

CASE 07-M-0548 - EPS PROCEEDING
Comverge's Responses to STAFF'S
QUESTIONS TO THE PARTIES

GOALS:

1. What approaches hold the greatest potential to contribute to New York achieving the overall target of 15% electricity consumption reduction by 2015? Are there any energy consuming sectors and markets that are currently underserved by the existing available portfolio of energy efficiency programs and services in New York State? How should those deficiencies be addressed in implementation initiatives?

Comverge Response: Comverge recommends an approach with the following key components: 1) integrate demand response with energy efficiency programs for residential and small C&I customers; 2) provide a long-term commitment to the program to ensure financing from the private sector and 3) implement these programs on a pay-for-performance basis. New York State has nationally recognized efficiency programs and is one of the top states in the country in terms of spending per capita.*We could you the citation I found for this section ("The State Energy Efficiency Scorecard for 2006" Report Number EO75, Pg. iv) This delivery platform can be leveraged to broaden the types of measures and strategies that can be implemented in the home and at small C&I locations. These customer sectors are the most underserved not due to poor design or lack of attention from the State but because of the challenges these sectors pose as compared to large C&I programs. The savings achieved in each site are small and require aggregation on a much broader scale than with large C&I customers. The state has achieved approximately 1,000 MW of load reduction but it is almost exclusively in the large C&I sector. That level provides critical support to the ISO during peak periods. *See NYISO Power Trends 2007 report at page 10.* But to achieve the same impact among smaller customers, a different strategy must be deployed.

Residential programs are particularly well suited for integration with the delivery platform of energy efficiency programs. Capturing the synergies of such programs allows for greater penetration of the market at greatly reduced costs, allowing for greater savings from each dollar invested.

The incentives provided under the ISO and NYSERDA programs do not provide adequate financial support for the same level of participation for these sectors, largely because they are short-term, e.g. one year programs that, while routinely extended, are subject to change or elimination and cannot be relied upon to make the significant investment required for large scale deployment. Aggregators in these sectors need at least a 3-5 year commitment to provide the financing needed to deploy large scale programs.

Finally, we recommend that these programs be implemented on a pay-for-performance basis. For example, Comverge provides a fully outsourced program under which it assumes all of the risks of delivery of the load reductions for payment on a per KW basis. Under this approach, Comverge has a strong incentive to ramp up the program as quickly as possible, allowing the State to get the benefit of load reductions as the program is ramping up. Further, Comverge has an incentive to ensure that the equipment in the field is operating effectively and that customers are satisfied with the program, to reduce churn. Given the aggressiveness of the State's goals, this type of approach is critical to meeting the State's objectives.

2. What is a reasonable goal for natural gas energy efficiency programs?

No response.

3. What are the most appropriate methods and processes for establishing program specific goals and for measuring progress

towards long term goals (including program monitoring, measurement, and evaluation)?

Comverge Response: The best process to assess program potential for energy efficiency is to establish a well designed request-for-proposals (RFP) or request-for-offers (RFO) and have the market providers respond. Without a competitive response by a set of energy efficiency resources providers it seems likely that goals will be understated. The main problems with defining program specific goals relate to the lack of innovative program design and lack of comprehensive assessment of the benefits and costs of energy efficiency. Accordingly, Comverge recommends the following eight step process to evaluate responses to RFPs/RFOs, as follows:

- First, specifically characterize each resource in terms of whether it will achieve these purposes:
 - Avoid Generation Capacity and Energy Costs
 - Avoid Transmission Capacity and Energy Costs
 - Avoid Distribution Capacity and Energy Costs
 - Avoid Environmental Mitigation Costs
- Second, characterize each resource across a continuum of value, specifically to define its (i) dispatchability, (ii) speed of activation (in 1 minute, 5 minutes, 30 minutes, or longer), (iii) certainty in terms of the amount to be delivered over time, (iv) time periods for availability, (v) ability to meet local resource (load-pocket) requirements, and (vi) value as a capacity resource and/or energy resource;

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- Third, define the categories that comprise the all-in cost for each resource in terms of the following:
 - Marketing
 - Customer acquisition
 - Equipment installation
 - Equipment performance and warranty
 - Maintenance and inspection
 - System operation and communications
 - Customer interface and education
 - Customer churn¹
 - Measurement and verification
- Fourth, approximate the generation capacity and energy value based on the all-in proxy generation costs (e.g., or a combustion turbine), adjusted to reflect locational resource needs (e.g., using LOLP, LOLE, or EUE).
- Fifth, approximate transmission and distribution capacity and energy value based on accepted deferral capacity/energy analysis, typically using regression that reflects the amount of capital/variable cost reduced per MW/MWh.
- Sixth, require each proposal to define its all-in costs with respect to the above cost-categories, in terms of \$/kW-year and \$/kWh, and require third-party resource providers to define their all-in cost categories, which they will be contractually bound to when providing service.

¹ Customer churn involves replacement of customers that move or exit from the DR customer base.

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- Seventh, use the California Standard Practice Method for cost-effectiveness (SPM) as a screening tool for preliminary analysis of demand-side resources with the aim to refine the inputs for generation, transmission, and distribution costs.
- Eight, recognize that resources may provide a number of short-run benefits that may be more difficult to quantify, including reductions in the following:
 - Transmission congestion
 - Early generation dispatch to meet energy needs and provide spinning and non-spinning reserves
 - Out of merit dispatch (using higher cost generation), particularly to address ramping needs
 - Generation start-up and minimum load costs
 - T&D line and transformer losses
 - Transmission loop flow
 - Distribution load management
 - Fuel cost volatility
 - Voltage lags
 - Black-start needs
 - Market power mitigation

4. What load forecasting models and methodologies should be used in developing and refining the objectives of the EPS Proceeding?

No response

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5. What other national, state, and municipal government and private initiatives would help New York meet the objectives of the EPS Proceeding? In what ways can we leverage the impact of these initiatives to help us meet the objectives of the EPS Proceeding? How should the impact of these initiatives be counted and measured?

No response

6. The Commission instituted a pilot natural gas efficiency program within Consolidated Edison Company of New York, Inc.'s (Con Edison) service territory.² As part of that pilot program, the Commission directed the New York State Energy Research and Development Authority (NYSERDA) to prepare a study of the natural gas energy efficiency potential within Con Edison's service territory. NYSEDA filed that study on June 22, 2006, and it was then issued for comment.³ Subsequently, NYSEDA prepared a study entitled "Natural Gas Efficiency Programs Resource Development Potential in New York," which was issued on October 31, 2006 and is available on both the Commission's and NYSEDA's web sites. In considering issues associated with a Con Edison electric efficiency/demand management program, the Commission specified how the total resource cost test should be applied to measure the cost effectiveness of measures under that program.⁴ In the statewide study, NYSEDA used a different benefit/cost approach to measure cost effectiveness.

- a. Please comment on the appropriateness of the approach used in the statewide study.

² Cases 03-G-1671 and 03-S-1672, Consolidated Edison Company of New York, Inc. - Gas and Steam Rates, Order Adopting the Terms of a Joint Proposal (issued September 27, 2004).

³ Case 03-G-1671, supra, Notice Soliciting Comments (issued August 14, 2006) (Con Edison Notice).

⁴ Case 04-E-0572, Consolidated Edison Company of New York, Inc. - Electric Rates, Order on Demand Management Action Plan (issued March 16, 2006).

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- b. If a different test of cost effectiveness should be used (i.e., other than the total resource cost test), what test should be adopted and why?

If you have not already commented on this previously, please provide your observations, critiques, and other comments on the data, assumptions, methodologies, and analyses used to develop the estimated potential savings and benefits in the statewide study.

No response

PROGRAM ELEMENTS:

7. What role should building codes and appliance standards play in reaching New York's energy efficiency goals and should such standards vary by geographical area (i.e., metropolitan New York City versus upstate)?

Converge Response: Building codes and appliance standards play a significant and important role in reaching energy efficiency goals, particularly goals as aggressive as set out for New York. One of the most obvious benefits is that they have the effect of achieving efficiency without tapping into the ratepayer funded efficiency budgets - leaving more funds for other measures. While the cost of the measures are reflected in the price to consumers of the products and buildings, the increased costs have been shown to be relatively modest in comparison to the cost of efficiency programs designed to achieve the same level of savings after the fact. The idea is simple - get it right from the beginning instead of paying to fix it later or drive choices through incentives. Further, codes and standards work well together. A well designed building will retain more of the benefit of more efficient heating and cooling than a poorly designed building.

Work done by the National Building Institute has indicated that substantial energy savings are achievable from changes in design and

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construction materials of new and retrofitted residential and commercial buildings. These improvements can be achieved with only an increase of 3-5% in construction costs. In the past, many new and retrofit programs have required significant engineering and design work to develop custom efficiency measures for each project but broad based implementation of codes and building design can eliminate that cost and greatly expand the scope of the implementation. For example, NBI has issued guidelines that are prescriptive and easy to use by contractors - making implementation straightforward and less costly. These measures should be mandated in energy codes throughout the state. There is no reason to limit their applicability to a particular region of the state.

The history of advancements in appliance efficiency standards proves that mandates at the state level have moved the market and led to widespread improvements that we enjoy today nationally. Starting in the late 80s with actions by states such as New York and others, the federal government played catch-up with standards included in the Energy Policy Act of 1992. The Department of Energy took over 10 years to issue regulations that merely codified what many states had long mandated and manufacturers were already doing. The next generation of appliance standards has been adopted by about 12 states, including New York. Undoubtedly the federal government will continue to play catch-up but the manufacturers have already had to respond more globally in order to sell their products in these large and influential states. While important and significant, there is room for greater efficiency through appliance mandates.

One of the single largest contributors to load growth in the state and nationally is air conditioning load. While great strides have been made in increasing the efficiency of both central and window air conditioning units, none of these standards mandate load control technology to be included in the units. As noted above, the residential and small C&I sectors are among the most under-served

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sectors for efficiency programs, yet they are most likely the largest contributor to this load growth. Converge urges the state to consider adding an appliance efficiency mandate for the inclusion of load control technology in all new central and window air conditioning units sold in the state. In doing this, the state will greatly enable implementation of demand response programs for the largest contributor to its load growth. In taking this action, demand response can be implemented at lower cost, more quickly and more broadly than through individual installations at customer sites. Further, this technology need not be limited to use during critical peak times and can be used to reduce demand through the cooling season to achieve both efficiency savings and load reduction.

8. What role should outreach and education play in an enhanced energy efficiency effort and what changes in approach should be made in various demographic or market segments from the methods now being used?

No response

9. What role could innovative rate design play in enabling greater penetration of energy efficiency and how might this vary by market segment? Should energy tariffs recognize and differentiate between the relative level of energy efficiency designed into new buildings?

Converge Response: New York's policy direction generally enables greater customer choice by offering a suite of energy efficiency services based on voluntary self selection. Energy efficiency related market alternatives available for residential and small commercial customers in New York, however, should include real-time-pricing (RTP), automated DR (auto-DR), direct load control, environmental dispatch, and on-line shopping for energy efficiency. A current best practice program that provides innovative rate design to offer this

full suite of alternatives to residential customers is the Chicago WattSpot program.⁵ Lacking innovative rate design, the current practice in New York falls short of capturing the full value of energy efficiency for residential or commercial customers below 500 kW.

10. What programmatic and outreach efforts, within and beyond the current scope of the Commission's jurisdiction, that have not been generally considered as energy efficiency programs, should be integrated into overall strategies and plans to reach energy usage reduction targets?

No response

11. Should customers of natural gas utilities served under value of service or market-based rates, such as interruptible customers, be included in the overall efficiency program? If so, what types of programs are appropriate for these customers? In what ways would a natural gas efficiency program affect the oil and propane competitive markets and what steps could be taken to eliminate or minimize such impacts (e.g., limiting the program to non-dual fuel customers)?

No response

12. What role should a) distributed generation, b) demand response, and c) combined heat and power play in reaching New York's energy efficiency goals?

⁵ See the program offerings at www.thewattspot.com. See also, Woychik, E. and Morriss, A. **Residential Gateway for Electricity Response: Resolve of Customer Access, System Expansion, Market Manipulation, and Environmental Goals**, *U Illinois Law & Economics Research Paper No. LE07-003*

Converge Response: Each of these strategies has a role to play in meeting the state's goals. The issue is not whether but how and with what priority. In our view, integration of strategies is the important next step for the State. New York is a leader in the design and implementation of energy efficiency. The state has adopted favorable policies for the implementation of distributed generation and combined heat and power (CHP). The integration of programs discussed in question 1 above applies with respect to these programs as well. The State should not encourage demand response programs that merely shift load to environmentally unsound distributed generation (DG). Clean DG and CHP systems can work well with demand response programs in that they allow the customer to continue its operations without interruption in a clean economic way.

Demand response programs also work very well in coordination with certain renewable resources, such as wind and solar. By off-loading load on the system when these resources are available, it is possible to integrate renewables into the grid without adding infrastructure. In this way, the State would be able to expedite the expansion of renewables and reduce its energy usage at the same time.

13. How can gas efficiency programs best compliment electric efficiency programs? Similarly, how can electric efficiency programs be adapted to serve the needs of gas customers?

No response

IMPLEMENTATION:

14. What could be an appropriate role for utilities with respect to the delivery of energy efficiency programs within their service territories? How might that role vary by market segment?

Comverge Response: As discussed above, Comverge recommends that DR programs be implemented on a pay for performance basis. Utilities should not be barred from competing to provide these programs.

15. What role should key stakeholders play in an enhanced energy efficiency effort (e.g., Staff, Departments of State and Environmental Conservation, utilities, NYSERDA, Division of Housing and Community Renewal, NYPA, LIPA, NYISO and energy service companies), and how should they coordinate their efforts? What factors should be taken into account in determining how the implementation of various program elements should be managed and monitored?

No response

16. What role should the private sector (e.g., financing and educational institutions) play in program development and implementation? How should these efforts be coordinated with utility and government entities' programs? Are there additional incentives (or tax relief) that could be provided by Federal, State and Local governments which would enable greater penetration of energy efficiency initiatives?

No response

17. Should utilities (or other entities) receive incentives for implementing successful energy efficiency programs? If so, what is the appropriate level and form that these incentives should take and should such incentives be performance based?

Comverge Response: By implementing programs on a pay-for-performance basis through competitive bid, it is not necessary to design any other incentives. Each participant will reflect what they need to do the

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program in their bid price. This ensures that the right balance is set between incentives and performance.

18. What are the best methods for ensuring that low income customers have access to efficiency programs?

No response

19. How should environmental justice be considered in program design?

No response

20. How should existing gas utility efficiency programs, and those under development in rate proceedings, be integrated into an overall energy efficiency effort?

No response

21. Are there any modifications or adjustments that could be made in the current Systems Benefit Charge portfolio that would achieve higher levels of energy efficiency market penetration and saturation?

No response

COSTS AND BENEFITS CALCULATION:

22. How should the expected benefits and costs of various design options be measured and compared? What externalities should be included and why? What expenditures or benefits should be characterized as transfer payments and perhaps excluded from the analysis? Why?

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Comverge Response: The approach presented in response to question 3 above applies to this question as well.

23. What are the best methods for ensuring transparent and technically sound methods for evaluation of program energy savings (gross and net), non-energy benefits (e.g., economic, environmental) and program performance and administration?

No response

24. How should customer satisfaction and program design efficacy be assessed?

FUNDING:

25. What constitutes a reasonable level of funding for the electric and gas energy efficiency programs? How, and from whom, should the various program costs be funded, allocated and recovered?

No response