**Minutes of the Resource Data Working Group (RDWG)**

**Solar PV Technical Workshop**

**Teleconference**

**Monday, July 20, 2015 – 12:30 a.m.**

Attendance:

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| John Palen | - NRG | Ed Briggs | - Centerpoint Energy |
| Brian Manning | - ERCOT | Brian Dawson | - NRG |
| Stewart Rake | - Luminant | Rob Wolfe | - NRG |
| Nick Steffan | - ERCOT | Jay Teixeira | - ERCOT |
| Yubaraj Sharma | - Luminant | Wayne Calendar | - CPS |
| Ed Geer | - ERCOT | Patrick Coon | - ERCOT |
| Tom Sorrels | - Tenaska | Cole Dietart | - LCRA |
| Tim Sullivan | - Centerpoint Energy | David Penny/Brad Woods | - TRE |

2015 RDWG Chair John Palen called the workshop to order at 12:30 a.m.

Antitrust Admonition

John Palen directed attention to the Antitrust Admonition, which was displayed.

Agenda Review

John Palen reviewed the agenda for the July 20, 2015 workshop.

Data Element Review

* The planning data in the RARF may not reflect actual solar PV technology, but ERCOT’s SPWG cases require the data to be entered. The glossary will provide information to the user regarding how to respond in those situations
* Will revise description of negative and zero impedance values to provide guidance to the user. The wording of the “Governor” droop and deadband cells needs to remain as is, since they are in multiple forms. This data does exist for PV technology, but it is a function of the control system, similar to wind units
* Stewart Rake with Luminant stated that they have an appropriate dynamic model for solar PV, and will ask his vendor if he can share the model with ERCOT.
* Data elements referring to X/R ratios are meant to be directed to the transformers fed by the inverters. There are a couple of industry terms for these transformers (array, skid, and GSU). ERCOT/RDWG will pick one, and modify the glossary questions accordingly.
* Reactive capabilities associated with solar PV will support data entry into the existing RARF format.
* The collector system segment data section is troublesome, as it requires that the entire facility be broken down to the inverter-level, and each segment from one component/element/junction be modeled. This could result in literally thousands of separate line entries, which is not a realistic situation. No resolution at this time. A collector system one-line and PSSE raw and sequence files, or an Aspen or Power World file must be provided that contains topology, positive sequence and zero sequence data, ERCOT would also like to see data from the Arcflash models.
* Design min and max temperatures may not be applicable to all PV facilities, as there may not be any temperature-related derates, but since that may not be true for all, it was decided to leave those elements in the glossary
* Brad Woods at the TRE raised concerns about not having a firm idea of unit capacity at the different expected temperature extremes. He will follow-up with the ERCOT Resource Adequacy group, as to the results of their recent RFI, and the RDWG will continue to evaluate this issue during the next scheduled meeting
* Ed Geer enquired as to why the temperature derating fields were removed from the glossary as part of RRGRR-003 for ALL generator types.
* Min and max operating temperatures does not apply, and it’s applicability will be removed for solar PV

Action Items

* Changes that were generally agreed upon during the workshop will be modified on the RRGRR-007 spreadsheet, and then confirmed during the Aug 18, RDWG meeting
* Stewart Rake to check with his vendors on the possibility of sharing the PV dynamic model he has, with ERCOT
* ERCOT and RDWG to further explore the issues surrounding the cable segment data fields
* John Palen to get with Ed Geer on the temperature derating deletions (it was done with the approval of ERCOT Operations Support, as the data was not being utilized in any known application)
* RDWG to evaluate the applicability of, and potential need for, recording capacity values at expected ERCOT temperature extremes

Adjournment

 The meeting was adjourned at 3:00pm.