

February 16th, 2018

IESO Stakeholder Engagement
Submitted via email

RE: Non-Emitting Resource Sub-Committee

EnerNOC, an Enel Group Company, is a trusted partner helping enterprises develop, execute, refine customized energy management strategies to reduce costs, manage risk, and maximize the value of emerging energy technologies. EnerNOC is the global leader in demand-side flexibility services, providing large energy users access to more demand response and demand management programs worldwide than any other provider. EnerNOC is pleased to provide comments in response to questions from the IESO for the February 16th Non-Emitting Resource Sub-Committee meeting.

1. What do you see as the potential for your resource type in terms of meeting Ontario's electricity needs i.e., MW and location in the Ontario system?

- Aggregated demand response , including behind-the-meter storage as a load curtailment tool
- Potential MW ~ 10% of system demand
- Throughout Ontario (transmission constraint issues)

2. What value streams/services can your resource type provide?

- At the bulk level
 - At the distribution level
 - At the consumer level
- - Aggregated demand response including behind-the-meter storage can be used as a tool at each level of the system if the program design/rules are designed correctly.

3. Are there value streams/products to which your resource can contribute that you are not currently capturing?

- In the current market
 - In the future market as contemplated through Market Renewal
- Aggregated demand response could be an Operating Reserve (OR) resource (10-minutes spin, 10-minute non-spin). Due to market rule definitions, aggregated demand response is not currently allowed to participate in OR. Currently other markets, including ISO-NE and AESO, allow aggregated demand response to provide OR services.
- Aggregated demand response expects to be able to participate in all IESO markets as the IESO moves towards a more technology agnostic approach to definitions. Through the Market Renewal Project that includes changes to the Energy market and the Ancillary Services market, the introduction of a Day Ahead Market and an Incremental Capacity Auction, aggregated demand response expects to provide value to the system operator.

4. For such value streams/products, what is preventing you from capitalizing on the value you create?

- (e.g., technology, wholesale market structure, regulatory, contractual, other)
- Currently the only limitation to aggregated demand response participation in Ancillary Services is the market rules.
- Throughout electricity systems worldwide aggregated demand response competes with other resources in market constructs without subsidies or long term contracts. Technology agnostic rules that treat all resources in a similar fashion will allow aggregated demand response to be a competitive resource in the IESO markets and provide non-emitting value to the system.
- When behind the meter storage is included in an aggregated demand response portfolio, to maximize the value the asset provides to the customer, the aggregator and the system, the battery should be metered independently of the rest of the facility. This will ensure that the activity at the customer facility does not impact the battery performance to ensure that the

5. What changes to the current market structure, or existing products would enable you to more fully capture the value your resource creates?

- The rules should be re-written to allow for all resources that can meet the Ancillary Services technical requirements. Currently AESO has undertaken this exercise and now the market rules are technology agnostic.
- For behind-the-meter storage, the California market has done more than any other region to address the participation of behind-the-meter energy storage in wholesale markets. There are rules from California that Ontario should replicate, and others that should be avoided. EnerNOC would be glad to provide a presentation on these topics. Briefly, we support rules present in California, as well as New York, that allows the battery to be metered independently of the rest of a customer facility. This ensures that activity at the customer facility does not impact battery performance. We are opposed to constructs where customers have to pay wholesale and retail for charging.
- We also recommend fully utilizing battery aggregations for wholesale and retail level services, as is done in markets such as NY. U.S. regulators have explicitly recognized the incremental and complimentary value of these services.

6. What changes to the future market structure, or new products as contemplated under Market Renewal would enable you to more fully capture the value your resource creates?

- IESO should continue to ensure that all markets and products are open to all non-emitting resources and that only the technical needs should be defined, and not what products can provide the service.
- Battery aggregation should be utilized for both wholesale and retail services, similar to how it is treated in NY. US regulators have explicitly recognized the incremental and complimentary value of these services.
- Although battery storage can be located behind the meter it should be metered independently of the customer facility to ensure the greatest value of the battery.