

# **A WORKPLAN FOR DEVELOPING UTILITY BUSINESS MODELS FOR DEMAND RESPONSE**

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## **INTRODUCTION**

MADRI stakeholders have indicated a desire to increase the amount of demand response within the PJM market. They recognize the essential role which investor-owned electric utilities can play in making this happen, and are exploring alternative rate regulatory models by which utilities can make a business out of developing DR load.

## **RATE BASING MODEL**

The rate basing business model provides both assurance of cost recovery, and an incentive tied to cost-effectiveness that compensates the utility for DR risks:

- The utility funds a DR project. These dollars are added to utility rate base (i.e., they earn the utility's allowed return).
- The utility estimates the project's benefit/cost ratio, pursuant to regulatory oversight.
- The commission provides a return premium, based on the b/c ratio (i.e., the higher to ratio, the larger the premium; projects with a zero, or negative, ratio get no premium).
- DR project revenue requirements are recovered through a surcharge.

## **AGGREGATION MODEL**

The DR aggregation business model allows the utility to offer business services to DR customers (e.g., aggregation, bidding, verification) on a voluntary, negotiated basis:

- The utility negotiates a fee, or margin, with DR customers for services related to DR aggregation.
- The utility aggregates DR loads. (Note: We assume customers finance DR projects, although the utility could do this with funds below the line.)
- The utility bids an aggregated DR load into one or more wholesale markets (e.g., energy, capacity, ancillary services).
- To the extent the utility's DR bid wins and receives a payment from the independent system operator, the utility remits payments to DR customers, reserving a percentage to it. (Note: depending on how the utility and DR customers negotiate compensation, the utility may receive a service fee and/or a % of the ISO payment.)

## **RATE INDEXING MODEL**

The rate indexing model allows retail rates to escalate over time according to some formula. By deploying DR projects that allow the utility to reduce its costs relative to the formula, it can realize higher return on equity (ROE):

- The commission approves a multi-year alternative regulatory plan that ties the utility's allowed revenues to an index (e.g., inflation minus productivity growth, customer growth, or other utility rates in the region).<sup>1</sup>
- The utility implements a DR project to optimize distribution cost.
- The capital costs of the DR project are added to the utility's rate base (i.e., they earn the utility's allowed return).
- Revenue requirements for the DR project are recovered through a surcharge.
- If the DR project is economically efficient (i.e., if it reduces the utility's cost), it increases the utility's realized ROE.

## **FIXED INCENTIVES MODEL**

The fixed incentives model pays utilities a premium for installed DR capacity, and may be best suited to situations where simpler mechanisms are preferred:

- The commission establishes a fixed incentive per MW of installed DR capacity.
- The utility funds the development of a DR project.
- The utility's capital investment is added to rate base (i.e., it earns the utility's allowed return).
- In addition to the utility's nominal return, it earns a premium on the project's capital costs, equal to the fixed incentive rate established by the commission.
- DR costs are recovered through a surcharge.
- The incentive portion of the return is incremental to base earnings and is not treated as an offset to revenue requirements.

**October 20, 2005 – Discuss pros and cons of alternative utility, and other, business models. Decide which, if any, to proceed with. If the decision is to proceed, review the work plan and assign tasks for the implementation team.**

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<sup>1</sup> See for example, Central Maine Power Company's ARP 2000: PUC Docket No. 99-666, Nov. 16, 2000,

<http://mainegov-images.informe.org/mpuc/orders/1999/99666stip.pdf>

See also National Grid's long-term rate plan in Massachusetts: DTE Docket No. 99-47, decision dated 11/29/2000 available at:

<http://www.mass.gov/dte/electric/99-47/finalorder31400.htm>

## **WORK PLAN**

1. November 2005 to January 2006 - Document the preferred utility business 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**

- Regarding the Rate Basing Model, what kinds of benefits should be included in calculating a benefit/cost ratio of the Rate Basing model? How should regulatory oversight on the benefit/cost ratio be accomplished (e.g., on a project by project basis, or part of a larger resource planning process)?
- Regarding the Aggregation Model, if the utility funds the DR project, should it do so with funds below the line (i.e., from net income available for shareholders)? If it does, should it be free to negotiate a margin of any ISO payments?
- Regarding the Rate Indexing Model, what kind of an index should be used (e.g., GDP-PI)? Should productivity be measured, or is it acceptable for commissions to assign offset values administratively? Can a multi-year formula accommodate the need for new capital investments (e.g., for distribution system enhancement)?
- Regarding the Fixed Incentives Model, is there a risk that would deliver DR that is not cost-effective? If so, would this harm customers?