Meeting Minutes
Working Group on Voltages at Publicly and Privately Accessible Locations (P1695)
January 9, 2007 & January 10, 2007
IEEE PES Winter Technical Meeting - Orlando, Florida

January 9, 2007

Call to order by Chuck DeNardo, Chair.

Introductions

- Attendance sheets distributed
- 47 participants
- Frank Denbrock, IEEE 80 Liaison in attendance
- Question to group if other liaisons needed
    - NACE (Corrosion Engineers) recommended

Slides on IEEE SA Standards & Inappropriate Topics were discussed

No one had any questions regarding the slides.

Past meeting minutes

- Montreal Meeting Minutes Approved
- Web Cast Meeting Minutes Approved
- Post to Web site

Chuck DeNardo, Chair, outlined meeting schedule

- Working Group Procedures
- EPRI Presentation – Doug Dorr
- NEETRAC Update – Frank Lambert
- Contact Voltage Discussion

Working Group Procedures Draft, review by Chuck DeNardo

- Went over document, discussions ensued
    - Procedures necessary to conform to the imperative principals of SA and ensure an open process
    - Term limits discussed
    - What constitutes a voting member
        - Present meeting counts toward requirement
        - 2 of 4 meetings rule is to maintain voting membership
    - IEEE & PES Web sites to be used to notify of future Web Conferences
        - Web based capabilities discussed
            - Auto tracking of participants
            - Roster & audit trails
        - 30 day Web Conference notice
    - Quorum Discussions
        - Chuck to check with Matt Ceglia (SA Liaison) on other groups policies and suggest specifics for this group.
        - Taken off line for further discussions

    - Voting (Section 6) positions and requirements discussed
    - Appeals/Interpretations/Parliamentary Procedures Discussed

- Procedures to be reviewed with SA, revised and, if possible, sent to meeting attendees for an electronic vote

EPRI Presentation by Doug Dorr

- Why the renewed interest?
    - Generic causes of contact voltage
    - Perception
- EPRI will make accessible public domain information to group
- Confusion of definitions still exists
- Causes
    - Human & Animal are the present concerns
    - Neutral current
    - Unbalance on 3 phase lines
    - Insulation degradation
    - Load faults
    - Magnetic coupling
- EPRI TR 114340 Stray Voltage Sensitivity Levels for Dairy, Swine and Poultry
    - (Formation of Human Limits)
- EPRI TR 113566 Identifying Diagnosing and Resolving Residential Shocking Concerns
- EPRI EL 3106 V1, V2, V3, V4
    - Common corridor coupling problems
    - Modeling and simulation of AMR technologies at animal contact pts.
    - Distribution wide NEV assessment model
- EPRI 2005 Base Project 128.003
    - Assessment of Metallic Object and Elevated NEV in Distribution systems
        - Test & Measurement Protocols
        - Modeling & Simulation Guidelines
        - Test & Mitigation Methods
        - Technology Transfer
        - Regulatory Guidance
    - Case study showing different sources
    - Published Limits
        - UL-101 (Leakage Currents)
        - UL-60950-1 (Leakage Currents)
        - CEATI Report
        - EPRI – Human Impedance Under different conditions
        - Riley Book
        - UL 101

NEETRAC Discussion, Frank Lambert

- Published handbook in 2001
- 2004 project to update handbook
    - New information added
        - Harmonics
        - Bonding requirements (NEC Code Panel)
        - Isolators
- Members have agreed to share data with IEEE working group.

Terminology

- Possibility of coming up with a new term
- IEEE 100 Definition of contact voltage discussed

We ran out of time…until tomorrow

Meeting Adjourned

January 10, 2007

Contact Voltage Discussions, notes taken and slides prepared by Doug Dorr

Contact Voltage Section of Guide: What Should be Included?

- Section should describe the ways a contact voltage can occur. Both customer and utility side occurrences
  - Wire Reversal (Street Lights, mis-wired circuits, etc.)
  - Insulation degradation
  - Induced voltages under faulted conditions
- Need a list of examples and possibly some case studies

Contact Voltage Section of Guide: What Should be Included?

- General Statement - Contact voltage *can be* potentially hazardous and needs to be dealt with as quickly as practical. Emphasize that not all contact voltages are hazardous
- Causes:
  - Should include what contact voltage is and what it is not) (example: accidental contact with a live line is not one of the items covered)
- Should list all examples
- Process or Test Procedure?
- Mitigation Strategies
- General section to cover topics that are included and are excluded

Discussion of Process for handling a complaint

- Con Ed Process Overview:
  - After complaint is received trouble crew investigates
  - Performs area test
  - Depending on what is found actions are taken
- Comments
  - Flow chart or decision tree starting with complaint call and ending with documentation that the problem has been fixed
  - Should have guidance on how to interpret measurements or identify cause
  - Protocol should help standardize the process every investigator uses
  - Does not suggest every occurrence will have a solution

Process for handling a complaint

- Flow Chart to Define Process Should Include:
  - Assume it is hazardous – Safety First!
  - Measurements
  - Diagnostics – to determine source
  - Decisions based on voltage level present – limits?
  - Which test and measurement equipment to use?
  - Step by Step Procedures?
  - Voltages may change!
  - Recommendations - Poles sitter? Other Actions?
  - Trained Personnel – Dealing with customer? How to perform investigation? How to handle initial call? What and how to document measurements? Archival of documentation?

Additional Comments

- General comment:
  - Need to ID all published levels of concern or thresholds.

Meeting Adjourned