

**SWITCHGEAR ASSEMBLIES SUBCOMMITTEE  
MINUTES OF THE FALL, 2000 MEETING**

**WESTIN LA PALOMA  
TUCSON, AZ**

The meeting was called to order by Chair D. Lemmerman at 1:45 PM on October 11, 2000 with the introduction of the following members and guests:

Members:	C. Ball	D. Gohil	D. J. Lemmerman	T. W. Olsen
	T. A. Burse	R. K. Iyer	A. F. Morgan	E. Peters
	E. R. Byron	J. M. Jerabek	P. Notarian	R. J. Puckett
	D. J. Edwards	W. E. Laubach	G. R. Nourse	M. Wactor

Guests:	D. J. Akers	S. Kapodistrias	A. J. Picagli	R. Vance
	W. Bradley	M. McVey	J. G. Ross	
	P. Dwyer	M. Orosz	R. Sunkara	

Excused:	J. J. Dravis	G. O. Perkins	G. Sakats	S. H. Telander
	W. C. McKay			

Absent: (none)

The minutes of the Spring, 2000 Switchgear Assemblies Subcommittee meeting in Ft. Lauderdale, FL, were approved as distributed.:

**ADSCOM Report**

ADSCOM Committee Report: Mr. Lemmerman reported that:

- Transactions paper reviews will be done on-line in the future.
- PES reorganization proposal is dead.
- PES is changing meeting schedules. Refer to the article in the Sept. 2000 Power Engineering Review.
- Dean Sigmon will take over the position of standards coordinator from Keith Gray at the beginning of the year.
- WG indemnification by IEEE was discussed. The subcommittee must provide a list of WG members to Jodi Haasz (j.haasz@ieee.org) at least yearly.
- Use of electronic balloting is growing. A presentation will be made at the main committee meeting on the standards balloting process.
- Members are requested to apply for Senior membership grade if they are eligible. The application can be completed on-line. A session will be held at the next Switchgear Committee meeting.

**WORKING GROUP REPORTS**

The following working group reports were presented:

- C37.20.1 (Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear) (attached). Draft 9 was distributed at the meeting and reviewed. A new draft will be sent to the WG and to the Switchgear Assemblies subcommittee in the next few weeks, and will also be sent to the IEEE editors. This draft will incorporate restructuring to meet the IEEE format, and metrification issues. The results of these reviews will be addressed by E-Mail, with the objective of having a document ready for formal ballot at the time of the next meeting.
- C37.20.2 (Metal-Clad Switchgear) (attached) The document is approved and published. A motion to dismiss the WG passed.

- C37.20.3 (Metal-Enclosed Interrupter Switchgear) (attached) The ballot was 95% affirmative with two non-resolvable negatives. Responses will be submitted to negative balloters. This document should be approved by IEEE and ANSI before our next meeting.
- C37.20.4 (Indoor AC Medium Voltage Switches for Use in Metal-Enclosed Switchgear) (attached) This document is out for ballot now. When ballot results and comments are received, they will be addressed and resolved by E-Mail. It is expected that final approval will be received in the next few months.
- C37.20.7 (Guide for Testing Medium-Voltage Metal-Enclosed Switchgear for Internal Arcing Faults) (attached) The ballot was successful. The WG met to resolve negatives and other comments. Draft 15 will be submitted for re-circulation ballot in December. It is expected that final approval will be received in March, 2001.
- C37.21 (Control Switchboards) (attached). A draft will be circulated to the subcommittee and to the IEEE editors in the next few weeks. A motion 1A will be requested at the main committee meeting on Thursday. Means to preserve the document history are being sought.
- C37.23 (Standard for Metal-Enclosed Bus and Guide for Calculating Losses in Isolated Phase Bus) (attached). The document should be ready for re-circulation ballot in the next few weeks. Several negatives were non-resolvable and letters will be addressed the persons responsible. A request for extension of the validity of the PAR will be submitted to Keith Gray.
- C37.24 (Guide for Evaluating the Effect of Solar Radiation on Outdoor Metal-Enclosed Switchgear) (attached). Draft 3 was reviewed along with comments received from the circulation to the Switchgear Assemblies subcommittee. Language to reflect the needs of C37.23 metal-enclosed bus has been incorporated. Any additional comments on this document should be forwarded to D. Gohil by November 1. Draft 4 will be ready for ballot in about six weeks. A motion 1A will be requested at the main committee meeting on Thursday.
- C37.100.1 (Common Clauses Working Group) (attached). PAR has been approved. A. Bosma discussed changes being discussed on IEC 60694. Task forces have provided input on their clauses, and will provide more background on deviations from IEC 60694, to facilitate subsequent review. It is expected that a document will be issued for ballot around the end of the year.

## **OLD BUSINESS**

- Locking Devices (padlocks and devices for multiple padlocks): We would like to be able to define minimum requirements for a proper locking device for use with switchgear assemblies (for any of the standards that refer to locking this could be an issue). Mr. Edwards has done some research for padlock standards, with little success to this time. He will continue to search for a recognized standard for padlocks, and identify construction characteristics of locking devices that could be referenced in C37 documents. Consideration also needs to be given to associated devices (e.g., padlock multipliers). Additional progress will be reported at the next meeting.
- Flame Test: We responded to an additional query from Mr. Lee concerning flame resistance tests. At this time, no further action is required.
- Contactors in MV Switchgear (a.k.a., C37.20.8): The WG on Contactors in LV Switchgear (C37.13.1) has been making progress. However, at this time, there is no known product which would fall under the C37.20.8 concept. Therefore, this topic is indefinitely tabled.
- Fixed-mounted circuit breakers in metal-enclosed switchgear, and fixed-mounted switches in metal-clad switchgear. There is concern about whether such applications should be covered by the basic document (i.e., C37.20.2 for metal-clad switchgear) or they should be treated as a completely different type of equipment. The discussion centered on the definition of metal-clad

switchgear (with drawout switching devices and with insulated conductors), and the use of fixed devices with bare conductors. The subcommittee decided (by show of hands) that a task force should study the need for a document for a "hybrid" type of switchgear incorporating devices which do not conform fully to the C37.20.2 or C37.20.3 requirements. The task force should report at the next meeting. Task force volunteers included E. Byron, D. Gohil, R. Puckett, A. Morgan, and M. Wactor.

## **NEW BUSINESS**

- C37.20.7 Arc Resistant equipment: The appears to be a need for an application guide for dealing with arcing faults, including the use of equipment tested to the requirements of the arc resistant testing document, and with means to mitigate the effects of arcing faults, and related issues. This could be a separate document from C37.20.7. D. Swindler volunteered to offer text dealing with this issue, which will be forwarded to the members of the C37.20.7 WG. The WG will recommend future action as appropriate.
- Future standards directions: The HVCB subcommittee held a discussion session to explore future directions as it relates to harmonization with IEC documents. It appears that harmonization has to start from the definitions and components levels. This would establish a basis for harmonization of switchgear assemblies. There is agreement that ANSI C37.20.1 and C37.20.2 assemblies differ significantly from their IEC counterparts, and therefore, complete acceptance of the IEC documents is not possible. Extensive "in-country clauses" would be necessary to adapt the IEC documents to our needs. There appears to be agreement that we have to have harmonized common clauses (C37.100.1) before we can make any significant process.
- Mr. Puckett raised a concern regarding use of vacuum circuit breakers in metal-clad switchgear with bare conductors on the bus. He feels that there is a need to require phase barriers and insulated runbacks (or stabs) on circuit breakers. Mr. Burse pointed out that medium voltage circuit breakers are under the HVCB subcommittee, not under the Switchgear Assemblies subcommittee.
- Switchgear Assemblies subcommittee document status summary was distributed and reviewed. This document lists all documents that this subcommittee sponsors or co-sponsors.
- Meeting Rooms- The working group chairs should advise Mr. Nelson of meeting room requirements for the Spring-2001 (Charleston) meetings by Nov. 1.
- Next Meetings:

May 20 – 24, 2001	Mills House, Charleston, SC
Sept. 30 – Oct. 4, 2001	Loews LeConcorde, Quebec City
Spring 2002	(tentative) Newport, RI

The meeting adjourned at 4:57 PM.

T. W. Olsen, Secretary