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Sent: Tuesday, November 04, 2014 1:28 PM
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Subject: Re: September 17, 2014 TSRG Meeting Minutes

All,
Below, please find the response from NSTAR to a few agenda items:

1) What is the status of NSTAR's plan to develop its interconnection guideline?
NSTAR is working with WMECO to converge Distributed Generation Interconnection policy and material requirements wherever possible. Similar undertakings are occurring company wide. In the interim, NSTAR and WMECO will continue to meet with customers to explain current interconnection guidelines. We can not commit to a hard deadline for the completion of the company wide interconnection standard but will share that information with the TSRG as soon as it is available.

2) What is NSTAR's stance on the Power Factor (PF) requirement for DG? Last time we discussed this item, NSTAR mentioned that unity PF is required for DG. If the generator's off-unity PF operation is UL1741 listed, NSTAR will accept/allow that (UL-1741 has not certified multiple parallel generation). Has this practice changed since the meeting in April 2014?
NSTAR maintains the same position on PF requirements for interconnection of parallel generators. It is necessary for all DG's to maintain a Unity power factor as not to interferer with other Volt/Var supporting devices installed on the NSTAR system. Generators with off Unity Power Factors can appear as either reactive loads or sources that may be harmful to system stability during peak load periods. The best way to insure safe and reliable power for our service customers is to require unity pf for all parallel generators.

3) How does NSTAR conduct the safety/reliability and voltage/power quality analyses for the supplemental review? Are you using any screens? Any software?

The tariff requires three screens to be performed as part of the supplemental review process to determine if a full system impact study is required. This question in pertinent to supplemental review screens B and C.

"Screen B: Power Quality and Voltage Tests"
These tests typically involve use of the stiffness factor test. Stiffness factor tests are used widely across the industry to indicate the likelihood that an interconnection will have adverse system power quality and voltage impacts. The test takes into consideration characteristics of both the DG as well as the Company's EPS at the point of interconnection. NSTAR has used this test for several years and has found it to be a reliable predictor of adverse power quality and voltage impacts.

"Screen C: Safety and Reliability Tests" are performed using multiple techniques. A significant safety concern is unintentional islanding. NSTAR employs screens that are consistent with those defined in the SANDIA Report to determine if a system impact study is required to better assess this concern. The Company employs the first two elements of the screening process, the ratio of DG rating to the feeder; and, the ratio of the combined reactive requirements of the DG and feeder load to the output of the feeder's capacitor bank.

The tariff lists under Screen C, several factors that may have adverse system safety and reliability impact. Several of these are easily assessed or are already known by the engineers that perform these screens. The company considers these in determining potential adverse impacts that require full study to fully ascertain.
Finally, the company may perform minor or abbreviated system impact studies that would fulfill both of these screening requirements. This option is only viable when updated load flow models for the interconnecting system are available and the complexity of the system and interconnection are such that this study can be completed within the tariff limit of 30 hours.

Gerry, please upload these responses to the TSRG website.
Thank you,
Babak

Sent from my Verizon 4G LTE Tablet