ERCOT System Protection Working Group

Meeting Minutes – November 22, 2013

Austin, TX

* 8:33 Danny Ee began the meeting by reading the ERCOT Antitrust Admonition.
* 8:35 Brian Clowe gave a presentation on Geomagnetic disturbance and Centerpoint’s involvement with GMD research.
* 8:58 Andrew Mattei gave a presentation on End-to-End Protective Relay Testing using GPS time-synchronized test sets.
* 9:35 Danny Ee showed pictures of Austin Energy’s Onion Creek substation water damage when a river went over its banks.
* 9:45 Kris K – Short Circuit Case Building Manual – added mutual coupling, updated example for 2014. Per Perry Brown – Need to update to at least ASPEN 12.3, as 12.2 had numerous issues.
* Action Item: Email out SPWG Procedure Doc, send out on Monday, back in 2 weeks from comments. Need latest PSS/E version number. Group editing of procedure document.
* 10:15, group took a break.
* 10:35, back from break
* David Penney – any interest in this group seeing the TADS data metrics? Not really. “Lower end of what’s interesting”.
* Question from Perry – He needs the schedule for future year build cycles – Management wants to see for scheduling workload (to be discussed when Jay Teixeira joins meeting).
* There was a discussion on future meeting dates for group in 2014, a group of dates were proposed.
* 11:05 Case building - 2014 Spreadsheet – update dates, Danny Edited.
* Action item: Confirm that Sharyland receives this information and knows the schedule for information that needs to be provided.
* Question from Perry – How deep are we going to go with representing solar and wind? 34.5kV level or GSU level? Peter – in ASPEN’s description for the current limited generator, probably need down to pad mounted transformer. Bus numbers and bus ranges for those also? No real answer here. Depends on the data that is provided to ERCOT and TO’s.
* Kris K - Perhaps give us some information from ERCOT regarding generation RARF data provided to TO’s for comparison to short circuit case? Make sure generation data didn’t get egregiously changed.
* Perry led a conversation on updating Short Circuit Case Building – Figure 3, Figure 6 – uncheck Convert Loads – update the file names as well, Figure 9 – uncheck loads; Page 18 – ASPEN to PTI – update to correct version; Zero sequence impedance connection, if there’s a switch in there under Network – Options – third white box Switch Reactance = default=.0001 per unit on 100MVA base – on stations that have bus tie breaker represented by switch, or switches for bypasses for series caps, that if that number isn’t the right level, the fault current will be bad when performing studies. The correct number for AEP .00001 – it is case specific, it stays with the case. If it is not saved in other cases, it will ‘come back’.
* Under HELP it explains rationale behind the switch reactance in Per Unit. AEP was finding a 200-300 amp difference in fault numbers. This becomes significant when dealing with short lines.
* 11:50, meeting adjourned
* Some members went to tour Austin Energy’s new Dispatch / Operations facility after the meeting.

Day 2 Attendees:

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| Danny Ee  Austin Energy  Andrew Mattei  Brazos Electric  Kristian Koellner  LCRA  Peter Belkin  AEP  Mark Chronister  Oncor  Stan Ginsburg  Brazos Electric  Glenn Hargrave  CPS Energy  James Wang  LCRA  Bret Burford  AEP | Ivan Ivanov  Garland  Dung Nguyen  STEC  Bill Tucker  AEP  David Penney  TRE  Brian Clowe  Centerpoint Energy  Matt Boecker  LCRA  Keith Calle  CPS Energy  Saad Syed  ERCOT | WebEx:  Derek Merta – BTU  Tim Cook (CTT)  Perry Brown  Jay Teixeira |