Attachment B

May 20, 2010

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: ***Southwest Power Pool, Inc.*, Docket No. ER09-1050-000**
***Wholesale Competition in Regions with Organized Electric Markets*, Docket Nos. AD07-7-000 and RM07-19-000**
Market Monitor Demand Response Barriers Report

Dear Secretary Bose:

Pursuant to Order No. 719[1] and the Federal Energy Regulatory Commission's November 20 Order in Docket No. ER09-1050-000,[2] the independent Market Monitoring Unit of the Southwest Power Pool, Inc. submits this report regarding Barriers to Entry of Demand Response Resources in SPP.

Please contact the undersigned if you have any questions regarding the attached report.

Respectfully submitted,

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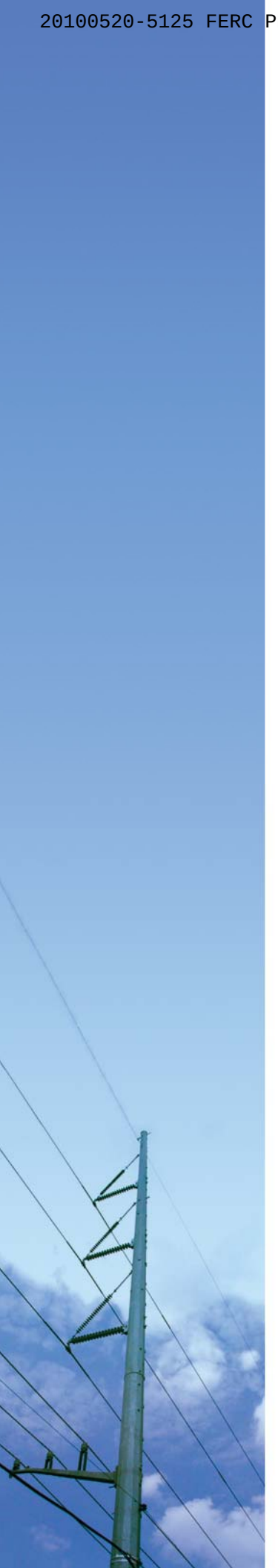
1 *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, III FERC Stats. & Regs., Regs. Preambles ¶ 31,281 (2008), *as amended*, 126 FERC ¶ 61,261, *order on reh'g*, Order No. 719-A, III FERC Stats. & Regs., Regs. Preambles ¶ 31,292, *reh'g denied*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

2 *Sw. Power Pool, Inc.*, 129 FERC ¶ 61,163 (2009).



Barriers to Entry of Demand Response Resources in SPP

A product of the SPP Market Monitoring Unit-Central

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SPP Southwest Power Pool

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Executive Summary

The Southwest Power Pool, Inc. independent Market Monitor has been charged by the FERC to provide a report on the major barriers to entry of demand response resources in the SPP region. The following report is divided into two main categories, barriers to entry of demand response that are common throughout the United States; and barriers to entry that are unique to the SPP system. The common barriers to entry that are most prevalent include:

- Price signals – appropriate price signals are a must for demand response programs in that they provide participants with necessary information by which to modify their behavior.
- Metering infrastructure – in order for a demand response program to function, the ISO/RTO must have the ability to adequately meter any reductions in demand. An appropriate metering infrastructure is necessary.
- Control Technology – demand response programs are most useful when they can be utilized to effectively control the load obligation at specific times and locations. Control technologies are required that allow the ISO/RTO to fully utilize demand response by tailoring their output to best fit the economics and reliability constraints for any given solution.

The main barrier to entry unique to the SPP area is the lack of either an operating reserve market, or a day-ahead market. Traditional demand response programs are most functional when the demand response resources are controllable, usually with substantial notification. Currently the SPP system operates only an energy imbalance market, which severely limits the possible participation of demand response resources. Market development at SPP is proceeding and the operating reserve and day-ahead markets should allow for robust participation by demand response resources.

There are barriers to entry of demand response resources in the SPP region. However, efforts are underway to minimize the impact of those over which SPP can control. Some of the most significant barriers to entry relate to the technological burdens of demand response resources. As technology improves and the public becomes more incentivized to respond to price signals, demand response programs should become a great deal easier to implement and manage.

Basis for Report

In October of 2008, the Federal Energy Regulatory Commission (FERC) issued a Final Rule in Order 719 which required each RTO and ISO to report on any "barriers to comparable treatment of demand response resources that are within the Commission's jurisdiction, and to submit its findings and any proposed solutions along with a timeline for implementation within six months of the Final Rule's publication in the Federal Register." Additionally, the FERC required that the Internal Market Monitor of the ISO's and RTO's "submit a report describing its views on these issues to the Commission." SPP provided an initial compliance filing on April 28, 2009. The FERC responded with a November 20, 2009 ruling that required an expansion of the initial documentation and provided a submittal date of May 20, 2010. The following report is in answer to the requirement to the Independent Market Monitor as identified by the Southwest Power Pool, Inc. on the barriers to entry of demand response resources.

Introduction and Background

Demand response programs began with the notion that consumers could directly affect the aggregate demand of energy and thereby the total cost and price experienced by the consumer. In their most basic form, demand response programs are designed to match price responsive demand with market price signals. As an example, a utility may offer to reduce the billing determinants for consumers that agree to reduce their consumption of energy during high loading conditions. The utility benefits by not having to serve this load during high loading events; the consumer benefits by decreasing their total energy bill. Various programs have been introduced that attempted to expand on the thought that consumers are price responsive regarding energy, but have met with limited success. It has been postulated that there are significant barriers to entry for demand response resources and programs, which are artificially limiting the participation of these resources. It is the intent of this paper to highlight some of the major barriers to entry concerning demand response programs and outline some potential remediation efforts thereto.

Major Barriers to Entry of Demand Response Resources

Common Barriers to Entry in Major ISO/RTO Systems

There are several barriers to entry concerning demand response resources that are common amongst the ISO/RTO regions throughout the United States. These barriers tend to be common because of structural conditions that have arisen as the electrical system was developed. The most relevant of these barriers are highlighted below.

Price Signals

The ability of consumers to receive and respond to price signals is paramount for most demand response programs to adequately function. A consumer if given the opportunity will automatically respond to price signals and curtail its consumption if incentivized to do so. Consumers must have the ability to recognize that their reduction in consumption has a direct benefit to their economic condition. Price signals are paramount for the consumer to recognize its true cost of energy and respond accordingly.

The traditional problem concerning prices and price signals in energy markets relates to the separation between the prices paid by consumers and their energy use. Consumers are billed on a monthly basis and pay a negotiated rate for energy; they have no incentive to modify their behavior in real time. Demand response programs must overcome this problem. This is typically done by providing appropriate price signals to consumers in real or near-real time. However, providing price signals to a multitude of individual consumers is a very difficult and expensive endeavor. Additionally, most traditional market structures must be restructured to provide a granularity that would allow consumers to respond to changing conditions. At a minimum, day-ahead prices are necessary, and in most cases hourly or even market interval pricing would be best. As indicated previously, distributing price signals appropriately is difficult. In the past there were few interested parties that required this information, chiefly large industrial or commercial participants. Now, with the continued expansion of demand response programs, and increasing pressure from the public, it may become necessary to distribute real time pricing information to millions of consumers.

Control Technologies

An added complication to demand response programs centers on the ability to adequately control the load for a particular participant. Voluntary response programs require participants to manually adjust their consumption in response to either a price signal or other instruction. Manual responses can be inefficient, inaccurate, and otherwise inconsistent. Automatic processes enable an ISO/RTO to directly control the load at a specific location or across multiple locations. Automatic control mechanisms require significant infrastructure development, and in most cases this type of control was only practicable for large demand response resources. Additionally, automatic controls require a level of communication and cooperation between the resource(s) and the ISO/RTO that may not be realistic.

Metering Infrastructure

Metering infrastructure shares many of the same problems as exhibited by control technologies. If demand response resources are to be adequately compensated for their activities on behalf of the ISO/RTO, there must be a way in which to determine the actual response of the resource. The largest barriers concerning metering infrastructure concern the granularity of metering, and the limited use of demand meters. Individual demand response resources should ideally be equipped with meters that record the interval demand or consumption. Equipping a demand response resource with a demand meter is an added expense and unless the perceived benefit is quite large, may be cost prohibitive. Additionally, most demand meters do not operate with a frequency that is adequate for real time response monitoring.

Verification of Demand Reduction

Closely linked with the need for an appropriate metering infrastructure is the need for adequate verification of any demand reduction from the demand response resource. A reduction in load derived from the activation of a demand response resource should be recorded correctly and paid for its reduction in demand. A reduction in load derived from consumer action that is entirely unrelated to demand response should be recognized, but should not qualify for any payment under a demand response program. Differentiation between the instances of ISO/RTO requested response and individual response is difficult but inherently necessary. Consequently verification programs that work in conjunction with appropriate metering technologies must be in place to ensure that consumers are not benefiting unduly from demand response programs.

Individual State Action versus Unified Area Response

Demand response programs have in recent years become a means in which a more aware public can modify its behavior through demand reduction programs. Pressure has been applied to various utilities, regulators, and others in the industry to better account for public opinion regarding demand reduction programs. This has lead to an abundance of various demand response programs that may have differing goals, practices and results. The lack of a uniform policy concerning demand response at the national or ISO/RTO level has meant that the individual states, or in some cases utilities, were left to create their own policies. These policies vary considerably as different legislatures have different priorities and expectations concerning demand response programs. The lack of uniformity across the ISO/RTO region can add an additional burden on demand response resources as they must be aware of and comply with regulations from many different states or utilities. Policies that apply to the entire ISO/RTO region would ensure that there is parity across all demand response resources. Additionally, this would serve to create a level playing field in which demand response resources could compete with traditional resource types.

Southwest Power Pool, Inc. Barriers to Entry

Market Limitations

The Southwest Power Pool, Inc. (SPP) currently operates only an Energy Imbalance Market. Consequently, there is little incentive or ability for demand response resources to participate in the SPP area. The Energy Imbalance Market structure does not lend itself to participation by nontraditional resources in that real time imbalances, representing the difference between scheduled output/consumption and actual generation/consumption, are not readily applicable to traditional demand response programs. Demand response resources, while not prohibited from participating, would find it quite difficult to fully reconcile their ability to lessen their load requirement and maintain the necessary scheduling operating tolerances.

While the lack of other markets is a barrier to entry for demand response resources, SPP is fully cognizant of this fact, and is actively working to incorporate demand response resources into its operations. SPP is currently in the design phase of its new market development, which will include both day-ahead markets and operating reserve markets. Both of these new markets are being designed

in such a manner as to allow demand response resources ready access and increase participation from these resources.

A specific area of interest for the MMU relates to the inclusion of load aggregators in the SPP future markets. Load aggregators are an important tool in that they allow multiple small loads to function as one large load. This should encourage greater participation from medium and small loads that might otherwise be discouraged from participating in demand response programs.

Retail Open Access Limitations

Another barrier to entry of demand response resources in the SPP area relates to the lack of retail open access. Retail open access allows individual market participants the ability to benefit from differing utility programs that may encourage demand response, as well as potentially allowing for exposure to wholesale real-time pricing. Traditional demand response programs were structured for loads that operated in the wholesale markets; typically very large industrial or commercial enterprises. Restricting entry to only wholesale transactions severely limits the pool of potential participants. Retail loads are a significant portion of the total system demand. Expanding the pool of potential demand response resources to include retail loads would allow for much more robust demand response programs. However, in order to do this, the market and regulatory structures must be modified to allow this type of direct participation.

An additional complication concerning retail restrictions on demand response programs relates to the interplay between retail regulatory requirements for load service and wholesale payments that may be derived from demand response programs. The current regulatory structure at the state level may not allow for payments made to demand response resources initiated under an ISO/RTO demand response program to offset the net reduction in consumption attributed to the demand response resource. As an example, a demand response resource lessens its consumption of energy under an ISO/RTO demand response program. The resource will be paid for the reduction in demand by the ISO/RTO as outlined in the terms of the demand response program. Additionally, the resource will be billed on actual consumption, and not what would have been consumed, leading to a mismatch between revenue inflows from loads and payments made by the ISO/RTO. The net result of this mismatch is an increase in uplift charges that must be borne by the entire ISO/RTO region.

Conclusions

The SPP MMU fully recognizes that there are some barriers to entry regarding demand response resources. However, we do not find that these barriers present an undue burden on the entry of demand response. Many of the common barriers to entry are technological in nature rather than structural, and as technology develops these barriers will lessen over time. The barriers to entry related specifically to the SPP region will largely be resolved with the development of robust day-ahead and operating reserve markets. Lastly, the MMU realizes that while retail open access may provide for a more robust demand response program, it is highly unlikely that the states in the SPP region would undertake such an endeavor. The MMU instead encourages that alternate programs be created that would allow for participation by retail loads via the load aggregation process.

Document Content(s)