

# MADRI Business Case Sub-Group: Bridging the Gap between Wholesale and Retail Markets

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## Background

The Mid-Atlantic Distributed Resource Initiative (MADRI) is a project sponsored by the Department of Energy (DOE) to recommend processes and procedures that will help define and promote distributed resources (including demand response programs) in the Mid-Atlantic region. Groups made up of regulators, utilities, the Independent System Operator (PJM), industry consultants, and vendors have been meeting regularly over the past several months and continue to meet on a regular basis. The process is facilitated by the Regulatory Assistance Project (RAP), ACN Energy Ventures and other industry experts. Committees have formed to address various specialties such as regulation, interconnection, and business case issues.

Demand response programs yield considerable benefits throughout the value chain: at the wholesale and retail levels, for generation, transmission and distribution, and by keeping prices down for all end-use customers. It also may have positive environmental benefits (through reduced emissions and fuel use) that are typically, however, not given credit in demand response program analysis. In vertically integrated markets, demand response has proven to be an economical tool with positive impacts on rates in many cases throughout the country. However, in a market such as the mid-Atlantic, the value chain is fractured and there has been little or no new private investment in demand response infrastructures. PJM has made tremendous progress in recognizing the positive impacts of demand response but the wholesale markets by themselves can not economically support the investment required for a significant demand response program. In recognition of this fact, the business case subgroup authored various two-page abstracts. These abstracts covered business case enhancement options in addition to the markets that are established or will be established by PJM. One of the abstracts described the enhancement when the end-use customer pays for some services. It was decided that this abstract deserved further attention and when associated with the critical peak pricing tariff work that was being done in the regulatory sub group a broader topic of *Bridging the Gap between Wholesale and Retail Markets* was established.

## Rationale

Certain reliability- dispatched demand response has little or no direct economic benefit to end customers except the cash payments they receive to curtail. However, a Price Responsive program would offer the same system reliability benefits to energy providers while affording their end-use customers the opportunity to reduce their energy bills by providing incentives that change behavior. For example, real-time pricing signals provide end-use customers with the market information and motivation to change their energy use patterns; to use more energy during lower price periods and to curtail energy usage during higher price periods. If an end-use customer is provided the equipment to automate the process by a utility or a third party it would be logical for that customer, who is receiving direct and measurable benefit, to partially pay for the system.

An example of such a system is the GoodCents™ demand response program sponsored by Gulf Power Company. Gulf Power, an operating division of the Southern Company, serves approximately 350,000 retail customers in the panhandle of Florida. Each enrolling participant is provided a new price responsive thermostat and other devices that control, where applicable, pool pumps and electric hot water heaters. Participants typically save 15% or more on their electric bills. And, in contrast to reliability-dispatched programs where the program provider pay end-use customers for their participation, enrollees in the GoodCents™ program pay Gulf Power \$5 per month to participate in a program. According to Gulf Power, participant payments fund approximately one half of the cost of the program. Participants have not considered this monthly fee a barrier to entry. In fact they regard the benefits they receive as being well worth the monthly fee. The GoodCents™ Program enjoys one of the highest customer-satisfaction ratings

of any program sponsored by the Southern Company. The Gulf program clearly demonstrates that end-use customers will respond in a predictable manner if provided incentives and market signals that reward behavior.

### Implementation Models

- Critical peak Pricing vs. Market based pricing
- Mandatory vs. voluntary program
- If voluntary opt-in vs. opt- out
- Customer pays monthly fee vs. utility pays customer incentive
- Utility rate base vs. pass through vs. rate base + incentive
- Third party operation of system vs. utility operation

### Recommendations

End-use customers will pay for those services and equipment that are economically attractive. Rate structures that create win-win scenarios (utilities or infrastructure providers and the end-use customers) should be encouraged.

### Work Plan

1. November 2005 to January 2006 - Document the preferred implementation models emerging from discussions on 10/20 in a white paper. Conduct one or more conference calls with members of the Subgroup – modifying the white paper, as needed - to build consensus on the white paper.
2. February 2006 – Present detailed proposal to MADRI. Revise as necessary.
3. March 2006 – Deliver final MADRI recommendations regarding utility business models.
4. March 2006 - Conduct a workshop at the NARUC Winter meeting (3/06) to showcase business model / policy recommendations, and other products of the MADRI process.
5. April 2006 to May 2006 - To the extent MADRI prepares materials for PJM states to help address the new DR-related PURPA standards (Time-Based Metering and Communications, Net Metering, DG Interconnection), include MADRI recommendations re: utility business models.

### Issues for Discussion

- The Gulf Power program has established critical peak pricing as a compromise between flat rates and market based real-time rates. PSE&G will be piloting both types of rates. Given the complexity of these rate designs should we start with the more proven critical peak pricing or should there be flexibility to allow market based rates for the mass market.
- Economies of scale are achieved when programs are rolled out in full-scale. Should these programs be mandatory or voluntary. If they are voluntary an estimated 25% of customer may sign up and costs per unit may be double. Mandatory programs, however, are politically tougher to sell.
- If the decision is to make these programs voluntary, then a choice of opt-in or opt-out sign-up is required. The tradeoff is once again a more robust and less costly program with an opt-out vs. the politically more acceptable opt-in approach.
- If the program is voluntary should customers partially fund program costs through a recurring fee?
- How do we incent utilities to deploy these systems?

- How do we encourage third party suppliers to invest in these systems? How do we encourage third party suppliers to operate these systems and take market risk extending the tremendous progress that PJM has established?

### Contact Information

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