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

2020 IEEE PES Joint Technical Committee Meeting
Hyatt Regency Jacksonville
Jacksonville, FL

January 13, 2020
1PM – 4PM

Approved Meeting Minutes

Attendees

Manuel Avendano – SCE
Bryan Beske – American Transmission Co.
David Cheng – Shanghai Genergy
Larry Conrad – Conrad Technical Services
Fred Friend – AEP
Dave Gilmer – Unaffiliated
Bryan Glenn - SCE
Kevin Grant – Con Edison
Joe Grappe – Duke Energy
Stuart Hanebuth – Osmose
Robert Harris - NRECA
Terri Hopkins – Duke Energy
Tyler Jones - Pacificorp
David Kalokitis – Osmose
Scott Kruse – Osmose
Theo Laughner – PowerGrid-Rx Inc.
John Lauletta – Exacter Inc.
Sal Martino – Duke Energy
John McDaniel – National Grid
Chris Mullins – Power Monitors, Inc.
Nikoi Nikoi – IEEE SA
Matt Norwalk– SCE
Paul Ortmann – Idaho Power Co
Marty Page – Georgia Power
Scott Peele – Energy Applications
Moritz Pikisch - OMICRON
Mike Simms – Duke Energy
Rusty Sodergerg – Consumer Energy
Clay Stocklin – Power Engineers
Muayad Tarabain – Hydro One

The Stray and Contact Voltage Working Group met at the 2020 IEEE PES Joint Technical Committee Meeting on Monday afternoon January 13th at the Hyatt Regency Jacksonville. There were 30 people in attendance.

The meeting began with introductions, circulation of the sign in sheet and review of the obligatory patent slides. No one had any patents to mention.

The group reviewed the meeting Agenda. There was a motion to accept the agenda by Dave Kalokitis and it was seconded by Sal Martino.

There was a review of the Atlanta meeting minutes, and no changes were requested. Sal Martino motioned to approve the minutes and Dave Kalokitis seconded. The minutes were approved.

The Chair presented a timeline developed to get the guide updated and published before the PAR expiration on 12/31/2022. The time line included getting the guide broken out and organized for review at the 2020 General Meeting, setting up an editing subcommittee at the 2021 Joint Technical Committee Meeting to ready the guide for submission to Mandatory Editorial Coordination, setting up balloting before the 2021 General Meeting and preparing the guide for RevCom at the 2022 Joint Technical Committee Meeting. There were no concerns from the group regarding the timeline. It was suggested that the group should lockdown the sections that are not changing and try to work on one of the bigger sections at the General Meeting. Marty Page mentioned he had documents on testing Blockers that are in service, which he would talk to the Chair about after the meeting.

The group reviewed balloting comments that were submitted by working group members for P2746 Draft Guide for Evaluating AC Interference on Linear Facilities Co-Located Near Transmission Lines. Although the guide had some good information, the Chair voted to reject because it did not cover public concerns within right of ways, did not consider influence outside of right of way and attempted to redefine “Transmission Lines”.

The Chair presented a Rural Contact Voltage Case Study. A rancher found a cow and heifer deceased at the base of a utility pole. The pole was actually owned by an oil production company. There was a 480Y/277V service panel and disconnect located on the pole with 2 ground rods located adjacent. The service fed 2 oil wells. Well 1 was located adjacent the service and Well 2 located 1000’ away. There was an obvious NEC violation in that the equipment ground conductor was not run with the feeds to the wells. The guy anchor of the customer pole was used as reference for voltage measurements. Well 1 measured 0V and Well 2 measured 259V. It was determined that a shorted winding in the motor of Well 2 caused contact voltage that electrocuted the cows. The well was locked off by the customer. It was mentioned that the guide needs to stress that if there is a report that can’t be verified initially, there should be a long term monitoring solution.

A guide revision break out session was listed on the agenda but the Chair opened it up to the group for discussion. It was noted that some of the section leads were not in attendance and suggested that holding conference calls every 2 weeks and assigning tasks might be more productive. The group discussed the way the revision process should work for each section. The latest revision of the guide is in the Drafts in Progress folder on iMeet, and can be accessed by working group members. Nonmembers can request a copy and the Chair will email the draft. To preserve

formatting it was suggested to lock the main downloadable revision and let individuals upload documents with track changes. After an overview of the sections the group took a break.

Group took a break from 2:27-2:51PM.

After the break the Chair announced that he would not hold the breakout session during the meeting. Instead conference calls will be set up every 3 weeks to work through the sections. Any suggestions for the sections should be sent to the Chair and he will get them to the section leads.

There was no new business.

Round Table:
Muayad Tarabain inquired whether there is an expected ratio of the NEV from the primary and secondary neutrals of a neutral isolator that should be in the guide. It was determined that most of the time when a neutral isolator is installed measurements are taken of the NEV on the primary, secondary and across the neutrals. The conclusion was that there is more work to be done to sort out what should go into the guide regarding testing of installed neutral isolators.

Joe Grappe poled the group to see if anyone had seen an increase in 3rd and triplen harmonics in ground flow from solar sites. There was no consensus.

The PAR timeline will be posted on the website. The Chair asked if there was a new website for working groups, but there isn't one at this time.

The Chair granted Marty Page membership status for his contributions to the working group.

Marty updated the group on the NEC's decision to keep the alternate means for bonding a swimming pool in the code. However, he noted states can choose to strike out the alternate means and make the installation of an equipotential grid the only acceptable form of bonding.

Additionally, Marty mentioned that his utility is not using Blockers in wet areas because they can be bypassed. Instead they want customers to use isolation transformers out to docks. He wanted to know if the guide could contain information on the use of isolation transformers. It was determined there would need to be a code to reference, which someone mentioned North Carolina has, or the information could be presented through a case study. Marty suggested Doug Dorr may have a case study.

Stu Hanebuth inquired about the panel session at the T&D meeting that was discussed at the last meeting. The Chair didn't get any volunteers, so nothing was submitted.

Marty Page poled the group on whether or not there was a voltage that could be considered normal operation of the system. He was thinking 4V-4.5V, but the group agreed it wasn't something that could be put in the guide.

Motion to adjourn by Larry Conrad, seconded by Sal Martino. Meeting adjourned at 3:46PM.

The next meeting will be at the 2020 IEEE PES General Meeting, August 2-6 in Montreal, Canada.