

BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

Demand Response in Wholesale Markets
Washington DC

April 23, 2007

EnerNOC's Perspectives and Recommendations

Good morning to all. My name is Philip Giudice and I am EnerNOC's Senior Vice President of Corporate Development. I would like to thank FERC, for organizing this panel and giving me the opportunity to speak here today. EnerNOC appreciates that FERC recognizes the value of demand response and we look forward to working with you, state regulators and other stakeholders to help further integrate demand into wholesale and retail markets.

Before I address the questions we've been asked, I would like to take a brief moment to tell you a bit about EnerNOC. EnerNOC is a leading developer of demand response solutions in the United States. We currently manage over 578 MW of demand response capacity across over 1,300 end-user commercial, institutional and industrial customer sites. Our average site reduces over 400 kW. We are active in four open markets, including ISO New England, New York ISO, the PJM Interconnection and California. We also have several bilateral contracts with utilities to provide demand response capacity.

The "NOC" in EnerNOC stands for Network Operations Center, which is our award winning technology that allows us to network customer facilities across the United States to create what can be considered a virtual power plant. Our NOC allows us to remotely monitor and control customers' energy assets (e.g., lights, HVAC, generators) 24/7 in real-time. We can dispatch these assets to meet operating reserve requirements, reduce peak load and help avoid blackouts as well as reduce high wholesale market prices. Simply put, when called on by grid operators and utilities, EnerNOC relieves strain on the electric grid by reducing consumption at over 1300 sites. Over the Internet, EnerNOC dims lights at grocery stores, turns on generators at data centers, and even shifts manufacturers' production line to off-peak.

Demand response in the United States has come along way over the last several years. I presented at a FERC technical conference a little over a year ago and since that time EnerNOC has more than doubled in size. There is room for so much more.

What is our experience with ISO/RTO demand response programs?

EnerNOC currently bids demand response resources into three different ISO markets: capacity markets, ancillary services markets and energy markets. We participate in reliability-based emergency demand response programs to help system operators avoid blackouts, price response programs which mitigate wholesales prices, and ancillary services markets to respond quickly to system contingencies. We were the first provider to enable demand response to participate in the PJM synchronous reserves market and we are an active participant in ISO NE's Demand Response Reserves Pilot. On behalf of a number of our more flexible clients, we actively participate in day ahead and real time wholesale electric markets.

We have a lot of experience – in 2006 alone we responded to over 50 demand response events.

We are also active in the bilateral markets with vertically integrated utilities and have found that our value proposition has strong appeal particularly because the vertically integrated utilities have responsibility for the entire electric value chain.

What is working well?

1. **Capacity needs** are growing and there is increased recognition that while demand response is not a magic bullet or panacea for all that ails our electric markets, it is one of the best suited and most underutilized resource for our vexing and growing problem of how best to meet our increasing capacity needs – both peak and operating reserves.

FERC's 2006 State of the Markets Report, and EIA data suggests electricity consumption was at about the same level in 2006 as compared to 2005. At the same time, in 2006 we saw incredible peak demand growth in many regions. In California, peak demand was up 10 percent from 2005 levels; in PJM, 8 percent; in New York, 5 percent. Demand response is an ideal solution to this trend. Demand response resources are perfectly positioned to respond to system peak demands for a fraction of the hours each year. This response can mitigate costs, reduce the need for more generation, and improve system reliability.

Connecticut's demand response experience is a particularly compelling success story. In the last four years Connecticut has increased its demand response resources more than 6 fold. As of March 30, 2007, there are 506 MW of 30-Minute Real-Time Demand Response Resources in Connecticut, including 245 MW in Southwest Connecticut. Thus, Real-Time Demand Response represents about 6.8 percent of the State's peak demand of 7,479 MW.¹ EnerNOC sees this as a good beginning and a model for what can be achieved in other areas of the United States.

2. Demand response increasingly recognized as not in competition with **energy efficiency** but complimentary. We've seen demand response participation as increasingly a powerful catalyst to increased energy efficiency. Every EnerNOC-enabled customer gets access to our energy management software, PowerTrak®, which gives customers real-time information about their energy consumption. As we say, "You can't manage what you don't measure!" One of our university customers was unknowingly drawing 2 MW of demand off the grid when all students and faculty were on winter break. A simple call from an EnerNOC energy analyst led to the conservation of a substantial amount of energy.

What is status of coordination between retail and wholesale?

Over the last year or so there appears to be increasing interest and recognition of the needs to work retail and wholesale market structure issues in a coordinated manner. We applaud the joint work of FERC and NARUC to create a forum to address these issues. Much work

¹ Connecticut Light and Power, Press Release, "Connecticut Sets another Electric Usage Record," 4 August 2006, available at, <http://www.cl-p.com/companyinfo/newsreleases.asp> (downloaded 12 February 2007).

remains. We encourage bold goals with clear deadlines and deliverables be established. The plethora of separate working groups and task forces working on demand response issues active in every RTO, many states and regions is a well intentioned but formidable burden to progress. At times I worry that some of these efforts can be used to obfuscate progress and accountability.

Vertically integrated utilities and their regulators in the bilateral markets face distinct challenges for more wide spread adoption of demand response – decoupling, performance incentives, rate treatment, average costing, new solution adoption velocity are all issues that are important.

We know the perfect demand response program model does not exist, but there are many open market programs that work very well. We need to create greater consistency among programs. For example, let's decide on a baseline methodology that works and let's roll it out everywhere. Let's require real time measurement and verification methodologies that harness inexpensive technologies instead of some programs' reliance on post mortems from months old meter reading data to determine event performance. Let's automate the dispatch of demand response resources – we have entered the 21st century and there is no need to rely on human telephone interactions. Let's provide certainty to customers surrounding program payments and program terms so they can justify spending the time to become engaged.

How can new technologies and approaches help?

Tremendous underutilized technology is available today and is being deployed every day to enroll and enable end users. We do not need to wait until we have perfect interoperability standards, or to roll out advanced meters to the mass market before we can realize more of the potential of demand response. We can and do work with what technology exists now.

In conclusion, demand response has created some value in the electric markets today and is increasingly recognized as an important part of a well functioning electric market but a lot more work remains.

On behalf of EnerNOC, I want to thank you for the opportunity to comment on these important matters. EnerNOC is always willing to participate in such discussions and we look forward to our continued progress together.



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