

Working Group on Switching & Overcurrent Protection
2009 IEEE/PES General Meeting
July 28th, 2009
Minutes
Calgary, Alberta

Charlie Williams, *Chair*, (cwilliams@sandc.com) called the meeting to order at 8:00 AM with 18 members and guests present.

1. The IEEE required slides for Working Groups were presented.
2. The minutes of the January 12, 2009 WG meeting were approved.
3. The draft Scope and Purpose for the PAR was modified during the meeting. A final draft will be distributed to all of the WG members for comments prior to submittal to IEEE for consideration at the November NesCOM meeting.

Please review the revised Scope & Purpose shown below and send any proposed revisions to cwilliams@sandc.com by 8/17/09.

Application Guide for Placement of Overhead and Underground Switching and Overcurrent Protection Equipment

The revised Scope and Purpose section are shown below:

Scope of Proposed Standard: This guide provides criteria for switching and protective device placement for distribution circuits. The guide will cover feeder and branch line equipment. Drivers for device placement, such as reliability and operational considerations will be identified. All types of switching and OC equipment will be covered including: • Manual switches • Automated switches • Load break vs. non-load break • Reclosers / Sectionalizers • Fuses o Overcurrent o Current limiting • DA device control. Criteria will be developed for placement and location of devices. Issues such as fault rate, exposure miles and customer density will be discussed and their impact on reliability and device placement addressed. The impact of Distribution Automation equipment and automated sectionalizing equipment and the impact on feeder reliability will also be addressed. The net result is to provide means and methodologies for proper placement of switches and protective devices to achieve the desired performance characteristics for a distribution circuit.

Purpose of Proposed Standard: This standard develops a guide for where and when switching and overcurrent devices are placed on the distribution system.

4. A webinar will be planned for the fall to refine the draft outline of the Guide. WG members will be asked to volunteer to draft sections for discussion at our next meeting in January 2010.
5. The Secondary Networks Tutorial is being presented at the Calgary meeting with 15 attendees.
6. A conference paper by Ryan Melbard, "Application of Customer Exposure Ratio to Distribution Circuits", was presented by Val Werner of We Energies.
7. A presentation on "Switching and Protective Device Placement for Distribution Circuits" was provided by Georges Simard – Hydro-Québec.

There was a question on the 40Ω rule. It is still mentioned as a possibility in C37.230-2007, "IEEE Guide for Protective Relay Applications to Distribution Lines", in Section 5.1.3, Fault Impedance. "A number of different practices are used to determine minimum ground fault settings that will allow for

fault impedance. Some of these practices are noted as follows:

- Select a percent value of the bolted single phase-to-ground fault at the end of the protected area.
- Use an established value for Z_f added at the end of the protected area. Frequently used values range from 0 Ω to 40 Ω .
- Set Z_f to a value that provides a minimum fault current equal to the continuous current carrying capability of the conductor. Fault currents below the thermal limit of the conductor may not be detected.
- Use a percent of three-phase fault currents.

8. A presentation on the “Economic Value of Sectionalization” was provided by Lee Taylor – Duke Energy

The meeting was adjourned at 9:50 AM.

Submitted by:
Frank Lambert