Stray and Contact Voltage Working Group
Matthew Norwalk, Chair
Chuck DeNardo, Vice Chair
Scott Kruse, Secretary

2019 IEEE Joint Technical Committee Meeting
Hyatt Regency Orange County
Garden Grove, California

January 14, 2019
1PM – 5PM

Approved Meeting Minutes

Attendees

Bryan Beske – American Transmission Co.
Heide Caswell – Pacificorp
Anthony Cedrone – Con Edison of NY
George Clark – Alabama Power
Larry Conrad – Conrad Technical Services
Chuck DeNardo – Consultant
Alexander Dornhelm – Con Edison
Doug Dorr – EPRI
Charlie Fijnvandraat – FCG Energy
Bryan Glenn – SCE
Kevin Grant – Con Edison
Stuart Hanebuth – Power Survey Co.
Robert Harris – NRECA
Van Holsomback – EPRI
David Kalokitis – Power Survey Co.
Scott Kruse – Power Survey Co.
Frank Lambert – GA Tech
Giancarlo Leone – SR3 Engineering
Sal Martino – Duke Energy
John McDaniel – National Grid
Mark Murray – Okla. Gas&Electric
Robert Naphen – National Grid
Matt Norwalk – SCE
Paul Ortmann – Idaho Power Co.
Scott Peele – Duke Energy
Al Powers – P&E Engineering
Rusty Soderberg – Consumer Energy
Clay Stocklin – Power Engineers
Muayad Tarabain – Hydro One
Mark Voigtsberger – UTGIS
David Zech – Duke Energy

The Stray and Contact Voltage Working Group met at the 2019 IEEE Technical Committee Meeting on Monday afternoon January 14th at the Hyatt Regency Orange County, Garden Grove, California. There were 31 people in attendance.

The meeting began with an introduction of attendees and circulation of the sign in sheet. Then went on to a review of the patent slides.

The Chair went through the meeting agenda and stated that we would not be reviewing the Policies and Procedures at this meeting. He will check on the status at the committee meeting.

There was a review of the Portland meeting minutes, and no changes were requested. Anthony Cedrone made a motion to approve the minutes and it was seconded by Sal Martino. The minutes were approved.

Following with the agenda, the Chair gave his report on the review of data provided by Mark Voigtsberger at the 2018 PES General Meeting. The data was provided by Mr. Voitsberger in support of his presentation regarding measurement methodology. The Chair concluded the data (i.e. voltage measurements) was obtained prior to the publication of the guide and there was a wide variance in the manner in which the voltage values had been obtained. Because the data sets were obtained using very different measurement techniques they could not be directly compared as had been done by Mr. Voitsberger. The Chair stated that individuals need to be cautious when comparing available data sets because not all utilities and contractors follow the same test procedures. Utilities should update their procedures to include those from the guide. Discussion continued about the availability of the data sets to the public. While some of the data used by Mr. Voigtsberger was publicly available, some was not and no references were given for that material. Additionally, there was no record of the techniques used to make the measurements and produce the data. When polled, the group determined that meaningful conclusions could not be drawn from the presented material. Discussion continued about the use of various voltmeters for the measurements. The group concluded that the 1695 guide contains an adequate treatment of the types and uses of voltmeters for the work at hand. Additional discussion was given to the use of long ground leads in the performance of measurements. Mr. Voigtsberger had stated during his presentation in Portland that the use of long ground leads by some parties was a key contributor to differences in measurements he observed in the data he reviewed. Following the group discussion Mr. Voigtsberger stated he no longer feels long ground leads impair measurements. The group agreed that the IEEE 1695 process of using a qualified reference and a ground lead of sufficient length to be outside of the voltage gradient does not negatively impact readings is appropriate and adequately covered in the 1695 guide. After analyzing the data presented by Mr. Voigtsberger and concluding the data sets that he provided could not be used to arrive at any meaningful conclusion, the group discussed concern that the flawed presentation was now available to the public on the P1695 working group website. Questions were asked as to how we could prevent individuals from being misled by the unsupported conclusions. It was stated that review of the subsequent meeting minutes would be the only mechanism available to learn the details of the group's conclusions.

The Chair moved the group discussion to the next topic on the agenda.

Alex Dornhelm presented: New Methods for stray and contact detection. He began with a review of current ways of inspection for prevention of safety events, which are gas sensing, contact voltage testing, and visual and infrared imaging. The presentation detailed a real time sensing system that is in early development. The system uses sensing and telemetry equipment placed in manholes. The development team was working to analyze data collected from a group of deployed sensors and to understand what parameters could be used to determine the presence of fault conditions.

Group took a break from 2:15-2:28PM, before the next presentation.

Doug Dorr presented: EPRI Stray Voltage R&D NEC Article 680.26 Update. Doug started with an update of what happened to the NEC code. In 2005 the NEC added the equipotential grid to the code, but in 2008 they added an option for alternate means of installing an 8-gauge ground ring. Recently, EPRI's data on equipotential bonding was presented to the NEC code revision committee but the group chose to leave the weakened standard in place. The group discussed action items on this topic for the working group. It was agreed that a treatment of pool grounding and the dangers of inadequate construction standards was appropriate for the next revision of the P-1695 guide. Doug Door will provide pertinent material to the group for inclusion. It was determined swimming pools will be an annex. A discussion was held to determine what was needed to make a swimming pool task force. Doug recommended a few Webex meetings. Anthony Cedrone motioned, and Stu Hanebuth seconded to have Doug Dorr lead the swimming pool task force. The group approved, and Doug was nominated.

Sal Martino discussed the status of the document layout. He generated a new preliminary draft by reorganizing the content from the published guide into alignment with the draft outline. At this stage, he will rely on the section leads to edit the assigned sections to remove duplication, maintain a proper bibliography and improve document flow. Much work remains to be done. It was decided that the document will be hosted on iMeet and everyone will use track changes for their sections.

The section volunteers are as follows:
Section 1 – No one because it doesn't need to be changed.
Section 2 – No one because it doesn't need to be changed.
Section 3 – Check to see if Jeremy Wright can add content.
Section 4 – Rob Naphen
Section 5 – Anthony Cedrone and Sal Martino
Section 6 – Dave Kalokitis
Section 7 – Stu Hanebuth and Matt Norwalk
Section 8 – Alex Dornhelm
Section 9 – Stu Hanebuth
Annex G- Swimming Pool Annex – Doug Dorr

Case Studies – Anthony Cedrone

The Chair asked if there was any new business. Chuck DeNardo asked about the panel session which was discussed at the previous meeting. The Chair had submitted a request for a panel session at the 2019 General Meeting in Atlanta but has not received a follow up response.

Nothing for round table discussion.

Motion to adjourn by Stu Hanebuth, seconded by Anthony Cedrone. Meeting adjourned at 4:06PM.

The next meeting will be at the 2019 IEEE PES General Meeting, August 4-8, 2019 in Atlanta, GA.