

**SWITCHGEAR ASSEMBLIES SUBCOMMITTEE
MINUTES OF THE SPRING 2004 MEETING**

SAN LUIS RESORT, GALVESTON, TX

The meeting was called to order by Chair, D. Lemmerman, at 1:38 PM on May 5, 2004 with the introduction of the following members and guests:

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|----------|---------------|-----------------|---------------|----------------|
| Members: | C. Ball | D. J. Edwards | D. Mazumdar | S. P. Slattery |
| | T. A. Burse | S. S. Gohil | A. F. Morgan | J. E. Smith |
| | E. R. Byron | J. M. Jerabek | T. W. Olsen | M. Wactor |
| | P. Dwyer | D. J. Lemmerman | R. J. Puckett | |
| Guests: | P. Barnhart** | M. Flack | F. Mayle** | N. Simon |
| | R. Conway | S. Kim | N. P. McQuin | P. Sullivan |
| | N. Gunderson | C. Lam | R. Schafer | |
| Excused: | J. J. Dravis | A. Livshitz | G. R. Nourse | G. Sakats |
| | R. K. Iyer | P. J. Notarian | E. A. Peters | S. H. Telander |
| | W. E. Laubach | | | |

Absent:

** designates those voted into membership during the meeting.

The minutes of the Fall 2003 Switchgear Assemblies Subcommittee meeting in Portland, OR were accepted as distributed.

ADSCOM Report

ADSCOM Committee Report: Mr. Lemmerman reported that:

- Ben Johnson made a presentation on dual logo IEC / IEEE standards maintenance procedure, agreed to in Beijing in 2002. Five standards have dual logo recognition. His handout will be available on the Switchgear Committee web page.
- C37.85 (vacuum interrupter X-radiation) was discussed. Proposals in IEC by the German delegation have lower limits. ADSCOM will forward information to ASC C37, as this document is sponsored in ASC C37, with the request that the ASC provide information to support the limits that have been in place in the C37.85 document for over 30 years.
- Ballot comment form. We use the IEC format but the IEEE website uses an Excel format.
- MV GIS: Proposal to create a MV GIS document under the sponsorship of the Substations Committee.
- C37.100.1 Common Clauses: Ballot is on hold to resolve membership in the balloting group. D. Stone will take over the role of WG chair.
- IEEE 1291 (Partial Discharge) will be out for reaffirmation.
- Metric: Metric is preferred but dual dimensioning still accepted. It was moved that the policy of the Switchgear Assemblies subcommittee is to use metric dimensions with English units in parenthesis, and to use the accepted designations in the case of trade sizes, all in accordance with IEEE metric policy 9.19. The motion passed.

WORKING GROUP REPORTS

The following working group reports were presented:

- C37.20.7: (Guide for Testing Metal-Enclosed Switchgear rated 1kV through 38kV for Internal Arcing Faults): The PAR was approved by IEEE-SA on 25-Mar-2004. The title was changed to include the voltage range in the title. D3 was reviewed in the WG meeting. The latest revisions to IEC 62271-200 were discussed, including the use of grounded versus ungrounded testing. Detail

of indicator materials was discussed and more information is being sought to further define the material and its response.

- C37.21 (Control Switchboards): The validity of the PAR has been extended to 31-Dec-2005. The D10 ballot closed 28-Feb-2004 with 96% affirmative. The ballot had 164 comments and 3 negative ballots. The proposed ballot comment resolutions will be provided to the negative balloters, followed by a recirculation ballot targeted for June.
- C37.23 (Standard for Metal-Enclosed Bus): C37.23-2003 was approved by IEEE-SA on 11-Sept-2003 and by ANSI on 29-Jan-2004. It was published on 26-April-2004. This project is complete and the WG is dissolved.
- C37.24 (Guide for Evaluating the Effect of Solar Radiation on Outdoor Metal-Enclosed Switchgear): C37.24-2003 was approved by IEEE-SA on 12-Jun-2003 and by ANSI on 09-Oct-2003. It was published on 26-Feb-2004. This project is complete and the WG is dissolved.
- C37.100.1 (Common Clauses): T. Burse reported that the ballot group has closed, but the ballot is on hold as discussed in the ADSCOM report section of these minutes.

OLD BUSINESS

- C37.82 reaffirmation: Reaffirmation was approved by IEEE-SA on 25-Mar-2004. This project is complete.
- C37.81 reaffirmation: The Ad-Hoc committee for review of old C37 Switchgear Assemblies documents that were converted to electronic form by IEEE-SA reported at the Fall, 2003 meeting that there were technical discrepancies on five pages between historic paper copy of document and the electronic pdf file. T. Olsen has requested corrections of IEEE-SA in Piscataway. As soon as the .pdf file is corrected, a reaffirmation ballot will be initiated. The document was last reaffirmed in 1999, and reaffirmation is required in 2004.
- IEC Activities (SC 17C MT14). T. Burse PES Switchgear Committee to SC 17C MT14:
 - IEC 60298 (62271-200) [AC Metal-Enclosed Switchgear and Controlgear for Rated Voltages above 1 kV and up to and Including 52 kV]: No present activity.
 - IEC 61330 (62271-202) [Prefabricated Substations]: It is out in CD form, and includes work on internal arc testing of this equipment.
 - IEC 60466 [AC Insulation-Enclosed Switchgear and Controlgear for Rated Voltages above 1kV and up to and including 38kV]: There is no comparable IEEE document. It is out in CD form.
 - IEC 60932 (Additional Requirements for Enclosed Switchgear and Controlgear from 1 kV to 72.5 kV to be used in Severe Climatic Conditions): No present activity.
 - IEC 61958 (High-Voltage Prefabricated Switchgear and Controlgear Assemblies – Voltage Presence Indicating Systems): No present activity.
 - IEC 62271-001 (Common Clauses): This is out for comment in IEC now and we must get our comments into the USNC for submission to IEC.
- ASC C37: All documents remaining under ASC C37 responsibility are current. C37.50 will need reaffirmation prior to start of a revision effort to coordinate with changes to C37.13.
- Future directions for harmonization:
 - It was moved that C37.24 be submitted (again) for dual – logo status. The motion passed without objection.
- Switchgear Assemblies document status review: The document status summary was distributed and revisions solicited. This lists all documents that this subcommittee sponsors or co-sponsors. It will be available with the minutes. On Sept. 23, IEEE-SA advised that the following documents

are on the list for administrative withdrawal at the December meeting of the Standards Board, as reaffirmation or revision has not occurred in 5 years:

- C37.21 Control Switchboards – submitted for ballot on Sept. 20.
- C37.81 Seismic Class 1E Qualification – see status above.

T. Olsen has initiated discussion with D. Ringle at IEEE-SA to get these removed from the list slated for administrative withdrawal.

- C37.20.2 Metal-Clad Switchgear – This was approved in 1999. There are no significant items known to need attention, except for a discussion (see later) regarding metal thickness. It was moved to submit C37.20.2 for reaffirmation. The motion passed with one abstention.

NEW BUSINESS

- MV GIS Application Guide (T. Burse) – The Substation Committee has begun a project (no PAR submitted yet) to create a MV GIS Application Guide. The working group met during the Substations Committee meetings in early April. Interested parties should make contact as appropriate.
- DC Switchgear (T. Burse) – The IEEE Traction Power Substation Standards Sub-Committee is working on LV DC Traction Substations Wiring. Their project is being designated as P1653.3, even though they do not have a PAR submittal or approval (as of 29-April-2004). The proposed title is “Standard Wiring Practices and Requirements for Traction Power Metal-Enclosed DC Switchgear”. Concerns were expressed that this document will infringe on the charter of the Switchgear Committee, and that no representatives of the TPSSSC offered constructive assistance in revision of C37.20.1. A letter will be formulated officially advising TPSSSC that switchgear standards are in the scope of the Switchgear Assemblies subcommittee of the IEEE PES Switchgear Committee, and requesting that the TPSSSC provide suggestions to the Switchgear Assemblies subcommittee for revisions to C37.20.1.
- Request for interpretation of existing standard C37.23: A request for interpretation of construction of a requirement for insulated conductors in equipment was received in Dec., 2003 from Mr. Enzo Gomez, with IMPSA, a firm in Argentina. The equipment involved is a mix of non-segregated phase bus and metal-enclosed switchgear. It was concluded that a formal interpretation was not involved, but rather, a request for explanation as discussed in the IEEE-SA Standards Companion. Mr. Lemmerman provided an explanation and Mr. Gomez advised that the response was satisfactory. At this time, it appears that a formal interpretation is not required.
- Request for interpretation of existing standard C37.20.1-1993: A request for interpretation was received from K. Jagannath of Nuclear Power Corporation of India. He asks if C37.20.1 table 4 requires that both conductors in a joint be plated in order to qualify as a joint with “silver surfaced, tin surfaced or equivalent connecting joints”. A proposed summary document was discussed. It was moved that an interpretation, essentially consisting of the last paragraph of page one of the summary document be submitted to the requester. This motion passed.
- Metal thickness: Request for interpretation of (E Byron): Mr. Byron as submitted a request for clarification of requirements with respect to minimum steel thickness for MSG No. 11 and MSG No. 14 (trade sizes) of steel. It was moved that an interpretation as suggested in the summary document be submitted to Mr. Byron. This motion passed.
- C37.20.1: During the process of metrification of C37.20.1, table 10 with the area calculation for cable space introduced an error. Also, a dummy element (non-existent) was allowed during certain testing. A corrigenda (or amendment, if appropriate) needs to be initiated to correct these errors. The motion for this project was passed. The working group to address this will include T. Burse (chair), T. Olsen, N. Simon, N. Gunderson, E. Byron, and R. Puckett.

- New Members: The subcommittee voted to add Frank Mayle and Paul Barnhart to the membership.
- Meeting Rooms- Working group chairs, please submit your WG room requests for the Fall 2004 meeting to Mr. Burse by no later than August 1, 2004. Working groups are asked to carefully consider any audio visual equipment requirements, as A/V equipment is a major expense.
- Working group chairs were requested to give changes to working group memberships to T. Olsen by the end of the meeting.
- Working Group chairs are asked to provide electronic copies of reports to T. Olsen by May 7.
- Switchgear Main Committee—items to be reported verbally during the main committee meeting were reviewed.
 - A motion is to be submitted to the main committee that C37.24 be submitted for dual-logo status.
- Future Meetings:

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| Sept. 22, 2004 | Westin La Paloma, Tucson, AZ |
| May 8-12, 2005 | St. Pete Beach, Tradewinds Island Grand Resort |

The meeting adjourned at 4:48 PM.

Minutes submitted by: T. W. Olsen
Secretary