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June 23rd, 2014

Ryan King
Stakeholder Engagement
IESO

Dear Mr. King:

Re: Comments - Demand Response Working Group June 3rd Meeting

EnerNOC Ltd. (EnerNOC) is pleased to provide answers to the question posed by the IESO staff during the June 3rd Demand Response Working Group meeting as well as provide further comments based on the discussion.

EnerNOC is a leading provider of energy intelligence software and related solutions. EnerNOC maximizes the full value of energy management for commercial, institutional and industrial end-users of energy, and its electric power grid operator and utility customers by delivering a comprehensive suite of demand-side management services and solutions that reduce real-time demand for electricity, increase energy efficiency, improve energy supply transparency in competitive markets, and mitigate emissions. EnerNOC has participated in demand response in Ontario since 2008.

EnerNOC believes that the recommendations discussed at the meeting, as well as the comments below will assist the IESO and the DR Working Group in deriving the most value from the current DR3 program and as it evolves into a market based resource in the operation of the IESO market. Changes can be made to the DR3 program as it transitions to the market rules which will keep the principles of the program intact and continue DR as a valuable resource that makes sense for the electricity system and the ratepayers of Ontario.

Compliance

EnerNOC is pleased with the IESO's recognition that there are areas in which "improvements can be made for DR resources operating in the market", including compliance to dispatch. As strongly advocated by EnerNOC[1] and other aggregators in past submissions to both the Ontario Power Authority and the IESO, changes to the compliance regime of the DR3 program have to be addressed. This has been a long standing and major issue for the aggregators since the current DR3 penalty structure devalues the fundamental principle of aggregation as penalties are assigned on the Settlement Account level and do not take into consideration the performance of the entire aggregated portfolio.

Dispatch Compliance

- EnerNOC strongly supports the proposed changes to measure compliance 'closer to the way resources are dispatched'. EnerNOC looks forward to seeing the results of the IESO's evaluation of participant response aggregated at the zonal level.

[1] EnerNOC comments to IESO "DR3 Integration Comments" March 7th, 2014

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- EnerNOC continues to anticipate that the change can be made to the compliance regime for the 2014 summer season as per previous communication with the IESO. [2]

Performance Breaches

- EnerNOC recommends that a change to a rolling 12 month average versus the current Calendar YTD be made. If the intention of the rule is to access a weighted average of recent performance, the current rule arbitrarily re-sets the clock to the beginning of each year, which poses additional penalty risk to the aggregators for the first event of each year as there are no previous performance events from which to average.

- EnerNOC recommends that penalties be assigned for the month that the breach occurred in. Applying penalties to the month following the breach, as per the current program rules, unfairly impacts new customers to the program as well as portfolios of the aggregators that have expanded.

DR M&V

Weekly Meter Data Submissions Timelines

- The timeline of 3:00 Monday/first business day after Friday has led to issues with the confirmation of the on time submissions as well as onerous penalties due to such issues. Within the current construct of the DR3 Program Rules/contract, even if the submission has been sent in on time, there is no confirmation that the information has been received and useable by the receiver. In some cases, a problem could be corrected well in advance of the 3:00 deadline. EnerNOC recommends that the timing being extended to later in the week, so that aggregators have the proper amount of time to analyze and confirm their data before submission.

- EnerNOC also recommends that the penalties attached to the submission timeline reflect the impact a late submission will have on the IESO and the market. EnerNOC recommends a fixed-$ penalty or a cap on the scaling penalty that currently exists.

- As discussed at the DRWG meeting, the current requirement of +/- 1% meter accuracy delays enrollment and makes compliance significantly more difficult and expensive. EnerNOC recommends that the compliance threshold for settlement data be relaxed to +/- 2%. This would make pulse-based sub-metering an option, allowing for quicker deployment and more flexible participation by Contributors.

Monthly Data Submission by Aggregators for the OPA Audit

- EnerNOC agrees that the value of this submission should be re-evaluated. As discussed in past submissions with the OPA, the requirement for submissions on the data points is quite cumbersome for aggregators especially as their portfolios and customer numbers grow. If this

[2] EnerNOC Comments to IESO "DR Program Rule Changes", April 4th 2014

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information continues to be deemed necessary, then EnerNOC recommends that the data be submitted on a yearly basis. Another alternative the IESO may want to consider is performing an audit that chooses certain days in which data would be submitted instead of the selection of certain days from the submitted data.

Frequency of M&V Plan Submissions

- EnerNOC agrees with the recommendation for a reduction of submissions by allowing 'Plan Amendments' where changes to plan information are deemed to not be impactful enough to require a new plan.

DR3 Registration Process

- EnerNOC supports the automation of the registration through an online tool developed by the IESO. EnerNOC recommends that the tool also be able to accept meter data submissions. As noted at the meeting, it would be helpful for the tool to recognize corrupted files, etc. at the time of submission versus a manual find that may not occur until well after the deadline.

Baseline

It is EnerNOC's experience that three factors are critical for a baseline – accuracy, simplicity and integrity.

- Accuracy – Customer should receive credit for nor more and no less than the curtailment they actually provide, so a baseline method should use available data to create an accurate estimate of what load would have been in the absence of a DR event.

- Simplicity – The baseline should be simple enough for all stakeholders to understand, calculate and implement, including end-use customers. In addition, it should be possible to determine the baseline in advance of or during DR events, so that it can be used to monitor curtailment performance in real time.

- Integrity – A baseline method should not include attributes that encourage or allow customers to distort their baseline through irregular consumption nor allow them to game the system.

Balancing these traits is not simple. In some cases, a baseline resistant to manipulation can be so complex as to be unworkable by program stakeholders. On the other hand, the simplest approaches could allow market participants to exploit the baseline in their favor. Therefore, baselines should be evaluated to ensure they provide for all three attributes of accuracy, simplicity and integrity.

The goal of the baseline under IESO needs to be defined, then a baseline methodology can be adopted that attempts to reach that goal.

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Any perceived limitations and/or potential efficiencies to be gained from adopting the 10 of 10 methodology?

- In Ontario, based on participant profile, the aggregators portfolio, and the end goal of 10% of system peak by 2025, a balance will need to be struck between accuracy and participation. By implementing a more accurate baseline, the participation of various types of customers including small loads or industrial/manufacturing loads who do not run 5 business days a week, may be limited. This may include some of the industrial early adopters of DR in Ontario who may not be able to qualify under a 10/10 program or a 10/10 program would not incentivize them to participate compared to the 15/20 they have been participating in.

- If the IESO does move to a 10/10 baseline, then EnerNOC recommends that an alternate baseline be established for customers with variable load on a case-by-case basis to recognize the characteristics and value that those customers bring to the system. As noted above, some of the early adopters are industrial loads who are the most reliable DR performers and who provide a large magnitude of the reductions. The move to a 10/10 baseline would eliminate the type of DR performers who the IESO would want participating in a DR market based program. An alternative baseline on a case-by-case basis could be established through certain parameters of eligibility as well as limiting the alternate baseline to specific Settlement Accounts. Administration of an alternate baseline could be handled at the Settlement Account level in order to avoid the complications associated with having multiple competing baseline methodologies.

- EnerNOC would work with the IESO towards an alternate baseline or a solution that would ensure the early adopters with variable loads and the most reliable DR performers can continue to provide this resource to the system.

How do the characteristics align with the various baseline methodologies?

- The proposed 10/10 baseline with in-day adjustment is comparable to other markets, however most X of Y methodologies typically exclude at least one day per week from the calculation (e.g. High 4 of 5)

Any foreseen operational characteristics that could be adversely affected by an in day adjustment? (loads with storage capability, heating/cooling prior to event)

- As with any in-day adjustment, there is the concern that, with enough advanced notification, a contributor's usage during the adjustment window could be altered, impacting the adjustment itself. For example, a manufacturing plant may decide to move production from first shift to third shift in response to receiving a Standby Notice the day before. If the first shift, when they'd otherwise be running, coincides with the in-day adjustment window, it would have an adverse effect on their baseline. EnerNOC recommends that the IESO considers making the in-day adjustment optional, so that customers with curtailment plans that are likely to negatively impact baseline can opt-out.

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Conclusion:
EnerNOC strongly supports the move for DR3 to become a market based program and hopes the comments and recommendations provided in this submission assist the IESO as it develops the market rules. EnerNOC believes that the proposed changes will help the IESO ensure that DR continues as a valuable resource that makes sense for the electricity system and the ratepayers of Ontario.

Yours truly,

Sarah Griffiths
EnerNOC Ltd.