



# **SURGE PROTECTIVE DEVICES COMMITTEE**

## **OPERATIONS MANUAL**

**IEEE POWER ENGINEERING SOCIETY**

Approved by :

Surge Protective Devices Committee  
Administrative and Standards Subcommittee

May 2000

**SURGE PROTECTIVE DEVICES COMMITTEE**  
**(SPDC)**  
**OPERATIONS MANUAL**

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## **FOREWORD AND SPDC ORGANIZATIONAL CHART**

This revision supersedes the Operations Manual dated December 1996.

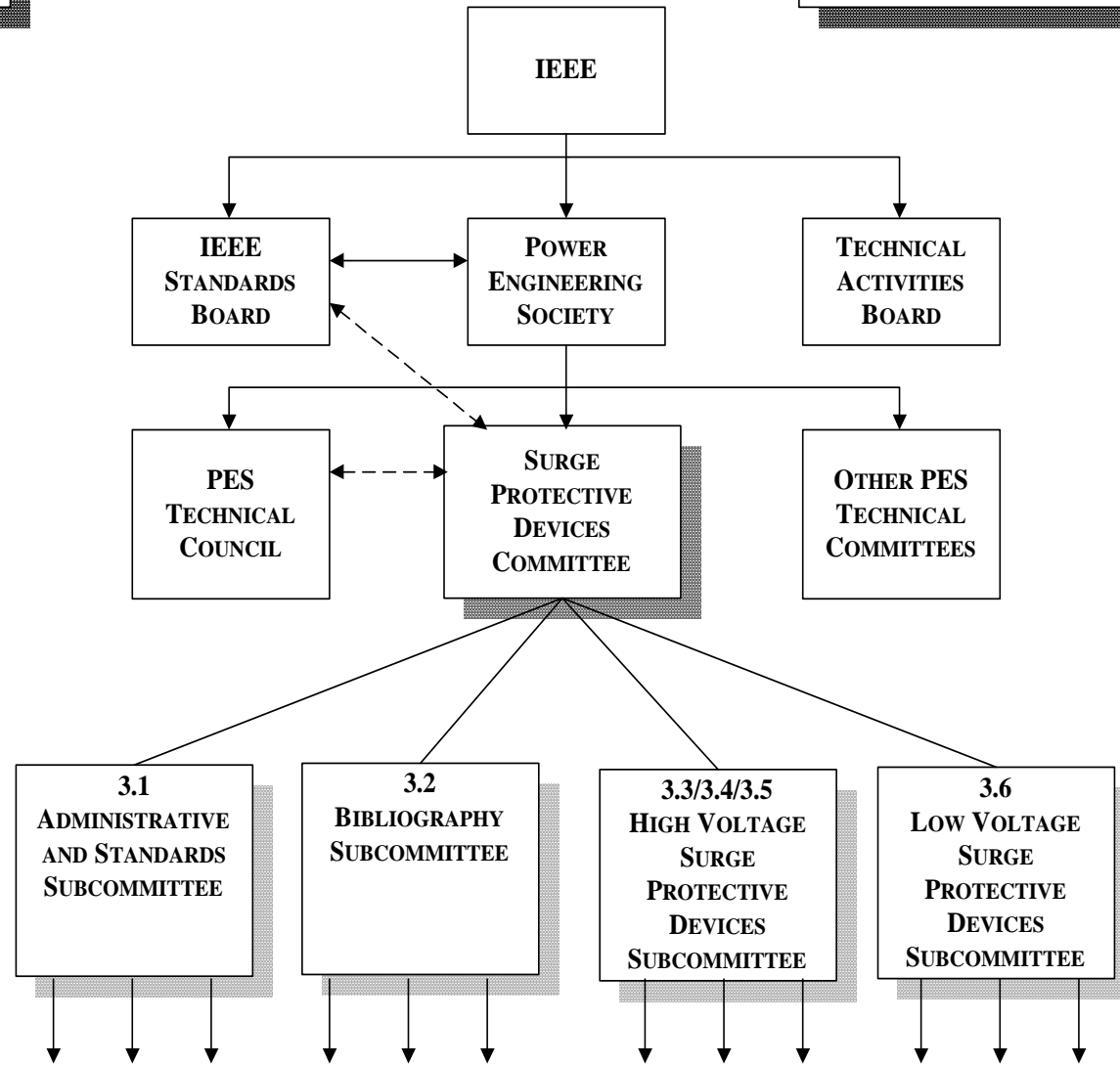
The purpose of the Operations Manual is to: 1) Identify the scopes of the Committee, Subcommittees, and Working Groups, 2) Provide a ready reference which identifies the duties of the officers, committee, subcommittees and working groups, and 3) Identify Committee Guidelines such as memberships, awards and balloting procedures. The Operations Manual Annexes provide the members with the scopes of active and dissolved Working Groups and a description of how the Accredited Standards Committee (ASC) C62 works.

The members can refer to the IEEE Power Engineering Society Organization Manual and Membership Directory, which is issued in the spring of each year, for the PES organization and Technical Committee (TC) memberships. Members can also refer to the SPD and IEEE Standards Web sites.

The Surge Protective Devices Committee (SPDC) technical relationship with the IEEE and internal structure is shown in Figure 1, the SPDC Organizational Chart.

**FIGURE 1**

**SURGE PROTECTIVE DEVICES COMMITTEE  
- ORGANIZATIONAL CHART & TECHNICAL  
RELATIONSHIP WITHIN THE IEEE**



**WORKING GROUPS AND  
COORDINATORS AS NEEDED**

## **1.0 SCOPES OF THE SURGE PROTECTIVE DEVICES COMMITTEE AND ITS SUBCOMMITTEES**

### **1.1 SURGE PROTECTIVE DEVICES COMMITTEE**

Treatment of all matters in which the dominant factors are the design, construction, testing, safety, preparation of standards and guides, selection, application and integration of protective devices with auxiliary systems and equipment (such as shield wires, lightning masts, etc.) designed to prevent damage and/or outages to electrical power generation, transmission, distribution, utilization and communication systems, and associated equipment due to transient overvoltages, transient currents, temporary overvoltages and temporary fault currents. Excluded are interrupting devices with and without current-limiting ability. Included is treatment of the following:

1. Over voltage surge protective devices (such as surge arresters, surge protection devices, protective gaps, and surge protective capacitors).
2. Neutral grounding devices (such as grounding reactors and grounding transformers - jointly with the Transformer Committee - resistors and combinations thereof).
3. Lightning and switching surge investigations jointly with the Transmission and Distribution Committee.
4. Promotion of studies, technical papers, and discussions on performance of devices, seeking new contributions on improved recommended practices, updating bibliographies, standards and guides.
5. Matters relating to surge protective devices specifically designed for application covered by other technical committees of IEEE (such as Power System Communication Committee) or societies (such as Industry Applications Society and Communications Society), may be treated jointly if emphasis is on the particular requirements of the application.

### **1.2 ADMINISTRATIVE AND STANDARDS SUBCOMMITTEE**

Plan and coordinate the activities of the main Committee and its Subcommittees and provide liaison with American National Standards Institute and other IEEE Committees. It will consist of the officers, Past Chair of the main Committee, Chairs of the Subcommittees, Chair of the IEEE delegations to appropriate Accredited Standards Committees, Standards Coordinator, and any other Committee members designated by the SPDC Chair.

### **1.3 BIBLIOGRAPHY AND DEFINITIONS SUBCOMMITTEE**

Preparation and distribution to the Committee membership of current references pertaining to the design, construction, testing, safety, selection and application of devices designed to prevent damage to electrical power generation, transmission, distribution, utilization, and communication systems, and associated equipment due to transient overvoltages, transient currents, temporary overvoltages and power frequency fault currents.

Review definitions developed within the SPDC and coordinate this activity with Standards Coordinating Committee 10 on Definition and Terms, and with the Dictionary Editor of the Standard's Office.

Membership shall consist of the appointed Chair, the Chair from each Subcommittee, Standards Coordinator and any others recommended by the Chair and approved by SPDC Chair.

#### **1.4 HIGH VOLTAGE SURGE PROTECTIVE DEVICES SUBCOMMITTEE**

Treatment of all matters in which the dominant factors are the design, construction, characteristics and application of devices to prevent damage to electrical power generation, transmission, distribution and utilization systems, rated at or above 1000 Volts AC or 1200 volts DC, due to transient overvoltages and temporary voltages. Included is treatment of all types and classes of surge arresters, protective gaps, surge protective capacitors, and lightning rods and masts. Also . included is the treatment of neutral grounding resistors, neutral reactors, and grounding transformers. Excluded the application of such devices to industrial and commercial power systems.

#### **1.5 LOW VOLTAGE SURGE PROTECTIVE DEVICES SUBCOMMITTEE**

Treatment of all matters in which the dominant factors are the design, construction, characteristics, preparation of standards, selection and application of surge protection devices designed to prevent damage to circuits and associated equipment rated at less than 1000 Volts AC or 1200 Volts DC, due to transient overvoltages and temporary overvoltages.

## **2.0 RESPONSIBILITIES OF OFFICERS AND MEMBERS**

### **2.1 DUTIES OF CHAIR**

The SPDC chair coordinates all committee and subcommittee activities; appoints subcommittee chairmen; recommends future SPDC chairman, vice chairman and secretary; approves subcommittee chairmen's recommendations of Working Group chairmen and handles all liaison activities to the Technical Council.

Responsibilities are not limited to but include the following:

1. Preside over SPDC meetings.
2. Serve as the Chair of Administrative and Standards (A&S) Subcommittee.
3. Serve as ex officio member of all other Subcommittees.
4. Appoint the Subcommittee Chairs, Standards Coordinator and notify the Technical Council (TC) Chair.
5. Approve the Subcommittee Chair's recommendation for Secretary of Subcommittees.
6. Approve the Subcommittee Chair's recommendations for Working Group Chairs.
7. Approve Subcommittee Chair's recommendations for membership to the SPDC.
8. Assist the Secretary of SPDC in preparation of agenda for Committee meetings.
9. Represent the SPDC at the IEEE/PES Technical Council meetings.
10. Maintain Liaison with the Chair of IEEE SPDC Delegation to the Accredited Standards C62 Committee, and inform the delegation of the results of SPDC balloting. This duty may be delegated to the Committee's Standard Coordinator.
11. Nominate the IEEE SPDC delegates to Accredited Standards Committees for IEEE Standards Coordinating Committee and appointment by the Standards Board.
12. Appoint Liaison Representatives to other Committees as requested.
13. Determine that all committee and subcommittee members are members of the IEEE Power Engineering Society.
14. Advance the interest of the Power Engineering Society and the IEEE.
15. Approve the appointment of new SPDC members and inform the TC Chair.
16. Recommend with the concurrence of the immediate Past Chair the future SPDC Chair, Vice-Chair, and Secretary, and obtain the TC Chair's approval.

17. Retain pertinent correspondence during the term of office and transfer same to the successor.
18. Serve as expert advisor to the US Member of CIGRE Study Committee 33.
19. Serve as alternate for the immediate past SPDC Chair on the PES Awards Committee. The alternate will only vote, as directed by the immediate Past Chair, if the Past Chair cannot be present at the meeting.
20. Serve, in the event that the Secretary is incapacitated, as the Treasurer of SPDC funds. Deposit funds time to time into a checking account set up on behalf and in the name of SPDC with the signatures of the SPDC Chair and Secretary; draft checks for expenses of the Committee. No bond is required.
21. Provide Liaison Representatives and SPDC Coordinators, on IEEE Standards Projects, with voting instructions whenever less than four weeks remain on a ballot prior to closing.
22. Provide IEEE's recommendation to the U.S. National Committee on TC 37, SC 37A, and SC 37B, when requested by the U.S. TAG for these IEC entities.
23. Appoints an ad hoc committee to review appeals to technical or procedural issues for IEEE Standards developed by or in corporation with other standard developers.

## 2.2 DUTIES OF VICE-CHAIR

The Vice-Chair of SPDC will fulfill duties of Chair in case of his or her absence at SPD and A&S Subcommittee meetings. The Vice Chair shall assume the position of Chair in the event of resignation or termination of the Chair for the balance of the term. Technical Council must approve the elevation to the Chair. The Vice-Chair duties include:

1. Serve as member of the A&S Subcommittee.
2. Serve as representative of the SPDC on Technical Program Committees for all general and special IEEE meetings and SPDC forums and:
  - a. Serve as SPDC Technical Committee Program Chair at PES General meetings and Conferences.
  - b. Conduct reviews of conference papers and approve for presentation and publications.
  - c. Solicit discussions for technical paper presentations by distribution of paper "pre-prints" to possible discussors.
  - d. Secure committee approval for presentation and publication of Subcommittee and Working Group reports as SPDC endorsed technical documents.
3. Coordinate arrangements for presentations on technical sessions for accepted conference or proceeding papers with IEEE Headquarters, conference chairs, and the PES Technical Council Chair with consideration of paper limits set by the PES Technical Council.
4. Promote and Organize:
  - a. Educational programs within SPDC and coordinate these with all Subcommittee Chairs.
  - b. Special events sessions to be held in conjunction with SPDC meetings.
5. Promote membership recognition and awards - such as Fellow, Habirshaw, prize papers, etc., and:
  - a. Serve as member of Working Group 3.1.2 on "Awards."
6. Retain pertinent correspondence during the term of office and transfer same to his or her successor, including paper reviews for a minimum of two years after the conference at which papers were submitted.
7. Serve as SPDC member on the following PES Committees:
  - a. Technical Council Publications
  - b. Organization and Procedures
  - c. Technical Sessions Improvement
  - d. Public Affairs Council

## 2.3 DUTIES OF SECRETARY

The Secretary is responsible for planning and arranging meetings; creating and maintaining records and serving as treasurer of the committee. Duties include:

1. Hotel and meeting arrangements.
  - a. Arrange meetings of SPDC including scheduling of working group, subcommittee, and Committee meeting.
  - b. Select and contract with hotels on locations for future meetings on a biannual basis: April - May for Spring meeting and September - October for fall meeting.
2. Record and mail draft minutes of SPDC meetings including subcommittee and working group reports to all members, interested parties and chairpersons of all PES Technical Committees within two months after meeting.
3. Retain complete copies of approved minutes of all previous SPDC meetings during the term of office and transfer same to successor. A period of ten years is considered appropriate for retention of these minutes.
4. Maintain up-to-date mailing, fax, E-Mail and telephone list of Committee, subcommittees, working groups, honorary members and liaison representative. Also include within the list the "interested parties", i.e., those who have indicated an interest in the committee's activities, purging the list of interested parties who have not participated or renewed interest over the duration of two subsequent meetings. Submit membership lists annually to the IEEE Headquarters for updates to the PES Organization and Committee Directory.
5. Record attendance at meetings and summarize them to the SPDC Chair.
6. Mail meeting notice, hotel reservation forms, and agenda of SPDC meetings.
7. Arrange for hospitality suite and refreshments.
8. Collect and record meeting registration fees from attendees.
9. Maintain historical listing of previous Committee meeting locations.
10. Advise local IEEE Sections and PES Chapters of pending SPDC meeting.
11. Transmit SPDC meeting minutes to chairmen of other standing committees of the Technical Council and the Technical Council Chairperson as requested.
12. Serve as Secretary of the A&S Subcommittee. Prepare and transmit draft meeting minutes including committee financial reports to A&S Subcommittee members within four weeks of a meeting.
13. Periodically update the SPDC Operations Manual following the A&S Subcommittee review. Maintain copies for distribution to new members, and supply all members with revisions.

14. Maintain a historical mailing list of questionnaires and surveys, and the responses as submitted to the chair of the subcommittee by the working group.
15. Provide a short summary of main events taking place at the SPDC meeting to the Editor of the Power Engineering Review magazine.
16. Retain pertinent correspondence during the term of office and transfer same file to successor. A period of ten years will be considered reasonable for keeping these correspondence copies.
17. Serve as member of Working Group 3.1.2, "Awards".
18. Serve as Treasurer of SPDC funds. Deposit funds into a checking account set up on behalf and in the name of SPDC with the signatures of the SPDC Chair and Secretary. Draft checks for expenses of the Committee. Prepare periodic accountings including semiannual financial status statements for each A&S Subcommittee meeting and income/expense statements subsequent to each SPDC meeting. No bond is required.
19. Prepare and transmit a listing of future meeting locations to the Editor of the Power Engineering Review magazine and the Technical Council Chair.
20. Maintain meeting arrangements/financial records for a minimum period of ten years.
21. Coordinates meeting arrangements with Secretary of ASC C62.

## **2.4 DUTIES OF IMMEDIATE PAST CHAIR**

The immediate past chair serves as a member of A&S Subcommittee, assists current chair and coordinates all awards selections and nominations for the Committee. Duties include:

1. Serve as member of A&S Subcommittee.
2. Serve as SPDC Chair of Working Group 3.1.2 on "Awards". (The members of Working Group 3.1.2 are the Chairs of all Subcommittees).
3. Serve in an advisory capacity to the SPDC Chair.
4. Assist the Chair of SPDC in the recommendation of future officers.
5. Assist the A&S Subcommittee in the nomination of candidates for the following Technical Council awards:
  - a. Outstanding SPDC technical papers (SPDC Prize Paper).
  - b. Outstanding individual service to SPDC (SPDC Distinguished Service Award).
  - c. Outstanding SPDC Working Group (WG Recognition Award).
6. Assist the A&S Subcommittee in the nomination of candidates for IEEE Standards Medallions and other IEEE awards.
7. Request PES "Certificates of Appreciation" for SPDC members as endorsed by A&S Subcommittee.
8. Responsible for sending to the PES Awards Committee Chair a high interest paper to published in the Power Engineering Review.
9. Serve as SPDC member on the IEEE Power Engineering Society Awards Committee. Review and grade all Technical Council Committee papers nominated by their respective Committees for the PES Prize Paper Award and PES Working Group Technical Report and Standard or Guide Awards.

## 2.5 DUTIES OF STANDARDS COORDINATOR

The Standards Coordinator plans and coordinates all Standard activities within SPDC. Duties include:

1. Communicate within SPDC the proper procedures to be observed in the development, revision, or reaffirmation of IEEE Standards.
2. Serve as SPDC member on the IEEE PES Standards Coordinating Committee (SCC).
3. Send copies of all SPDC Standard Project Authorization Requests (PAR's) to all members of the SCC for coordination review and then to NesCom of the IEEE-SA Standards Board
4. Review copies of all PAR'S received from other PES Committee's and respond promptly (no more than 30 calendar days) to the originating Standards Coordinator indicating possible interest in coordination with the SPDC. Appoint the SPDC Coordinator when coordination is desired.
5. Notify the respective Standards Coordinator of changes in personnel designated as liaison representative by SPDC.
6. In accordance with the schedule issued by the Chairperson of SCC, prepare an article for the "PES Review" summarizing the standards activity of SPDC.
7. Provide, as requested by the Vice-Chairperson of SCC, information on representatives and liaison members to outside standards organization for SPDC.
8. Establish balanced balloting groups for active document upon request of the Subcommittee Chair.
9. Conduct letter ballots on new, reaffirmed or revised IEEE Standards to these balloting groups' in accordance with IEEE-SA Standards Board Operations Manual. The files and results of letter ballots shall be retained until such time that Standards appears in published form.
10. Submit results of successful ballots with 5 copies of draft and electronic media to RevCom of the IEEE-SA Standards Board.
11. Serve as a member of Working Group 3.1.2 "Awards" and Subcommittee 3.2 "Bibliography."
12. When assigned by the Chair of the Surge Protective Devices Committee the Standards Coordinator will provide guidance to the IEEE delegation to ASC C62.

## **2.6 DUTIES OF SUBCOMMITTEE CHAIR**

The Subcommittee Chair plans and coordinates the Subcommittee activities and appoints Subcommittee membership; establishes scopes, coordinates the activities, and approves membership of the Working Groups within the Subcommittee; manages the development of SPDC Standards within the working groups by reviewing the progress of development of drafts, timeliness of submittal of Working Group Reports and performance of Working Group Chairman; acts as a liaison to the SPD Committee, Administrative & Standards and Bibliography Subcommittees; and, serves as an ex officio member of the Working Groups within the Subcommittee. Duties include:

1. Preside over Subcommittee meetings.
2. Prepare and mail agenda of scheduled Subcommittee meetings.
3. Appoint the membership of the Subcommittee with the approval of the SPDC Chair.
4. Review the availability of the members to serve during the following year and confirm, in writing, the Subcommittee membership to the SPDC Chair and Secretary when requested.
5. Survey that the members of the Subcommittee are members of the IEEE Power Engineering Society and report the results to the A&S Subcommittee at the fall meeting.
6. Nominate a Chair for each Working Group for the approval of the SPDC Chair.
7. Approve candidates for membership in Working Groups as nominated by Working Group Chair.
8. Represent the SPDC in activities designated by the Chair of the SPDC.
9. Serve as member of the A&S Subcommittee.
10. Serve as member of Working Group 3.1.2 on "Awards".
11. Establish scopes of Working Groups, subject to the approval of Subcommittee and the A&S Subcommittee.
12. Dissolve Working Groups, subject to the approval of the Subcommittee and A&S Subcommittee.
13. Approve and submit to the SPDC Vice-Chair, Working Group reports of proposed Guides and Standards for him to secure SPDC approval.
14. Submit drafts of Standards and Guides, including electronic media, to the SPDC Standards Coordinator for SPDC balloting.
15. Appoint, if desired, with the SPDC Chair's approval, a Recording Secretary.
16. Make certain that the SPDC Secretary receives the minutes of a Subcommittee meeting within two weeks after a SPDC meeting.

17. Retain pertinent correspondence during the term of office and transfer same to his or her successor.
18. Serve as ex officio member for all Working Groups within the scope of the Subcommittee.
19. Request approval from the SPDC Chair for questionnaires sent outside the Committee.
20. Serve as a member of the Bibliography Subcommittee.

## **2.7 DUTIES OF SUBCOMMITTEE SECRETARY**

The Subcommittee Secretary is to assist the Subcommittee Chair and report on activities of Subcommittee. Duties include:

1. Preside over Subcommittee meetings in absence of Subcommittee Chair.
2. Record attendance and minutes of Subcommittee meetings.
3. Provide the Subcommittee Chair and the SPDC Secretary with the minutes and attendance of a Subcommittee meeting within two weeks after the meeting.
4. Assist Subcommittee Chair in such duties as he may request.

## **2.8 DUTIES OF COMMITTEE AND SUBCOMMITTEE MEMBERS**

Committee and Subcommittee membership is by nomination and approved by the Administration and Standards Subcommittee. Responsibilities include:

1. Member in good standing of the Power Engineering Society is required with the exceptions indicated in Sections 7.5-7.7 of the Technical Council Organization and Procedure Manual. (See Annex 4.0)
2. Attend meetings at least once each year.
3. SPDC members are expected to be active members on a Subcommittee.
4. Subcommittee members are expected to join at least one Working Group and actively participate in its activities.
5. Members are advised not to attempt to serve on more than one Subcommittee with the exception of the A&S Subcommittee and the Bibliography Subcommittee.
6. Respond to letter ballots, inquires, etc., within the specified time. Continued lack of response shall be cause for loss of membership.
7. Review and rate with warranted comments proposed technical papers for publication and/or presentation as requested.
8. Review and submit warranted constructive revisions of proposed or revised Standards and/or Application Guides as requested.
9. Activate and promote advances and understanding in the field of surge protection of electric power systems and equipment.
10. Communicate pertinent new or significant information to the membership.

## **2.9 DUTIES OF WORKING GROUP CHAIR**

Plan and coordinate Working Group activities and recommends Working Group membership; prepare and submits Standards, Guides, reports and questionnaires to the Subcommittee Chair; and, with the approval of the Subcommittee Chair, prepare and submit Standards Project Authorization Requests (PARs) to the SPDC Standards Coordinator.

1. Preside over Working Group meetings.
2. Appoint and control membership within guidelines approved by the Subcommittee Chair. (Members of a Working Group are not necessarily members of a technical organization but have expertise on the subject.)
3. Schedule Working Group meetings.
4. Submit an oral and written progress report to the Subcommittee Chair at each scheduled Subcommittee meeting.
5. Prepare and submit final Working Group reports to the Subcommittee Chair in accordance with the Author's Guide - except for official paper dimensions unless report is to be available for presentation at a technical session.
6. Recommend to the Subcommittee Chair the disposition of a Working Group following completion of its scope.
7. Obtain Subcommittee Chair's approval for questionnaires outside the Working Group.
8. Retain pertinent correspondence until the scope of the project has been fully completed and documented.
9. Submit drafts of Standards and Guides, including electronic media, to the Subcommittee Chair.
10. Appoint, with the approval of the Subcommittee Chair, a Vice-Chair/Secretary whose primary duty will be to assist Chair and perform the duties of the Chair in his or her absence.
11. Provide 5 copies of Draft Standards with electronic media to the Standards Coordinator after a ballot is successful.
12. Before beginning work on a project perform a literature search to determine if an International Standards body such as the IEC has related work in progress or has completed the project.
13. Be a member of IEEE-SA if the Working Group develops new or revised Standards or Guides or Recommended Practices.

## **2.10 WORKING GROUP MEMBERSHIP GUIDELINES**

Working Group (WG) Membership is by nomination of the WG Chair with the approval of the Subcommittee (SC) Chair following the second WG meeting which is attended or by meeting the requirements of No. 3 below. If these requirements are not met the WG Chair can, with the SC Chair approval, remove or downgrade an individuals WG membership to Interested Party. WG membership requirements include:

1. Attend meetings at least once per 18 months (when scheduled).
2. Respond to all paper reviews and inquiries within the specified time.
3. Continually participate in WG activities such as reviews, discussions, and written assignments related to the development of Standards or Guides.
4. Active participation is a requirement for continued membership.
5. Communicate pertinent new or significant information to the membership of the WG.

## **2.11 DUTIES OF SPDC LIAISONS/COORDINATORS**

Liaisons and Coordinators represent the SPDC in matters as assigned. Liaisons are appointed by A&S Subcommittee, and Coordinators are appointed by SPDC Standards Coordinator. Duties include:

1. Inform SPDC membership by reporting on coordination activities during the spring and fall meetings.
2. Recommend the response to draft standards, reports, and other information requested by the organization, committee, subcommittee, or working group for which SPDC coordination has been established. Where appropriate to the work of a subcommittee, the Liaison shall seek the advice of the Subcommittee Chair. A copy of the response shall be sent to the SPDC Chair, Vice-Chair, Standards Coordinator and the appropriate Subcommittee Chair.
3. Prepare ballot responses for draft standards, reports, etc., and obtain A&S Subcommittee approval. Ballot responses shall be coordinated through the SPDC Standards Coordinator. Where time constraint does not permit such coordination (four weeks minimum), the approval of the SPDC Chair is required. A copy of the response shall be sent to the SPDC Chair, Standards Coordinator, Vice-Chair and appropriate Subcommittee Chair.

## **2.12 DUTIES OF SPDC WEB Site Administrator**

This person is responsible for the administration of the SPDC Web Site. Other responsibilities of this position are as follows:

1. Inform A&S membership by reporting on site activities between the meetings.
2. Is a member of the A&S
3. Maintain Site Protocol
4. Insure that the Site follows IEEE standards

### **2.13 Duties of SPDC Associate Editor of the IEEE PES Transactions on Power Delivery**

The Editor-In-Chief of the PES Transactions on Power Delivery is responsible for obtaining peer reviews on all technical papers submitted for publication in the PES Transactions on Power Delivery. To assist the Editor-In-Chief, each PES technical committee will have an Associate Editor whose primary responsibility is to obtain peer reviews on technical papers sent to him by the Editor-In-Chief.

The SPDC Associate Editor is appointed by the Editor-In-Chief, typically after consultation with and with the recommendation of the SPDC Chair. The expected term of the Associate Editor is 4 years, and with option (as approved by the SPDC chair) for an additional 2 year term.

## **2.14 Duties of the Technical Committee Program Chair (TCPC)**

Each Technical Committee Program Chair shall be a member in good standing of one of the technical committees. The appointment of the Technical Committee Program Chairs for each technical committee will be via nomination by the Technical Committee Chairman, with approval by the Technical Council Program Committee Chair.

### **Term**

Each Technical Committee Program Chair shall be appointed for one general meeting or T&D Conference and Exposition meeting. The same person may be appointed again only such that they do not serve for two consecutive general meetings and not so designated for a general meeting immediately proceeding or following a T&D meeting for which they are so appointed. The Technical Council Technical Sessions Committee Chair has the authority to remove a person from Technical Committee Program Chair duties for inadequate performance. A replacement Technical Committee Program Chair can be selected by the Technical Council Technical Sessions Committee Chair, or a suggested replacement may be nominated by the involved technical committee.

### **Duties**

The Technical Committee Program Chairs Shall:

- a. Work with the general meeting Technical Sessions Committee Chair to determine preferred subjects or "tracks" for upcoming meetings.
- b. The primary task of the TCPC is the review and scheduling of Proceedings Papers and Panel Sessions. The TCPC reviews Proceedings Paper Abstracts that have been submitted for the meeting and approves or disapproves the proposed paper. The TCPC has no duties regarding review or approval of Transactions Papers. However, duties do include scheduling Transactions Papers into general meeting technical sessions. It is preferable that the TCPC not be a member of the Transactions Editorial Board.
- c. Review submitted panel session and special educational session summaries for adequate presentation of the ideas and concepts being presented in the session.

## **2.15 Fellow Nomination Working Group Chair**

The chair of this WG is the SPDC member most recently appointed Fellow. The chair shall meet when appropriate and nominate fellow as possible.

## **3.0 GUIDELINES OF THE SURGE PROTECTIVE DEVICES COMMITTEE**

### **3.1 MEMBERSHIP**

1. Member in good standing of the Power Engineering Society is required with the exceptions indicated in Sections 7.5-7.7 of the Technical Council Organization and Procedure Manual. (See Annex 4.0)
2. Main Committee membership is controlled to attain proper balance between users, producers and general interest groups.
3. Membership in the Subcommittees and the Main Committee is based on the individual's participation at the working group level. Eligibility for Subcommittee membership normally follows a minimum of one year active participation at the working group level. Eligibility for consideration for membership in the Main Committee follows a minimum of one year active participation at the Subcommittee level.
4. The A&S Committee, at its sole discretion, may offer an individual membership to a Subcommittee or the Main Committee by waiving the requirement of serving on working groups.
5. All committee and working group members shall have email access and be able to decode attachments to emails as might be sent them from the chairs. In addition, each member of any working group or committee shall have access to the internet (www) and be able to download documents from designated web pages.

### **3.2 TERM OF OFFICE**

1. The term of office for membership on SPDC and subcommittees shall be one year with reappointment unless otherwise recommended by the SPDC Chair.
2. The term of office for committee officers, the subcommittee chairs and working group chairs shall be two years with reappointment unless otherwise approved by the A&S..
3. Exceptions to 3.2 -2 pertain to the Standards Coordinator and PES Editorial Board Member from the SPDC which are both 4 years.

### **3.3 HONORARY MEMBERSHIP**

The A&S Subcommittee may approve the classification of Honorary Membership for those SPDC members who desire to continue their interest in the working of SPDC after they retire. The criteria for Honorary Membership are as follows:

1. Retirement from principal business association.
2. Individual does not have to retain his or her IEEE membership after retiring from principal business.
3. The honorary member has no SPDC voting rights.
4. The honorary member may review and comment on the document in his or her area of expertise.
5. The honorary member must keep the SPDC Secretary informed of his or her current address.
6. The honorary member shall be retained on the SPDC mailing list. The SPDC Secretary shall annually inquire if the honorary member wishes to continue participation.

7. The honorary member is not required to pay SPDC meeting registration fees

### **3.4 CORRESPONDING MEMBERSHIP**

Corresponding Working Group Members:

1. Will be appointed by the Working Group Chair with the approval of the Subcommittee Chairman. The Working Group Chair should identify the reasons(s) why the working group member is requesting correspondence status (corresponding status is limited to the working group level).
2. Must express and demonstrate their willingness to comment on and contribute to those documents developed by working groups to which they are assigned within established deadlines.
3. Are accorded the full responsibility of working group membership and will receive working group meeting minutes.
4. Will conduct all business and correspondence in English.

### **3.5 SPDC/PES/IEEE AWARDS**

Nominations for the following awards are to be coordinated by the SPDC Awards Working Group Chair. All nominations and selections will be approved by the A&S Subcommittee.

1. SPDC Award: Nominate and select recipients for:
  - a. SPDC Prize Paper: Due Nov. 1 to TC Awards Chair
  - b. Working Group Recognition: Due Nov. 1 to TC Awards Chair
  - c. Distinguished Service Award: Due Nov. 1 to TC Awards Chair
  - d. IEEE Standards Medallions & Submit to IEEE Standards Office
2. The A&S Subcommittee will select the person eligible for the Distinguished Service Award based on the following guidelines:
  - a. Eligible person may be nominated by any member of the A&S Subcommittee. The Subcommittee will select one nominee for the award in the Spring of each year.
  - b. Nominees will remain on the ballot for six years. At the discretion of the A&S Subcommittee, an individual may be re-nominated for an additional six year period. In the case of death, the name of the deceased shall be removed from the nominee list.
  - c. A nominee who is a member of A&S Subcommittee must abstain from voting in the award selection.
  - d. The list of names considered and nominated shall be kept by the past SPDC Chair with a copy to the SPDC Chair.
3. PES Awards - Select a nomination for:
  - a. PES Prize Paper: Due Oct. 25 to PES Awards Chair
  - b. PES Working Group Recognition, standard or guide: Due Oct. 25 to PES Awards Chair

- c. PES Working Group Recognition, technical report: Due Oct. 25 to PES Awards Chair
- d. PES Distribution Engineering Award, as appropriate

The PES award nominees for 2a, 2b, and 2c may also be those persons selected under 1a and 1b, Section E. A technical paper, standard, guide, or report may be nominated for the PES award for three consecutive years.

- 4. IEEE Awards: As appropriate, select a paper nomination for each of the following awards, and submit to PES Awards Committee Chair:
  - a. W.R.G. Baker Award: Due Apr. 1
  - b. Donald G. Fink Award: Due Apr. 1
  - c. Browder J. Thompson Award: Due Apr. 1
  - d. Alfred Knoble Intersociety Award: Due Oct. 25
- 5. Foster nomination for the Steinmetz Award in cooperation with the IEEE Standards Board.
- 6. PES Review, "High Interest" Paper: In addition to the nominated PES prize paper, each technical committee is encouraged to select a "High Interest" paper to be published in the PES Review - submit to TC Awards Chair by Oct. 25.

### **3.6 SPDC APPROVALS**

- 1. The A&S Subcommittee or the Chair of the Committee must approve all papers, letters, newspaper, or magazine articles or proposed surge protection programs under the name of IEEE SPDC.
- 2. Also, approval is required for signatures to articles or statements which are written as if they were a reflected position of the committee.

### **3.7 BALLOTING PROCEDURE**

Standards development follows the procedures of the Power Engineering Society Technical Council Organization and Procedures Manual.

### **3.8 APPEAL PROCEDURE**

Standards development follows the procedures of the Power Engineering Society Technical Council Organization and Procedures Manual.

### **3.9 REAFFIRMATION**

Standards development follows the procedures of the Power engineering Society Technical Council Organization and Procedures Manual.

### **3.10 RESPONSE TO IEC DOCUMENTS**

IEC documents submitted by the USNC 37 Technical Advisor for SPDC response shall be distributed by the SPDC Chair to the A&S Subcommittee membership and appropriate SPDC membership for review and comments.

### **3.11 NUMERICAL IDENTIFICATION SYSTEM**

The following numerical system shall be used for the Committee's files, minutes, agenda, and wherever appropriate.

#### 1.0 - Organization and Objectives

1.1 - Membership

1.2 - Committee Scope

#### 2.0 - Committee and Subcommittee Minutes

2.1 - Agenda

#### 3.0 - Subcommittee Reports

3.1 - Administrative and Standards

3.1.x - Working Groups

3.2 - Bibliography

3.2.x - Working Groups

3.3/3.4/3.5 - High Voltage Surge Protective Devices

3.3.x -, 3.4.x and 3.5.x Working Groups

3.6 - Low Voltage Surge Protective Devices

3.6.x - Working Groups.

#### 4.0 - Special Reports

#### 5.0 - IEC Activities

#### 6.0 - Accredited Standards Committee, C62, Activities

#### 7.0 - Liaison Reports

#### 8.0 - PES TC Activities

#### 9.0 - PES Technical Sessions

#### 10.0 - Old Business Activities

#### 11.0 - New Business Activities

#### 12.0 - SPDC Meeting Schedule

### **3.12 IEEE STANDARDS DEVELOPMENT PROCEDURES**

Standards development follows the procedures of Power engineering Society Technical Council Organization and Procedures Manual.

## **ANNEX 1.0**

### **ACTIVE SCOPES ADMINISTRATIVE AND STANDARDS SUBCOMMITTEE**

#### 3.1.1 Fellow Nomination

Formed: May '78 Amended:

1. Nominate and encourage nomination of SPDC members to the grade of Fellow.
2. Prepare endorsements, when warranted, for SPDC members in accordance with IEEE Fellow nomination procedures.

#### 3.1.2 Awards

Formed: May '78 Amended: May '79, Oct. '86

1. Recommend nominations to the A&S Subcommittee for IEEE, PES, and SPDC Awards, such as:
  - IEEE Standard Medallion Award
  - Society and Field Awards
  - SPDC Prize Paper and Distinguished Service Awards
  - WG Recognition Award
2. Prepare and process ballots for the PES Prize Paper Award and W. G. Recognition Award.
3. Promote recognition for SPDC members.
4. Select a high interest paper for the Power Engineering Review. (To be established by A&S for specific projects only.)

## **ACTIVE SCOPES**

### **High Voltage PROTECTIVE DEVICES SUBCOMMITTEE 3.3/3.4/3.5**

#### 3.3.11 Continuous Revision of C62.11

Formed: Apr. '77 Amended: Apr. '88

1. Make recommendations to the OPD Subcommittee for revision of ANS C62.11 "IEEE Standard for Metal-Oxide Surge Arresters for AC Power Circuits" or any subsequent MOV standard under the scope of the OPD Subcommittee.
2. Monitor the C62.11 standard revisions under development within OPD Subcommittee.
3. Monitor the activities of IEC/TC37, NEMA LA-1 and any other organization developing metal-oxide arrester standards and attempt to resolve differences that may occur between their activities and ANS C62.11.

#### 3.3.13 HV Arrester Characterization and Testing

Formed: Apr. '98 Amended :

1. Develop tests and testing methods required to demonstrate the characteristics of metal oxide surge arresters assigned by the Subcommittee.
2. Provide guidance to Working Group 3.3.11 for inclusion of the above items in C62.11
3. Report current assignments following each Working Group meeting.

#### 3.5.6 Revision of ANSI/IEEE Standard 32-1972, "IEEE Standard Requirements, Terminology, and Test Procedures for Neutral Grounding Devices"

Formed: Amended:

1. Prepare new IEEE Standard C62.91 which will be a revision and updating of existing standard IEEE 32-1972.

#### 3.4.8 Arrester Protection and Coordination - Transformer Insulation

Formed: May '69 Amended: Oct. '71

1. Provide liaison representation through the Working Group Chair to the Working Group on Revision of Dielectric Tests Subcommittee of the IEEE Transformer Committee.
2. Solicit and evaluate comments in writing from ASPD members on new proposals and guides in recommended practices.
3. Formulate a consensus and guidance for the liaison representative to the Transformer Working Group.

#### 3.4.9 Application Guide for Surge Voltage Protective Equipment on AC Rotating Machinery

Formed: May '70 Amended:

1. Investigate past and present publications and practices in the application of surge voltage protection to AC rotating machinery.
2. Integrate and consolidate the knowledge on the subject.
3. Prepare a suitable industry guide for the application of protective devices in the protection of AC rotating machinery, including integrally connected components, against surge voltages.

#### 3.4.14 Continuous Revision of C62.2 and C62.22 Application Guide

Formed: Apr. '80 Amended: Sept. '85

1. Make recommendations for revisions to C62.2, "Guide for Application of Gapped Silicon Carbide Surge Arresters for Alternating Current Systems," and C62.22, "Guide for Application of Metal-Oxide Surge Arresters for Alternating Current Systems."
2. Monitor the application recommendations under development within ASPD.
3. Coordinate surge protection application with other IEEE Societies, Groups or Technical committees where appropriate.
4. Monitor the activities of IEC TC37 as they apply to changes or additions to IEC 99-1A, "Application Guide of Non-linear Resistor Type Lightning Arresters for Alternating Current Systems" and attempt to resolve differences that may occur between their activities in C62.2.
5. Prepare sections for the application of metal oxide arresters in distribution systems to be included in a metal oxide surge arrester application of guide.
6. Collect, assemble, and organize input from all appropriate SPDC Working Groups into a comprehensive guide for the application of metal oxide arresters.

#### 3.4.16 Separation Effects

Formed: Nov. '82 Amended:

1. Survey various methods to determine separation effects.
2. Review and evaluate the various methods.
3. Develop an improved simplified method.
4. Prepare and recommend to Working Group 3.4.14 a revised Appendix C for ANSI C62.2 - 1981.

#### 3.4.18 Preferred Voltages and Insulation Coordination Standards Maintenance

Formed: May '00 Amended: Dissolved

1. Maintenance of IEEE Standards 1312, 1313.1 and 1313.2

## **ACTIVE SCOPES**

### **LOW VOLTAGE SURGE PROTECTIVE DEVICES SUBCOMMITTEE**

#### 3.6.1 Low Voltage Gap Type Protective Devices

Formed: Aug. '81 Amended:

1. Review available low voltage gap type protective devices.
2. Develop and recommend standard methods for testing and rating these devices.
3. Prepare sections defining the characteristics of low voltage gap type devices for incorporation into the Low Voltage Surge Protective Devices Application Guide.

#### 3.6.2 Low Voltage Solid State Protective Devices

Formed: Aug. '81 Amended:

1. Review available low voltage solid state protective devices.
2. Develop and recommend standard methods for testing and rating these devices.
3. Prepare sections defining the characteristics of low voltage solid state devices for incorporation into the Low Voltage Surge Protective Devices Application Guide.

#### 3.6.3 Low Voltage Surge Protective Devices Application Guide

Formed: Aug. '81 Amended:

1. Develop a generalized guide for the application of low voltage surge protective devices. Coordinate and incorporate sections prepared by other groups into an overall guide stating the surge environment equipment vulnerability, and protective devices.

#### 3.6.4 Surge Characterization on Low Voltage Circuits

Formed: Aug. '81 Amended:

1. Define the exposure of low voltage circuits to overvoltages and over-current surges.
2. Organize existing data on the subject and characterize the surge environment.
3. Identify areas for further study and refer them to 3.6.
4. Prepare a section on the exposure of low voltage circuits to surges for incorporation into the Low Voltage Surge Protective Devices Application Guide.
5. Prepare a test procedure specification for evaluating surge withstand capability of equipment's connected to the environment developed above.

#### 3.6.6 Low Voltage AC Power Circuit Protective Devices

Formed: May '83 Amended:

1. Establish performance characteristics for surge protective devices packaged to be connected to low voltage AC power circuits for any combination of linear or nonlinear elements.
2. Develop and recommend standard methods for testing and rating these devices.
3. Coordinate and incorporate sections prepared by other groups for single element devices.

#### 3.6.7 Low Voltage Data, Communications and Signaling Circuit Surge Protective Devices

Formed: May '83 Amended:

1. Establish performance characteristics for surge protective devices packaged to be connected to low voltage communications and signaling circuits for multiple component combinations of linear or non-linear elements.

2. Develop and recommend standard methods for testing and rating these devices.
3. Prepare sections defining the characteristics and recommended application criteria for these devices for incorporation into the Low Voltage Surge Protective Devices Application Guide.
4. Coordinate and incorporate sections prepared by other groups for single devices.

3.6.8 Guide on Electrostatic Discharge From Personnel and Mobile Furnishings

Formed: May '85 Amended:

1. Organize existing data on the subject, in order to characterize the ESD environment.
2. Prepare a guide for evaluating ESD withstand capability of electronic equipment operating in the characterized environment.

3.6.9 Performance Standard for Low-Voltage Surge-Protective Devices

(Secondary Arresters)

Formed: April '94 Amended:

1. The Standard will apply to surge protective devices designed for application on the AC low voltage AC supply mains (less than 1000 V rms, frequency between 48-62 Hz.
2. The test Standard applies to surge protective devices intended to be connected at locations between and including the secondary terminal of the distribution transformer and the load side of the main service panel.

3.6.10 Surge Protection of Equipment Connected to AC Power and Communication Circuits

Formed: May '99

1. Develop a guide for the application of multi-port surge protectors to protect equipment connected to ac power and communication circuits.
2. The guide will consider and discuss coordination of the multi-port surge protective devices with other AC and communication circuit protection.
3. The guide will be limited to premises served by 120/240 V ac power, with the neutral bonded to ground at the service entrance.

## **ANNEX 2.0**

### **HOW ACCREDITED STANDARDS C62 WORKS**

On February 14, 1985, the American National Standards Institute Committee C62 became the Accredited Standards Committee (ASC) C62. As such, ASC C62 is recognized by the American National Standards Institute (ANSI) as the Accredited Committee for the development of consensus for approval, revision, re-affirmation, and withdrawal of American National Standards as they relate to Surge Protection as defined by the scope of C62 given here.

### **SCOPE**

Definitions, classifications, ratings, methods of test, performance characteristics, physical characteristics, and application of surge protective equipment of all types.

### **DUTIES**

The relationship of C62 to ANSI can be best addressed by quoting from the Forward of the ANSI Procedures for Development and Coordination of American National Standards, which was approved by ANSI's Board of Directors on March 30, 1983. The following has been taken from this document:

"The voluntary standards system in the United States consists of a large number of standards developers that write one or more national standards. Among them are professional societies, trade associations, and other organizations. The participants in the system are the thousands of individuals, companies, other organizations (e.g., labor, consumer, and industrial) and government agencies who voluntarily contribute their knowledge, talent and effort to standards development.

Many standards developers and participants support the American National Standards Institute (ANSI) as the central body responsible for the identification of a single consistent set of voluntary standards called American National Standards. ANSI approval of these standards is intended to verify that the principles of openness and due process have been followed in the approval procedure and that a consensus of those directly and materially affected by the standards has been achieved. ANSI coordination is intended to assist the voluntary system to ensure that national standards needs are identified and met without conflict in their requirements or unnecessary duplication.

ANSI is the US member of nontreaty international standards organizations such as the International Organization for Standardization (ISO) and the Pacific Area Standards Congress (PASC). As such, ANSI coordinates the activities involved in US participation in these groups.

The National Policy on Standards for the United States, and ANSI's plan for its implementation as well as experience gained from the application of the previous edition of the ANSI Procedures for Management and Coordination of American National Standards (December 5, 1974, Revised March 31, 1977), contributed to the development of these procedures that provide criteria, requirements, and guidelines for coordinating and developing consensus for American National Standards."

ASC C62, as an accredited standards committee of ANSI, strives to provide coordination of all standards activities within the United States pertaining to surge protection. This is its primary function. In addition to this duty, it has many other duties. By becoming ASC C62, it agreed to operate consistent with the model procedures for an ASC as given in Appendix A of the ANSI Procedures for the Development and Coordination of American National Standards. This document lists the additional responsibilities.

## **RESPONSIBILITIES**

Committee Membership. The committee shall be responsible for:

1. Developing proposed American National Standards within the scope of the Committee,
2. Voting on Approval of proposed American National Standards within its scope,
3. Maintaining the standards developed by the Committee up-to-date,
4. Responding to requests for interpretations of the standard(s) developed by the Committee (see ALL.3),
5. Adopting Committee procedures and revisions thereof,
6. Considering and acting on proposals for termination of the Committee (see Section A10)
7. Other matters requiring Committee action as provided in these procedures.

## **SECRETARIAT**

The secretariat shall:

1. Organize the Committee (see Section A2),
2. Apply for Committee accreditation by ANSI and maintain accreditation in accordance with ANSI requirements, including submission of the Committee roster,
3. Oversee the Committee's compliance with these procedures,
4. Maintain a roster of the Committee and a list of standards for which the Committee is responsible,
5. Provide a committee secretary to perform administrative work, including secretarial services; meeting notices and arrangements; preparation and distribution of meeting agendas, minutes, ballots, and draft standards; and maintenance of adequate records,
6. Submit candidate standards approved by the Committee, with supporting documentation, for ANSI review and approval as American National Standards,
7. Publish or arrange with ANSI for publication of its standards, revisions, and addenda (see 4.2),
8. Perform other administrative functions as required by these procedures,
9. If composed of more than one organization (i.e., co-secretariat), provide a written agreement defining explicit division of these responsibilities."

## **ORGANIZATION**

ASC C62 has a joint Secretariat of the Institute of Electrical and Electronic Engineers and the National Electric Manufacturers Association (NEMA). NEMA is the administrative secretary, while IEEE is the co-secretary.

C62 has a chair and a vice-chair. It has been the practice of C62 to appoint as its chair the head of the IEEE delegation to C62. This person has historically been chosen from a utility company. Many organizations are represented in ASC C62. The current lists of organizations and their classifications are:

## ORGANIZATION

American Association of Railroads (AARR)  
Bonneville Power Administration (BPA)  
Rural Electrification Administration (REA)  
Electric Light & Power Group (EL&P)  
Institute of Electrical & Electronic Engineers  
National Electrical Manufacturers Assoc. (NEMA)  
Telecommunications Informations Systems (TCIS)  
Underwriters Laboratory (UL)  
Individual Experts (3)  
Canadian Standard Association

## CLASSIFICATION

Consumer Organization  
Consumer Organization  
Consumer Organization  
Consumer Organization  
General Interest  
Producer  
General Interest  
General Interest  
General Interest  
Liaison without vote

## **SUBCOMMITTEE AND WORKING GROUP**

C62 has two Subcommittees: the Low Voltage Subcommittee and the IEC Arrester Subcommittee.

The Low Voltage Subcommittee is responsible for the coordination of activities involving low voltage surge protection. They function as an advisor organization to the main committee in this field.

It is the function of the IEC Arrester Subcommittee to act as the advisor group to the US Technical Advisory to TC 37 in all matters associated with other than low voltage surge protection.

## **STANDARD PROCESSING**

ASC C62 is responsible for the processing of all American National Standards dealing with surge protection and power system grounding which are promulgated via the accredited standards committee process. C62 therefore provides the coordination and final review for surge protective standards developed within the SPDC

## **ANNEX 3.0**

### **DISSOLVED SCOPES**

#### **ADMINISTRATIVE AND STANDARDS SUBCOMMITTEE**

##### 3.1.3 Safety

Formed: May 78' Amended:

1. Review standards and guides that may affect the safe installation, application or operation of surge protective devices.
2. Establish liaison with other activities formulating pertinent standards and guides.
3. Make recommendations to A&S concerning the need for standards or guides.

##### 3.1.4 Editorial Review of ANSI Standard and Guides

Formed: May '83 Amended:

1. The Working Group shall be composed of:  
A Chair designated by the A&S Subcommittee, the head of IEEE delegation to ANSI C62, Chair of Working Group 3.3.12 and 3.4.14, Chair of 3.2 Bibliography Subcommittee, and Chair of the Working Group for which a standard or guide or the revision of a standard or guide is being reviewed.
2. Review all C62 standards and guides or the revision of a standard or guide for proper language and adherence to the IEEE Standards Style Manual prior to SPDC ballot.
3. Send all final revisions to the SPDC Vice-Chair.

## DISSOLVED SCOPES

### OVERVOLTAGE PROTECTIVE DEVICES SUBCOMMITTEE

#### 3.3.1 Protective Characteristics of Gaps

Formed: Apr. '62                      Amended: May '70                      Dissolved Oct. '73

1. To review existing data on typical protective gaps associated with system voltages above 100 kV.
2. To investigate the characteristics of simple gap configurations to be used as a reference standard at the higher voltages, considering the effects of spacing, wave shape, proximity to other objects, test circuits.
3. To prepare a report on the characteristics of gaps.

#### 3.3.2 Surge Arrester Switching Surge Protective Characteristics

Formed: Apr. '63                      Amended:                      Dissolved May '71

1. To develop tests and testing methods required to demonstrate the protective response of surge arresters to switching surge voltages and to coordinate with NEMA in outlining possible tests.

\* Combined with Working Group 3.3.4 to form Working Group 3.3.8

#### 3.3.3 Surge Arrester Contamination Performance and Durability

Formed: Apr. '64                      Amended:                      Dissolved Oct. '72

1. To determine the problem of contamination on the performance and durability of surge arresters.
2. To work with NEMA in outlining possible tests for determining the performance of surge arresters under contaminated surroundings.

#### 3.3.4 Revision of Surge Arrester Durability Characteristic Standards

Formed: Nov. '66                      Amended:                      Dissolved May '71\*

1. To review the adequacy and need for the following electrical durability tests in ANSI C62.1:  
Section 1-7.4.1 High Current - Short Duration Test  
Section 1-7.4.2 Low Current - Long Duration Test on Distribution Arresters  
Section 1-7.5 Duty Cycle Tests

2. Following this review to recommend applicable revisions to the Standard

\* Combined with Working Group 3.3.2 to form Working Group 3.3.8

#### 3.3.5 Review of Pressure Relief Device Test Values

Formed: Oct. '68                      Amended:                      Dissolved Mar '76

1. To make a field survey for the Surge Protective Devices Committee of the present and possible future pressure relief venting requirements for station and intermediate class arresters.
2. To submit the results and interpretations of the survey to the Chair of the IEEE delegation to the ANSI C62 after approval of the Surge Protective Devices Committee.
3. Review the difference in the area of pressure relief testing between ANSI C62.1 1970, NEMA Standard proposal I-15, 1969 and IEC 99-1 2nd edition 1970, and make recommendations for appropriate revisions.

3.3.6 Low Voltage Surge Protection Devices

Formed: May '70                      Amended: Mar. '76                      Dissolved Aug. '81  
became 3.6

1. To review commercially available devices, other than ANSI Standard secondary arresters, which are used for low voltage system surge protection. Low voltage shall be defined as 600 volts or less.
2. To develop and recommend standard methods for testing and rating these devices.
3. Prepare application guides for commercially available low voltage surge protective devices.

3.3.6.1 Low Voltage Gas Tube Task Force

Formed:                                      Amended:                                      Dissolved

3.3.6.2 Low Voltage Air Gap Arresters Task Force

Formed:                                      Amended:                                      Dissolved

3.3.6.3 Varistor/Avalanche Diode Task Force

Formed:                                      Amended:                                      Dissolved

NOTE: Each task force to produce a test specification and application guide for its respective device. Working group to combine all application guides into a single overall document upon completion of task force effort.

3.3.7 Fault Withstand Requirements for Distribution Surge Arresters

Formed: Oct. '69                      Amended:                                      Dissolved Apr. '80

1. To make a field survey of the fault withstand requirements for distribution surge arresters.
2. To develop guidelines for terminology and definitions with reference to the subject of fault withstand characteristics of distribution surge arresters.
3. To develop guidelines for types of tests that could be used to properly evaluate the fault withstand characteristics of distribution surge arresters.
4. To obtain data on the failure rate, type and cause of and failure of distribution surge arresters.

3.3.9 Distribution Surge Arrester Lightning Discharge Current

Formed: Oct. '73                      Amended:                                      Dissolved Apr. '81

1. Develop a program to obtain statistical data of the shape, magnitude and frequency of current surges discharged through distribution surge arresters on modern distribution systems.
2. Determine the best and most economical method and instrumentation to obtain the data mentioned in (1) above.
3. Seek industry organizations willing to cooperate in a joint effort to obtain data over several years.
4. Analyze all data and propose new test standards if necessary.

### 3.3.12 Continuous Revision of C62.1

Formed: Oct. '83 Amended:

1. Make recommendations to the OPD Subcommittee for revision of ASC C62.1, "IEEE Standard for Surge Arresters for AC Power Circuits," and any subsequent standards under the scope of the OPD Subcommittee.
2. Monitor the C62.1 standard revisions under development within OPD.
3. Monitor the activities of IEC/TC37 as they apply to changes or additions to IEC #99.1 and of NEMA LA-1 and attempt to resolve differences that may occur between their activities and ASC C62.1.

### 3.3.8 Review of Intermediate and Station Arrester Durability and Protective Characteristics

Formed: May '71 Amended: Oct. '72, Feb. '75, Oct. '85

1. Develop tests and testing methods required to demonstrate the characteristics of metal oxide intermediate and station surge arresters assigned by the Subcommittee.
2. Coordinate with Working Group 3.3.10 on test tolerance equally applicable to all classes of arresters.
3. Provide guidance to Working Group 3.3.11 for inclusion of the above items in C62.11
4. Report current assignments following each Working Group meeting.

### 3.3.9 High Voltage Direct Current Surge Arresters

Formed: Oct. '88 Amended:

1. Develop terminology and definitions with reference to arresters applied on high-voltage direct current (HVDC) systems for overvoltage protection.
2. Develop design tests and testing methods required to demonstrate the characteristics important to the application of HVDC arresters.
3. Solicit and evaluate information from WG 3.4.6 "Overvoltage Protection of High-Voltage Direct Current Installations" regarding the objectives listed above.
4. Monitor the activities of IEC TC37 regarding these same objectives on HVDC arrester and attempt to resolve differences that may exist.
5. Provide guidance to ASC C62 for inclusion of HVDC design tests in their documents.

### 3.3.10 Review of Distribution Arrester Durability and Protective Characteristics

Formed: Feb. '75 Amended: Oct. '85

1. Develop tests and testing methods to demonstrate the characteristics of metal oxide and gapped silicon carbide distribution arresters as assigned by the Subcommittee.
2. Coordinate with Working Group 3.3.8 on test tolerances equally applicable to all classes of arresters.
3. Provide guidance to Working Group 3.3.11 and 3.3.12 for inclusion of the above items in C62.11 and C62.1, respectively.
4. Report current assignments following each Working Group meeting.

## DISSOLVED SCOPES

### APPLICATION OF SURGE PROTECTIVE DEVICES SUBCOMMITTEE

- 3.4.1 Voltage Rating Investigation for Application of Surge Arresters on Distribution Systems  
Formed: Mar. '60                      Amended:                      Dissolved      Oct. '71
1. To investigate present system classification related to the degree of system grounding of distribution circuits.
  2. To establish more realistic distribution circuit constants, expressed as either impedance or voltage ratios.
  3. To establish a guide for the selection of distribution arrester ratings based upon these circuit constants rather than the present method of relying on experience alone.
- 3.4.2 Lightning Protection of Cable Connected Distribution Equipment  
Formed: Apr. '63                      Amended:                      Dissolved      Sept. '80
1. To investigate the lightning protective practices for cable connected distribution equipment and determine the factors which influence the selection and location of surge arresters.
- 3.4.3 Safety  
Formed: Apr. '65                      Amended:                      Dissolved      May '78
- became 3.1.3
1. To explore the safety aspects of surge arresters and their use.
  2. To make recommendations to SPDC and/or NEMA concerning the possibility of guides or standards for safety.
- 3.4.4 Surge Voltages in AC Power Circuits Rated 600 Volts and Less  
Formed: May '66                      Amended:                      Dissolved      Aug. '81
- became 3.6.4
1. Define the problem: Direct attention to the need of protecting certain types of load equipment against transient overvoltages in secondary power circuits. This involves a description of the types of load equipment which experience indicated to be susceptible to damage by such transients and the nature of the troubles typically experienced.
  2. Organize available information. This requires consideration of the following aspects:
    - a. Characteristics of lightning surges which appear at branch circuit loads. This involves the behavior of strokes to primary and secondary distribution circuits; also strokes-to-each coupling with grounding electrodes.
    - b. Secondary and branch circuit resonance effects produced by lightning. Review the literature on the subject and consider the high frequency response of secondary circuits to step functions.
    - c. Switching transients - the effects on connected load of transients originating in the external distribution system and feedback disturbances caused by transients generated within a load circuit which in turn enter electrically adjacent loads.
  3. Consideration of present protection methods and devices, their adequacy and possible need for improvement.

4. Preparation of a bibliography of relevant papers. Consideration shall be given to the feasibility of summarizing available data and presenting in a form convenient for application.
5. Stimulate interest leading to the preparation and presentation of papers under sponsorship of the SPDC.

3.4.5 Coordination of Surge Arresters and Current Limiting Fuses

Formed: Nov. '66                      Amended:                      Dissolved      Mar. '74

1. Determine factors affecting heavy energy switching surge discharges in arresters as related to current limiting interrupters in the range from 2400 to 34000 volts.
2. Prepare application guide.
3. Make recommendations for device characteristics to alleviate the problem.

3.4.7 Insulation Standards Activities

Formed: May '68                      Amended:                      Dissolved      Mar. '74

1. Review new releases of standardizing committees and abstract information pertinent to the design and application of surge protective devices.
2. Prepare a consensus of opinion of the experts of SPDC to appropriate questions submitted by representatives to standardizing groups.

3.4.12 Surge Protection of High Voltage Cable Connected Equipment

Formed: Nov. '72                      Amended:                      Dissolved      May '85

1. To investigate the present practice of protecting cable connected equipment and equipment associated with gas insulated substations of 69 kV and higher.
2. To prepare a guide for the selection and application of surge arresters for protecting high voltage cable connected equipment and equipment associated with gas insulated substations.

3.4.17 Surge Arrester Protection of Capacitor Banks, Cables, Cable Connected Equipment, and Gas Insulated Substations

Formed: Sept. '85                      Amended: Oct. 96                      Dissolved: May 97

1. Review existing standards and literature pertaining to arrester protection of the title items.
2. Review, summarize, and evaluate protection practices which presently exist for the titled items.
3. Prepare a section(s) to be included in the metal oxide surge arrester application guide and if appropriate an IEEE committee paper(s) covering any of the above items.

3.4.6 Overvoltage Protection of High Voltage Direct Current Installations

Formed: Oct. '67                      Amended: Sept. '85

1. Review activities concerning overvoltage protection of high-voltage DC installations.
2. Update the bibliography on literature concerned with overvoltages in high-voltage DC installations.
3. Determine protective device requirements which must be considered in the overvoltage protection of high voltage DC installations.
4. Summarize manufacturer and user tests on DC arresters.
5. Monitor activities of IEC TC37.

3.4.10 High Voltage AC System Surge Arrester Application Guide

Formed: May '71                      Amended: Sept. '85

1. Prepare sections of a guide for the application of metal oxide arresters for the protection of HV and EHV AC systems. Some specific tasks will be handled (capacitor banks, GIS, distribution systems, separation distances, etc.) by other SPDC Working Groups.
2. Develop a USA consensus to guide the United States National Committee in its support of a parallel effort by the IEC TC37.

#### 3.4.11 Surge Arrester Modeling Techniques

Formed: Oct. '71 Amended:

1. Develop techniques to represent surge arresters accurately for use in transient system studies. The models developed should be applicable to digital techniques, electronic and direct analog computers.

## DISSOLVED SCOPES

### NEUTRAL GROUNDING DEVICES SUBCOMMITTEE

- 3.5.1 Part I - Application Guide for Neutral Grounding in Electric Utility Systems  
Formed: May '83                      Amended: Apr. '94                      Dissolved: Apr. '94  
1. Review existing Standard IEEE 62.92 (Parts I - V) for errors and for additions, and recommend changes as required or desirable to correct, update, or improve this document.
- 3.5.2 Part II - Application Guide for Neutral Grounding of Synchronous Generator Systems  
Formed: May '83                      Amended: Oct. '88                      Dissolved Apr. '94  
1. Update and broaden the part of IEEE Standard 143, that deals with neutral grounding of synchronous generator systems.
- 3.5.3 Part III - Application Guide for Neutral Grounding of Generator Auxiliary Systems  
Formed: May '83                      Amended: Oct. '88                      Dissolved Apr. '94  
1. Develop a grounding guide as an additional part of the IEEE Standard 143, that addresses neutral grounding of generator auxiliary systems.
- 3.5.4 Part IV - Application Guide for Neutral Grounding of Distribution Systems  
Formed: May '83                      Amended: Oct. '88                      Dissolved Apr. '94  
1. Develop a guide as an additional part of IEEE Standard 143, that addresses neutral grounding of distribution systems.
- 3.5.5 Part V - Application Guide for Neutral Grounding of Transmission and Sub-Transmission and Sub-Transmission Systems  
Formed: May '83                      Amended: Oct. '88                      Dissolved Apr. '94  
1. Update and broaden the part of IEEE Standard 143, that deals with neutral grounding of transmission systems and of subtransmission systems.

## **DISSOLVED SCOPES**

### **LOW VOLTAGE SURGE PROTECTIVE DEVICES SUBCOMMITTEE**

#### 3.6.5 Surge Vulnerability of Components on Low Voltage Circuits

Formed: Aug. '81 Amended:

1. Define the vulnerability of components on low voltage circuits to over-current and overvoltage surges.
2. Organize existing data on the subject and prepare a data manual as an Appendix to the Low Voltage Surge Protective Devices Application Guide.

## **ANNEX 4.0**

Excerpts from: **Technical Council Organization and Procedure Manual**

### **7.5 Participation by Non-Members of IEEE**

Non-members of IEEE may be appointed as consultants to Technical Committees, Subcommittees and Working Groups but will not have a vote except as described below. For example, physicists and mathematicians are frequently called upon, in the basic science fields, to supplement the work of those Committees and Subcommittees. Therefore, individual experts and liaison representation from other organizations are encouraged where appropriate.

With approval of the IEEE Standards Board, non-IEEE members, who are representatives of other organizations or are invited experts, may be consultants to Technical Committees, Subcommittees, and Working Groups developing standards but may vote only on matters relating to those standards.

### **7.6 Honorary Membership**

Technical Committees may, at their option, name Honorary Members who retain their IEEE/PES membership, but because of extenuating circumstances, are generally unable to meet the other membership requirements. An Honorary Member shall have first been a regular member and shall have demonstrated a high level of participation and be generally recognized for his contribution. Honorary Members have no voting privileges. These individuals participate by reviewing and commenting on subjects in their field of expertise and are retained on appropriate and necessary committee mailing lists.

### **7.7 Corresponding Membership**

The Technical Committees may, at their option, offer Corresponding Membership to utilize the expertise of those who are not normally able to attend the Committee meetings. Corresponding Members may participate in all Technical Committee activities, including the development, review, and balloting of standards documents. In addition, Corresponding Members may participate in the review of technical papers sponsored by the Technical Committee.

Corresponding Members may be appointed by the Chairman of the Technical Committee, with notification given to the Chairman of the Technical Council. The qualifications and eligibility for membership, and continued membership, are the same as for regular Technical Committee members, with the exception of the requirement of regular attendance at meetings.

If desired, Corresponding Membership may be offered at Subcommittee, Working Group, and Task Force levels.

## **ANNEX 5.0**

### **SDPC Web Page Protocol**

- 1) Name: SPDC Web Page
- 2) Purpose: To Provide information to the world on :
  - a) SPD activities
  - b) Working Group Draft Development
  - c) Working Group Resources
- 3) Administration:
  - a) The site administration and content will fall under the responsibility of the A&S with the Secretary as the primary approver of content.
  - b) Subcommittee chairs will be responsible for content of WG minute content and accuracy.
  - c) The WEB Master will be responsible maintenance of the site.
- 4) Copyright Considerations
  - a) All information posted on the site will be considered to be IEEE copyrighted.
  - b) All information added to the site will be checked for copyrights before posting. If a document is copyrighted by anyone other than IEEE, permission to post needs to be secured before posting.
- 5) Information Types and Access: All information will be categorized as either public or private.
  - a) Public information is that is considered available to anyone using the site. Typical types of information in this category are minutes, agendas, definitions, etc.
    - i) The membership list and addresses will be considered public information.
  - b) Private information is information in draft form and not approved by IEEE or SPDC for public. Typical information in this group are un-approved minutes, IEEE document drafts, IEC drafts, etc.
    - i) Private information areas of the site will be restricted to SPDC working group members by the use of a password. This password will be made available to members and kept in their confidence.
- 6) Document Formats:
  - a) Formats used will be ones most commonly used in the industry.
  - b) The goal of the document format is to keep them simple and small.
  - c) Currently approved formats for use are Word 6, Excel, Text, HTML and PDF.
  - d) When a document is used for revision purposes, it must be in a commonly used editable form.
  - e) If it is used for display purposes only, then editing considerations need not be taken into account. ( Not easily edited formats can be used)
- 7) Commercial considerations
  - a) No reference to commercial sites relative to surge protection information will appear on the site

Revisions:

1. May 97 - Dissolve WG 3.4.17 - Remove from Page 30 & Add to Page 42

May 2000 Substantive Revisions

1. Organizational chart changed to show merger of 3.3/3.4/3.5
2. Changed the scope and title of Overvoltage Protective Devices Subcommittee to High Voltage Surge Protective Devices Subcommittee Section 1.4
3. Deleted Section 1.5 and 1.6 (Neutral Grounding Subcommittee and Application of Surge Protective Devices)
4. Added requirement of Email and WWW access to Responsibilities of members in 3.1
5. Changed wording of two responsibilities of Vice Chair to include reviewer of conference papers and be the Technical Committee Program Chair. Section 2.2
6. Eliminated the Vice Chair responsibility as Fellow Nomination working group chair. ( This is now assigned to youngest fellow of the SPDC Section 2.2
7. Added Section 2.12 Duties of the SPDC Web site administrator
8. Added Section 2.13 Duties of SPDC Associate Editor of the IEEE PES Transactions on Power Delivery
9. Added Section 2.14 Duties of the Technical Committee Program Chair (TCPC)
10. Added Section 2.15 Fellow Nomination Working Group Chair
11. Modified Term of Office section 3.2 to reflect limited terms of office.
12. Modified Balloting procedures to refer the the IEEE PES Web site. Section 3.7,3.8,3.9&3.12
13. Added Working Group 3.4.18 to Active Working Group Section of Annex 1
14. Moved Working Groups 3.6.5, 3.3.8, 3.3.9, 3.3.10 to Desolved Working Groups Annex
15. Added Web Site Protocol to Annex 5