

Comverge Follow-Up Comments to 12/13/2013 NYISO DER Workshop

These comments summarize and elaborate on some of the points made during the DER workshop on December 13th, 2013, where I participated on the “Utility and End User Perspective” panel. While other participants focused on cogeneration, our primary interest is the increasing regulation of backup generation and how that pertains to the SCR program.

I work in the NY division of a national curtailment service provider that also does energy efficiency projects. A frequent task we have is to look into enrolling a backup generator into the SCR program and dealing with the subsequent permitting requirements, as well as seeing if the potential client can do load drop instead. Governing regulations include the EPA’s NESHAP RICE rule which went into effect in 2013 and which will be completely phased in by 2015. The NYS DEC also has a proposal out, “6 NYCRR Part 222, Distributed Generation Sources,” that is similar to the EPA’s, but will place further requirements on backup generators in NY, especially those participating in demand response. The DEC proposal stresses the DEC’s commitment to clean air by proposing emissions standards that are nearly impossible to meet. If they want to push these standards through, the DEC needs to work in a more collaborative nature with the NYISO and NYSERDA to implement its policy via a more seamless series of smaller rules and deadlines, instead of imposing rules that would be effective almost immediately and simply eliminate most backup generators from demand response. The DEC should especially coordinate with NYSERDA, as the main issue here is financing for generator upgrades, not customer unwillingness to comply.

For summer 2013, the participation of demand response was very important to the grid. In the spring, the NYISO presented on the SENY load pocket, stating “if any SENY generator greater than 250 MWs becomes unavailable, demand response will be required to avoid potential load curtailment.” Demand response was called for a record

five days in a row in summer 2013. It is vital for the demand response programs to accommodate the participation of backup generation in NY, especially downstate, if such conditions are to continue to occur. Backup generators tend to be the most reliable SCRs. Many load drop SCRs simply cannot curtail HVAC or shut down for 3-5 days in a row, as they were asked to do in 2012 and 2013. After viewing the less than stellar aggregated performance of the program in the NYISO's annual filing on DR to FERC, I'm sure that other RIPs had similar issues with their load drop customers. While some load drop SCRs had to start the event late due to production or event schedules, or had to turn HVAC up during the events, backup generators had more solid performance and should be seen as a more reliable resource with strong value to the grid. Backup generators will be especially critical for the program if the NYISO ever decides to increase the minimum number of mandatory performance hours from four hours to six.

The EPA has been phasing in regulations over the years, and the last iteration added requirements to demand response service providers. The NYS DEC reacted by issuing a draft rule that mimicked the EPA's last rule, but added more stringent emissions requirements. The timeline of implementation for the DEC rule is unrealistically quick and will not give generator owners time to react. The issue here isn't internal to the DR providers, but the time it takes to "sell" participants on these new rules.

Part of the problem is the DEC's reliance on demand response service providers to police generator and emissions compliance for them in NY. Both the EPA and DEC rule descriptions state that the demand response service provider will most likely aid with the required record keeping and compliance. This is problematic for a few reasons. For starters, as of January 2014, 32 CSPs and 8 utilities have resources enrolled in ICAP/SCR. By relying on the RIPs to enforce generator compliance rules, the DEC is potentially allowing 40 different interpretations and implementation strategies of its rules – some will be correct, other will only be partially correct. Presumably, with such a large number of RIPs in a limited market place, there are quite a few RIPs with a small amount of SCR load. A small RIP, or a participant that self-enrolls, may not have the resources

to invest significant time and money into understanding these rules and ensuring customer compliance. We found the rules complex enough to warrant hiring a consultant on an ongoing basis to decipher. However, not all CSPs will have the flexibility to pay for such an added cost on top of all of the other costs of maintaining a demand response portfolio (meters, phone event notification systems, sales, engineering, meter repair, and operations staff, etc.). The second problem with relying on RIPs to implement these rules is that RIPs only have control over generators enrolled in demand response. Even for those that do enroll, they lose their influence over the resource once it de-enrolls or switches to another RIP. Lastly, the RIP does not have control over its resources' internal activities. Even if RIPs were required by NYISO or another party to tell their resources about all of the compliance rules for their backup generation (which they basically are according to the EDRP manual, though the language leaves it up to the RIP *how* to comply), RIPs have no real enforcement power over the SCRs, only a choice about whether to enroll or not enroll. We have had to reject quite a few customers due to their lack of generator permitting. Ultimately, it is the potential participants' decision – financial and otherwise – to become compliant with all rules.

Economics play a large role here. As one ROS SCR pending enrollment upon obtaining proper permitting recently told me: "it is ridiculous to spend money to make money," referring to the cost of generator permitting services and any subsequent changes to the generator against the capacity payments. This shows a common sentiment in the market. As the 2010 Con Edison "Distributed Generation Collaborative Report" put it: "the difficulty implementing DG projects to date is not a lack of opportunity but rather market acceptance among customers." We find that most demand response prospects do not have permitting and do not know that permitting is required. The DEC's proposal does not deal with this. As the DEC does not do a great job of increasing awareness of its rules to the public to get more generators registered, it is relying on exaggerated estimates of the amount of generation and emissions to push through its proposal. The comments filed by Enernoc to the PSC outline how the DEC's estimates are flawed. As

a result of the lack of awareness of generator permitting rules, many potential SCR participants are resistant to obtaining permitting, firstly, because of the costs of consultants that can walk them through the process, but also because of future market uncertainty. We cannot guarantee that the rules surrounding generation won't change in the near future and render their generator non-compliant with the increasing level of regulation. As a result, we have a growing list of signed demand response contracts that are not getting enrolled in the capacity market. Credibility also becomes an issue with new demand response prospects. Imagine that you have owned a generator for 20 years and your generator service company never told you it needed a permit. One day, a demand response salesperson knocks on your door and tells you that you can earn X amount per year in the capacity market, but first need to spend thousands on a consultant to get your NYC and DEC permits in order, and soon are going to need to pay thousands for emissions testing. You most likely are going to take that all with a grain of salt, and opt to do nothing.

The EPA's rule that went into effect in 2013 limits the run hours of emergency generators for all reasons to 100 hours per annum, including demand response and testing/maintenance. 50 hours for peaking shaving is being phased out, it will be allowed until May 2014. There was back and forth with the EPA about the number of hours permitted for DR. Originally the EPA had planned to cap it at 15 hours, but is expanding the number of allowed run hours, citing the PJM ELRP obligation to be available for 60 hours. In its original draft, the EPA wanted to limit generators' ability to run in DR to times when voltage was off by more than 5% or an EEA level 2 was called. The EPA modified its rule in Jan 2013 to include other situations when DR can be called, for up to 50 hours per year (as part of the 100) to include:

- The SCR is dispatched by a local T&D operator
- The dispatch aims to mitigate local T&D limitations to prevent voltage collapse or line overloads
- The dispatch follows reliability/emergency protocols that follow specific NERC, regional, state, PSC, or other local standards

- The owner of the generator keeps records of who called the event and the local standard/guideline that is being followed to dispatch the event.

In light of these limitations, the NYISO will need to think about how it may need to alter its day-ahead and in-day event notifications to accommodate backup generators, who will need to evaluate the reason the event is being called before they confirm they can perform. The NYISO will also need to distribute the reason the event was called after the fact, so that SCRs can log that in their records to be submitted to the EPA.

Another requirement being phased in is the requirement to use low sulfur fuel, which according to the EPA means 15 PPM, by Jan 1st, 2015. There are already rules around this that customers know about, and the PPM of sulfur is already something customers should be getting when the fuel is delivered.

There will also be reporting requirements for demand response customers. The EPA will develop "CEDRI" – the Compliance and Emission Data Reporting Interface - for submittal of this report. The first report is due by March 31st, 2016, and is meant to cover 2015. The report will need to conclude:

1. Customer name/address + latitude/longitude to the 5th decimal place
2. Hours of DR called due to voltage or frequency variations > 5%
3. # of hours the customer is contractually obligated to be available for DR due to voltage or frequency variations > 5%
4. Hours of DR for local system reliability, the entity that dispatched the engine and the situation that necessitated the dispatch

There are also emissions requirements: existing generators above 500 HP in populated areas must install either oxidation catalysts to reduce HAP omissions or NSCR catalysts. Emissions testing will also need to get done, which is at a substantial cost compared to the revenue from demand response. Some customers will need to truck in a load bank (i.e. a machine that imitates real load) to conduct the test off of (usually hospitals that

can't have any trip in power when transferring load to the generator), which nearly doubles the cost of emissions testing. Once installed, tests must be conducted to show a 93% reduction in CO emissions or a CO concentration level of 47 PPMVD at 15% oxygen. Annual testing of the catalysts will be required and records kept accordingly. Lastly, the EPA is laying down some minimum standards for maintenance rules that need to be done annually (including oil changes, changing spark plugs, etc.).

The DEC's potential rule impacts NYC backup generators greater than 200HP and ROS generators greater than 400 HP, about 270 kW and 540 kW respectively. To begin with, the DEC would want to be notified in writing by each emergency generator owner whether it intends to operate as an emergency generator or permanently shut down.

Some of its requirements include:

- No testing of emergency generators between 1:00 and 8:00 from May – September
- Set of emissions limits to be phased in by May 1, 2015
- “Tune Up” requirement: every generator must be tuned-up every 12 months
- Emissions testing. The first emissions test must be completed by April 30th, 2015, obtaining prior approval from the DEC to run the test, and they must re-test every 10 years. The results of the test need to be submitted within 60 days after the test.
- Each resource will need to start a log book for compliance w/ this rule, to include emissions tests done in the last 10 years, other data to be kept for 5 years: records of tune-ups, hours run, electricity generated in MWH, type/quantity of fuel purchased.

Emissions controls are a solution to keep existing emergency generators running for demand response. SCRs or selective catalyst reduction controls, bi-fuel retrofits, and oxidation catalysts are all ways to improve emissions on existing generators. I am not able to disclose pricing information here, but it suffices to say that the costs of such projects would take DR participants many years to pay off via demand response revenue

alone. Further, selective catalysts are difficult to maintain; the liquid needs to be replaced frequently, and the catalyst is not operating at its full value until the generator is heated up, as they depend on temperature to perform. A bi-fuel retrofit is another strategy, where a separate natural gas line is run to the backup generator to provide cleaner fuel. I would recommend KEMA do its own evaluation of the costs and hurdles of such retrofits. When you take into account the ROIs on such projects with the capacity prices outside of NYC, it becomes challenging to put together a compelling proposal for a facility to upgrade its generator solely for the purpose of enrolling into demand response.

A repeated concern is the economics of such projects, which often leaves them sitting for a long time or not happening. While we understand their relevance, most generator owners don't know about the new regulations until we explain them. For us as a DR provider, this is resulting in a growing backlog of potential SCRs not entering the market, and others leaving it.

If the DEC wants to move forward with its proposal, it should first work on its registration process for backup generators. NYC's process is much easier – it is a one page form for the backup generator only, and is approved within 6 weeks. The DEC permit, on the other hand, takes into account all emissions for a building. This greatly complicated the demand response sales process, as we can't simply up-sell them on the idea of a generator permit, but have to get involved with emissions on equipment that have nothing to do with demand response. Also, the simple addition of a line to the DEC's permit stating "xyz generator will be enrolling in demand response" can take months to approve, and prevents resources from enrolling into the capacity market in a timely manner.

The DEC also needs to work with other regulatory agencies to ensure its rules will mix well with the rules of other agencies. For example, the NY DOH's Part 712 governs backup generators for healthcare facilities. Does an old generator write to the DEC that



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it will shut down once the new rule is effective, or does it have to stay operating regardless of the emissions, due to the DOH's code?

These more stringent rules on generation are inhibiting the growth or even maintenance of the current amount of enrolled SCR MWs. The largest untapped market segment for demand response is smaller and mid-size buildings; that is the landscape of NY, and is not going to change, so policy needs to adapt to the needs of potential SCRs of that size. Most potential SCRs in this size range are cash-strapped and need help financing all energy efficiency projects, including costs as "low" as the consultancy bill to complete the DEC and DEP permitting process. NYSERDA has recognized the need to finance what seem like small capital outlays for demand response with the \$1500 rebate for meter upgrades. Perhaps it should also be targeting financing around generator compliance for demand response. This would make it possible for demand response providers to again effectively sell the Special Case Resource program to facilities that can't do load drop.

Thank you for considering our comments,

Sincerely,

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