IEEE PES Substations Committee
Gas-Insulated Substations Committee – K0
Chair – George Becker, EPRI
Vice Chair – Pat Fitzgerald, CGIT Systems
Secretary – Scott Scharf, TVA

Meeting Minutes
May 18, 2015 (11am – 12pm)
Minneapolis, MN

Attendees

Maurice Aburdene
George Becker
John Brunke
Vince Chiodo
Chad Dugas
Steve Emling
Arnaud Ficheux
David Giegel
Peter Grossmann
Hermann Koch
Jorge Marquez-Sanchez
Nicholas Matone
Dave Mitchell
William Munn
Michael Novev
Sean Parsi
Lukas Rothlisberger
Scott Scharf
Behzad Sharifi
Devki Sharma
Dave Solhtalab
Ryan Stone
Paul Zecchino

Introduction

- George Becker welcomed everyone to Minneapolis
- Introduction of attendees

Business

- Approval of meeting minutes from Anaheim. Devki Motioned, Jorge second.
- Review of WG slides, Patent Slides
- B0 discussion of possible new Subcommittee focused on Substation Grounding
- Next tutorial opportunity is tentatively in Dallas, TX in 2016
- Discussion of K0 project work plan and subcommittee report (See Attachment A)

    - K1 – Standard for High Voltage GIS Rated Above 52kV (C37.122)
      Chair – John Brunke
        - John Brunke will remain as chair for revision of C37.122 for publishing in 2020. Ryan Stone will remain as Vice Chair.
        - Work expected to begin in the near future on revision (2016).

    - K2 – GIS Tutorials and Panel Sessions
      Chair – Hermann Koch
        - The next tutorial is planned for the 2016 T&D Expo in Dallas, TX (2016).

- Complete revision of the tutorial is under way.
- Hermann continually working to produce a work plan for the tutorial modules based on the review of the modules and assignments.
- Further discussion and revision planned for 2016 JTCM.

- K3 – Guide for Application of GIS 1kV to 52kV (C37.122.2)

  Chair – George Becker
  - The Guide was approved by IEEE Standards Board in 2011. Presently complete and available through IEEE-SA.
  - No plans for work on this document any time soon.

- K4 – Guide for SF6 Gas Handling for High Voltage Equipment (C37.122.3)

  Chair – Luke van der Zel
  - The Guide was approved by IEEE Standards Board in 2011. Presently complete and available through IEEE-SA.
  - No plans for work on this document any time soon.
  - New roles being suggested and to be confirmed by George prior to 2016 JTCM.
    - Recommendations that Lukas Rothlisberger take over role as Chair and Dave Giegel as Vice Chair. *(Changes confirmed via email on 6/3/2015)*

- K5 – Guide for Application of GIL rated above 72.5kV (C37.122.4)

  Chair – Pat Fitzgerald
  - The 1-year PAR extension is set to expire in December 2015.
  - Document needs to be submitted to REVCOM.

- K6 – Users Group Meetings

  Chair – Dave Mitchell
  - Dave Mitchell has agreed to serve as Chair of K6 with Venkatesh Minisandram serving as Vice Chair.
  - Suggestions and requests for detailed topics of discussion were sent out from Dave Mitchell prior to the meeting.
  - Plans for holding a “User’s Forum” continue to be topic of discussion. Possibly at 2016 Substations Meeting in Atlanta.

- K7 – Standard for Bushings for High-Voltage Circuit Breakers and GIS (C37.017)

  Chair – Devki Sharma
  - No plans for work on this document any time soon.

- K8 – Guide for Moisture Measurement & Control in SF6 GIS (C37.122.5)

  Chair – Dave Giegel
  - No plans for work on this document any time soon.

- The Guide is presently complete and available through IEEE-SA.
- Working group formation and PAR generation for revision of this guide is expected in 2018.

- K9 – Recommended Practice for GIS Interface (C37.122.6)

  Chair – Arnaud Ficheux
  - No plans for work on this document any time soon
  - The recommended practice is presently complete and available through IEEE-SA.
  - Working group formation and PAR generation for revision of this guide is expected in 2018.

- K10 – GIS Handbook

  Chair – Hermann Koch
  - Next revision to GIS Handbook to begin soon.
  - Content changes have been mentioned that need revision based on views from the group of the actual hard copy.
  - Hermann working to assign parts for revision and new additions.

- K11 – Guide for GIS (C37.122.1)

  Chair – Dave Solhtalab
  - Guide was approved by the IEEE Standards Board in December of 2014.
  - No plans for work on this document any time soon.

- K12 – Guide for Specification of High Voltage GIS above 52kV (C37.123)

  Chair - George Becker
  - The balloting is closed. Comments have been submitted and are currently being reviewed.
  - George to resolve all comments and submit back out for review with hopes of having finalized by 2016 JTCM.

- **K13 – Proposed Standard for GIS 1kV – 52kV (C37.122.xx)

  Chair – Allan Jacobs
  - Joint standard with IEEE Switchgear Committee on C37.20.9 Standard for Metal Enclosed Gas Insulated Switchgear Rated (1 kV—52 kV).
  - Eldridge Byron is Chair for Switchgear Committee WG and has provided meeting minutes from the Switchgear Committee meetings.

- **K14 – Proposed Guide for Condition Assessment of GIS (C37.122.xx)

  Chair – Pat Fitzgerald
  - This is a potentially new working group with the goal of creating a scope for the new document and to generate a PAR.

- Some brief discussion about Breaker maintenance and how to assess the overall conditions of GIS years down the road. Lot of unknowns for this proposed guide at this time and which direction to move forward.
- Dave Mitchell to talk with Pat about some ideas and thought behind this proposed guide.

o **K15 – Proposed Recommended Practice for Field Testing of GIS (C37.122.xx)

Chair – Dave Giegel

- Dave continually working on getting feedback from working group. Considerations still as to whether this should be a white paper or technical document, but leaning towards recommended pactice.
- Assignments have been sent out to working group members.
- Steve Emling has agreed to be the Vice Chair.
- Possible defined scope by 2016 JTCM.

o **K16 – Proposed Advanced Current & Voltage Sensors in GIS

Chair – Peter Grossman

- This working group has agreed that a Panel Session will be the best way to proceed forward.
- Lot of activity and documentation currently available from CIGRE.

o **K17 – Proposed Physical Security Advantages of GIS Equipment

Chair – Peter Grossman

- Working group still ongoing discussion revolving around how to proceed forward with this since E0 currently has a working group addressing similar issues.

o **K18 – Proposed Guide or Standard for Mobile Gas-Insulated Substations

Chair – Scott Scharf

- Working group agreed that a guide sounds better for this document.
- Work towards defining a scope will continue. Plans of having a defined scope and purpose by 2016 JTCM.
- Brainstorming session with ideas for the document. Future meetings will assign parts to the working groups.

Future Meetings

Joint Technical Committee Meeting (JTCM) - Tentatively Memphis, TN - (January 10-14, 2016)
PES Substations Committee Meeting - Atlanta, GA (May 22-26, 2016)
Liaison with Switchgear Committee Meeting - San Diego, CA (September 2016)

Adjournment

Meeting Time – Approx. 52 minutes

Attachment A

Key for Attachment A:

IEEE Status	
	Approved
	Ongoing
	Comment Resolution
	New Work

Document	Title	Working Group	Working Group Chair/Vice Chair/Sec'y	PAR Status	IEEE Status	Activity
C37.122	IEEE Standard for High Voltage Gas-Insulated Substations Rated Above 52kV	K1	CH-John Brunke VC-Ryan Stone	Completed	Approved 2010 Expires 2020	The standard revision is complete. Begin work on revision for 2020.
Tutorial	GIS/GIL/SF_6 Tutorials and Panel Sessions	K2	CH-Hermann Koch	No PAR	Ongoing	A GIS/GIL tutorial was done at the IEEE T&D Expo in April 2014 and it was well attended, the tutorial was sold out. Major revisons in progress for Subcom 2015 in Minneapolis.
C37.122.2	IEEE Guide for the Application of Gas-Insulated Substations 1kV to 52kV	K3	CH-George Becker VC-Peter Blohm (ret) Sec-Pat Fitzgerald	Completed	Approved 2011 Expires 2021	The new guide is complete.
C37. 122.3	IEEE Guide for Sulphur Hexaflouride (SF_6) Gas Handling for High-Voltage (over 1000 Vac) Equipment	K4	CH-Luke van der Zel VC-Arun Arora	Completed	Approved 2011 Expires 2021	The guide revision is complete.
C37.122.4	Guide for the Application for Gas-Insulated Transmission Lines (GIL), Rated 72.5kV and Above	K5	CH-Patrick Fitzgerald	Open - PAR approved to End 2015	Balloting	Recirculation #2 - 57 affirmative votes; 0 negative voted; 3-editorial comments; Chair to submit to REVCOM final.
GIS/GIL Users Group	GIS/GIL Users Group Meetings	K6	CH-Dave Mitchell VC-Venkatesh Minisandram	No PAR	Ongoing	The GIS Users' Group meeting occurred in Portland, OR and was well atttended. Users group meeting planned for Subcom 2015 in Minneapolis.
C37.017	IEEE Standard for Bushings for High-Voltage [over 1000V (ac)] Circuit Breakers and Gas-Insulated Switchgear	K7	CH-Devki Sharma	Completed	Approved 2010 Expires 2020	The standard is complete. Switchgear Committee is looking to update and a new PAR is needed in Switchgear to do this.
C37.122.5	Guide for Moisture Measurement and Control in SF6 Gas-Insulated Equipment	K8	CH-Dave Giegel VC-Brian Withers	Completed	Approved December 2013 Expires 2023	The standard is complete.
C37.122.6	Recommended Practice for the Interface of New Gas-Insulated Equipment in Existing Gas-Insulated Substations	K9	CH-Arnaud Ficheux VC-Peter Grossmann Sec-Pat Fitzgerald	Completed	Approved 2013 Expires 2023	The standard is complete.
GIS/GIL Handbook	GIS Handbook 2nd Ed.	K10	CH-Hermann Koch	No PAR	Published	K10 the GIS/GIL Handbook Published during August 2014. Planning work in progress on 2nd Edition.

C37.122.1	IEEE Guide for Gas-Insulated Substations	K11	CH-Dave Solhtalab VC-Godwin Dhuru Sec-Pat Fitzgerald	Open - PAR approved to End 2014	Ongoing - Second Recirculation	The Guide was approved by the IEEE-SA Board 11/3/2014.
C37.123	Guide for Specifications for High Voltage Gas-Insulated Substations Rated Above 52 kV	K12	CH-George Becker VC-Devki Sharma Sec-Pat Fitzgerald	PAR Approved 02-Nov-2012 PAR Expiration 31-Dec-2014	Balloting	WG met at the 2014 Substation Committee Meeting Portland, OR. Applied for PAR extension to 12/31/2015. On Decemeber 10, 2014 the IEEE-SA Standards Board approved the extension. This Guide is in balloting and the ballot close date was May 16, 2015.
C37.122.XX	Standard for Metal Enclosed Switchgear Rated 1 kV to 52 kV Incorporating Gas Insulating Systems	K13	CH-Eldridge Byron VC-George Becker	PAR submitted by SWG Committee	Joint Standard-Substations and Switchgear	Switchgear Committee WG has developed scope and draft document of C37.20.9. The C37.20.9 draft sufficiently addresses GIS 1kV to 52kV in conjunction with C37.122.2, K0 will jointly work with Switchgear Committee to develop C37.20.9.
C37.122.XX	Guide for Condition Assessment of Gas-Insulated Substations	K14	CH-Pat Fitzgerald VC-Dave Solhtalab Sec-Scott Scharf	No PAR	New	Scope development ongoing.
C37.122.XX	Recommended Practice for Field Testing of Gas-Insulated Substations	K15	CH-Dave Giegel VC-Xi (Sean) Zhu	No PAR	New	Scope development ongoing.
Panel Session	Advanced Current and Voltage Sensors in Gas-Insulated Substations	K16	CH-Peter Grossman VC-Arnaud Ficheux	TBD	New	Scope development ongoing.
Panel Session	Physical Security of GIS Equipment	K17	CH-Peter Grossman VC-Dave Solhtalab	TBD	New	Scope development ongoing.
C37.122.XX	Mobile Gas-Insulated Substations	K18	CH-Scott Scharf VC-Dave Mitchell	No PAR	New	Scope development ongoing.