

**POWER SYSTEM RELAYING
COMMITTEE**

OF THE

IEEE POWER ENGINEERING SOCIETY

MINUTES OF THE MEETING

September 22-25, 2003

Madison, WI

**Power System Relaying Committee
Main Committee Meeting Agenda
September 25, 2003**

Madison, WI

- | | | |
|--------------|--|---|
| I. | Call to order / introductions | Taylor |
| II. | Approval of Minutes/ Financial Report | Henville |
| III. | Reports of Interest | |
| | A. Chairman's Report | Taylor |
| | B. Technical Paper Coordinators Report | Winston |
| | C. PES Report | McDonald |
| | D. Cigre Report | Cease |
| | E. EPRI Report | Burger |
| | F. IEC Report | Udren |
| | G. Standard Coordinators Report | Sachdev |
| | H. Substation Committee Report | Tengdin |
| IV. | Subcommittee Reports- in order | |
| | C - Systems Protection | Novosel |
| | D - Line Protection | Carpenter |
| | H - Relaying Communications | Fodero |
| | I - Relaying Practices | Gilbert |
| | J - Rotating Machinery | Conrad |
| | K - Substation Protection | Chano |
| V. | Old Business | Taylor |
| VI. | New Business | Taylor |
| VII. | General Announcements | Taylor |
| VIII. | Presentations | |
| | ▪ System Protection and Blackouts | Novosel |
| | ▪ ERCOT Disturbance of 25 May 2003 | Carpenter |
| | ▪ Performance of Generator Protection During Major System Disturbances | Patel |
| | (Note, copy of report is in "Published Reports" section of PSRC website until this report is published in IEEE Transactions on Power Delivery) | |
| | ▪ NE System Disturbance 14 August, 2003 | Ibrahim
Napikoski
Henville |
| IX. | Adjourn | |

Call to order / introductions

Taylor

Rick Taylor called the meeting of the IEEE/ PSRC Main Committee in Madison, Wisconsin to order at 7:35 AM on September 25, 2003.

Approval of Minutes – Scottsdale meeting and misc. Henville

The minutes of the Raleigh meeting May 19-22, 2003 were approved.
A brief update on the state of the PSRC finances was presented.

Chairman’s Report

Taylor

The PSRC met at the Madison Concourse and Governor’s Club Hotel in Madison. The “hot topic” is the Northeast Blackout of 14 August 2003. Several presentations on that subject and associated subjects were made during the meeting.

Technical Paper Coordinators Report

Winston

There were three technical paper sessions at the PES General Meeting in Toronto sponsored by the PSRC along with two papers presented at the Monday night poster session. There were sixteen papers presented as part of the poster session at the T&D show in Dallas.

The paper submission site for the 2004 General Meeting in Denver will open in October. Authors are encouraged to submit papers early in order to provide time for feedback on suggested changes required

PES Report

John McDonald

No report at this meeting

CIGRE Report

Cease

No report at this meeting

EPRI Report

Burger

No report at this meeting

IEC Report

Udren

See WG I4 Report

Standard Coordinators Report

Sachdev

The Standards Coordinator, Jeff Gilbert deputizing for Mohindar Sachdev, met with the Chairs of the Working Groups writing and revising standards documents at 8:00 AM / 9:45 AM on September 23, 2003 in Senate room, The Madison Concourse Hotel, Madison, WI.

Naeem Ahmed, IEEE Liaison for PSRC made a presentation on the latest practices for handling standards documents and the facilities that IEEE has provided. The status of PARs, Standards and Guides, were then reviewed. The status of the PARs is summarized in this report. The actions to be taken for keeping up-to-date the approval of the PARs and for keeping live the Standards and Guides are identified. A summary of the specific approvals received, since the May 2003 meeting of the PSRC, are identified as well.

Information concerning the Standards Association (SA), Board of Governors, Committees of SA, the Development of standards, Recommended Practices and Guides and related issues is available on the following web site.

<http://standards.ieee.org/>

Some of the other web sites for obtaining useful information are as follows.

Information on	Web site address
PAR application, extension and other forms	http://www.standards.ieee.org/guides/par/
Style manual	http://www.standards.ieee.org/resources/glance_at_writing_new.html
Template	http://www.standards.ieee.org/resources/glance_at_writing_new.html
Status of standards etc	http://www.standards.ieee.org/db/status/status.txt
NesCom activities	http://www.standards.ieee.org/board/nes/
RevCom activities	http://www.standards.ieee.org/board/rev/
SA Operations Manual	http://www.standards.ieee.org/sa/sa-view.html
SA Bylaws	http://www.standards.ieee.org/sa/sa-view.html
SB Operations Manual	http://www.standards.ieee.org/board/
SB Bylaws	http://www.standards.ieee.org/board/
Up-load drafts for balloting	http://standards.ieee.org/eprocess/upload_balloting_file/
Request for ballot invitation	http://standards.ieee.org/resources/development/
Submit request for balloting	http://standards.ieee.org/resources/development/

Standards Coordination Effort

PARs applied for by all Committees of the Power Engineering Society (PES) are being circulated among the Standards Coordinators of the PES Committees. The number and title of each new PAR approved by the Standards Board is posted on the PSRC Web site at the following address.

<http://www.pes-psrc.org/Astandards.html>

The copy of the PAR can be viewed by clicking at the number of the PAR in the list. All members of the PSRC are requested to review the newly approved PARs. If you are interested in the development work planned in a PAR, contact the Chair of the Working Group that is developing the document and sign up for participating in the activity of that Working Group.

STANDARDS ACTIVITIES SINCE THE MAY 2003 MEETING OF THE PSRC

The status of the standards approval activities, which have taken place since the May 2003 meeting of the PSRC, is as follows.

1. Standards Published

None

2. Standards approved

PC37.103 Guide for Differential and Polarizing Circuit Testing

PC37.106 Guide for Abnormal Frequency Protection for Power Generating Plants

3. Standards submitted for approval

PC37.103 Guide for Differential and Polarizing Circuit Testing

PC37.114 Guide for Determining Fault Location on AC Transmission and Distribution Lines

PC37.115 Standard for Test Method for Use in the Evaluation of Message Communications Between Intelligent Electronic Devices in an Integrated Substation Protection, Control and Data Acquisition System

4. Standards balloted

PC37.93 Guide for Power System Protective Relay Applications of Audio Tones over Telephone Channels

5. Standards re-balloted

PC37.90 Standard for Relays and Relay Systems Associated with Electric Power Apparatus

PC37.103 Guide for Differential and Polarizing Circuit Testing

PC37.114 Guide for Determining Fault Location on AC Transmission and Distribution Lines

PC37.115 Standard for Test Method for Use in the Evaluation of Message Communications Between Intelligent Electronic Devices in an Integrated Substation Protection, Control and Data Acquisition System

6. Standards to be re-balloted

PC37.90 Standard for Relays and Relay Systems Associated with Electric Power Apparatus

C37.92 Standard for Low Energy Analog Signal Inputs to Protective Relays

7. Standards being balloted

None

The PARs approved since May 2003, submitted, and the PARs for which extension has been applied are as follows. The PARs, which will expire in the near future, are also listed. Applications for extending the lives of these PARs should be filed soon.

8. New PARs applied for

PC37.91 Guide for Protecting Power Transformers

9. Revised PAR approved

PC37.230 Guide for Protective Relay Applications to Distribution Lines

10. PAR Extensions applied for

- PC37.92 Standard for Low Energy Analog Signal Inputs to Protective Relays
- PC37.116 Guide For Protective Relay Application To Transmission-Line Series Capacitor Banks

11. PAR Extensions approved

- PC37.105 Standard for Qualifying Class 1E Protective Relays and Auxiliaries for Nuclear Power Generating Stations
- PC37.109 Guide for the Protection of Shunt Reactors
- PC37.116 Guide For Protective Relay Application To Transmission-Line Series Capacitor Banks

12. New PARs approved by NesCom

None

13. PARs expiring at the end of 2003

None

SUBMITTAL DEADLINES & STANDARDS BOARD MEETING SCHEDULE

PAR/Std Submittal Deadline	Standards Board Meeting
October 31, 2003	December 10, 2003
February 13, 2004	March 25, 2004
April 30, 2004	June 10, 2004
August 13, 2004	September 23, 2004
October 19, 2004	December 8, 2004

Substation Committee Report

John Tengdin

IEEE Std™ 1613 Standard Environmental and Testing Requirements for Communications Networking Devices in Electric Power Substations was published on August 12, 2003. Both paper and PDF versions are now available for purchase. This is for applications not involving protective relaying. It was built on PC37.90 (the version now being balloted by PSRC WG I6), C37.90.1, C37.90.2, and C37.90.3 with minor changes to reflect non-relaying applications. An article describing the new standard and its development will appear in the Standards column of the January 2004 issue of *Power and Energy* magazine.

Work continues in updating C37.1, the “SCADA standard”. The new title is “Standard for SCADA and Automation Systems.”

Task Force C3TF1 is at work on a recommended practice for networked communications in a substation. This is an extension of IEEE Std 1379™ Recommended Practice for RTU to IED Communications” which is for serial links.

Work is now complete on the revised version of the Automation Tutorial. It was presented in an all day session at the T&D Expo in Dallas earlier this month.

Balloting is complete (94% affirmative) on PC37.115 "Draft Standard Test Method for Use in the Evaluation of Message Communications between Intelligent Electronic Devices in an Integrated Substation Protection, Control and Data Acquisition System" and the completed document has been forwarded to IEEE SA for RevCom action at its next meeting. An IEEE paper is being prepared. This work was conducted in the H4 Working Group of PSRC, and uses the performance tables in IEEE P1646.

In the Substations Committee, work continues on the development of IEEE P1646 "Draft Standard Communication Delivery Time Performance Requirements for Electric Power Substations." This work is in the Substations C2TF4, which met Tuesday morning to resolve negative ballots on Draft 9. Several PSRC members attended and provided valuable input. A change in the title is being considered – to change to a Recommended Practice. If approved by the working group members, this change will require a PAR revision and re-balloting.

The Standards Coordinator for the Substations Committee, Anne-Marie Sahazizian, has initiated action to offer IEEE Std C37.2 – Device Function Numbers to IEEE SA as an ideal candidate for the new dual logo program with IEC.

OLD BUSINESS

None

NEW BUSINESS

None

FUTURE MEETINGS

January 12-15, 2004	Tampa, FL	Wyndham Westshore
May 17-20, 2004	St. Louis	Hyatt Regency
September 13-16, 2004	Portland, OR	Doubletree Lloyd Centre
January 10-13, 2005	San Diego, CA	San Diego Marriot Del Mar
May 23-25, 2005	Columbus, OH	Drury Hotels/Convention Center
September 22-30, 2005	Calgary, AB	Joint with CIGRE SC B5

B: ADVISORY COMMITTEE

Chair: R.P. Taylor

Vice Chair: P. B. Winston

B1: Awards and Technical Paper Recognition

Chair: R. Hedding

Vice Chair T. Seegers

At the Main Committee Meeting, the following awards were given out:

- Working Group Recognition - Karl Zimmerman - Fault Locating
- The "Go To Award" - Walt Elmore

- The "What's are Audience" Award - Mike Meisinger
- The " Powerline Carrier Defender" Award - Mark Simon

Plaques with certificates of appreciation from IEEE Standards Board were presented to the Members of WG K8 - Revision of C37.95 "IEE Guide for Protective Relaying of Utility-Consumer Interconnections"

At the working group meeting, the following nominations were discussed:

1. PES Prize
2. PES Working Group Recognition Award - Standards and Guides
3. PES Working Group Award - Technical Report -
4. High Interest Paper -
5. Intersociety - None
6. Technical Committee Prize Paper
7. Technical Committee Distinguished Service Award
8. Technical Committee Working Group Recognition

Discussion continued on several other awards internal to the PSRC.

B2: Fellows Awards

Chair: J.S. Thorp

The Fellows committee did not meet in Madison.

B3: Membership Committee

Chair: M.J. Swanson

Attendance during the PSRC meeting in Madison is 168.

11 new attendees were in our Newcomers Orientation meeting on Tuesday.

Activities in support of planned strategies:

- Continuing to recruit new attendees using existing methods.
- New User attendees at the September 2002 meeting: One attendee attended 3 meetings since then, 6 attended 2 meeting, and 6 attended only their first meeting
- New User attendees at the January 2003 meeting: Five attendees attended 2 meetings, and 15 attended only their first meeting.
- I have not yet started sending emails to North American protection supervisors promoting attendance.

Recent ideas for promoting attendance were submitted:

- SEL has a Power Point presentation.
- Rich Hunt has an attendance pitch to supervisors.
- The PSRC staff is promoting further attendance at the Newcomers meeting that has a rotating equipment background.
- Invite power students to PSRC meeting.

B4: O/P Manual & W.G. Training

Chair: J.C. Appleyard
No activity to report

B5: Bibliography and Publicity

Chair: T.S. Sidhu
Vice Chair: M. Nagpal

The WG B5 met with two members in attendance. A report on the 2001 NERC DAWG Report was presented and would be sent to WG members for further comments. The WG is preparing the 2003 Bibliography paper and a Publicity report. This work is progressing as per schedule.

B8: Long Range Planning
Chair: George Nail

B8 Long Range Planning - The group met and reviewed the candidates for upgrading to the Main Committee. Four former PSRC Members were recommended for Honorary Membership. The eligibility criteria for Honorary Membership was also reviewed and approved.

B9: PSRC Web Site
Chair: Bill Lowe

Action items:

- Make arrangements for the posting of the new PSRC 2004 Directory.
- Repair problem of new available files being replaced with local cached files.
- Determine how web statistics can be obtained so we may be able to track downloads and web viewing habits.
- Find a way to make the SA Process document available for download. Will be contacting Naeem Ahmad.
- Update all necessary web pages to reflect the September meeting that has passed and the next meeting that will occur.

C: SYSTEM PROTECTION SUBCOMMITTEE

Chair: D. Novosel
Vice Chair: T. Seegers

The system protection Subcommittee met on September 24, 2003, with 54 people attending including 12 members.

It was noted again that several working groups are close to completing their assignments. It was also noted that several new working groups have been formed.

Note that one task forces met this time and a new working group was formed. Its report is given below under **C6 Relay Engineering in Power Engineering Curricula**

Working Group Reports:

C2: Power Quality Issues in Protective Relaying

Chair: T.W. Cease

Vice Chair: S. Kunsman

Working group did not meet during this PSRC meeting.

Next meeting requires **1 session**, room for **30 people**, & **computer projector**.

C3: Trends and Issues with Relay Settings

Chair: Steve Kunsman

Vice Chair: Gary Kobet

Working Group C3 met Wednesday, September 24, 2003 in Madison, WI with 7 (of 14) members and 14 guests. Four guests expressed a desire to become new WG members. The vice-chair chaired the meeting in the chairman's absence.

The working group assignment was discussed and refined. Working group output (format to be decided later):

- Relay setting process
- Master settings database management
- Implementation/Maintenance/Testing/Verification process
- Multiple setting groups
- Differences among vendor databases/firmware revisions
- Access control
- Trends (history, present practices, anticipated future changes)

Discussion centered on developing the topics to be covered into an overall outline.

Five represented utilities agreed to make presentations at the next meeting on their relay setting process relative to the developed outline:

- Rick Cornelison, Alabama Power
- Frank Plumptre, BC Hydro
- Jim O'Brien, Duke Energy
- Russ Patterson, TVA
- Hyder DoCarmo, Center Point Energy

The vice-chair agreed to send the outline to all participants for their review and comment.

Next meeting requires **2 sessions**, room for **30 people**, & **computer projector**.

C4: Wide Area Protection and Emergency Control

Chair: M. Begovic

Vice Chair: D. Novosel

3 papers are almost complete.

Group will not meet in January.

C5: Deployment and Use of Disturbance Recorders

Chair: B. Jackson

Vice Chair: W.M. Strang

Working group did not meet during this PSRC meeting.

Next meeting requires **1 session** room for **30 people & computer projector**.

C6: Relay Engineering in Power Engineering Curricula

Chair: S.S. Venkata

Vice Chair: J. DeLaRee

Working group was created based upon discussions in a task force meeting. Assignment is to work on issues to encourage and propagate relay engineering in college curricula.

C7: Multi-Station and System Testing

Chair: V. Madani

Vice Chair: H. DoCarmo

C7 met in two sessions with 10 Members and 10 Guests in attendance

The key items discussed by the members and guests included:

- Clarification of the assignment

- Preparation of draft outline

- Volunteers for presentations

- WG member assignments

Next meeting requires **2 sessions** room for **30 people & computer projector**.

C8: Phasor-Based Models for Analyzing Relay Performance

Chair: M. Meisinger

Vice Chair: M. S. Sachdev

C8 met with 5 members and 4 guests. As the document is out for ballot and the number of responses to date are few, the meeting adjourned in short order and Jaime De La Ree and Mike Meisinger reviewed the document and Jaime will forward his comments to Moh Sachdev.

Next meeting requires **1 session** & room for **20 people**.

C9: Underfrequency Load Shedding and Restoration

Chair: A. Apostolov

Vice Chair: K. Behrendt

The working group met on Tuesday, September 23rd, with 6 members and 4 guests present. Draft 3 of the document was circulated for comments prior to this meeting. Draft 3 was accompanied by a working group survey, soliciting comments by the end of October. Any

negative survey responses and significant comments will be resolved and incorporated in the next draft document by November 30th.

The working group discussed comments received on Draft 2. Rich Young, from ATC, volunteered to provide updated UF guidelines from MAIN. Additional changes to control area guidelines may occur in the aftermath of the August 14th blackout. We expect that the working group will review the events of August 14th to determine if any changes are warranted to the guide.

Next meeting requires **1 session** room for **25 people & computer projector** and **outlet strip**.

C10: Effects on Changing Utility Environment on Protective Relaying

Chair: J. DeLa Re

Vice Chair: R. Hunt

The working group met for a single session at 9:30 AM, Wednesday, September 24, 2003 in Capitol Ballroom B with 6 members and 11 guests.

Discussions centered on Draft 2 of the Working Group report. Assignments and Action Items are as shown below, with a goal of finishing the Working Group report by the January meeting, or resolving any negative responses to Draft 3.

Assignments and Action Items

- Chair and Vice-Chair to finalize revisions to Draft 2 by October 10th, 2003.
- Report Draft 3 will be sent out for Working Group Vote on October 10th, 2003.
- Working Group responses due by November 15th, 2003.
- Chair and Vice-Chair to resolve negative responses
- Chair will send out Report to C Subcommittee after resolving negative responses.

Revisions to Draft 2:

- Remove individual responses to the survey
- Include a blank survey form as an appendix
- Add a Table of Contents
- Summarize inputs from member presentations

Next meeting requires **1 session**, room for **20 people**, & **computer projector**.

C11: Protection Issues During System Restoration

Chair: T. Sidhu

Vice Chair: D. Tziouvaras

Working group did not meet during this PSRC meeting.

Next meeting requires **1 session**, room for **30 people**, & **computer projector**.

Liaison Reports:

1. IEEE PES Power System Stability Controls SC

Gary Michel

The IEEE/PES Power System Stability Controls Subcommittee met from 8-9am in Toronto on Tuesday, July 15. Following the meeting the subcommittee sponsored an all-day panel session on Wind Generation Modeling and Controls for Power System Dynamic Performance. Willie Wong chaired the morning panel session and Ross Guttronsen chaired the afternoon panel session.

On Wednesday afternoon the subcommittee sponsored a panel session on Load Control for Price and System Stability. Steve Widergren chaired the session.

On Monday at 13:00, the Power System Dynamics Measurements WG met. The WG is preparing a document summarizing industry experience. Dick Schulz chaired the meeting

On Monday afternoon at 14:00, the Fast-Acting Load Control for System and Price Stability TF met. Steve Widergren chaired the meeting.

CIGRE TF 38.02.23 on Coordinated Voltage Control in Transmission Networks met on Sunday, July 13 from 9-11am. Nelson Martins chaired the meeting.

The subcommittee sponsored a special publication entitled "VOLTAGE STABILITY ASSESSMENT: CONCEPTS, PRACTICES AND TOOLS." It is now available from IEEE Publications.

The Power System Dynamic Performance Committee sponsored a panel session on FACTS Applications at the 2003 IEEE PES T&D Exposition in Dallas.

Following the Toronto meeting, Nelson Martins will be Subcommittee chairman and Juan Sanchez-Gasca will be Subcommittee secretary. The Power System Dynamic Performance Committee policy will be four-year terms for subcommittee chair and secretary, with the secretary becoming the new chair.

The next Subcommittee meeting will be with the IEEE PES 2004 meeting in Denver.

2. NERC EC

Winston

No activities to report

3. PES Power Systems Analysis, Computing, & Economics

Mal Swanson

No activities to report

New Business

As a result of discussions, two new task forces were formed to discuss the need for possible subcommittee involvement as follows:

CTF4 Special Protection Schemes

Task Force Chair: M. Begovic

CTF4 was formed to follow up on earlier work on wide area relaying and emergency control. This task force will discuss the need to form a working group to explore more detailed information on the topic of special protection schemes.

Next meeting requires **1 session**, room for **30 people**, & **computer projector**.

CTF1 Cyber Security Issues for Relaying

Task Force Chair: S. Ward

This task force will discuss the need to form a working group to explore issues related to security in microprocessor based relays and related equipment in substations including the use of passwords, encoding, remote access, etc.

Next meeting requires **1 session**, room for **30 people**, & **computer projector**.

D: LINE PROTECTION SUBCOMMITTEE

Chair: M. Carpenter

Vice Chair: Roger Hedding

D2: Fault Locating PC 37.114/D7 Guide for Determining the Fault Location on Transmission and Distribution Lines

Chair: Karl Zimmerman

Vice Chair: Damir Novosel

Working group D-2 met with 4 members and 3 guests. The recirculation of The ballot was complete on September 15, 2003. All negative ballots were resolved by changes made to the latest draft, draft 8. The ballot has met the 75% returned ballot requirements and has been affirmed with 100% affirmation votes.

Some editorial comments were made (approved with comments) to the document. However, since the PAR expired at the end of this year (2003), the working group recommends the guide be sent to REVCOM for final approval and publication. If, for any reason, REVCOM disapproves, we will apply for a PAR extension and incorporate the additional comments.

The WG chair wishes to express gratitude to al the WG members and contributors who made this a successful project.

No meeting for January.

D3: Impact of Distributed Resources on Distribution Relay Protection

Chair: Tony Seegers

Vice Chair: Ken Birt

Working group D3 met on Tuesday, September 23, 2003. 11members and 11 guests attended the meeting.

Draft 3.0 of the paper was reviewed. Sections 1 through 4 were reviewed in detail.

Members were asked to review the paper and send comments to the chairman, Tony Seegers, by November 1, 2003. Particular attention should be directed toward "other considerations" on page 27 of draft 3.0 to determine if these should be included in the paper. If so, Where.

All assignments should be returned by June 13.

D5: Guide for Protective Relay Applications to Distribution Lines

Chair: W. P. Waudby
Vice Chair: R. Crellin

The working group met for a double session with 25 members, 1 new member, and 19 guests.

The WG continued their review of writing assignments, primarily in clause 8.

Several new assignments were accepted. Clauses 1,2, and 3 will be developed. Al Darlington will be doing the figures. Also, editors have been assigned for clauses 4,5,& 6.

Assignments are due Oct. 31st.

D6: Out of Step Considerations on Transmission Lines

Chair: M. McDonald
Vice Chair: Mukesh Nagpal

WG met in a single session with 13 members and 16 guests attending. We had 2 new members join the group.

Assignments were reviewed on Draft 1 and new assignments were made for the upcoming draft 2. The new assignments include sample DFR and event records that will be included in the Appendix of the document. In addition, definitions related to out-of-step will be rationalized and contained in a new section of the report.

D7: Loss of AC Voltage Considerations

Chair: E. Price
Vice Chair: R. Patterson

Working group D7, Loss of Voltage Considerations met on September 23, 2003 with 9 members and 15 guest (meeting 3 on attached roster). The second draft was reviewed and writing assignments were made [as assigned below], which are due November 14. Areas that could not be addressed by attendees are data on Percent transmission line fault types . . . % PG, %PP, %PPG and % 3P from western utilities (low isokronic areas), and Percent of LOV incidents that involves only 1 phase, 2 phases and 3 phases. A discussion of the low voltage conditions of August 14 blackout and their impact on LOV applications was deferred until the January meeting.

Assignments

LOV effect on Directional Units - Charlie Fink
LOV effects on Sequence Measurement - Russ Patterson and Elmo Price
Generation LOV - Gary Kobet
Review of AC Voltage Circuit Configurations - Mohamed Ibrahim
Add discussion for risk analysis - Elmo Price
Improve Tables 1 & 2 - Elmo Price
Write conclusion to Table 1 & 2 - Brad Nelson
Review operational configurations that cause LOV to see if it needs to go elsewhere - Gary Kobet
Simplify specific vendor logic diagrams to basic generic concepts - Gary Kobet

D10: EMTP Reference Models for Transmission Line Relay Testing

Chair: K. Mustaphi

Vice Chair: T. Sidhu

The working group met on Wednesday, Sept. 24, 2003 with 7 members and 4 guests. Draft 8 completes all the assignments by the members. Special thanks to Ashok Gopalakrishnan for organizing and completing the document with help from Hyder DeCarmo and Om Nayak. The members and guests participated in correction and revision of the draft at the meeting. More references and a new appendix C will be added. Hyder will revise the drawing and Om will add a paragraph for the PSCAD user. Ashok will include the revisions in the document and send it to the chairman by Oct. 31st.

The document will be put on the website to allow any users who are interested to use it for relay testing or other uses. The members showed interest in presenting the document at various regional conferences. At the January meeting we will discuss how we like to make such presentations.

Liason Report

NERC - Phil Winston reported NERC is looking for experts to help investigate the August 14 blackout. This will be at least a 3 month full time job. See your NERC liaison for further details.

New Business

Mark Carpenter announced Russ Patterson has accepted his invitation to join the Line Protection Subcommittee. We welcome Russ as a new member.

Mark Carpenter proposed a new task force to study the potential for a working group on "Cold load pick up issues as they pertain to protective relays". Since there was a lot of interest this will be a task force, DTF1, at the January meeting.

No interest was shown in a task force to discuss issue with critical lines feeding critical loads.

High Impedance Fault Activity

None

H: RELAY COMMUNICATIONS SUBCOMMITTEE

Chair: K. J. Fodero

Vice Chair: A. P. Apostolov

**H1: REVISION OF IEEE GUIDE FOR POWER LINE CARRIER APPLICATIONS
JOINT WORKING GROUP**

Chair: B. Nelson

Vice Chairman: M. Simon

Established: 1995

Output: Clauses 9 and 10 for the Revision of IEEE 643. 643 will be produced by the PSCC

Expected Completion Date: 1999

No meeting.

H2: PROTECTION USING SPREAD SPECTRUM COMMUNICATIONS

Chairman: Ken Behrendt

Vice Chair: Bill Lowe

Output:

Established: 2001

Expected Completion Date: 2003

The H2 working group met in a single session on Tuesday, September 23, 2003 with 6 members and 13 guests in attendance.

A draft copy of the working group report was distributed and the recent contributions were discussed. There is still a need for an intra-substation example. Members and guests are asked for suggestions for any items that should be added to this document.

There was some discussion about transmission delays. Delays are a very important part of each application. Interference was also a major concern. Interference can cause delays in frequency hopping applications. It was pointed out that that direct sequence radios and frequency hopping radios may interfere with each other. Also, it was determined in a recent application that a strong frequency hopping signal will overwhelm a direct sequence radio. Adjusting the power output level may be needed to reduce or eliminate interference.

Some new writing assignments were accepted by volunteers.

A revised draft document will be posted on the H2 web site as contributions are received.

The next meeting will consist of a single session. A room for 40, with a projector screen and a power strip is needed.

H4: PC37.115, Standard test method for use in the evaluation of message communications between IEDs in an integrated substation protection, control and data acquisition systems.

Chair: D. Holstein

Vice Chair: Eric Udren

Established: 1997

Output: Standard

Expected Completion Date: 1999

Working Group H4 did not meet in Madison. Balloting on draft 9 has been successfully completed on PC37.115 with 94% affirmative ballots. It should be noted that PC37.115 tests are base on the performance requirements in P1646.

All the necessary documents have been submitted to RevCom for action at their next meeting. A draft of a summary IEEE paper has been prepared. With completion of the paper, the work of H4 will be finished. Thus, no meeting room is being requested for the January 2004 PSRC meeting.

H5: Common Data Format for IEDs

Chair: L. Smith

Vice Chair:

Output: Recommended Practice

Expected Completion Date: 2005

See reports from working groups H5-A, B, C and D below.

H5-A: Common Format for IED Configuration Data

Chair: D. Weinbach

Vice Chair: Dac-Phuoc Bui,
Output: Recommended Practice
Expected Completion Date: 2005

This session combined H5-a, H5-b, and H5-c into a series of presentation

Presenters:

Christoph Bruner, ABB

Ashok Gopalkrishnan

34 in attendance. 13 Members and 21 guests

Presentation 1: Christoph Brunner - 61850 modeling

Christoph presented an introduction to object modeling in IEC61850, as well as a more detailed introduction to the Substation Configuration Language (SCL)

Highlights:

7-4 object model, logical nodes, data classes intro

7-2 mapping of abstract data onto specific protocols, services available

XML based substation configuration language (SCL) from IEC61850-6

Jack Chadwick asked about availability of the information. Ken Fodero suggested putting the presentation & supporting materials up on the IEEE PSRC Working Group website.

Presentation 2: Ashok Gopalakrishnan, Electrocon International – requirements of IED configuration data

Highlights:

Raw settings for use in Electrocon software

Kinds of information their software needs:

1. settings
2. power systems data
3. relay behavior data

He would like to see common format for device settings for using and sharing settings with other programs

The group discussed the variation in settings formats between relays, and how that should be dealt with. This topic will be put on the agenda for the next session of H5-a.

H5-B: Common Format for IED Event Data

Chair: M. Adamiak

Vice Chair:

Output: Recommended Practice

Expected Completion Date: 2005

No Minutes available at this time.

H5-C: Common Format for IED Sampled Data

Chair: Benton Vandiver

Vice Chair:

Output: Recommended Practice

Expected Completion Date: 2005

The working group met on Wednesday, Sept. 24th, with 12 members and 14 guests present in concurrent sessions with H5-a and H5-b. Larry Smith, H5 chairman, introduced the working structure of the four H5 working groups and the reason for the segregation. The H5-c chairman

presented an overview of the objectives for the newly formed H5-c WG and then introduced the presentation by Christoph Brunner. The presentation, entitled "SCL/XML Based Replacement of COMTRADE Configuration File" covered a possible mapping of the existing COMTRADE configuration file data into the IEC-61850 SCL and XML data modeling.

An active discussion focused on the missing information and/or definitions to completely model all of the configuration file components. " Components considered key by the working group included; missing logical node definitions and data values, a setting for primary and secondary (primary is presently assumed default in logical node definitions), and the issue of variable sample rates and how to handle them.

The working group consensus was that more information would be required concerning creating and extending logical node definitions within IEC-61850 to support the configuration file structure. An assignment was put forward to use an actual example of a COMTRADE file and map it to the IEC-61850 structure to fully demonstrate it. It was also agreed that the DAT file portion of the COMTRADE Std be kept separate from this exercise and in general its structure kept as is. The H5-c working group expects to meet again in concurrent sessions with H5-a and H5-b in a combined meeting requiring a room for 40 with PC projector and screen for a triple session.

H5-D: COMTRADE Issues

Chair: Ratan Das

Vice Chair: Amir Makki

Output: Recommended Practice

Expected Completion Date: 2005

The Working Group H5d, met on September 23, 2003. Nine members and fifteen guests were present. The minutes of the May meeting held in Raleigh, NC were approved.

Eight assignments were distributed among members. Assignments are due by Nov. 30, 2003. Amir Makki presented 'Handling and managing COMTRADE issues'. The presentation was appreciated by all members and guests present.

We will meet at the January 2004 meeting. We need a room for 40 people with a computer projector.

H6: APPLICATION OF SUBSTATION ETHERNET LAN COMMUNICATION FOR PROTECTION AND CONTROL

Chairman: John Burger

Vice Chairman: Charlie Sufana

Output: Special Report

Established: 1999

Expected Completion Date: 2003

No Minutes available at this time.

H7: PC37.94 INTER RELAY COMMUNICATION PROTOCOL STANDARD

Chair: G. Michel

Vice Chair:

Established: 1997

Expected Completion Date:

No meeting. The standard has been balloted.

H8: FILE NAME CONVENTION

Chair: A. Makki

Vice Chair: Ratan Das

Established: 2003

Expected Completion Date:

The Working Group H8, met on September 23rd, 2003 at 9:30 am. Six members and ten guests were present. The minutes of the May meeting in Raleigh, NC were distributed and approved with the following changes:

- 1) The naming convention will be restricted to time sequence data and the universal convention will be considered in the future.
- 2) The convention will be restricted to file names and will not include folder names.
- 3) The convention will recommend the use of short names but will not impose restrictions on length.
- 4) The Working Group will focus on preparing the PAR application during the next meeting.

The group will meet at the January 2004 meeting. A room for 25 people with a computer projector and white wall is requested.

H9: Special Considerations in Applying PLC for Protective Relaying

Chair: M. Sanders

Vice Chairman: M. McDonald

Established: 1999

Output: Practical Paper for presentation at regional conferences

H9 Working Group did not meet. The paper is final and has been submitted to the subcommittee for approval.

The paper has been submitted to the Texas A&M Protective Relaying Conference and the Georgia Tech Protective Relaying Conference for presentation. A presenter has not been found as of yet.

H10: REVISION OF THE AUDIO TONE APPLICATION GUIDE C37.93

Chairman: Bill Higinbotham

Vice Chairman: Jerry Hohn

Established: 1997

Output: Revised application guide

Expected Completion Date: 2000

The working group met with 7 members and 1 guest. The ballot results were discussed. The ballot was successful with no negative ballots, 37 editorial comments and 5 technical comments. The working group finalized the recommended actions on the editorial changes and decided to adopt 3 of the suggested technical changes. The changes will be made and the document will go out for re-circulation.

H11: REVISION TO THE SYNCROPHASOR STANDARD

Chairman: K. Martin

Established: 2000

Output: Revised Standard PC37.118

Expected Completion Date: 2003

No Minutes available at this time.

H14: Telecommunication Terms Used by Protection Engineers

Chairman: Roger Ray

Vice Chairman: Ray Young

Established: ?

Output: ?

Expected Completion Date: ?

The H14 Working Group met for the first time under new leadership with Roger Ray as Chairman. Three people other than myself showed up at the meeting. All three indicated that they would like to be members of the WG.

Ray Young has agreed to continue as the Vice Chairman of the working group.

In order to get things started, I circulated an 18 page document that has many digital communications terms in it.

The working group is looking to the H Subcommittee for a direction they would like the work of this working group to head.

We will have a meeting in January at the Tampa meeting.

Task Force Reports

HTF1: SWITCHYARD DATA ACQUISITION

Chairman: E. Udren

Established: 1996

Expected Completion Date: 1998

No Minutes available at this time.

HTF2: Broadband Communications over Power line Carrier

Co-Chairmen: Veselin Skendic and Mark Simon

Established: 2003

Expected Completion Date: ?

Group met on Tuesday with 16 members. Short presentation by V. Skendic was followed by a broad discussion on the topic. Mark Simon provided latest update on the status of the FCC BPLC inquiry.

For the next meeting in tampa, group decided to contact Dr. John Newbury and see if he would be available to lead a technical discussion on the topic (short presentation / open discussion format)

Projected needs for the next meeting: 25 attendees with computer projector

Liaison Reports

1. Power System Communications Committee - E. A. Udren

2. Substation Committee - J. Tengdin

3. IEC TC57 Working Group 10, 11 and 12 Report - E. A. Udren

Coordination Reports

Old Business:

New Business:

I: RELAYING PRACTICES SUBCOMMITTEE

Chair: J.G. Gilbert

Vice-Chair: J. W. Ingleson

Webmaster: T. S. Sidhu

1. Introduction: The Relaying Practices Subcommittee (SC) met on September 24, 2003 in Madison, WI. Introductions were made, and an attendance list was circulated. The meeting attendance was 15 Subcommittee Members and 19 guests.

2. Approval of minutes of the previous meeting: The minutes of the previous meeting were approved with no changes.

3. Items of interest from the Advisory Committee Meeting: The Chairman reported on three items from the Advisory Committee as follows: The O&P Manual will be updated. Rick Taylor briefed the group about changing the Main Committee meeting schedule to make room for presentations.

4. Reports from the Working Group Meetings: Updated information and a current report from each working group has been placed on each working group's web page, and will be updated whenever necessary.

I1: Revision of C37.103, Differential and Polarizing Relay Circuit Testing

Chair: M.S. Sachdev

Vice-Chair: J. D. Huddleston, III

Output: Revision of C37.103-1990

This working group did not meet. At the previous meeting, comments received on the ballot of PC37.103/P14 were discussed.

I2: Terminology Usage Review

Chair: M. J. Swanson

Vice-Chair: J.D. Huddleston, III

Output: Updates to IEEE 100: Standard Dictionary of Electrical and Electronic Terms

The WG met on Sept. 23, 2003 with four members and one guest present. Terms from the PC37.93 and C37.114 were discussed. New work was assigned.

I3: Microprocessor-based Protection Equipment Firmware Control

Chair: R. Beresh

Vice-Chair: D. Weinbach

Output: Recommended Practice

Report: The WG met on Sept. 23, 2003 with 14 Members and Guests. Assignments were reviewed from the previous meeting. The second draft of our recommended practice was discussed at some length. Discussions were held on the first 5 sections of the Draft. Writing assignments were handed out to various members and it is hoped that we will have Draft 3 ready by the end of November and Draft 4 for the January meeting in Tampa. The meeting was largely attended by manufacturer representatives. We would highly encourage utility personnel to come and be involved.

I4: IEC Standards Advisory

Chair: E. A. Udren

Vice-Chair: M. M. Ranieri

Output: IEC Standards Advisory

The Working Group met at the present meeting with 6 members and 3 guests. There are no IEC TC 95 standards drafts on which to vote or comment in this cycle. The WG discussed the following topics:

New Procedures for transfer of IEEE Standards and standards development work to IEC - Naeem Ahmad of IEEE Standards, present at the meeting, made us aware of two new procedures we can use to achieve coordination and some merging of IEEE and IEC standards.

1. Direct IEC acceptance, issued with dual logo — under the terms of a new memorandum of understanding (MOU) between IEEE and IEC, an approved IEEE Standard can be directly submitted to the IEC for international voting. A yeas or nays only voting process follows, and with a successful outcome the Standard is issued with a dual IEC-IEEE logo and is included in the IEC Standards suite. Obviously, this is recommended for IEEE Standards that are not in conflict with existing IEC Standards or standards projects. This may be a good way to achieve quick IEC recognition for IEEE C37.94 on N * 64 kilobit per second data communications for protection. We will request transmission of C37.94 to IEC for dual logo acceptance at this time. This should also be suitable for C37.2 on ANSI device numbers, in which IEC has expressed interest. John Tengdin is to initiate transmission of C37.2 through Substation Committee channels.

2. Category D Liaison Relationship — Under the terms of another recent IEEE-IEC agreement, the chairperson of an IEEE Technical Committee makes a formal request to the secretary of an IEC Technical Committee for a liaison relationship. When this is established, an IEEE standards development activity can run with direct cooperation and participation of designated IEC interested parties. When approval time comes, the document can be voted in both the IEC and IEEE domains. Details of how participation and voting are handled are to be revealed to us later. Upon successful completion of voting, the resulting standard has IEC as well as IEEE status.

This may be a good way to achieve IEC recognition for IEEE C37.118 on Synchrophasors, C57.13.1 on grounding of instrument transformer cases, or C57.13.3 on field testing of instrument transformers, all of which are now under revision in PSRC working groups.

PSRC Chairman Rick Taylor has agreed to sign letters requesting Category D Liaison relationships with TC 95 (Measuring Relays) and TC 57 (Power System Control and Associated Communications). At the meeting we concluded that this should also be done with TC 38, Instrument Transformers. We would start with at most a single trial with any one IEC TC. These processes are only useful for standards, as opposed to guides and recommended practices. The IEC does not publish guides.

TC 57 - Teleprotection and Power System Control - Kay Clinard joined the meeting from the concurrent 61850 Editors' Meeting. WG 10, 11, and 12 continue work on IEC 61850, Communication Networks and Systems in Substations, which defines a standard protocol for substation control and protection. Status of 61850 sections:

1. Introduction and Overview — International Standard (IS)
2. Glossary — IS
3. General Requirements — IS
4. Systems and Project Management — IS
5. Communications Requirements for Functions and Device Models — IS
6. Substation Configuration Language (SCL) in XML Schema — CDV
7. 1 - Abstract Communications Services Interface (ACSI) Principles and Models — IS
2 - ACSI — IS
3 - Common Data Classes — IS
4 - Logical Node and Data Object Addressing — IS
8. Mapping to MMS and ISO 8802-3 — FDIS
9. 1 - Sampled Values over Serial Unidirectional Data Link — IS
2 - Sampled Values over ISO/IEC 8802-3 Network — FDIS
10. Conformance Testing — CD

There are approved or processing new work proposals for additions for power quality data, communications systems for distributed energy resources, and for hydro plant monitoring and control.

WG 10, 11, and 12 have proposed to merge into a single WG 10 to wrap up the final phases of this massive project. Task forces will be appointed to handle specific remaining sections, additions, and technical issues.

Proposal for new Technical Committee on Wide-Area Power System Issues — Major realignment potential for many IEC power systems standards.

I5: Trial-Use Standard for Low Energy Inputs to Protective Relays

Chair: E. A. Udren

Vice-Chair: P. G. McLaren

Output: New Trial Use IEEE Standard P1331

The WG met to review proposed resolutions for the remainder of balloting comments on Draft 9, and made a new Draft 11 (Draft 10 was the first round of revisions reviewed in May). Draft 11 will be posted on the PSRC Web Site by October 15, 2003. It will be submitted for reballoting, with some IEEE format revisions, within 1 month of that date.

The draft Standard, and the comment sheet as reviewed at the meeting, are contained in the files that can be downloaded on the WG web page.

I6: Revision of C37.90, Relay and Electrical Power Apparatus

Chair: M.M. Ranieri

Vice-Chair: J. Teague

Output: Revision of ANSI/IEEE C37.90-1989 (R1994)

The working group met on Sept. 23, 2003 with 9 members and guests to review PC37.90/D15 changes resulting from our efforts to resolve all the comments we received and to reach

agreement on the changes made to the draft. We also completed a review of the entire ballot comment matrix and as a result of our review, the Chair and Vice-Chair will need to review some of the draft changes and the matrix to resolve some issues.

Finalized copies of both the draft and comment matrix will then be sent to all the WG members for a final via email vote on these documents. After the final WG approval, the draft and needed support information for re-circulation and the letters to be sent to all negative balloters will be prepared to initiate the 10 day re-circulation process. We expect to be able to complete all this prior to October 31.

As additional information, the IEEE official results of our original electronic balloting indicated that we had a total of 102 ballot responses, with 4 abstentions. Of the completed 98 ballots received, 11 were negative. Based on a participation rate of 79 % and an approved ballot rate of 88 % affirmative for ballots cast, we have satisfied the process requirements. We expect that our current efforts should result in the resolution of most, if not all, of our negative ballots.

I7: Revision of C37.90.3, Electrostatic Discharge Testing for Protective Relays

Chair: J. Teague

Vice-Chair: J.T. Tengdin

Output: New IEEE Standard C37.90.3

This WG has completed it's assignment and has been disbanded with thanks by the Subcommittee. See WG web page for background information.

I8: Revision of C37.90.1, Standard Surge Withstand Capability Test

Chair: J.G. Gilbert

Vice-Chair: J. Teague

Output: Revision of IEEE Standard C37.90.1-1989(R1994)

This WG has completed it's assignment and has been disbanded with thanks by the Subcommittee. See WG web page for background information.

I9: Revision of C37.105 - Standard For Qualifying Class 1E Relays And Auxiliaries For Nuclear Power Plants

Chair: S. Mazumdar

Vice-Chair: S.M. Usman

Output: Revision of C37.105

The WG meeting was held on Sept. 23, 2003 . The meeting was chaired by Sahib Usman, Vice Chair of the working group . Four members and one guest attended the Working Group meeting . The minutes of last meeting at Raleigh, N.C. were discussed and approved . The latest draft of the standard was discussed. The members suggested modifications of a few sections and paragraphs for clarity. The members also suggested addition of references in the standard to applicable sections in IEC Standard 255 that relates to qualification of safety related protective relays. It was agreed that all of the suggested changes would be incorporated in the next revision, before issuing the draft standard for balloting.

I10: C37.98-1987 - Standard Seismic Testing of Relays

Chair: M. Nemier

Vice-Chair: M. Bajpai

Output: Revision of IEEE Standard C37.98

There were 4 members and 1 guest in attendance at the September 2003 meeting. The major items that were discussed are as follows:

The standard does not currently give any guidance on how to perform the seismic test of a multi-function relay. The standard is written only for single function relays. The group agreed that the seismic capability of all functions of a multi-function relay should be addressed by test or analysis in the seismic qualification report.

Digital relays may have more accurate settings than electromechanical relays and the seismic settings and inputs in Table 1 may need to be changed. This was agreed to be acceptable as long as the settings and inputs meet or exceed those in Table 1.

Action Item: Terry Crawley has volunteered to rewrite section 5.2 to include the above 2 changes. The standard currently uses 2 msec of contact chatter during the seismic test as the pass/fail criteria for the test. See Section 6.2.4.1. Mario Ranieri found that there is modern equipment where a 2 msec change of state may cause a device to actuate.

When comparing C37.98 to the equivalent IEC document, it was found that in the IEC document a change of state of a flag or indicator is a test failure. C37.98 does not have address flags or indicators.

Action Item: A note shall be added to section 6.2.4.1 indicating that 2 msec of chatter on the relay output contacts as the test pass/fail criteria may need to be less than 2 msec because the output contacts may be connected to a more sensitive device where 2 msec is unacceptable. A note shall also be included in Section 6.2.4.1 stating that the change of state of a flag or indicator shall be recorded in the report, however is not considered a test failure.

The standard was written to seismically test a relay and used the nuclear standards and terminology as a reference and guide. It is noted in the standard however, that the test method outlined in the standard can be used to seismically test relays for all applications not just nuclear.

Action Item: Vittal Rebbapragada has volunteered to write a section to be added to the standard to address non-nuclear applications. He is suggesting IEEE 693 "Recommended Practice for Seismic Design of Substations" be used as non-nuclear reference and guide. Prior to the next meeting this standard shall be provided to all members for review. Subinoy Mazumdar shall rewrite sections 1.1 and 1.2.

Note: All action items shall be completed by October 31, 2003 so that they can be made available to the group for review before the next meeting in January 2004.

I11: Survey of Relay Test Practices

Chair: E. Krizauskas

Vice-Chair: W.G. Lowe

Output: Conference Paper

This working group was disbanded with thanks by the SC. For more information see the WG web page.

I12: Revision of C57.13.1, IEEE Guide for Field Testing of Relaying Current Transformers

Chair: M. Meisinger

Vice-Chair: D.R. Sevcik

Output: Revision of ANSI/IEEE C57.13.1-1981 (R1992)

The working group met on Sept. 24, 2003 with five members and eight guests present. Draft three of revised guide incorporating previously received writing assignments and an update to the new Annex 3 on low energy current sensors was distributed and discussed. Various editorial changes were made including correcting section references, rewording the terms " safety " and dangerous ", restoring information regarding demagnetizing, adding a note regarding disconnected spark gaps and surge arresters and adding a caution to not use high-capacity batteries for testing.

The following assignments are recorded:

- 1) Brian Mugalian will provide figures for Section 5

- 2) Don Sevcik will provide the remaining figures
- 3) Next draft will be set out in early November 2003

I13: C57.13.3 IEEE Guide for Grounding of Instrument Transformer Secondary Circuits and Cases

Chair: M.S. Sachdev
Vice-Chair: B. Mugalian
Output: Guide

The Working Group I13, Revision of C57.13.3 - Guide for Grounding of Instrument Transformer Secondary Circuits and Cases, met in Senate A-B, The Madison Concourse Hotel and Governor's Club, Madison WI on September 23, 2003. Six members and three guests were present. The minutes of the May 2003 meeting, distributed previously by Email and also distributed at the meeting, were approved.

Draft 5 of the guide was reviewed by the working group members. All writing assignments have been completed. There are three new items to resolve from Annex B of the guide. These new items may be incorporated into Draft 6 of the guide. The working group will review and comment on Draft 6 before the January 2004 meeting and will plan to discuss any outstanding issues at the January meeting. The working group will then be ready to proceed with further approvals before balloting.

I14: Telecommunication Terms/New Terms Used by Power System Protection Engineers

Chair: T.A. Phillippe
Vice-Chair: R. Young
Output: Special Publication

By action of the SC, this WG was transferred into Relay Communications (H) Subcommittee. Reports of this group will no longer appear under this SC.

I15: Revision of C37.110, IEEE Guide for the Applications of Current Transformers Used for Protective Relaying Purposes

Chair: G.P. Moskos
Vice-Chair: B. Jackson
Output: Revision of IEEE C37.110-1996

The working group met on Sept. 23, 2003 with three members and nine guests present. Draft 4 was reviewed and editorial changes were noted. The guide is in its final stages of being revised to conform to the Style Manual. All application examples have been converted to metric and an Annex D was added for Optical Current Sensor Systems. Prior to the January 2004 meeting, Draft 5 of the guide will be submitted to the IEEE Standards website per pre-ballot editorial review.

I16: Understanding Microprocessor-Based Technology Applied to Relaying

Chair: M.S. Sachdev
Vice-Chair: R. Das
Output: Guide

The Working Group I16, met on May 20, 2003. Five members and six guests were present. The minutes of the May meeting held in Raleigh, NC were approved. Working group report (draft 6) is being balloted and the ballot is due by October 27, 2003. We will meet at the January 2004 meeting to resolve any issues from the ballot. At the conclusion of this business, the meeting was adjourned.

I17: Trends in Relay Performance

Chair: W.M. Carpenter

Vice-Chair: J.D. Wardlow
Output: Special Report

Working Group I17 met on September 23, 2003 with 4 members and 9 guests. Draft 4 of the report, which includes trend data and associated charts for the years 2000, 2001, and 2003, was presented and discussed. One company requested to submit their 2002 data for inclusion in the report. This will be done prior to January. At the January 2004 meeting, the working group will decide whether to present the report "as is" or to include data from 2003. The working group report "Transmission Relay System Performance Measuring Methodology," dated 9/16/1999, is available, and is contained in a single file named "Performance Measure Final.pdf". To obtain this report, please visit the WG web page.

I18: Harmonization of IEEE C37.90.2

Chair: J. Burnworth
Vice-Chair: W. Higinbotham
Output: Revision of C37.90.2

The working group met on Sept. 24, 2003 with 8 members 5 guests. Draft #6 of C37.90.2 standard was distributed and reviewed. The majority of changes from draft #5 were grammatical only with no technical content change. Other draft review comments were discussed, and some minor additional grammatical changes identified. The Working Group agreed that the standard is ready for ballot. Some discussion was had as to the potential delay in the balloting process due to the minor title change introduced in draft #6 requiring a change in the PAR. It was concluded that if this would cause a delay in the process, that the title would be changed back to that of the PAR, and subsequently changed during the ballot re-submittal phase. The chairman will resolve the best approach to expedite the balloting process and proceed in that manner.

I19: Analysis of Substation Data

Chair: L.E. Smith
Vice-Chair: B.A. Pickett
Output: Special Publication

This WG was disbanded with thanks by action of the Relay Practices SC on May 22, 2002. The I19 final report is available on the WG web page.

5. Task Force Reports:

ITF1: Relay Service Letter Database

Chair: J.W. Ingleson

The database was updated on November 14, 2002, and is available on the ITF1 area of the SC web site.

ITF2: This TF has become WG I3.

ITF3: Conducted Electromagnetic Interference

Chair: W. Higinbotham
Vice-Chair: J. Burnworth

This TF has been disbanded with thanks by action of the Subcommittee.

ITF4: Optical Current and Voltage Sensor Systems

Chair: H. Gilleland
Assignment: Report to Subcommittee

The Task Force met on Tuesday September 23, 2003 with 22 members and guests. The task force had previously decided that there was an interest and need with the PSRC Members and that a request would be made to the Subcommittee to establish a Working Group. The challenge was to identify what the specific assignment for the WG would include. There was a spirited discussion that included a review of the Raleigh meeting, the related standards activity in the industry definition of what the technologies should be included, and the action plans and work assignments for the members.

Progress was made but there is still work to be done in clearly defining the assignment for the working group. Therefore the Task Force request that we be allowed to continue to operate as ITF4 at least through the Spring '04 PSRC meeting.

HITF5: Common Formats for Protection IED Data

Chair: A.P. Apostolov

This work is mainly in the scope of the Relaying Communications Subcommittee and has been transferred to that group. Reports will no longer appear under this SC.

6 & 7. Liaison and Coordination Reports:

Instrument Transformers SC of the PES Transformers Committee and Revision of C57.13-1993, IEEE Standard Requirements for Instrument Transformers:

J. D. Huddleston, III - Here are my Liaison and Coordination Reports concerning the Instrument Transformers Subcommittee of the Transformers Committee. The Transformers Committee last met in Raleigh March 16-20, 2003, and my comments are on these Minutes.

Liaison from the Instrument Transformers Subcommittee: I have nothing new to report.

Coordination for W.G. PC57.13 (Revision of the C57.13 Standard: General Requirements for Instrument Transformers (Tom Nelson, Chair)

The Transformers Committee put this document out for re-affirmation on April 9th because IEEE refused another PAR extension to allow balloting of a new Draft Standard (8 years to date on this PAR). Plan is to successfully re-affirm C57.13-1994, get a new PAR, and go out for ballot with their Draft Standard.

Coordination for W.G. PC57.13.6: Instrument Transformers for Use with Electronic Relays and Meters, (Chris Ten-Haagen, Chair): This document is now in balloting.

Coordination for W.G. PC57.13.5: Trial-Use Standard of Performance and Test Requirements for Instrument Transformers of a Nominal System Voltage of 115-kV or Above. This is now a published Trial-Use Standard, C57.13.5-2003. A new Normative Annex, Annex H, has been proposed for inclusion in the Standard after the year Trial-Use period. This Annex is on unbalance CTs for use on capacitor banks for unbalance current protection.

See the Transformers Committee web page at <http://www.Transformerscommittee.org> for further details.

P384-NPEC, Standard Criteria for Independence of Class 1E Equipment and Circuits

M. Bajpai - No activity on this item.

8. Old Business: There was no old business discussed at this meeting.

9. New Business: Mr. Gilbert requested that WG officers please update the WG matrix sheet.

10. Adjournment: Mr. Gilbert adjourned the meeting on schedule.

J: ROTATING MACHINERY PROTECTION SUBCOMMITTEE

Chair: S. P. Conrad

Vice Chair: W. G. Hartmann

The subcommittee met in Madison, Wisconsin on September 24, 2003 with 14 members and 9 guests. Steve Conrad chaired and Kevin Stephan sat in for Wayne as vice chair. Minutes of the May 2003 meeting in Raleigh, NC were approved as published on the PSRC Web site. Advisory Committee items of interest are in the main committee report.

J1: REVISION OF C37.106-1987 GUIDE FOR ABNORMAL FREQUENCY PROTECTION FOR POWER GENERATING PLANTS

Chair: G. Benmouyal

Vice Chair: E. Fennel

The working group met did not meet. The standard has been approved and the WG will not meet further unless needed. If no needs arise, the WG will disband in May 2004.

J3: PROTECTION OF SMALL INTERCONNECTED GENERATORS

Chair: E. Fennel

Vice Chair: R.V. Rebbapragada

Bob Pettigrew reported for the chair. The WG met with 15 members and 9 guests.

Draft 2 of the WG paper was distributed and discussed. The paper was modified to cover machines up to 10 MW vs. the previous 20 MW limit. The 10 MW limit coincides with the P1547 standard. An informal survey of generator manufacturers has been started and will be expanded to additional manufacturers. The effects of the distribution system on the generator protection were also reviewed.

Assignments were made relative to the OEM survey and [producing] a description of generator grounding.

J4: REVISION OF C37.102 AC GENERATOR PROTECTION GUIDE

Chair: M. Yalla

Vice Chair: K. Stephan

This meeting of Working Group J4, PC37.102 IEEE Guide for AC Generator Protection was held on Tuesday, September 23, 2003, with 15 members and 11 guests in a double session.

Draft 2.1 of the guide was circulated and reviewed. 43 pages had changes incorporated in this draft. Two-thirds of the pages were accepted and writing assignments were made to improve the remaining pages. The chair will work with the chair of PC37.101 to resolve device function nomenclature issues so that both guides will use the same terminology.

The WG Chair intends to get informal consensus of the working group and subcommittee on this guide by January 2004.

J5: GENERATOR PROTECTION CRITERIA

Chair: C.J. Mozina

Vice Chair: M. Reichard

The working group met with 10 members and 9 guests. The chair reviewed the progress to date. The title of the paper was changed to better reflect its content. The new title is "Coordination of Generator Protection with AVR control and Machine Capability". The paper will be tutorial in nature to complement the effects in Annex A of PC37.102. The majority of the meeting was spent reviewing Draft 3. A number of new sections were added to the paper and were reviewed at this meeting. The following WG assignments were made. All WG assignments are due to the chair by November 15.

Section II – General Discussion of Generator Capability and Excitation Control

- **Prem Kumar** will review newly added section on generator steady-state stability basics.
- **Chuck Mozina** will add discussion of converting primary ohms to secondary ohms.
- **Mike Reichard** will provide Fig. 4—Capability curve for example generator.

Section III – AVR Coordination – Underexcitation Coordination

- **Gary Kobet** – will revise Fig 5 to show center and radius of steady-state stability circle.
- **Irwin Hasenwinkle** – will write-up setting adjustment when MEL, steady-state stability limit, or capability curve encroach loss-of-field characteristic.

Section IV – Loss-of-Field

- **Gary Kobet** – will add generator capability, steady-state stability limit and MEL to Figure 7 (scheme 1 loss-of-field)

Section V – Generator Backup (21) Protection

- **Murty Yalla** will provide load encroachment drawing and brief write-up

Section VI – Coordinating Volts/Hz Protection with Exciter Limits

- **Jon Gardell & Mike Reichard to re-write this section.**

J6: PERFORMANCE OF GENERATOR PROTECTION DURING ABNORMAL FREQUENCY DISTURBANCES

Chair: S. Patel

Vice Chair: K. Stephan

Working Group J6 met on Tuesday, September 23, 2003, in a single session with 5 members and 15 guests.

The paper has been submitted and accepted as a Transactions paper by the IEEE. The paper is awaiting publication. There will be a summary presentation at this September 2003 Main Committee meeting. Once published, the paper may be submitted for consideration at regional relay conferences.

Discussed exploring an addendum or developing a joint presentation/tutorial with other standard(s) related to prevention of widespread disturbances, especially in light of the August 14 blackout event.

The PSRC has obtained permission from IEEE to post this report on the PSRC website. Since, this is a timely report it is felt that immediate access to our intended audience is paramount. Once the paper has been published the transaction paper will be removed from the website.

J7: REVISION OF C37.101 GENERATOR GROUND PROTECTION GUIDE

Chair: J.T. Uchiyama

Vice Chair: R. Das

J7 WG met Tuesday morning with 10 members and 11 guests. The WG reviewed Draft No. 3 and had discussion of the following items.

1. Need to number figures.
2. Revise I_{2t} to I_{kt} where k = 1 or 2. Also Chuck Mozina will include the reference documents.
3. Chuck Mozina provided stator damage curve and now needs to find the “author” of the curve.
4. Scheme 18b – Should we keep the scheme or not? Is there anybody using this scheme? Joe Uchiyama will investigate.
5. Scheme 18c – add some guideline of “field test procedure or example”.
6. Scheme 18d – rewrite the paragraphs to simplify and to reflect new technology. Pat Kerrigan will do this.
7. Introduce the microprocessor relays into this document, which have better frequency response. Jon Gardell will do this.
8. Need to revise the relay device numbers (e.g. 59 vs. 59GN). Joe Uchiyama will do this.

The assignments will be due to the chairman by November 1, 2003.

JFT1: Variable Frequency Drive (VFD)

Chair: Jon Gardell

The JFT1 Task Force – Protection of motors connected to VSD/VFD systems met with 6 members and 8 guests. The entire meeting was dedicated to a guest speaker presentation. Mr. Jim Nash of ABB Drives presented the topic of Drive Systems. This program was very insightful and informative to the group. He covered drive motor characteristics, different drive technology, embedded drive protection, and associated issues. Several good questions and answers transpired during the course of the presentation.

Jim will send the chair an electronic copy of his presentation which will be distributed to the members, attendees, and any other interested individuals. The chair will solicit thoughts from the task force membership as to the next course of action for the group.

There was discussion at the subcommittee meeting as well. It was suggested that the task force focus on protection functions needed. Then see if protection in addition to the embedded

protection could be developed, working together with the drive manufacturers. Perhaps a new relay suited to drive protection could be created. When multiple motors are driven by one drive, each motor may need its own protection outside of the embedded protection within the drive.

Liaison Reports

1. Electric Machinery Committee, C.J. Mozina

EMC met at the main PES meeting in Toronto in June. The minutes from this meeting have not yet been posted on their web site. Items of interest to the PSRC:

A new WG is being created to develop "standard or guidelines on large generators connected to power systems". No scope has yet been developed for this WG.

Coordination Reports

1. P958-EDPG, Guide for Adjustable Speed Drives, J. Gardell

No new report

2. P408-NPEC, Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations, R. Rebbapragada

No report given.

3. P1010, Guide for Control of Hydroelectric Power Plants, Wayne Hartmann

Out for ballot now.

Old Business

No old business

New Business

Chuck Mozina discussed generator grounding and stator faults. C37.101, C37.102 discuss traditional ways to ground generators, that is, the high Z and low Z methods. The low Z method is usually used in industrial applications where resistance grounding limits the fault current to 200-400 amps. There is evidence now that stator ground faults in machines that are low Z grounded still destroy the machine even though the ground relays operate correctly. There is indication that 85% of the damage is done after the machine trips. Four papers by the IEEE IAS promote that low Z grounding is not the way to go. How does this affect our C37 standards where low Z is still an "acceptable" method? Are there ramifications if C37.101 and 37.102 do not point out the damage possibilities? Chuck handed out a curve (source unknown) showing damage vs. current and time duration. Walt Elmore and Chuck discussed the hybrid-grounding scheme, which appears to be gaining acceptance. If we only allow high Z grounding [in the C37 standards] how do we address ground relay coordination when the only source of ground current is the generator? It was suggested that each generator manufacturer should be consulted as to their fault-current withstand capability. Also, the source of the graph Chuck passed out needs to be identified [before it can be used to support changing the C37 standards].

Rick Taylor commented that the PSRC must to continue to utilize all avenues to get our information out. We must use industry conferences and panel sessions at PES meetings.

The Compendium of relaying standards is available on the web from IEEE for \$195.

New Subcommittee members-chair Steve Conrad announced that Terry Crawley and Prem Kumar have joined the subcommittee.

August 14 Event – Phil Winston said that NERC is requesting help on analyzing the August 14 event (blackout). If interested, contact your NERC representative. This is anticipated to be a two to three month commitment.

General Discussion and Interesting "In-Service Aberration"

Nothing reported.

K: SUBSTATION PROTECTION SUBCOMMITTEE

Chair: S. R. Chano

Vice Chair: C. R. Sufana

The Subcommittee met Wednesday September 24, 2003, at Madison, Wisconsin with 15 members and 34 guests attending. The minutes of the previous meeting in Raleigh were approved.

ITEMS OF INTEREST FROM THE ADVISORY COMMITTEE MEETING:

Simon Chano reported:

1. Standards development is now on the IEEE website.
2. An Operations manual is also available on the website.
3. There will be an announcement Thursday on sub-committee members who have been nominated to Main Committee. To be a member of the Main Committee, the person must be a member of PES. Two members have been nominated to the Main Committee and 1 for an honorary member.
4. The 2003 compendium CD is now finished. The PSRC officers are negotiating a price.
5. After last session on Wednesday, there will be 2 presentations on disturbances. At the Main Comm there will be more and the meeting will start at 7:30 am with breakfast served.

Reports from the WG Chairs

K1: GUIDE FOR THE PROTECTION OF TRANSFORMERS AGAINST FAULTS AND ABNORMAL CONDITIONS

Chair: Mohindar Sachdev

Vice-Chair: Pratap Mysore

Established: 2003

Output: Subcommittee Report

Expected Completion Date: 2008

The Working Group met Wednesday September 24, 2003, in one session with 12 members (three existing members and nine new members) and 11 guests.

The scope is to revise the guide and include materials from special publications on phase angle transformer and thermal overload. Outlines from 3 documents were discussed and assignments were made to review clauses in existing documents.

For the next meeting the Working Group needs 1 session for 40 people and requests A/V,

K2: BREAKER FAILURE PROTECTION

Chair: R.A. Hedding

Vice Chair: A. CHAUDHARY

Established, 2001

Output: ANSI C37.119

Expected Completion Date: 2006

Draft 2

K2 met in a double session Tuesday September 23, 2003 with 32 members and 24 guests. Clauses 5 to 13 were reviewed. Several assignments were made. Draft 2 of the guide has now been completely reviewed. After review of the new assignments, editing will begin. The guide is on schedule to make the PAR completion date.

For the next meeting the Working Group needs 1 session for 60 people and requests A/V,

**K3: REDUCING OUTAGES THROUGH IMPROVED PROTECTION AND
AUTORESTORATION IN DISTRIBUTION SUBSTATIONS**

Chair: B. Pickett

Vice Chair: T. Sidhu

Established, 2002

Output: Paper

Draft 2A

The K3 Working Group met September 23, 2003 with 7 members and 13 guests.

The title was changed to "Reducing Outage Durations through Improved Protection and Autore restoration in Distribution Substations. Draft 2A was reviewed and revised. Six new writing assignments were made.

For the next meeting the Working Group needs 1 session for 25 people and requests A/V

K4: BUS PROTECTION GUIDE

Chair: S. P. Conrad

Vice Chair: R. W. Haas

Established, 1999 (Originally 1983)

Output: Revision of Standard ANSI C37.97

Expected Completion Date: 2004

The latest draft is going to the IEEE SA to be finalized. The PAR expires Dec. 2004.

Minutes of IEEE PSRC Meeting September 22-25, 2003

For the next Meeting: Single Session, 25 people, no A/V

K7: GUIDE FOR THE PROTECTION OF SHUNT REACTORS.

Chair: K. A. Stephan

Vice Chair: P. G. Mysore

Established, 1999

Output: Revision of ANSI/IEEE C37.109.

Expected Completion date: 2004

Status: Reviewing Draft 9

The Working Group met on Tuesday, May 20, 2003, in one session with 4 members and 5 guests with Vice Chair Pratap Mysore presiding. Met Draft 8 distributed and will be going for pre ballot review. PAR extend June 12 for 2 years

The Working Group met on Tuesday, September 23, 2003, in one session with 5 members and 2 guests.

Draft 8 of the guide was distributed and the changes from draft 7 were reviewed. One minor change was suggested. Draft 9 will be issued to the IEEE editors for review prior to submittal of all information to form a balloting body. With the help of the PSRC Standards Coordinator (Moh Sachdev) an extension to the PAR was applied for and granted on June 12, 2003.

For the next meeting the Working Group needs 1 session for 15 people and requests no A/V

For the next Meeting: Single Session, 15 people, no A/V

K10 (Ex KTF1): SCC21 Distributed Resources Standard Coordination

Chair: William Feero

Vice Chair: Jerry Johnson

Established, 1999

Expected Completion Date: 200x

Output: Standard through the SCC 21

K10--SCC21 Distributed Resources Standard Coordination working group met on September 24, 2003, with 9-members and 10-guests in attendance. The chairman of K10, Bill Ferro, had to leave on Wednesday so the new vice chairman Jerry Johnson held the meeting. Bill reported by email that Doug Dawson (previous vice) has regained his health but is not sure he can justify the out of pocket cost of attending sufficient future meetings of PSRC to satisfactorily serve as vice chair.

An update on **new** Std. 1547-2003 was provided. The board approved the standard at their June meeting, and the std. was made available for sale in August. A copy of the standard can be purchased at the IEEE web site, IEEE Standards "Store" **IEEE Std. 1547 - 2003 Standard for Interconnecting Distributed Resources With Electric Power Systems.**

We also reviewed the progress of P1547.1, .2, and .3 and discussed how information will flow from the three working groups to K10 and back.

- IEEE P1547.1- *Draft Standard for Conformance Tests Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems*
- IEEE P1547.2- *Application Guide for Interconnecting Distributed Resources with Electric Power Systems*"
- IEEE P1547.3 - *Draft Guide For Monitoring, Information Exchange, and Control of Distributed Resources Interconnected with Electric Power Systems*

The next P1547.x meetings are scheduled for November in New Orleans.

A draft discussion of "Unintentional Islanding" for P1547.2 was passed out to the group and volunteers for editing were solicited. Nine (9) people agreed to edit an electronic copy (I will email) of the document, indicating a lot of interest in the subject. Bill would like to have comments back by October 7.

Erich Gunther began attending our meeting at the request of SCC22 "Power Quality Standards Coordinating Committee". He will coordinate any power quality issues that might come up in the development of 1547.1, .2, and .3. Erich is also Vice Chairman of the SCC22 Harmonics working group.

We discussed Bill's plan for purging K10's membership. People have signed up for years but many no longer attend. We decided if there is no response to the K10 email meeting notice (return receipt on), or no meeting attendance for two consecutive meetings, their name will be removed from the membership list.

For the next meeting the Working Group needs 1 session for 20 people and requests no A/V

K13 (PC 37.116): GUIDE FOR PROTECTIVE RELAY APPLICATION OF TRANSMISSION-LINE SERIES CAPACITOR BANKS.

Chair: F. P. Plumptre

Vice Chair: Dan Hamai

Established, 1999

Output: Guide

Expected Completion Date: 2005

Draft 6

Working Group K13 met on Tuesday, September 23, 2003, in a single session. Five members and five guests were present. Draft 6 was reviewed and has been also sent to 824 of the T&D committee. There are several new clauses on line protection and cap protection. The Working Group also reviewed the section on testing. The PAR was also extended to December 2005

At the next meeting: 15 people, single session, no a/v

Liaison Reports:

1. Transformer Committee, J.D. Huddleston III -

The Transformers Committee Meeting met in Raleigh March 16-20, 2003. The Users in this Committee are having a real problem with "total metrification". For example, in the recently balloted C57.12.34, there remained 21 negative ballots, mostly concerned with the lack of inch-pound units in the body of the text. They are pushing for an exception for this and other similar Standards to permit dual-dimensioning in the body of the Standard. Other than that issue, everything else seems to be going smoothly.

Coordination Reports:

All coordination reports will be available after the January 2003 meeting.

1. ANSI/IEEE Switchgear Standards F. Plumptre.

a) C37.100.1, Common Requirements for IEEE Power Switchgear Standards

No update

2. PC62.91-SPD, Revision of IEEE 32 Requirements, Terminology, and Test Procedures for Neutral Grounding Devices, D. C. Dawson.

No update

3. P1375 Guide for the Protection of Large Stationary Battery Systems, S. Conrad

No update

4. P1409 Guide for Application of Power Electronics for Power Quality Improvements on Distribution Systems Rated 1 kV through 38 kV, Steve Conrad

No update

5. P1106 Recommended Practice for Installation, Maintenance, Testing and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications, Steve Conrad.

No update

6. PC37.74 Standard Requirements for Subsurface Vault, and Padmounted Load-Interrupter Switchgear and Fused Load-Interrupter Switchgear for Alternating Current Systems up to 38 kV, Roger Hedding.

No update

7. ANSI/IEEE Switchgear Standards, Vittal Rebbapragada

a) PC37.30.01 Standard Requirements for High Voltage Air Switches, Switching Devices, and Interrupters.

b) PC37.100.1 IEEE Standard of Common Requirements for Power Switchgear

No update

8. PC37.20.1 Standard for Metal Enclosed Low Voltage Power Circuit Breakers, Irwin Hasenwinkle

No update

Old Business

The Working Group Chairs are to report their rosters no later than next week

New Business

Frank Plumptre suggested a new WG to cover breaker failure in multifunction relays. The group would prepare an IEEE Transactions Paper on the Application of Common Protection Functions in Multi-Function Relays. Simon Chano assigned task force KTF5 to meet in January 2004 with Irwin Hasenwinkel chairing the meeting.

Background: Traditionally, protective relays were single function devices. Many of these devices include common functions such as breaker failure relays, automatic reclosing relays. The devices were identified as common because they were not duplicated in the primary and standby protection schemes but were common to both protections.

Assignment for the TF is investigate the challenges, opportunities for the application of common protection functions in multi-function relays.

There was some discussion on the proposal. Simon Chano said it could also be for protection other than breaker failure, i.e. bus or transformer protection.

Mohamed Ibrahim cautioned that if the line is out the protection may need to be in for breaker failure and during testing could trip something. The Northeast Coordinating Council specifies that if 2 systems are used, then both systems need breaker failure.

Frank also said reclosing is also an issue. Jack Chadwick mentioned that the problem is common to all the new relays not just the line protection.

Simon Chano said that breaker failure and bus protection fall into K subcommittee scope. The meeting was concluded with Mohamed Ibrahim giving a 5 minute explanation of the New York system.

Simon Chano thanked all Subcommittee members for their support that was given to him over the last three years as K SC Chair. Starting next January, there will be a change in K SC Chair positions. Charlie Sufana will become the Chair and Frank Plumtre will be the new Vice Chair of the Substation Protection Subcommittee. Simon Chano asked all members to continue their support to the new Chair and Vice Chair.