**ITWG Meeting Notes – January 31 2018**

**Screen F - Stiffness Factor**

* Solar Industry (SI): Not many documents / documentations for stiffness factor of 25
* Joint Utilities (JU): Value of 50 for stiffness factor is more readily used (EPRI / NREL), but JU chose to use 25 as that would provide more conservatism into the screen
* EPRI: Duke Energy does have report on use of stiffness and will circulate that information following the meeting
* Ray Walling: Better analysis would include X/R or Z/R in calculation with 50 as the threshold
* Group tends to agree with Ray’s proposal, however, each party committed to taking the proposal back and providing decisions by 2/28/18 or sooner if available.

**Voltage Limits / Regulator Tap Changes**

* Substation regulators have life-span of approximately 100k tap changes
* Line regulators have life-span of approximately 200k-300k or even up to 1M tap changes
* Need to focus on bandwidth of regulators
* Use 75% cloud cover variance instead of 0-100% in analysis
* Voltage change screen would often fail projects 1MW and above so not useful, however, since most large projects don’t use supplemental screening, the voltage change screen may be useful for projects under 1MW or in the 50-500kW range.
* Group discussion was positive on using the 3% POI / 5% Aggregate voltage change screen for the non-residential projects under 1MW and as part of supplemental screening. Both groups to provide responses/comments accordingly.
* Groups (JU & Industry) shall discuss and provide response on the possibility of using prior version of Voltage Change/Limits screen (see below), with the focus on the small – medium sized (50 kW – 500 kW) commercial projects, instead of the larger sized (above 1MW) projects for purposes of this screen.  Keeping in mind that not a lot of project use the supplement screening option.
* Responses due by 2/28/18 or sooner if available

**Voltage Flicker Screening / Detailed Assessment**

* SI presented slides to discuss overall Implementation of IEEE 1453 See Slides for more details.
  + Overall position is that implementation of detailed analysis has been very limited in the US
  + This is because voltage flicker in the real world has been very limited or not a major concern
  + Pterra method more conservative than it needs to be with regard to 1 second ramp rates
  + The mention alternative less conservative methods proposed in Minnesota
  + The method involves using irradiance data of nearby PV array for modeling
  + Use of long-term dynamic modules to capture ramping to get real-world data
* Pterra presented slides to discuss its proposed solution to implementation of IEEE 1453 in detailed analysis
  + Detail flicker study if screen fails, before recommending upgrades
  + Pterra would offer training to JU for implementation of its proposed solution for use by all NYS utilities
  + Challenges to detail voltage flicker study:
    - Conventional power flow tool not enough, need data intensive time-series simulation.
    - High resolution data needed in the 1-2 second resolution, unclear if this data is being collected currently
  + JU state that data used for detail flicker study by Pterra is not available publicly so lacks transparency
* Group agrees with proposed screen H (IEEE 1453 - voltage flicker) calculation developed by Pterra
* Groups (JU & Industry) shall discuss and provide response on the possibility using screen H, except with actual project data  in the calculation, in the CESIR as an initial review to see if further detailed flicker analysis is needed.  If project passes screen H calculation with actual project data, no additional flicker analysis would be needed.  If it fails the screen, a more detailed flicker analysis is needed.
* We plan to get raw cloud cover data from EPRI and distribute to group for review for possible use in detailed flicker analysis efforts.
* Groups (JU & Industry) shall discuss and provide response on the possibility to use Pterra’s proposed detailed flicker analysis when deemed necessary in CESIR.  This detailed flicker analysis may need to be done outside of existing CESIR timeframe and at an additional cost.
* Responses due by 2/28/18 or sooner if available

**ESS Metering**

* Need for multiple metering needed to differentiate “green” vs “ brown” electrons for VDER compensation scheme
* This can lead to restrictive metering and system configuration
  + Limiting to DC coupled system
  + Preventing battery discharge to the grid
  + Alternative is to not get compensated under VDER
* Use cases that may be impacted the most
  + Community solar + storage: Summer peak and NYISO ancillary
  + Behind-the-meter + Storage: Summer peak, demand response
* Typical configuration consists of:
  + Behind PCC:
    - ESS meter & PV meter
  + After PCC:
    - VDER meter
* Multiple meter consideration:
  + Higher costs using multiple meters
  + More overhead for utilities in case of billing
  + Device level/3rd-party metering should be allowed
  + Use meter for VDER tariff or Loaf reduction for DER output
  + Both AC and DC coupled system
* Do the utilities have concern using 3rd party meter
  + National Grid: Yes if the meter will be used for VDER compensation. Meter must be verified to be accurate and secure from tempering.
  + JU will have to figure that out, but may need to figure out more fundamental issues 1st
* Groups agreed that for the time being, the best solution to potential metering configurations for PV + ESS projects is having a meter on the PV, on the ESS and a master meter.
* Con Edison needs to determine if it can own additional meters behind the master meter.  All other utilities said yes, but Con Edison may not???
* Responses due by 2/28/18 or sooner if available

**SIR filing**

* Concerns and/or issues with the 12/20/18 SIR filing seem to be minimal
* NEM wording still remains due to PSL 66l requirements, but has been removed where possible
* Comments due in by 3/12/18 and reply comments by 3/28/18

**Action Items**

* Next ITWG meeting: March 21 @ DPS
  + Agenda TBD