

Minutes of the IEEE SURGE PROTECTIVE DEVICES COMMITTEE

**September 29, 1999
 Costa Mesa, California**

The meeting was called to order at 4:15 pm by chairperson Gerald Lee.

1.0 **Introductions:** All in attendance were self-introduced. In attendance were:

Arnie Vitols	ABB	M		Bill Curry	Raychem	M
Bengt Johnnerfelt	ABB	M		Michael Champagne	Entergy	G
Dave Jackson	R.W. Beck	M		Joe Enk	ONEAC Corp.	G
David Hutchins	Protek Devices	G		Mike Binder	IEEE	G
Dennis Lenk	Ohio Brass Co	VChair		Naeem Ahmad	IEEE Standards	G
Don Worden	MGC Electronics, Inc	M		Jim Harrison	Consultant/Liebert	M
Franois Martzloff	NIST	M		William Goldbach	Innovative Technologies	G
Fred Basso	Basso Associates	G		George Mayle	Advanced Protection Technologies	G
Gerald Lee	BPA	Chair		Peter Respondeu	Dehn Inc.	G
H. Wolfgang Ortel	Joslyn Electronics	M		Carl Lindquist	San-O Industrial	G
Hans Steinhoff	Consultant	M		Frank Waterer	Schneider Electric	M
Jeff Williams	Duke Energy	M		Eva Tarasiewicz	Ontario Hydro Services Company	M
Jim Wilson	Ameren Services	M		Rao Tahllam	SRP	M
John Dupont	Cooper Power Systems	M		Richard Odenberg	Transtector	M
John Gauthier	NEMA	G		Steve Hensley	Joslyn Mfg. Co	M
John Posey	Consultant	M		Tom Hartman	Cooper Power Systems	G
Jon Woodworth	Cooper Power Systems	Sec		Tom Rozek	Detroit Edison	G
				Volker Hinrichson	Siemens	G
Marcel Fortin	Hydro Quebec Labs	G		Willy Kapp	Consultant	M
Mick Maytum	Power Innovations	M		Gary Goedde	Cooper Power Systems	M
Mike Comber	Hubbell Power Systems	M		Ken Nolan	Alabama Power	M
Phil Jones	ERICO	G		Steve Hensley	Joslyn Manufacturing	M
Ray Hill	NEETRAC	G		Larry Vogt	Florida Power and Light	G
M= Member	G=Guest			Paul Schaffer	Gulf Power	G

2.0 **Acceptance of St. Pete Beach Meeting Minutes:**

The minutes were accepted as with one minor editorial change made to section 2..

3.0 **Subcommittee Reports**

3.1a Membership: Mike Lat, Charlie Ballentine, Peter Dick, Brian Steinbrecher were removed from the mailing list and SPD committees due to inactivity.

3.1b Fellow Nominations: Dennis Lenk is the Chair of this Working group. He and Dave Jackson will meet that the spring meeting. One nomination is in the process.

3.1c Awards

Voting took place at the A&S meeting for Outstanding Technical Report, Outstanding Standard or Guide, Working group recognition, and Medallion Nominations. Awards will be given at the spring meeting.

3.1.1 Standards Coordinator -John Posey

See attachment 1

3.2 Bibliography -Rao Thallam
See attachment 2

3.3 High Voltage Surge Protective Devices — Steve Hensley
See attachment 3

3.6 Low Voltage Surge Protective Devices -Don Worden

See attachment 4

4.0 Special Activities -Dennis Lenk

At the Fall 1999 SPDC meeting luncheon, Frank Waterer made a presentation on SPDs in Ungrounded or High-Resistively Grounded Power Distribution Systems. Frank explained how SPDs may interact and become inoperative when connected to ungrounded or resistively grounded power systems. Actual case histories were presented.

Naem Amhad and Mike Binder of the IEEE staff made a presentation to both the high voltage and low voltage members explaining the new electronic balloting process. They also discussed the electronic PAR submittal process. Tom Hartman will work with Jodie Levine to try to add a "practice" electronic ballot on the SPDC website for members to examine.

At the next meeting several speakers will be present to discuss the 10X350 test currently in the low voltage IEC documents. There will also be presentations on distributed Resources Presentation would be made at the next meeting. The two potential Speakers are Philip Baker a Senior Staff Engineer from Power Technologies Inc. and Dr. Richard DeBlasia, Manager Advanced Systems Research at the National Energy Research Laboratory in Golden Colorado.

5.0 IEC Activities -J.L. Koepfinger
No Report

6.0 ASC C62 Activities -J.L. Koepfinger
No Report

7.0 Liaison Reports

See attachment 5 Consent Agenda Reports

Also Francois Martzloff reported on the activities of TC 31.

8.0 PES Technical Council Activities -G Lee

See attachment 6

9.0 PES Technical Sessions -D Lenk

The SPDC did not sponsor a paper session at the 1999 Summer Power Meeting in Edmonton.

The SPDC will co-host, with the T&D Subcommittee on Lightning Performance of Transmission Lines, a technical paper session at the 2000 WPM Meeting in Singapore. Six papers are currently scheduled for presentation.

A working group and subcommittee chair training session is being scheduled for the Spring 2000 meeting. This presentation will be hosted by John Posey.

As mentioned at the Spring 1999 SPDC meeting minutes, the SPDC has been requested by the IEEE PES to sponsor special paper or panel sessions on current topics of interest. These special sessions would normally occur at the PES Winter or Summer Power Meetings. Proceedings from these special conference sessions will be printed in Conference Proceedings which will be available at the conference. We are currently soliciting topics for the 2000 SPM in Seattle. To implement this, members are asked to input suggested topics of interest to Gerald Lee, Dennis Lenk, Jon Woodworth, or Gary Goedde.

10.0 Old Business

- a. **Operations Manual is being updated.** It will include the following new items 1. Technical Council Editorial Chair position, 2. Term limits for officers, 3. TC21, and Fellow Working Group addition.
- b. **IEEE Directed vote to ASC62.:** Some questions on this direction has been raised. It will be resolved by next meeting.

11.0 New Business

- a. **SPD Secretary:** Gary Goedde has accepted the position of SPDC secretary. His term will start January 1, 2000.
- b. **Historical Information Project.** A motion was made by Francois Martzloff and seconded by Dave Jackson that the A&S consider a project to gather information on arresters to be compiled in a book (electronic or otherwise) for future reference to SPDC members in the pursuit of standards writing. Passed.
- c. **Web Site Management:** All working groups are encouraged to submit agendas, minutes, membership lists, and pertinent documents to the web site administrator Tom Hartman for posting on the site. It was agreed that a system would be adopted that would make it easier to identify new postings.

12.0 SPDC Meeting Schedule -J Woodworth

	Spring Meeting	Fall Meeting
2000	May 15-19, The Tradewinds, St. Pete Beach Florida, (\$131 + tax)	October 2-6, Westin Cincinnati Cincinnati OH
2001	May 14-18, The Tradewinds, St. Pete Beach Florida, (\$131 + tax)	October 1-5 Niagara Falls, Ontario
2002	May 13-17, The Tradewinds, St. Pete Beach Florida, (\$131 + tax)	Sept 30- October 4, Open

The SPDC meeting was adjourned at 6:05pm

Jonathan J Woodworth
Secretary, SPDC

Attachment 1

IEEE STANDARDS COORDINATION ACTIVITY - J. B. Posey

This has been an active six months with several balloting groups formed, PARs approved, standards drafts balloted and new or revised standards approved by the Standards Board. The status of projects is shown by the attached STD_STAT file. Please identify any omissions.

The revision of C62.11-1999 has been published.

The Power Engineering Society Technical Council has surveyed industry to identify improvements needed in our standards activity. The results indicate high satisfaction with the technical content but disappointment in the time taken to develop new, or to revise standards. The delay costs industry additional travel time and expense for our volunteers, and brings the standard to market later than needed. The Technical Council asks that we develop a project management attitude toward our work using a Gantt chart, or similar, to establish timelines that working groups can monitor to create an awareness of the time needed to finish the work. PES is encouraged to complete the work without an extension in the life of a four- year PAR. A PAR extension request is the exception and not the norm.

The average PES standard takes over four years from PAR approval date to be balloted and approved. These long-term projects risk stagnation due to members retiring or changing employers, technology changing before work completion, changing working group chairmen, and eventual lack of enthusiasm by the working group. Use of e-mail to share drafts between meetings and web-based authoring tools should enable most standards to be easily completed in less than four years. Training sessions for working group chairmen, and SPDC members, will be directed toward this goal.

The Power Engineering Society has endorsed the concept of electronic balloting and soon some SPDC ballots will be in electronic format. Sponsors, like SPDC, decide if electronic or paper ballots will be used. The normal invitation to join a balloting group will indicate if an electronic ballot will be used. To vote electronically requires e-mail and web access capability. An e-mail notice that the ballot is available for voting will be sent to members of the balloting group. The draft will be posted in pdf requiring Adobe Acrobat Reader (free download available) to read. A ballot and page for any comments will be provided for your use. Look for this in year 2000.

Paper ballots will not be available for those ballots conducted electronically

Your working groups have now submitted PAR forms in both the text and HTML versions. These are now the only acceptable versions.

Only 5 instead of 20 hard copies of drafts are now needed for submittal to RevCom, together with the electronic file. Please send a sixth copy to me for our Committee files.

Please submit a draft to the IEEE Editor well before going to ballot, preferably as soon as the complete text is undergoing your final review. This will allow the balloted draft to be formatted in accordance with the IEEE Style Manual, and perhaps avoid a recirculation ballot due to editorial issues.

Attachment 2

Minutes of the Subcommittee 3.2 "Bibliography and Definitions"

The subcommittee 3.2 "Bibliography and Definitions" met on Monday, September 27, from 3:00 PM to 5:00 PM with five members and one guest.

Three documents were distributed: 1) IEEE SPDC "C62 Definitions" updated 6/28/99, 2) Comparison of IEEE SPDC and IEC Terms and Definitions 3) Draft IEC 60050-456 "Harmonization of terms and definitions in documents of TC37 and its subcommittees 37 A and 37 B.

Discussed possible methods to harmonize IEEE and IEC terms and definitions. Michael Maytum distributed latest version of IEC documents in which the terms are listed based on standards, or committee documents if standard is still in preparation. The work will be continued by correspondence by the subcommittee.

C62 Definitions id updated in June 99, and the updated version is on the web site. All working groups, please review the document and make sure to use the definitions preferred by the committee in the standards. Please also bring any corrections and additions to the subcommittee 3.2 chairman.

A proposal to prepare the history of the surge protection technology was discussed. This is left for guidance by the A&S subcommittee.

Respectfully submitted.

Rao Thallam
Chairman, Subcommittee 3.2

Attachment 3

Minutes of HVSPD Subcommittee Meeting
Costa Mesa, CA
Sept 29, 1999
S. Hensley, Chairman

Attendance at the meeting:

Members: M. Comber, J. DuPont, T. Hartman, S. Hensley, V. Hinrichsen, D. Jackson, B. Johnnerfelt, G. Lee, D. Lenk, K. Nolan, T. Rozek, E. Tarasiewicz, R. Thallam, A. Vitols, J. Williams, J. Wilson, J. Woodworth

Guests: Michael Champagne, Marcel Fortin, Paul Freeman, Ray Hill, Paul Schaffer, John Stein, Larry Vogt, Ron Wellman

1. Meeting called to order Wednesday 9-29-99 at 2:05
2. 17 members & 8 guests
3. Spring 1999 meeting minutes approved
4. Working group meetings were held for:
 - 3.3.11 continuous revision of C62.11 Tom Hartman
 - 3.3.13 High Voltage Characterization & Testing Ken Noland
 - 3.4.8 Protection & Insulation Coord. of Transformers Eva Tarasiewicz
 - 3.4.9 Surge Protection of AC Machines C62.21 Dave Jackson
 - 3.4.14 High Voltage Application Guide C62.22 Tom Rozek (acting)
 - 3.4.16 Separation Effects Jim Wilson
5. Key Points from review of working group minutes include:

3.3.11 - Standard PC62.11-1999 has been published. Tom Hartman will write a new PAR for the working group. This PAR will be posted at the 3.3.11 site.

Task Force #1 - Proposal of Energy Based Arrester Rating Standard - Chairman - Mike Comber
By the next meeting this TF will have a proposal for presentation.

Task Force #2 - Review of Insulation Withstand Tests - Chairman - Joe Osterhout

Joe presented a document showing his findings. Joe asked everyone to review these comparative tables and send comments back to Joe Osterhout by 11/30/99. Tom Hartman will post this information on the website.

Task Force #4 - Statement of Purpose for Each Design Test - Chairman - Jon Woodworth

This reason or explanation may be the preface in front of each test section as opposed to having a separate Section 6. Jon Woodworth will try and have this document posted by mid-January.

Task Force #5 - Creation of a "Hot" HTML Version of C62.11 - Chairwoman - Jody Levine

Jody Levine will bring a demonstration of a couple of paragraphs to the next working group meeting of how these hot links will work. It may also be posted on the Website before our next meeting.

3.3.13

Task Force #1 - Short Circuit Tests - Chair: Bengt Johnnerfelt A copy of the latest revision of the Short Circuit test proposed for the IEC was distributed for all the meeting attendees. Perhaps with some minor modifications it will be agreeable to the WG.

Task Force #2 - Energy Capability - Chair: Jeff Kester has left SPD. This Task Force will now be set aside until the activity of TF#1 of WG 3.3.11 is defined.

Task Force #3 - Transmission Line Arresters - Chair: Jeff Williams Energy considerations were left to the work of TF#1. Mechanical issues were considered since the last meeting. There appears to be no existing tests for vibration/fatigue test for insulators that would be available to use on arresters. If this test is not needed, the application guide would be the proper place for this warning about vibration to users.

Task Force #4 - Partial Discharge Proposal - Chair: Mike Comber This document Draft 4A was distributed and is the final work of Task Force #4.

Task Force #5 - Moisture Ingress - Chair: Ken Nolan The proposed test (Draft 2) is intended for polymer housed arresters. The chairman of the task force has asked for comment on this draft. The existing 8.8 test addresses porcelain housed arresters and this proposal will address polymer-housed arresters and will be added as an additional test. The length of the sample is questioned. Please send comment about the diameter and length relationships to Ken Nolan for consideration for the next draft version.

Task force #6 - Polymer Aging - Chair: Steve Hensley A comment was made that the Florida Cycle is not practical for testing higher voltage arresters whereas the ENEL cycle is better for full sample testing. The Florida cycle appears to have good field experience as to simulating field failures in the U.S. Wording to make all three cycles equivalent, changing U_c to MCOV, clarifying cycle counts (EPRI cycle), and paragraph numbering will be added by Steve Hensley.

3.4.8 The WG will submit a PAR to create a supplemental update for C62.22 including an insulation withstand curve for oil filled transformers.

- The group worked on the issued draft and will have a new revision Draft 5 out in 30 days.
- The WG will submit comments and have a Draft 6 by Spring 00.

3.4.9 C62.21 Guide for the Application of Surge Voltage Protection of AC Rotating Machinery 100 volts and Greater.

- Bibliography Relevant to Surge Voltage Protection of AC Rotating Machinery was submitted to IEEE for publication in PES Transactions on Power Delivery.
- W.G. reviewed PC62.21 draft 5. A draft 6 will be posted for Spring 2000.
- **The PAR expires March 2000 and pc62.21 will not be ready for ballot.**

3.4.14 C62.22 Guide for the Application of Metal-Oxide Surge Arresters for Alternating-Current Systems

- The group reviewed and discussed the progress of TF12 – TF42.
- The proposed timeline for the completion of C62.22-2002 was discussed. Milestones will be added for the various SPDC meeting dates.

3.4.16

- The WG considered the draft 5 of the revision to Annex C of C62.22 on Separation Effects. The Chairman will contact R. Hileman to discuss revisions made by the group and issue a revision 6.
- The goal of this WG is to complete their task by the Fall 2000 meeting.

3.5.1 Doug Dawson chairman. This WG did not meet. C62.92 PT. 1 & 2 are in ballot or are resolving ballots. The WG was requested to work on a bibliography paper.

11. New Business

Organizational

1. Ray Hill is now the Vice-Chairman of WG 3.3.13.

Membership - Approved subcommittee and working group membership requests:

1. 3.4.14 – Mike Champaign, Mike Comber, Paul Freeman, John Stein
2. 3.4.16 – Ron Wellman

A&S Issues

1. 3.4.9 needs guidance on how to proceed without a PAR.
2. 3.3.11 and 3.3.13 need definition of scope. TF's will move between WG's as scope is worked out in PAR for 3.3.11.
3. 3.3.11 – This WG will zero out membership and start anew with the new PAR

4. Meeting Time Requirements:

Tom Hartman	3.3.11	4 Hours
Ken Nolan	3.3.13	4 Hours
Eva Tarasiewicz	3.4.8	2 Hours (Mon. 3-5)
Dave Jackson	3.4.9	4 Hours (Mon. PM)
Tom Rozak	3.4.14	4 Hours (Wed. AM)
Jim Wilson	3.4.16	2 Hours (Mon.)

11. Adjournment: The meeting adjourned at 3:40 PM PDT

Attachment 4

IEEE LOW VOLTAGE SUBCOMMITTEE 3.6
MINUTES OF MEETING
SEPTEMBER 29, 1999 (3:00 PM to 4:00 PM)
WESTIN SOUTH COAST PLAZA HOTEL
COSTA MESA, CALIFORNIA

The Low Voltage Subcommittee 3.6 met for one hour on Wednesday, November 29, 1999. Twelve (12) members and twelve (12) guests attended.

Chair: Don Worden MCG Electronics
Secretary: Frank Waterer Schneider Electric

MEMBERS PRESENT

Bob Davidson	Underwriters Laboratories
Doug Dorr	EPRI-PEAC
Gary Goedde	Cooper Power Systems
Jim Harrison	Liebert
David Hutchins	PROTEK Devices
Willy Kapp	Retired
Francois Martzloff	NIST
Richard Odenberg	Transtector Systems
Wolfgang Oertel	Joslyn Electronic Systems
Hans Steinhoff	Joslyn Electronic Systems (Retired)

GUESTS

Fred Basso	DEHN, Inc.
Tom Conrad	LEA International
Bill Curry	Raychem
Joe Enk	ONEAC Corp.
James Funke	Cutler-Hammer
Bill Goldbach	Innovative Technology
Philip Jones	ERICO
Carl Lindquist	SAN-O-Industries
George Mayle	Advanced Protection Technology
P. Respondu	DEHN, Inc.
Perry Sloop	Underwriters Laboratories
Gerald Lee	Bonneville Power Administration

After the introduction of those in attendance, the minutes of the spring meeting in Florida were reviewed and approved with a correction showing that Richard Odenberg attended the meeting.

SUMMARY OF WORKING GROUP ACTIVITIES

Due to the shortened time allocation for the meeting, working group reports were curtailed. (They will be posted on the SPDC Web site.) The following is a summary of their activities:

WG 3.6.1 Low Voltage Gap Type Protective Devices (H.W. Oertel, Chair)

No meeting held. No time requested for spring 2000 meeting.

Note: This WG plans to prepare a PAR for revision of C62.31-(R1998).

WG 3.6.2 Low Voltage Solid State Protective Devices (R. Odenberg, Chair)

Met for 4 hours. 8 hours requested for spring 2000 meeting (4 hours on 2 days)

A PAR has been approved for revision of C62.35, IEEE Standard Test Specifications for Avalanche Junction Semiconductor Surge Protective Devices.

A reaffirmation ballot was approved for C62.33, Test Specifications for Varistor SPDs. The WG expects to resolve the 3 negative ballots by the end of 1999.

WG 3.6.3 Low Voltage Surge Protective Devices Application Guide (R. Davidson, Chair)

Met for 4 hours. No meeting time requested for spring 2000 meeting.

PC62.43, Guide for the Application of Surge Protectors Used in Low Voltage Data, Communications and Signaling Circuits, was approved by RevCom.

A ballot on PC62.42 D9, Draft Guide for the Application of Component SPDs for Use in Low Voltage (Equal to or Less Than 1000 Vrms or 1200 Vdc) Circuits, was returned with 82% affirmative. Responses will be sent to those who submitted comments and a revised draft will be prepared for recirculation.

WG 3.6.4 Surge Characterization on Low Voltage Circuits (H. Steinhoff, Chair)

Met for 12 hours. 8 hours requested for spring 2000 meeting (4 hours on 2 days)

The WG has had considerable and significant discussion of figures, waveforms and the location of the transition band between Location Categories "C" and "B".

Progress on the "Trilogy" continues at an expeditious pace.

C62.48-1995, Guide on Interactions Between Power System Disturbances and SPDs, will expire in 2000. The WG chair will poll the WG for a recommendation to reaffirm, revise or drop.

WG 3.6.6 Low Voltage AC Power Circuit Protective Devices (D. Dorr, Chair)

Met for 4 hours. 4 hours requested for spring 2000 meeting.

Progress was made on PC62.72 D5, Guide for the Application of Surge Protective Devices for Low Voltage AC Power Circuits. An extension of the PAR will be requested and work will continue via e-mail. This document will be posted on the IEEE Standards Development/SPD area of the Web.

WG 3.6.7 Low Voltage Data, Communications and Signaling Circuit SPDs (M. Parente, Chair)

Met for 1.5 hours. 4 hours requested for spring 2000 meeting

Revisions of PC62.36, Standard Test Methods for Surge Protectors Used in Low Voltage Data, Communications and Signaling Circuits, were completed by e-mail. The final Draft has been sent to the IEEE Standards Dept. for balloting.

New work will be to revise and update C62.43, the application guide companion for C62.36.

WG 3.6.8 Guide on ESD from Personnel and Mobile Furnishings (W. Boxleitner, Chair)
No meeting held. No time requested for spring 2000 meeting.

Mike Hopkins is providing coordination with the Relay Committee on PC37.90.3.

WG 3.6.9 Performance Standard for Low Voltage SPDs (G. Goeddy, Chair)
Met for 4 hours. 4 hours requested for spring 2000 meeting.

Work continues on PC62.44 D3, Guide for the Application of Low Voltage SPDs Used on Secondary Distribution Systems (Between the Transformer low Voltage Terminals and the Load Side of the Service Entrance Panel. E-mail submittals of homework are requested.

A new PAR will be submitted for updating C62.35-1996, Standard for Performance of Low Voltage SPDs (Secondary Arresters).

A task force composed of members from 3.6.6 and 3.6.9 submitted the following recommendation to the chair of 3.6.9: *The transition from Location Category C to Location Category B will start downstream of the Service Equipment (as defined by the NEC) and extend for some distance along the branch circuits.*

WG 3.6.10 Surge Protection of Equipment Connected to AC Power and Communication Circuits (Dr. R. Cohen, Chair)
Met for 4 hours. 4 hours requested for spring 2000 meeting.

This new WG will develop a guide for the application of SPDs for equipment connected to the low voltage ac power system and to communication circuits. A PAR is being prepared and the initial draft of the guide is targeted for May 2000.

OLD BUSINESS

1. The *IEEE PES Organization Manual & Committee Directory* is being updated. Members were asked to update their committee memberships, addresses, telephone and e-mail listings.
2. The SC3.6 chair discussed John Posey's paper titled *ORGANIZING THE WORKING GROUP PROCESS*. Copies have been distributed and warmly received by the SC 3.6 WG Chairs. Note: Additional guidance on working group administration can be found on pages 13 through 18 of the *IEEE Standards Companion*.
3. Prior to the meetings, the SC3.6 chair asked for suggestions regarding our definition of Surge Protective Device. The request was prompted by a review of our *C62 Series Definitions*. WG 3.6.6 responded that in PC62.72 they will define a surge protective device as: "An assembly of one or more components intended to limit or divert surges. The device contains at least one nonlinear component". The consensus of those attending WG 3.6.7 was to define SPD as: "An assembly of one or more components intended to limit voltage or divert surges through the use of at least one non-linear component".

4. Working groups are encouraged to search our *C62 Series definitions* and the IEC definitions prior to developing a new definition. We are discovering that harmonization between IEEE and IEC definitions requires considerable time and patience. Definitions imbedded in existing standards will not go away until the standard is retired.

NEW BUSINESS

- Benny Lee (World Products) has agreed to serve as the Category D Liaison between SPDC and IEC SC37B Working Groups 1 & 2. WG 1 deals with gas discharge tubes and MOVs. WG 2 deals with avalanche breakdown diodes and thyristor surge suppressors. The next meeting will be in Oslo, Norway approximately June 13 & 14, 2000.
- We have accepted an offer from Dr. Peter Hasse to make a presentation at our spring 2000 meeting regarding the origin, validity and relevance of the 10/350 μ s waveform. We intend to invite at least two other experts to speak on the same topic with particular emphasis on the waveforms and amplitudes of surges injected, coupled or induced into ac power circuits as the result of lightning. Specific questions for the speakers are invited. Dr. Hasse is an eminent representative of IEC TC81. This will provide an opportunity for both high and low voltage SPDC members to gain a better understanding and appreciation of the IEC 10/350 μ s waveform and the resulting influence on power systems.

NEXT MEETING

The next SPDC meeting will be held on May 15-19, 2000 at the Tradewinds Hotel in St. Petersburg Beach, Florida.

Attachment 5

Liaison Reports

7.1 ASC C84 Preferred Voltage Ratings for AC Systems and Equipment- D. Jackson

7.2 Insulation Coordination Projects IEEE 1312 & 1313 (C92.1 & 92.2)- A.R. Hileman

The Standards Board has approved the Insulation Coordination Guide, 1313.2. The guide will now be reviewed by the editors and is expected to be available by the end of the year.

7.3 USNC-IEC Advisory Group to SC28A OPEN No Report

7.4 Transformers Committee- Eva Tarasiewicz No Report

7.5 T&D Committee on Insulator Contamination - M. Comber

The Working Group met in July 1999, during the IEEE PES Summer Meeting in Edmonton, Alberta.

The task force working on development of a procedure for surface resistance measurements of polymer insulators has concluded its testing work and has prepared a paper for future publication. It has been proposed that surface resistance provides a better measure of contamination than ESDD for *non-ceramic* insulators. The paper is currently in the Working Group review/comment stage.

“Case Study” Reports

Much of the Working Group session is typically taken up by reports from members on field performance and laboratory investigations in areas related to contamination of insulators. At this WG meeting:

- A summary report was presented on system outages caused by “bird streamers” across insulators. Several US utilities have experienced such problems on lines and in substations. It was suggested that a panel session on bird/animal related outages be scheduled for the 2000 Summer Power Meeting.
- NGK reported results of studies performed with EPRI on contamination performance of polymer insulators with various shed profiles. Different test procedures were used, with significantly different results being obtained for the same ESDD (up to 2 to 1 difference in flashover voltage). Designs using alternating shed diameters performed better than uniform shed designs for the same total leakage distance and shed pitch.
- FP&L reported recent outage problems on 230kV lines 20 miles from the coast and near an open pit mine. Three lines sustained a total of nine outages, all due to flashover of porcelain insulator strings. Silicone rubber insulators installed in the same general location have suffered no flashovers in 10 years.

- PG&E reported that porcelain insulators on 500kV lines near Moss Landing have to be washed every 4-5 weeks to minimize contamination-related outages. Polymer insulators used at 230kV and 115kV in the same vicinity perform well with no need to wash.

7.6 T&D Committee WG on Lightning Performance of Distribution Lines - S. Brewer No Report

7.8 Substations Committee WG E-5 Direct Stroke Shielding of Substation- Open No Report

7.9 T&D Committee: DC & Flexible AC Transmission Subcommittee - Rao Thallam

The "DC & Flexible AC Transmission Subcommittee" meeting was held on Wednesday, July 21, 1999 from 9:00 AM - 12:00 Noon at the PES Summer Meeting in Edmonton, Alberta, Canada.

A panel session on "Y2K Concerns and HVDC" was held during the subcommittee meeting. Five speakers made presentation on Y2K preparedness for several HVDC converter stations and on general Y2K perspective on HVDC was discussed.

The 1999 Uno Lamm HVDC award was presented to Dr. Chandra Krishnaya. The new FACTS award instituted this year was presented to Dr. Laslo Guigi of Westinghouse.

Finally, a presentation on "AEP-EPRI Unified Power Flow Controller Performance" was made A.S. Mehraban of AEP. Unified Power Flow Controller is a power electronics based controller, a prototype unit is installed at an AEP substation.

7.10 T&D Committee Capacitor Subcommittee- open No Report

7.11 Substations Committee Gas Insulated Substations- G. Lee No Report

7.12 PSI&M Committee High Voltage Testing Techniques Subcommittee- D. Lenk

The HVTT Subcommittee was scheduled to meet in Toronto on April 29 and 30, but that meeting was postponed. The committee is reviewing the final draft of IEC270 , "Partial Discharge

Measurements". The committee is also in the process of performing a round robin test on impulse measurements. This will include both domestic and international laboratories. Gary Schneider is the HVTT contact person on this project. They are also pursuing the option of performing AC Round Robin tests. Jim McBride is the HVTT contact person on this project..

7.13 PES Awards Committee- R. Odenberg

7.13 PES Awards Committee:

The PES Awards committee met for approximately two hours in Edmonton, Canada. The following major issues were discussed:

- 1) The multitude of IEEE/PES Awards to be given.
 - a) Problem with filling out the paper work - Solution Set-up a task force to concentrate on the activity
 - b) Scheduling and Process to IEEE and TC. Odenberg to provide outline used by TC/SPDC to R.Dent.- Chairman
- 2) A detailed discussion of the administrative personal and contacts for processing the awards at PES and IEEE..

7.14 T.C. Technical Sessions Improvement Committee- D Lenk

Chairman: Bal Gupta

The Technical Session Improvement Committee met during the 1999 SPM in Edmonton. After again reviewing the pros and cons of upgrading to computerized presentation equipment for paper presentation, the committee has decided to continue to use the existing presentation equipment (eg, overhead and slide projectors) for future paper and panel sessions. Computerized equipment is still too expensive.

The chairman reported that the IEEE author's guide on the WEB has been upgraded to include information on slide formats as part of the presentation guide.

At the technical presentation sessions, the session chair, or his designated person, will grade the presentation. This information will be used to assist the presenter on how to improve future presentations.

The chairman reminded attendees that the author of a technical paper can request whether he prefers to make a presentation or have a poster session, but the committee will ultimately determine which type of presentation will be used. He noted that the author's preference will be considered.

7.15 IEEE/PES Publication Committee D Lenk

The Publication Committee met at the 1999 SPM in Edmonton. It was noted that, as of June 1, 1999, all IEEE Transactions papers must be submitted in electronic form.

The following summarizes the time tables for technical session proceedings papers and technical sessions.

Time table for Proceedings papers to be presented at:	WPM	SPM
• Authors submit abstracts to PES Executive Office	July 1	Dec 1
• Authors notified by PES Executive Office of Conditional acceptance (or rejection) based on a review of the abstract	Aug 15	Feb 1
• Authors submit completed Proceedings paper to PES Executive Office	Oct 1	Mar 15
• Authors notified of final acceptance or rejection based on a review of the final paper	Nov 12	Apr 27

Time table for Panel Session Presentations at:	WPM	SPM
• Summary of 2-6 page presentation submitted to Panel Session Chair (Panel Session Chair selected by TCPC, who is the Technical Committee Program Chair)	Sept 1	Mar 1
• Panelist notified by Panel session chair of acceptance (or required changes to the summary	Oct 1	Mar 15
• Panelist submits revised summary to Session Chair, if required change was requested	Nov 1	Apr 15
• Panel session Chair submits complete session information to TCPC and PES Executive Office	Nov 12	Apr 27

7.16 T.C. Organization and Procedures Committee- D. Lenk

Chairman: Bruce Wollenberg

The Organization and Procedures Committee met at the 1999 SPM in Edmonton. A majority of the meeting time was spent updating the "Technical Council Organization and Procedures Manual".

7.17 SCC 18 National Electric Code- C. Chrysanthou No Report

7.18 SCC 23 Dispersed Storage and Generation- Doug Dawson No Report

7.19 SCC 22 Power Quality- S. Whisenant

SCC-22 met during the PES Summer Meeting in Edmonton, Canada on July 21, 1999. Noted below is the status of significant projects:

	<u>Project</u>	<u>Status</u>
P1159	Monitoring Electric Power Quality	Document to be reaffirmed.
P1250	Distribution Voltage Quality	First draft expected by July, 1999.
P1159.1	Data Sampling	Draft expected 1/00
P1159.2	Event Characterization	Ballot Group forming.
P1159.3	Output Format	Using EPRI's PQDIF. Comments on draft until 9/30. Ballot Group forming.
P1433	Glossary of Power Quality Technology	Ballot Group forming.
P519A	Harmonic Applications Guide	Final draft posted to web for comments by 7/30/99. Ballot to start in October.

7.20 IEEE WG on Estimating Lightning Performance of Transmission Lines D Lenk

The IEEE Working Group on Estimating the Lightning Performance of Transmission Lines met at the 1999 SPM in Edmonton. Minutes from this meeting are not yet available.

7.21 USNC-IEC Technical Advisors Group TC 81 F Martzloff

Attachment 6

Technical Council Activities Report Gerald Lee

- **Management of Standards Production**

We need to improve in the time to produce standards from PAR approval to Standards Board action. The perception also exists that Standards Coordinating Committees can complete standards more rapidly.

1. Each of the Working Groups are to develop a Gantt Chart showing the schedule and current status for each standard that is currently under development.
2. PAR extensions are unacceptable for just not getting the job done. A schedule should be developed for each standard project and working group chairs may be replaced for non-performance.
3. Each Technical Committee is to pick one standard to expedite and strive to achieve approval in less than two to two and one half years. Report the selection back to Jones.

- **Summer 1999 – Edmonton**

Attendance for the Summer Meeting stood at approximately 1350.

- **Special Publication**

President Don Russell announced a special publication to be issued in the second quarter of the Year 2000. This publication will include the “best” PES or AIEE papers of the last one hundred years that have had a major impact on the profession. Nominations are requested within sixty days (during September) with supporting documentation to Don Russell.

- **Winter 2000 - Singapore**

600+ proceeding papers have been received for review to be included in the Winter 2000 meeting program. An advanced registration fee will be required of each author before their papers are accepted.

- **Summer 2000 – Seattle**

Anjan Bose was announced as the Technical Program Chair. Chair Jones reiterated that a written summary presentation must be provided by each panel member. If the presentation is not in hand at the time the program is printed, the presentation will not be included in the program. This summary should be provided to the TCPC.

- **Electronic Paper Submission**

The IEEE is going into electronic publishing in the Year 2000, PES will be on-board for that effort. Electronic review prior to publishing is a natural fit. IEEE is behind on their web-based review. PES will use an interim e-mail based system. This system will use a data base called Flight Deck, which is currently in place. The planned IEEE paper format will use many attached files. PES will follow this cumbersome method.

- **PDH Development Hours**

PDHs have been reinstated and forms are available for paper and poster sessions. The method utilized at the T&D Meeting in New Orleans was held up as a good example.

- **LCD Projectors**

LCD projectors will be available at the Singapore meeting. He will also propose to the Governing Board that these projectors should also be provided at future general meetings for each technical session (paper and panel).

- **IEEE-SA Strategic Initiatives**

IEEE-SA Strategic Initiatives includes globalization and outreach to the societies. Internalization is a better word for the direction of the IEEE-SA.

- **Technical Council Organization**

A Task Force headed by Stig Nillson will provide recommendations for organizational changes. The report is to be finalized by mid September and presented to the Technical Council for review.

- **Meeting Changes from Meeting Activities Committee**

A proposal of the Meeting Activities Committee described combining the general meetings, T&D meeting, PICA meeting, and ESMO meeting. Reasons for these changes included declining attendance, technical committees meeting at different times, a desire from exhibitors to increase "buyer" attendance at the T&D meetings, and overlapping of some meetings. T&D will be held ever two years in the fall starting in Atlanta. One idea is to combine T&D meetings with the general meeting when they occur together. Also to combine PICA meetings with a general meeting when they occur together.

- **PES Directory**

Deadline of October 1 to receive the updated information. Officer changes will be accepted up to November 15. Bruce Dietzman will receive the information this year.

- **Insulation Coordination Standards**

A motion carried to transfer standards 1312, 1313.1, and 1313.2 to the Surge Protective Devices.

- **Dispersed Generation**

Task Force SCC21 was formed to develop a Standard. P1547 was approved in March 1999 for SCC21 to sponsor the work group. Members of PES committees (official liaisons and individual members) can be part of the ballot group and the sponsor must make all attempts to resolve any negative ballots, irrespective of who cast the negative ballot. A proposed joint effort between NERC and IEEE with NERC working on reliability guides and IEEE develops industry standards.