

IESO Stakeholder Engagement

From: Penic, Jordan
Sent: April 11, 2011 10:38 AM
To: Jason Savulak
Cc: IESO Stakeholder Engagement
Subject: H1 Comments - VTWG Meeting on Mar 16

Hi Jason,

Please see below (in **RED**) the IESO responses to your questions. As you have allowed for the IESO to publish the original questions to the VTWG website, would you be comfortable having the IESO publish the responses to your questions, as well?

As always, should you have any further questions or concerns, please let me know.

Cheers,

Jordan

Jordan Penic | Account Manager, IESO |

From: Jason Savulak
Sent: March 25, 2011 11:43 AM
To: IESO Stakeholder Engagement
Subject: RE: H1 Comments - VTWG Meeting on Mar 16

To the IESO,

I just have a few minor additions to the comment on outage reporting. See below in red.

Thanks,
Jason

From: SAVULAK Jason
Sent: Friday, March 25, 2011 11:07 AM
To: Stakeholder Engagement
Cc: 'Penic, Jordan'
Subject: H1 Comments - VTWG Meeting on Mar 16

To the IESO,

I apologize for the delay but I would like to submit the following questions and comments on behalf of Hydro One regarding the March 16th meeting:

1) Proposed Registration for embedded generators

How will the IESO obligate solar and wind generators connected to the distribution system to participate in central forecasting when the IESO does not have regulatory authority over generators connected on the distribution system? Will this obligation be stated in future contracts between solar/wind embedded generators and the OPA and if yes, can existing contracts be re-opened to obligate these generators to register as a forecasting participant? Or, will the IESO require participation of embedded generators because this is needed to ensure reliability and efficient operation of the ICG?

Amendments to the Electricity Act (addition of section 32(1)(c) via the Green Energy Act) explicitly gives the IESO the authority to create market rules to establish and enforce standards or criteria over generators connected to a distribution system. Market rule changes to reflect this authority will be made as required within the current construct of the market rules.

Since the embedded generators will be selling electricity through a distributor, they will be required to have an OEB license – sections 4.1 and 4.2 of the OEB license requires the licensee to comply with all provisions of the Electricity Act, and to comply with the IESO's market rules.

Link to the Electricity Act: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_98e15_e.htm#BK84

2) New proposed methods for communicating dynamic data (Via a secondary host, via a VPN)

a) Has the IESO determined if the two proposed methods can provide comparable levels of service (specifically in terms of reliability, security and robustness) necessary for the purpose of performing accurate forecasting? For example, in terms of security, an embedded generator connected to the Hydro One distribution system would be communicating to Hydro One through a dedicated cellular network if they opted to provide the forecasting data through a secondary host. On the other hand, a VPN uses the public internet. Therefore, the level of service in terms of security could be quite different and the sustainment requirements could also be quite different. Similarly, with both methods, a third party provider is involved and may have differing levels or conditions of service that could affect the reliability/security/performance of the communication method.

If the embedded generator wishes to directly connect with the IESO, it is the IESO that determines the communication method. If we are satisfied that VPN meets our requirements then it can be used. Part of the assessment that is used to determine the appropriate communication method takes into account “reliability, security and robustness” and if the IESO is satisfied with the results then that communication method is considered.

If the embedded generator wishes to communicate to the IESO through its LDC then the IESO would ensure (or already has ensured) that the communication path between the LDC and the IESO meets IESO requirements. The communication path between the LDC and the embedded generator would not have any IESO requirements. The embedded generator would still have to follow the data update requirements and ensure that new data is available to the IESO within the timeframes specified in the Market Rules for medium performance facilities.

b) In the case of an embedded solar or wind generating facility, it is assumed that it is the generator's requirement to provide forecasting data to the IESO. Will there be an obligation on Hydro One to be the provider of the forecasting data for the embedded facility, if the embedded facility elects to provide this data via a secondary host? Or, is it envisioned that the generating facility must enter into a service provider agreement with Hydro One?

Hydro One's obligations, as a distribution provider, to an embedded generator are stated in the Distribution System Code. Will there be changes to the DSC to support the need for central forecasting?

The IESO is not intending on prescribing the method of communication between embedded generators and the IESO. The IESO is only proposing that communication via secondary host be explicitly allowed in our rules and manuals. Other communication methods are also allowed i.e. direct connection with the IESO. If an embedded generator wishes to communicate via secondary host it is the embedded generators obligation to enable that communication path and it is the LDC's choice to allow it. Any SLA's would be between the embedded generator and the LDC and any cost recovery would be the same (between the generator and LDC). The obligation to provide the data to the IESO remains the generators. The IESO is not contemplating any changes to the DSC.

c) If Hydro One is selected by an embedded facility to be the provider of forecasting data to the IESO, it is not expected that the initial capital or setup costs on Hydro One to be high. These costs, if necessary, could just become part of Hydro One's initial connection cost to the embedded facility. However, this does largely depend on the level of reliability and security required by the service that Hydro One is providing to the IESO. Currently, Hydro One is responsible for the design and maintenance of the communication infrastructure between the embedded facility and Hydro One's hub site. Depending on the requirements for the provision of forecasting data, Hydro One would be taking on any liabilities and maintenance/sustainment costs related to being the provider of this data to the IESO. As a result, Hydro One feels that a service provider agreement could be required between Hydro One and the IESO. What is the IESO's opinion on this issue?

If an SLA is required between H1 and the IESO, the SLA should only relate to the flow of data between the IESO and H1.

d) For embedded solar and wind generators connecting to Hydro One's distribution system, does the ability to supply forecasting data become a requirement for connection (ie. will a generator be prevented from connecting until it has these facilities in place to provide forecasting data)?

Since the requirement to provide forecast data is an IESO requirement I do not think it would become a requirement to connect to a distribution system.

3) Outage data from Embedded Generators

LDCs were asked to comment on the requirement to provide outage data at embedded generator facilities. Currently, Hydro One does not receive any outage data from embedded generating plants. Typically, these plants would only contact us when a supporting guarantee is required from Hydro One or when one of our switches needs to be operated to facilitate an outage. No details of the outage are communicated to Hydro One when such is required.

Hydro One currently only requires that the status of secondary breaker of an embedded generator facility's interface transformer be monitored. Based on status information that is collected, Hydro One would only be able to determine if the plant is in service or out of service. Hydro One has not required any embedded facility to provide statuses of generator unit breakers or telemetry from individual turbines/solar arrays.

In addition, Hydro One currently does not inform the IESO when it has taken a feeder outage that forces an embedded generating facility to shut down. Depending on the outage, Hydro One may consider transferring the generator over to another feeder.

The IESO is no longer considering collecting outage data for embedded facilities that are not Market Participants beyond existing requirements. Embedded facilities that are Market Participants have outage reporting requirements and existing mechanisms to provide the IESO with outage information.

Does the IESO foresee that the onus will be on the embedded generating facility owner to report outages to its facility and the feeder that is supplying the embedded generating facility or will this responsibility fall on the LDC (either fully or in part)? If the LDC is required to report its distribution outages to the IESO or embedded generating facility outages, this will substantially increase the workload of Hydro One's outage planning department.

The existing obligation for LDC's to report outages to embedded generators, connected to their system, that are > 20 MVA will remain. This will anticipate Hydro Ones workload however the actual number of new embedded facilities that exceed this threshold is not expected to be large. As mentioned above the IESO not considering collecting outage data from anyone that is not already obligated under Market rules to provide this data.

Lastly, how will forced outages on the distribution system impact central forecasting? When there is a major event on the distribution system (ie. severe storm), the outages to the distribution system will not be reported to the IESO and it may be difficult to estimate the restoration time associated with these outages, which could affect the accuracy of the central forecasting tool.

These types of outages (forced outages) would be captured by the actual MW output of the facility which is relayed to the forecaster. It may affect the accuracy of the forecasting tool however some forecasting tools can adapt to the outage over time. It is expected that the occurrence of these events will not be frequent enough to materially impact our forecast accuracy.

Thanks,

Jason Savulak, M. Eng

Hydro One Networks Inc.
Network Operating Division
Operating System Development