

Generator Subcommittee

Minutes of Meeting

Monday, July 28, 2014, 3:00–5:00 PM

Location: National Harbor, Maryland

1. Call to Order

The meeting was called to order by Chairman John Yagielski. John introduced himself, and explained Vice Chairman Gayland Bloethe was unavailable to attend, and presented the new Secretary Raul Rico. Most attendees had already presented themselves in the earlier Working Group 8 meeting. (Please refer to Attachment A for a listing of the attendees). The Chairman reminded everyone about volunteering for Secretary when the position becomes open in 2016.

2. 2013 Minutes

The minutes of the 2013 meeting were approved as submitted, and presented by John Yagielski at the GSM.

3. Review of Agenda

Chairman suggested a quick review to solicit suggestions that may streamline the agenda.

Regarding the Election of Officers, no election to be held this year since positions are filled. The rest of the agenda was reviewed. No new items were added. The agenda was approved as submitted.

3. Officer Reports:

Chairman submitted and presented a short summary of Working Group activity for submission to the EMC (This is included as Attachment B). We proceeded to the Working Group reports.

4. Working Group reports:

Working Group 1 (Awards and Recognitions). Nils Nilsson mentioned the Distinguished Service Award, Prize Standard and Prize Paper award as part of the group's narrow scope, but also suggested that the GS members should nominate worthy for awards such as the Tesla, Veinott, Outstanding Standard Participation and the Kaufmann Award. He also discussed Fellows activities as separate from awards activities and encouraged the Subcommittee Chair to submit two Fellow nominations for review as a yearly goal.

Working Group 5 (Guide for Operation and Maintenance of Hydro-Generators). There was no report from Working Group 5, and no report of activity. Standard 492 expires in 2021. It was stated that the Chairman could appoint a new Working Group Chair. The Chairman will work with Randy Groves to establish next steps.

Working Group 6 (Application Guide for Superconducting Machines). The chair of Working Group Kiruba Haran was not in attendance. No known working group activity this year. The Chairman will contact Kiruba for status.

Working Group 8 (Comparison of IEEE C50.13 and IEC Generator Standards) is moving forward to Phase 2 to continue the process for harmonizing C50.13 with the corresponding IEC standards. The 2014 version was issued in April 2014. Mike Sedlak will work under old the PAR to determine the potential of Grid Code impacts.

Working Group 10 (Generator On-Line Monitoring). Izzy Kerszenbaum was not in attendance, but sent report. Issued new guide in April 2014, PAR is complete. No immediate need to work, Group 10 is closed.

A proposal to re-number the groups was discussed. Decision was to keep working group numbers as they are, list the inactive WGs and decide on naming or numbering the WG when a new one is created.

5. Liaison Reports:

There were no written reports.

Robert Thornton-Jones reported on the Excitation Systems and Control Subcommittee which has provided an updated publication of 421.2 and 421.4, currently working on 421.5, and a PAR raised on 421.6 with a task force assigned.

Jim Lau reported that the Materials Subcommittee has been meeting every six months, with about six working groups. He noted the Core Maintenance, Dissection of Coils, Advanced DC Hipot Diagnostics Working Groups as items of interest.

Nils Nilsson reported on the Power System Relay Committee activities: revision and publication of the C37.96, "Guide for Motor Protection", and revision and publication of the C37.102, "Guide for AC Generator Protection".

Randy Groves reported on the Hydroelectric Power Subcommittee Standards activities of interest: Publication in 2013 of Standard 1095, "Installation of Vertical Shaft Hydrogenerators", Standard 810, "Hydrogenerator Coupling and Shaft Runout Tolerances" going into ballot soon, and Standard 1249, "Hydroelectric Plant Automation" was published in 2013. He also volunteered help with Standard 492, for Working Group 5.

The Motor Subcommittee Liason was not present. It was stated that Standard 112 "Test Procedure for Polyphase Induction Motors and Generators" is being balloted, and that Standard 1812 "Testing Guide for Permanent Magnet (PM) Machines" is going through second circulation balloting.

Regarding Wind Energy Machines and Systems, no Liason Report was given. New officers were elected. Chairman will follow up to establish a new Liason.

6. Standards Review

Innocent Kamwa reported the release for sale of the new CD ROM of the EMC standards published March 2014. He also reported the approval of the new Policy and Procedures document which was accepted midyear 2013. He also noted that Standard 1110, "Guide for Synchronous Generator Modeling Practices and Applications in Power System Stability Analyses" expires in 2018. Innocent will provide status and give recommendation what to do with the standard. The chairman will follow up to ensure a PAR is established.

7. Web Site

The new Web Master is Dionysios Aliprantis, who has provided very timely updates. There has

been discussion at the EMC level about standardization of web sites. There will be a decision on our part to consider modeling our website after the Motor Subcommittee example.

8. Old Business

Regarding Standard 67 “Guide for Operation and Maintenance of Turbine Generators” the recommendation was made to wait until end of the year to see if C50.13 changes, and decide at that point if changes should be added to Std. 67.

9. New Business

To deal with changing grid codes, the suggestion of creating a Task Force on “Grid Code Impacts on Machine Standards” was made. A Subcommittee Task Force needs to be created. Volunteers for the task force were requested to mark their interest on the attendance sheet (See attachment A). It was decided that Robert Thornton-Jones will Chair, and convene the first meeting.

Next GSC meeting – PES 2015. The intent would be to reserve a four hour time block. If Combo Sessions will become available we will avail ourselves of that opportunity.

Attachment A— GSM 2014 Attendees

Attendee	Affiliation	GTF*
Randall Groves	Grant County PUD	
Kenichi Hattori	Mitsubishi-Hitachi Power Systems	✓
Joseph Hurley	Siemens Energy	
Haran Karmaker	TECO Westinghouse	
Geoff Klempner	AMEC NSS	
Kevin Mayor	Alstom Power	
Jim Michalec	WEG Electric	
Lon Montgomery	Siemens Energy	
Mike Sedlak	Midwest Generation	
John Yagielski	GE Power and Water	
Nils Nilsson	Lanier Consultancy	✓
Philip Spotts	Worley Parsons	
Robert Fenton	Generation Technology Consultants, Inc	
Andy Knight	Univ. of Calgary	
Malia Zaman	IEEE	
Ronghai Qu	Huazhong University of Science & Technology	
Michael Faltas	ABB Excitation	
Matthias Baechle	ABB Excitation	
Eli Pajuelo	Univ. Of Saskatchewan/ Pajuelo Electric, Inc.	
Ayman Al-Quraan	Ph.D. candidate, Concordia University	
Ian Nelson	Siemens Energy	
Bob Gray	Siemens Energy - Orlando	
Michel Rioual	EDF	
Kevin Chan	Alstom	
Jim Lau	Siemens Energy	
Greg Anderson	So. Cal. Edison	
Roberto Siniscalchi	Furnas Centrais Electricas	
Robert Thornton-Jones	Brush	
William Bartley	HSB	
Innocent Kamwa	Hydro-Quebec/IREQ	
Kay Chen	Siemens Energy	✓
Edson Bortoni	Itajuba Federal University	✓
Raul Rico	Siemens Energy	

*Grid Task Force Lead Volunteer

Attachment B— Generator Subcommittee Report (July 2014)

There are currently 25 members of the subcommittee as listed on the GSC roster (based on 2013 attendance). The most recent annual meeting was held in Vancouver, British Columbia, July 2013. The next meeting is scheduled for the week of July 28, 2014, in Washington DC.

Current GSC Officers are as follows:

Chairperson: John Yagielski (john.yagielski@ge.com)
Vice Chairperson: William G. Bloethe (William.g.bloethe@sargentlundy.com)
Secretary: Raul Rico (raul.rico@siemens.com)

We welcome Raul Rico to the roll of secretary for the GSC.

Current Working Group Activities are summarized below:

WG1 Awards	The Awards & Recognition WG reports out at the EMC level. Please refer to the EMC report.
WG5 Revision of IEEE 492	The working group started in 2010. The PAR has not been completed as of 2010. No report was sent from this WG for 2012-2014.
WG6 Application Guide for Superconducting Machines	The working group had meetings in 2012 in San Diego. An application guide is under work. No report is received from this working so far.
WG8 Harmonization of IEC and IEEE Concerning IEEE C50	The 2014 version issued in April 2014.
WG10 Generator On-Line Monitoring	The guide issued April 2014.

Please see Table 1 (attached) for a summary of the IEEE standards and guides that are maintained by the Generator Subcommittee, for reference only.

New Business

No new business for 2013-2014.

Prepared by:

John Yagielski
7/19/2014

Attachment C- Summary of IEEE Standards & Guides maintained by the Generator Subcommittee – as of July 28, 2014

Standard No.	PAR No.	IEEE No.	Title	Status	Expiration Date	IEEE-SA Standards Board Approval Date	WG #	Note
67 – 2005 (R2010)		67	Guide for Operation and Maintenance of Turbine Generators	Published 8-5-2006	9/30/2020	11/29/2005		Geoff Klempner to present review GM2014
95 – 2002 (R2012)		95	IEEE recommended practice for insulation testing of AC electric machinery (2300 V and above) with high direct voltage	Published 12-4-2002	12/31/2018	3/21/2002		
115 – 2009		115	Test Procedures for Synchronous Machines Part I – Acceptance and Performance Testing Part II – Test Procedures and Parameter Determination for Dynamic Analysis	Published 7-05-2010	12/9/2019	12/9/2009		
492 – 1999 (R2011)		492	Guide for Operation and Maintenance of Hydro-Generators	Published 19-2-1999	3/31/2021	1/28/1999	WG-5	
1110 – 2002 (R2007)		1110	Guide for Synchronous Generator Modeling Practices and Applications in Power System Stability Analyses	Published 11/11/2003	12/31/2018	11/11/2002	WG-7	
1129-2014	P1129	1129	Recommended Practice for Monitoring and Instrumentation of Turbine Generators	Published ~4/2014	~4/2029	~4/2014		
1665-2009		1665	Guide for the Rewind of Synchronous Generators, 50 and 60 Hz, rated 1 MVA and above	Published 12-02-2010	9/11/2019	9/11/2009	WG-3	
C50.12-2005 (R2010)		C50.12	Standard for salient-pole 50 Hz and 60 Hz synchronous generators and generator/motors for hydraulic turbine applications rated 5 MVA and above	Published 15-2-2006	9/30/2020	9/22/2005		