

IEEE Power Engineering Society
Switchgear Committee
C37.20.1 Working Group Report
May 21, 2001

The working group met on May 21, 2001. The meeting was called to order by the chair with 3 WG members and 18 guests present. Excused absences were accepted for S. Slattery, T. Burse (C37.100.1), E. O'Donnell, W. Laubach.

The formal ballot should be issued by IEEE-SA on May 22 to both the IEEE-SA ballot pool and to Accredited Standard Committee C37. The PAR for revision of C37.20.1 had been approved on June 21, 2000.

The history of the document from D9 (reviewed at the Fall, 2000 meeting) to D11 (the ballot document) was discussed, including substantial problems in getting the electronic invitation to ballot and the actual ballot issued. In effect, the process of getting the ballot issued has taken 16 weeks, and should have taken only about 6 weeks.

D11 was distributed to the attendees.

Mr. Puckett raised an issue of the appropriate short-circuit rating of the disconnect device connected on the primary side of voltage transformers or control power transformers. Considerable discussion resulted, and it was suggested that the comparable requirements of C37.20.2-1999, clause 6.2.5 be incorporated into C37.20.1. This would be a new subclause 6.2.5.3. The test is to be conducted at the rated voltage, the text on drawout devices is to be suitably modified to make it generic, and time duration is to be the standard 4 cycle duration for LV switchgear. The proposed new clause is attached to these minutes.

Clause 6.2.5.2 should be modified to delete "within 10 ms" from the end of the first paragraph.

Clause 7.11.4 specifically does not require electrical interchangeability of secondary control circuits. It was suggested that the wiring of secondary devices be standardized so that like functions are always wired to the same terminals. Objections were raised about different control voltages, different protective devices, and similar issues that would make this impractical. Further, this would be unlikely to be compatible with the installed population of products.

Clause 9.2.4 discusses protection of workers from live parts during installation of equipment. This seems out of place, as equipment is not energized during installation. Perhaps some rewording to mention backfeed sources, voltages used during commissioning tests, etc. is appropriate.

Report submitted by: T. W. Olsen
21-May-2001

Proposed new clause.

6.2.5.3 Auxiliary equipment primary disconnecting device momentary current withstand test

The primary disconnecting device and connecting bus or cable for VT and CPT auxiliary sections shall be capable of carrying the short circuit current from a transformer failure until the primary fuse protection can operate. The test sample shall use fuses with the maximum rated peak let-through current allowed by the design.

6.2.5.3.1 Test current

The test current shall be a prospective value calibrated at the main bus connection point for the auxiliary section and no less than the peak, rms total and rms symmetrical values specified in 5.4.4.

6.2.5.3.2 Test voltage

The test shall be performed at the rated voltage of the LV switchgear.

6.2.5.3.3 Test duration

The actual duration of current flow will be limited by operating time of the primary fuse protection for the transformer. The circuit shall be calibrated for a maximum duration of 4 cycles.

6.2.5.3.4 Test connections

- a) The test circuit power source shall be connected to the incoming terminals of the auxiliary section.
- b) The short circuit connection shall be a bolted connection made phase-to-phase on the load side of the fuses using cable of the same size as used for the connection from the main bus to the disconnecting device.
- c) The switchgear shall be grounded with a minimum of 4/0 copper conductor.

6.2.5.3.5 Performance

After the test:

- a) The primary disconnecting devices shall show no signs of burning
- b) All connections remain effective
- c) No breakage of insulation or structural components
- d) The primary disconnecting device must be capable of operation from the connected (or closed) position to the disconnected (or open) position and back via its intended means.