

Meeting notes for WG D5 Monday May 23, 2016

- Brian Cain reviewed Pre-par slides
- Introductions
- Don Wengerter and Brian Cain reviewed the member list for quorum. Quorum was met with 19 of the 32 members present. Two members joined during the meeting.
- Brian Cain led discussion of proposed scope and purpose for the PAR submittal.
- Reviewed fall 2015 meeting notes, Motion by Joe Gravelle and second by Tom Priois to approve Fall 2015 minutes. Fall meeting notes were approved by members that attended.
- Brian Cain led discussion of roster reductions and requirements. Several members are retiring, retired, or unable to attend meeting. Some 17 members have changed their status to corresponding members or guests.
- Lane Garrett reviewed designs done by various methods: CVM/FIFM, LPM, and LIT. Lane used WINIGs to perform the review of the 69 kV designs in the Guide and validated against Southern Co. practices. The review was completed for validation of Table B22 with static wire and mast designs. WINIGS will not be used within the guide per no commercialism of software.
- A discussion was held on the meaning of the split factor charts that were developed for Annex C and the conditional bounds placed on them.
- Aaron Wilson led review of Risk mitigation that will lead to future discussion in an Annex
- Brian Cain discussed the BIL vs. CFO. No research made available to members that you can't use BIL in lightning shielding design.
- Bryan Beske was asked to provide the bibliography for the Annex A letter from CEATI.
- Break at 3:05 PM
- Reconvene at 3:30 PM
- Discussion of the proposed scope and purpose from the Fall 2015 meeting continued:
- Motion by Lane Garrett and 2<sup>nd</sup> by Joe Gravelle to accept scope. Amended to change statement 1 from "all" to "Every". Unanimous consent on vote by the 18 members in the room.
- Motion to include purpose in the PAR was made by William Carman and 2<sup>nd</sup> by Rich Keil. Motion carried by vote of 18-3 (Additional member joined after break)
- Motion to approve purpose after discussion and modifications by William Carman and 2<sup>nd</sup> by Rich Keil. Motion carried by 17-2 of those in room (Members left during discussion)
- Lane Gravelle made motion with second by Rich Keil for Brian Cain to write PAR containing scope and purpose. Motion carried by majority vote of 18 to 2. Brian Cain will submit the PAR with the revised scope and purpose statements as approved by the above motions after the meeting while in Atlanta with Robert Nowell's assistance.
- Reviewed equipment list and definitions for the guide. Joe Gravelle will review the guide for additions or modifications for such items as substation, GIS, GIL, control cabinet, etc.
- Reviewed potential assignment for the PAR
  - LPM- William (Bill) Tocher and Cris Kramschuster

- CVM/FIFM – Jorge Cardenas and Ehsan Azordegan
- LIT – Peter Baxter and Lee Herron
- Risk Management: Aaron Wilson and Lane Garrett
- Section 3 – Dr. Sakis Meliopoulos and Dr. Franco D'Alessandro
- Definitions – Joe Gravelle and Benjamin Loehr
- Assignments and PAR due by 10/31/2016.
- WG will meet at JTCM in January in New Orleans. Tentative date Sunday the 8<sup>th</sup> to Thursday the 12<sup>th</sup>.
- Meeting Adjourned

#### Scope Statement of WGD5 at Atlanta Georgia for PAR Submittal

1.1 Scope: This guide describes the general nature of lightning and discusses design methods for placement of masts and shield wires to provide direct stroke shielding of outdoor substations. Tables, formulas, and examples are provided to calculate effective shielding from direct lightning strokes.

This guide specifically does not include:

- 1) every shielding design methods that may have been developed
- 2) protection from surges entering a substation over power or communication lines
- 3) personnel safety issues

#### Purpose Statement of WGD5 at Atlanta Georgia for PAR Submittal

1.2 Purpose: Direct strokes from lightning can damage substation equipment and bus work. To protect equipment, substation engineers can install direct stroke lightning shielding. This guide is intended to provide engineers with information pertaining to the interception of damaging direct lightning strokes to outdoor substations. Users of this guide should consider the factors that relate to the design of a particular installation and use engineering judgment in the application of these methods, particularly with respect to the importance and value of the equipment being protected.