Solar Industry Perspectives on Potential Liability Issues Resulting from Changes to Supplemental Anti-islanding Protection and Other JU Concerns Regarding Liability

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Albany, NY

January 11, 2017

Solar Industry Perspective

- The solar industry appreciates the serious efforts undertaken by the JU in their analysis of alternatives to requiring DTT and their outreach to other Utilities across the U.S.

- We are supportive of the overall direction of the JU proposal in its use of reclose blocking as the primary form of supplemental anti-islanding protection when the Sandia Screens and an optional ROI study are failed

- We acknowledge the importance of seriously considering the potential liability issues raised by these changes and welcome the opportunity to discuss them through the IPWG

Solar Industry Perspective

- The JU has also raised general concerns regarding the current SIR's lack of insurance requirements and explicit indemnification and limitation of liability provisions
- It is common practice in the solar industry for large stand-alone systems to carry up to two layers of insurance (one in the customer's name as part of an existing or new policy and one in the owner's as part of a portfolio or as stand alone product).
- As such the solar parties are willing to discuss proposals from the JU or other members of the IPWG concerning these issues and to working towards a consensus position, but we do not feel the larger insurance and liability issues should delay adoption of the modified supplemental anti-islanding protection scheme presented at the ITWG

Potential Starting Point for Discussion

- The solar parties generally agree with the JU concerning the goal of consistency and would recommend that future discussions of general insurance and liability issues use the language in the NYISO Standard Small Generator Interconnection Agreement (SGIA) articles 7 and 8 as a preliminary framework and starting point for discussion.
- We would also recommend limiting the scope of any new proposal to stand-alone systems greater than 300 kW (i.e. excluding residential systems or those on-site on commercial properties) with the requirements pro-rated or tiered by system size with a cap at the level required in the NYISO SGIA
- In addition, given the differences between interconnection at the transmission and distribution levels, we would further recommend the use of the Massachusetts *Standards for Interconnection of Distributed Generation* (M.D.P.U. No. 1320) section 11 as a second point of reference to use in framing future discussions on insurance.

Concerns Regarding Scope of Insurance Coverage

- With respect to the coverage of damage from unintentional islanding and related grid mediated impacts, in any potential future insurance mandate, however, we feel that given:
  1. the the low probabilities of property damage from an unintentional island,
  2. the current state of forensic abilities on the distribution system, and
  3. the insurance products presently available that imposing this type of new insurance requirement at this time would be premature and impractical
- In the alternative we propose a different path forward on this issue that we feel offers a better balance between the needs of all parties involved

Low Probability of Occurrence

- The details of this question were addressed in the September 27, 2016 solar industry presentation at the ITWG
- In short, the probability of property damage from an unintentional island under the new methodology is very low and does not represent a substantive increase in the existing risk profile of distribution utilities due to the need for several low probability events to all line up simultaneously

Solar Industry Presentation to the ITWG (9/27/16) available at http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/def2bf0a236b946f85257f71006ac98e/$FILE/Solar%20Industry%20ITWG%20Presentation%20for%209_27_16.pptx

Low Probability of Occurrence

- Property damage can only occur if all of the following occur simultaneously
  1. There is a power outage
  2. The real and reactive power requirements of the system are matched close enough by the generation to avoid passive protection trips for longer than 2 seconds
  3. The inverter anti-islanding protection fails to detect the island and disconnect despite the meaningful body of research showing inverter anti-islanding functionality is adequate and effective under a variety of simulated and real-world conditions.
  4. The Sandia Screens / detailed risk of islanding study failed to identify the situation or the reclose blocking scheme fails to prevent an out-of-phase reclose onto an island

Low Probability and Forensic Capabilities

- The very low probability of unintentional islands forming and persisting for any extended period greatly complicates the technical challenges with detection and assignment of liability as there is, and will continue be, extremely little real-world experience with which to test equipment or analysis schemes
- To date no known instance of a run-on unintentional island forming in the real-world has been confirmed to the best of our knowledge

Forensic Capabilities and Liability

- In order to assign liability under a legal / insurance based approach the demonstrated ability to determine the following to a standard of “preponderance of the evidence” (i.e more probable than not) would be required:
  1. That an unintentional island formed and persisted for longer than the allowed 2 seconds
  2. How and when the damage occurred and its causal relation to the unintentional island
  3. Which of the solar facilities on the line segment did not trip off within the allowed 2 seconds and which of those were still powered at the time the damage occurred to assign relative culpability
  4. Why protective schemes like reclose blocking (if implemented) failed to prevent the damage or why the Sandia Screens or ROI study failed to identify the concern

Lack of Existing Insurance Products

- The solar industry sees no realistic possibility at present to acquire this type of specialized insurance due to the following:
  - No other utility jurisdictions of which we are aware have a similar insurance mandate. The only requirements readily identified are for general commercial liability insurance or its equivalent that do not cover off-site electrical damage mediated through the Utility system.
  - As such, this is not a standard insurance product that is offered by the market that we have been able to identify.
  - Finally, the lack of demonstrated forensic abilities to assign legal liability would likely pose insurmountable barriers to the creation of a New York specific specialized insurance product for this purpose at reasonable cost.

A Path Forward

- Given the significant barriers to adopting this type of insurance requirement at present, we propose as a path forward the following:
  - Maintain the current language in the New York State Standardized Contract under sections III and IV

    "3.1 Compliance with SIR: Subject to the provisions of this Agreement, the Utility shall be required to interconnect the Unit to the Utility's system, for purposes of parallel operation, if the Utility accepts the Unit as in compliance with the SIR. **The Customer shall have a continuing obligation to maintain and operate the Unit in compliance with the SIR.**" (emphasis added)

    "4.1 Emergency Disconnection: **The Utility may disconnect the Unit, without prior notice to the Customer (a) to eliminate conditions that constitute a potential hazard to Utility personnel or the general public;** (b) if pre-emergency or emergency conditions exist on the Utility system; (c) if a hazardous condition relating to the Unit is observed by a Utility inspection; or, (d) if the Customer has tampered with any protective device. The Utility shall notify the Customer of the emergency if circumstances permit." (emphasis added)

A Path Forward

- In light of the low probabilities and the fact that no property damage from from an unintentional island has yet been confirmed, the solar industry feels that this language (along with the sections on mediation and the existing section on insurance) provide the required level of legal protection for the Utilities while acknowledging the absence of demonstrated forensic capabilities
- Specifically, the failure of a solar system to disconnect within 2 seconds would represent a material violation of the SIR including *Section II. Interconnection Requirements* paragraphs
  - A. Design Requirements: 1. Common
    - (i.e. compliance with IEEE 1547)
  - G. Islanding
  - H. Equipment Certification
    - (i.e. compliance with UL 1741 standards for inverters)
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A Path Forward

- If an unintentional island did form, the failure to adhere to SIR requirements would enable Utilities seek recovery of damages from the solar facility owner / operator through mediation or through legal action
- If, in such a case, the Utility was able to demonstrate the requisite level of forensic analysis to determine liability to a legally acceptable level then this would provide the basis to re-open the discussion concerning any need for insurance identified by this test case as well as any associated modifications needed to the SIR

Conclusion

- The solar industry welcomes the overall direction of the JU proposal and supports the adoption of reclose blocking as the primary form of supplemental anti-islanding protection when the Sandia Screens and an optional ROI are failed
- We support discussing future proposals to add a requirement for some form of general commercial liability insurance for standalone systems over a certain size as well as indemnification and liability limitations and propose that such proposals could use NYISO SGIA articles 7 and 8 and the Massachusetts Standards section 11 as preliminary starting points for discussion
- With respect to coverage of risks from unintentional islanding we believe the existing SIR language provides the necessary protection to Utilities in the unlikely event of harm while maintaining flexibility to address improvements if any were identified in the event a test case did arise in which harm was caused by a failure of anti-islanding protection and the larger insurance and liability discussion should not delay adoption of the new protection methodology discussed at the ITWG