C37.68–Controls for Distribution Systems
September 27, 2010 Meeting Notes

- Meeting called to order at 1:50 PM by Don Parker(Chair). Tim Royster (vice-chair)
- There were 17 Members and 5 guests. Self introductions were made.
- The standard IEEE slides, dated 25 March 2008, regarding Patents were displayed for the group.
- Reviewed the minutes from the April 26, 2010 Myrtle Beach meeting.
    - It was moved and seconded to approve the minutes. Minutes approved.
- Parker discussed that last time we discussed the web site where information is posted for this committee's use.
    - It is at http://grouper.ieee.org/groups/c37/68/private/
        - Folder IEEE_IEC_Stds_Controls_TF/
    - Id is PC37.68 and the password can be obtained by emailing Don Parker at dparker6200@charter.net
- It was asked if we need to extend the deadline on the PAR for this group. Parker replied that we are not at that point yet.
- Discussion of the existing document
    - IEC 60068 part 1 and part 2 discussions: Material created by Craig Befus, Christian Heinrich, Chuck Ball, and Tim Royster. Presentation by Christian Heinrich.
        - Material was displayed
        - The most important will be part 2. Part 1 is general guidance.
        - Part 2 is about 50 to 80 documents in it.
        - They copied two clauses out of it to show.
        - They classify standard in two letters.
        - Questions for the group.
            - Many test standards and guidance for testing of device controls exist with IEC 60068-x-x, should we re-invent the wheel.
            - Comprehensive reference to IEC documents thoroughness – is this appreciated within IEEE?
            - If we reference IEC documents, how can every user get a copy of IEC (of course buying but this could make it prohibitive because of cost)
            - The NEMA enclosure reference on page 7 "The NEMA standard for Enclosures for Electrical Equipment does test for environmental conditions such as corrosion, rust, icing, oil, and coolants." What are these standards, are they similar to IEC 600068.x.x?
            - Should we expand the list of environmental consideration based on what this team discovered?
            - Don wants to take time to look at some of the documents. Then in a few weeks get back to the presenters with comments on the style with which to proceed with documenting their findings;i.e., lists, tabular, etc..
    - Mike LaBianco,and Mark Feltris,put some work together and made a presentation. Highlights of the slides shown are:
        - Control should have a battery test feature
        - There should be a battery load test, automatic default 24 hours or settable.
        - Control should reserve battery power based on balance of capacity.
        - Ideal charge will consist of two stages. Trickle charge for greater than 90% of battery full charge and rapid charge for less than 90%.
        - Some, but minimum, external communication on status of battery healthiness.

        - Batteries should never be discharged below manufacturer ratings.
        - Recommendations for battery chargers: track the number of charging cycles as a means of determining battery end of life.
        - Battery design requirements
        - Typical discharge curves
        - Battery Management Technology to predict battery life was added during the discussion.
        - Self-powered devices and what to consider from an application was added during the discussion
        - Battery drain …. IED and switch, a number of scenarios were added during the discussion.
        - Increased battery life based on environment was added during the discussion.
        - Underground applications – battery type to consider ?
        - Comment was made that we may be getting too detailed for this guide.
    - Parker stated that a lot of the manner and depth of information to be included boils down to the style we want to use for presenting information. We just need to gather information on each outline topic and see if a dominant style evolves as the most appropriate style for this guide
    - Cabinet color should be considered for how it affects controls environmentally. Darker colors, which in some cases are chosen for esthetics, can increase internal temperatures by 3 -5 degrees,
    - Antone Bonner has been working on a section for vibration.
        - Sources of vibration: transportation, wind, moving conductors, industry, traffic/rail, shock and bump, transport without factory shipping packaging to job site in back of a pickup truck from service center to installation.
        - Most of the vibrations probably occur in the job site transportation portion of the control's life, from factory to utility to final installation.
        - The material submitted for the section can be real brief or real detailed. In the area of mitigation what are the things that mitigate vibration.
            - Manufacturers' original testing.
            - Mitigate by more robust design.
            - Packaging.
                - What is impacted once packaging is removed.
            - Commissioning
                - Initial review of device visually
                - Power up to observe for basic functions.
                - Can catch many of the items that vibration will cause, loose circuit boards, loose connectors, etc.
                - Danger of back-feeding a PT during commissioning. Can be a safety danger to staff.
            - Mounting – should there be more consideration of designing mounts to limit vibration transmitted from pole or pad mounted attachment.
- At last meeting there were a number of assignments. WE had a few reports at this meeting. There is a net difference. Assignments for next meeting.
    - Functional requirements. Sachin Puranik, Jeff Mizener, Samuel Chang will be working on this.
    - Hardware Interface: Craig Befus, Tim Taylor, Francois Soulard
    - Add a section on commissioning: Bill Walter, Tim Royster volunteered
- There is a C37.1-1994 is on the web site. We need to get an updated version of it out there.
- Meeting adjourned at 5:05 PM