve control of irrigation loads or the ability to dispatch customer-owned generation.

Some of NRECA's members have particularly innovative demand response programs. Cooperatives have been among the first to experiment with market-based demand response programs and are actively dispatching customer owned generation. In Florida, for example, many distribution cooperatives provide back-up diesel generators to larger members at a reduced cost. The consumers may use those generators to serve their own loads when the system is down and Seminole Electric Cooperative, the largest generation and transmission cooperative in Florida, can dispatch those generators when it needs to reduce loads for reliability or economic purposes.

3) Demand Response Is A Critical Risk And Cost Management Tool For Cooperatives

Cooperatives operate demand response programs because they permit cooperatives to keep power costs low for their member owners. As member-owned and member-governed private companies, cooperatives' primary goal is to provide reliable energy at the lowest possible costs – not to maximize revenues or profits. Any margin that cooperatives earn must be used to improve service or returned to consumers as capital credits.

Demand response is critical to cooperatives' cost-cutting efforts. First, demand response permits those cooperatives with undesirable load profiles to shape their load and to smooth their peaks. That may allow them to delay construction of new peaking resources or to limit the operation of expensive peaking resources.

Second, demand response may reduce the cost of power under power purchase agreements. Nationally, cooperatives generate only about 45% of the power they need to serve their members. Most of the remaining 55% is purchased in long-term bilateral power markets in order to limit risk and price volatility. Many of those contracts,

however, include substantial demand charges. Demand response permits cooperatives to reduce load on high-demand days, lowering contractual demand charges.

Third, cooperatives are subject to the substantial risk and costs of the wholesale spot markets. Even those cooperatives that can satisfy most of their requirements through their own generation or through long-term bilateral contracts may find themselves in the market if they lose a generator or a counter-party defaults. Demand response permits cooperatives to mitigate that market risk by allowing cooperatives to reduce load when market prices are highest.

4) The Commission Should Approach Demand Response From A Consumer Perspective

a) Demand Response Options Must Be Subjected to the Same Due Diligence as any Other System Investment

While NRECA firmly supports efforts to encourage demand response, the Commission should recognize that not every demand response program makes sense for every utility system or every consumer. The fact that demand response has not achieved 100% penetration across the country does not mean that there are regulatory or industry barriers to its implementation.

In many cases, utilities have chosen not to invest in demand response programs because they do not make economic sense for their consumers. Utilities must conduct due diligence before spending consumer dollars to implement or expand any asset, whether that is asset is a distribution line, a substation, or the software required to implement a demand response program. The investment must make economic sense for the utility's consumers. It must have the potential to lower their power costs or reduce price risks. That determination requires an understanding of the specific utility's customer base, load profile, and wholesale cost structure. For example, while demand response makes enormous sense for those systems with high peaks, it makes much less sense for those systems that have very flat load profiles. Similarly, demand response makes much more sense for utilities that have high exposure to volatile wholesale spot market prices than it does for utilities that receive their wholesale power pursuant to requirements contracts with very little demand component.

Similarly, many consumers choose not to participate in demand response programs for sound economic reasons. There are some industrial consumers that are able to respond fairly easily to economic signals. Their processes can ramp up and down quickly, and they can store enough product to allow them to continue to meet their delivery obligations even if they shut down for a few hours or days. Other consumers are not so flexible. They rely on a constant supply of electricity. If they shut down, it could take them days to restart. Or, if they cease their production, they cannot meet their contractual obligations to their customers. For the latter customers, even a significant

swing in electricity prices would not justify reductions in demand. These customers would rather pay an "insurance premium" for stable electricity rates.

The same dichotomy is seen among residential consumers. There are some residential consumers that respond easily to price changes, or who can participate easily in load control programs. Others, particularly renters and those with home-medical equipment, might find it particularly difficult to shift their demand to lower-cost periods. Each consumer must make the calculation for themselves whether to participate.

b) The Commission Should Not Undermine LSEs' Demand Response Programs

As noted above, demand response is a critical risk and cost management tool for cooperative and other load serving entities (LSEs). Demand response represents an important element of their resource management programs and helps LSEs to maintain stable, low rates for their retail consumers. For these reasons, NRECA believes the Commission should not adopt policies that interfere with successful existing programs.

In particular, wholesale demand response programs must recognize the differences between those service territories that have adopted retail competition, and those that have not. In some markets, retail end users are being encouraged to participate directly in wholesale markets, bidding in their demand reduction to the RTO. While such direct participation may be workable in areas that have implemented retail access, in those regions that have not done so end users should participate in demand response through the load serving entity that serves them. Otherwise, individual end users can effectively disrupt the load serving entity's ongoing demand response efforts by pulling out of these programs and selling their demand reduction directly into the wholesale market.

This could lead to several problems. First, this could lead to the remaining members of the cooperative or other utility having to absorb the increased costs associated with the demand reduction programs effectively abandoned by the end user "bypassing" its load serving entity. That is, the other consumers would have to bear the stranded investment in demand response infrastructure. Second, this could provide a significant disincentive for load serving entities to maintain their existing demand response infrastructure or invest in future demand-side programs. Why invest if that investment could be stranded through "bypass"? Third, bypass would undermine the goals of the load serving entities' demand response programs: keeping costs and risks down for the load serving entities' consumers. By bypassing the load serving entity's demand response program, large customers could deprive the load serving entities of the tools they need to serve all of their consumers well: raising costs and risks for other consumers.

For these reasons, wholesale demand response programs should permit retail consumers to participate directly only if the consumers: (i) are located in states and service territories that have established retail competition; (ii) are served by a competitive

supplier – not a default supplier with a traditional obligation to serve at a regulated rate; and, (iii) can meter or otherwise confirm the time and quantity of their actual load reduction.

Such approach should also lead to as much or more load response in wholesale markets as one that permits bypass. An LSE-based approach preserves the LSEs' incentives to develop, market, and employ their own demand response programs. It also leaves the design of demand response programs closer to the consumers, in the hands of an entity that is likely to be more flexible and more responsive to retail consumers than a much larger entity focused on operating the regional transmission system. An LSE can more easily develop a range of demand response options for different customers, responding to their individual economic interests and operational requirements.

c) *Markets should be designed to serve consumers – consumers should not be required to change their behavior or their expectations to make markets work.*

At a recent conference, a Commission staff member expressed the view that consumers are extremely flexible. Their expectations can be changed by changed circumstances. The staff member used the example that consumers complained about $2.00 gas prices until they paid over $3.00 for gas. The change in circumstances shifted their expectations and changed their driving behavior. Another speaker at the conference, a financial analyst, made a similar point, stating that if you "smack" consumers they learn to change their behavior. The analyst was arguing against the development of capacity markets as a tool for mitigating wholesale market volatility and ensuring resource adequacy. The analyst suggested that it would be better to give electric consumers a smack – in the form of high rates and price volatility – in order to encourage participation in demand-response programs. Those demand response programs would, in turn, discipline wholesale power markets.

NRECA opposes the view that consumers should be "smacked" in order to make wholesale markets work. The Commission should not pursue market designs that rely for their operation on consumer acceptance of higher prices and higher price volatility. No co-op has ever told NRECA that their consumers were asking to be exposed to wholesale market risks. Instead, consumers are looking to their cooperatives to engage in long-term planning and risk management in order to mitigate the effect of market volatility on their retail rates.

While demand response certainly is one hedge that cooperatives use to manage their price and market risks, they do not believe that either wholesale or retail consumers should be involuntarily subjected to unmitigated market volatility in order to promote demand response and short-term economic efficiency. That approach to market design puts markets ahead of consumers. It makes consumers slaves to markets rather than the other way around.

NRECA believes that the Commission should promote markets only to the extent that they meet their original promise to consumers: lower prices and better service. A consumer-focused approach would have several implications.

First, it means that the Commission should not rely on demand response alone to make markets work. It is true that if prices are permitted to rise without any limitations that supply and demand will find an equilibrium. If prices rise high enough, consumers will eventually reduce their demand enough to match up with supply. Such prices, however, are not just and reasonable. They would cause the displacement of industry, impoverishment of residential consumers on low or fixed incomes, and damage to our economy. When the California crisis and the drought caused prices to skyrocket throughout the West, demand response was a critical tool for restoring stability in the market. That demand response, however, came at the expense of thousands of jobs in the aluminum and other industries. Even short of the devastation that arose from that crisis, the volatility we have seen in other markets to date has been enough to impose significant costs on wholesale and industrial consumers. The Commission must find other tools to ensure that rates remain just and reasonable and to mitigate market power.

Second, as discussed above, it means that the Commission should preserve the ability of load serving entities to use voluntary load response programs as a cost and risk management tool. Those consumers who have flexibility and who can benefit from the programs can participate, and all consumers served by the LSE benefit from lower and more stable rates.

Third, it means that the Commission would spend more of its resources focusing on how to make it easier for cooperatives and other LSEs to engage in long term planning and long-term risk hedging. Certainly, Congress agreed with this view in the recent EPAct. That is why Congress directed the Commission to:

> exercise the authority of the Commission under [the Federal Power Act] in a manner that facilitates the planning and expansion of transmission facilities to meet the reasonable needs of load-serving entities to satisfy the service obligations of the load-serving entities, and enables load-serving entities to secure firm transmission rights . . . on a long term basis for long-term power supply arrangements made, or planned, to meet such needs.

Federal Power Act § 217(b)(4).

d) Demand response is not a substitute for much needed investment in the transmission system.

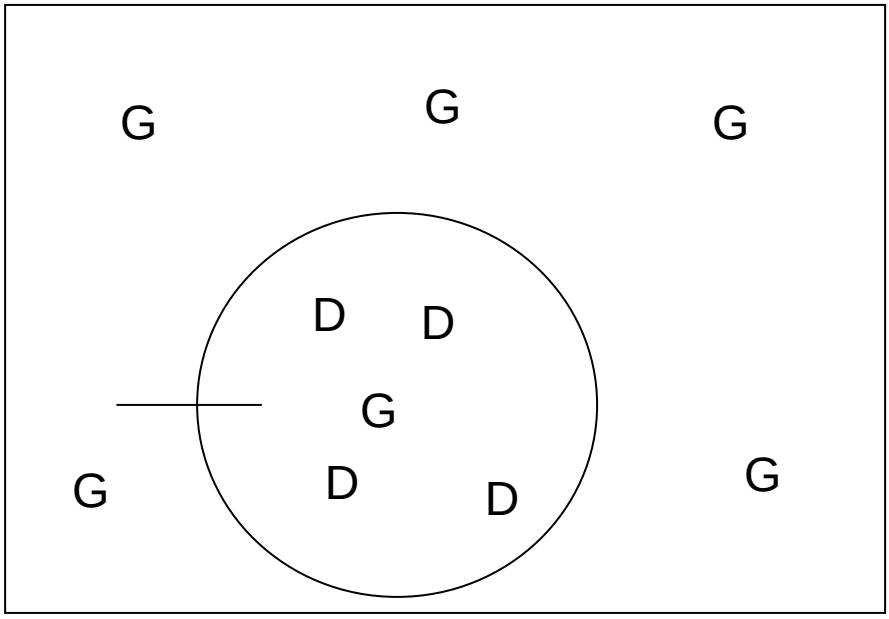
NRECA has been concerned by the Commission's description of the industry as a three legged stool with transmission, generation, and demand response all being considered to be substitutes for one another. That has led to suggestions that

transmission congestion problems can be solved equally well by any of the three. NRECA disagrees.

Demand response is an excellent tool for load shaping and for responding to immediate operational problems or short-term market volatility. Demand response can allow utilities under the right circumstances to avoid or delay investments in peaking resources.

Demand response, however, is not a base load resource. Nor can it provide a long-term solution to long-running congestion, reliability, or market power problems. This is true both in open markets and in more open markets.

The problems experienced by LSEs in a load pocket can be seen in the following illustration.



In this picture there is one generator in the load pocket and only a marginal transmission connection to the outside world. The generator in the load pocket has market power because it is the only option to serve load in the pocket. Depending on the local conditions, demand response might be a short term solution to the market power. If enough load can drop off to impact the generator's profits when prices rise too high, the generators' ability to increase prices might be limited. That would not provide nearly the competitive pressure, however, as an increase in transmission capacity that gave consumers access to the large number of alternative generators in the larger control area or market. Furthermore, if that demand response were called on often enough, it could lead to industry leaving the load pocket and relocating to another state or even to another country such as China, or Mexico. That might be an economically efficient result, but it would not be in the public interest.

The example also illustrates a reliability problem. If the one generator in the load pocket has an outage, load may have to be curtailed to avoid a cascading outage. Demand response is one option. If enough load voluntarily drops off to resolve the contingency, then no involuntary outages would be necessary. Again, however, transmission is likely to be a better solution as it gives system operators more choices for resolving the contingency, is far less disruptive to consumers in the affected area, and is less likely in the long term to lead to economic displacement.

In the broader markets, the problem arises from the natural effort of markets to reach new equilibria. If, for example, generation investors see that a market is using 250 MW of demand response capacity as an additional generation resource in order to control profit-seeking behavior, the generators will build 250 MW less new generation capacity. The market will reach a new equilibrium in which the generators will again be able to bid up the price of power and in which there is that much less reserve capacity available for reliability purposes.

For these reasons, NRECA commends the Commission for looking, in several dockets, at how best to plan for and encourage needed transmission investment. Only new transmission will solve load pocket problems in the long term, and only new transmission and good generation investment decisions will solve the broader market problems.