

C37.04 HV Circuit Breakers WG

10/2/2012 -- San Diego

Start 8:00 AM chaired by Jeff Nelson

Introduction of Attendees

Minutes of previous meeting were approved.

There have been no changes since last draft was sent out.

Service Capability Duty Requirements

Discussed how much durability should be expected in interrupter designs

- Denis Dufournet reviewed results of wear tests from IEC TR 62271-310 (Technical Report from 2008, 52kV and above, limited to circuit breakers classified as "maintenance-free", having a 25 year lifetime instead of a 40 year lifetime) which concluded that contact wear is not proportional to current amplitude. Nozzle wear was also considered in this report.
- Bill Long reviewed the development of these requirements, stressing that it was not a highly refined technical process. Standards long ago were 4x, had evolved to 8x. It is his opinion that many breakers, particularly MV, could provide 25x rated interruptions instead of 8x before contact replacement. Bill answered a question of "what is the definition of maintenance" in this context - in the laboratory it might be replacing an interrupter/breaker in order to complete the required tests, in the field (by the user) maintenance might be considered as lubrication, etc.
- Jeff showed proposed wording of requirements which would be different above and below 100kV: 8x at 100kV and above, 10x below 100kV...**The group approved the wording with the change of removing the last sentence which was a comment on maintenance ...Due to the discussion which pointed out the different definitions of maintenance, delete last sentence of proposed wording or identify it as informative note elsewhere**

Terminal Loading Requirements

- Bill Bergman, Anne Bosma and others emphasized that the loadings in current standard are static mechanical loadings, not dynamic loadings

- Jeff showed a table provided by Paul Barnett showing max calculated force relative to fault current level, and a proposed table of voltage level vs. kA, with standard and high levels of design force loadings
- There was much discussion on static vs. dynamic loading, and the relevant importance of various sources of loading compared to fault current forces.
- No action taken, Jeff will study further

Accuracy Class Ratings for CTs

- Jeff showed Table 9.1.4 Table 26 and corresponding notes (existing)
- Jeff showed a proposal by Steve Cary to replace the table with text.
- Devki (who is on the C57.03 WG) will contact Steve Cary to further discuss
- Devki will accept comments from this group until October 12 so that he can have that input before attending the Transformer Committee meeting the following week.
- Jeff will contact Mike Crawford to send out the latest draft of C57.13 annex.

UPDATES

- Proposed aux switch ratings table - no update from assigned members, no action taken
- Task Force on Long Line TRV and critical currents - Roy Alexander has meeting this afternoon. Have completed most work on TRV topic, Roy has sent input to Jeff/Mike
- Task Force on Mechanisms - information from John Webb & Eldridge has been incorporated into the latest draft.
- TRV section - waiting for input from Kirk Smith

Jeff asked for comments by December 15, with the goal to incorporate comments in time to send out the next version in February 2013.

Adjourned 9:50 AM

(Minutes were taken by Don Cantrelle)

Respectfully submitted,

Jeffrey Nelson; Chair, High Voltage Circuit Breaker Standard WG