Distribution Transformer Subcommittee Report

Chairman: Stephen Shull

Meeting Date: 03/10/2010 **Time:** 9:30 – 10:45

Attendance:

Members	**33**
Guests	**36**
Guests Requesting Membership	**2**
Total	**71**

Meeting Minutes / Significant Issues / Comments:

Steve opened the meeting; rosters were passed out, introductions were made & a roll call of members showed we had quorum with 36 of the 56 members in attendance.

The minutes of the fall 2009 meeting of the subcommittee were presented and a motion was made by Gael Kennedy, seconded by Ron Stahara to approve the minutes; the motion carried by unanimous acclamation.

Steve made a request and encouraged all attendees who were not members of the IEEE, Power and Energy Society, Standards Association, Transformers Committee and the Distribution Transformers subcommittee to please consider doing so. Steve point out for those who think they are members to check their badges. If they find they don't have Committee Member ribbons on their nametags, they are not Transformer Committee members.

The following are the highlights of the reports that were submitted by the Working Groups and Task Forces. For further, detail please consult the individual reports.

- C57.12.20 – Overhead Distribution Transformers
    - The group accepted the recommendation developed from a manufacturer survey to specify the spacing of the arrester pads on the transformer to locate the top arrester mounting pad 17" +/- 2" from the top edge of the tank rim and the lower arrester mounting pad 2.5" below the top pad. Marcel Fortin presented his findings on the lid retention test fault procedure. The result which was presented was adopted noting that if the manufacturer had done this test to the previous described method, the design would meet the requirements of this revised section. The Working Group voted to move the document to MEC and ballot.
- C57.12.28, 29, 30 & 31 – Enclosure Integrity
    - C57.12.28 and C57.12.29 will be at the end of life on December 31, 2010. The Working Group voted to request new PARs for both of these documents. The PAR for C57.12.28 will use the existing Scope and Purpose. The PAR for C57.12.29 will use the same Scope and a slightly modified Purpose. C57.12.30 and C57.12.31 were balloted, negatives were received and addressed, and a recirculation was completed with no change from the negative balloters. These documents will be sent to REVCOM to be considered for approval.
- C57.12.35 – Distribution Transformer Bar Coding
    - This standard will be at the end of life on December 31, 2012. The working group voted to request a new PAR for this document using the existing Scope and Purpose.

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- C57.12.37 – Electronic Test Data Reporting
    - ♦ This Working Group had one of the co-chairs resign in the fall of 2009. A co-chair was appointed and he discovered that the document was ready to ballot. He stated that he would move the document to MEC and Ballot.
- C57.12.38 – 1 phase Padmount transformers
    - ♦ A new PAR has been approved for this document. The working group gathered suggested changes and ideas that could be incorporated in the next version. Two points were made both concerning the secondary bushing placement. One was the clearance of the X3 bushing to hood cover and the other was the elimination of one bushing in the 277 volt application which had been added to this document's scope.
- TF – Transformer Efficiency and Loss Evaluation (DOE)
    - ♦ The group was informed that the DOE may review the efficiency standards due to settlement of an Environmental lawsuit against DOE on the grounds that carbon was not adequately monetized in the rulemaking. A settlement was reached to open the rulemaking process earlier, though the effective date for the new rules would remain unchanged. The rulemaking dates were picked to ensure rulemaking would occur under the current Administration. We may be able to influence assumptions for material costs, loading, energy costs, payback periods. Dates for the DOE Rulemaking as a result of lawsuit settlement are as follows:
        - NOPR October 2011
        - Final Rule October 2012
        - Effective date 1/1/2016

      Contractors involved in the original round of rulemaking have received new contracts for this round of rulemaking. DOE may be considering labeling which would include the efficiency from the DOE table along with Manufacturer certification number.
- TF – Tank Pressure Coordination
    - ♦ This was the first meeting of this working group. The purpose of the group was to address three issues.
        - Editorial inconsistencies in the references to pressure levels in the product standards of the Distribution Transformers SC.
        - A potential conflict between withstand requirements of 50 kPa (7 psig) for the enclosures without permanent distortion, and pressure relief valve requirements of 69 kPa ± 13 kPa (10 psig ± 2 psig).
        - The standards for single and three phase padmounts had no reference to a requirement for a fault current capability test.

      After quite a bit of discussion, the working group agreed on the following course of action for the task force:

      a) Define a proposed standardized text for the tank withstand and PRV requirements which could be considered for adoption in future revisions to the product standards of the Distribution Transformers SC, and

      b) Prepare a document that would capture the history of this topic so that it could serve as a reference to provide the technical arguments supporting the current definitions and could be adopted as an informative annex on future

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revisions of the distribution transformer product standards to provide this background for future groups.

There was no Old Business.

Under new business Steve recognized Marcel Fortin for his recent Distinguished Service Award from the IEEE Switchgear Committee. The subcommittee commended Marcel with a round of applause. Steve asked Marcel and he agreed to a 10 minute presentation to the subcommittee at the next meeting in Toronto on the physics of fault interruption.

Jerry Corkran informed the subcommittee that the Insulation Life Subcommittee is preparing a survey for the Insulation Life subcommittee members regarding increasing the temperature rise rating to 75°C and he wanted the Distribution Transformers subcommittee to prepare its own survey. Jerry made a motion to survey the Distribution Transformer subcommittee on this topic and Phil Hopkinson seconded the motion. A lot of discussion was done on this topic from Brian Klaponski, Joe Cultrera, Ali Ghafourian and Phil Hopkinson about how this might affect efficiency requirements of the DOE. Said Hachichi stated the WG for C57.154, "Design, Testing & Application of Liquid-Immersed Transformers with High-Temp Insulation" was already working on this issue. Bill Chu explained that this was an Insulation Life Subcommittee topic and we should not follow this action because it was beyond the scope of this subcommittee. Our concerns should be presented to the Insulation Life Subcommittee concerning the though that the survey be shared with the full transformers committee. There was obvious confusion on the floor in the discussion about whether this extended range would be a nameplate rating or a test level to allow for transformer overloading to the higher temperature. Ron Stahara called the question and the motion was defeated. Jerry and Phil were the only ones who voted for the motion.

Brian Klaponski made a motion that this survey be presented to the full committee for their consideration and that there be careful wording added to any survey to avoid the confusion we were experiencing. Jerry Corkran seconded this motion and it carried by unanimous consent.

Therefore Steve will carry a recommendation from the Distribution Transformer Subcommittee to the Insulation Life Subcommittee that if any survey is made on extending the transformer operating temperature above 65°C that that the survey be extended to the full transformer committee and that a very careful discussion be included concerning distribution transformers which would enlighten the members on the DOE efficiency requirements as applied to the nameplate rating information.

A motion was made and seconded to adjourn the meeting with unanimous consent.

The meeting adjourned at 10:40am.

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