

**Capacitor Subcommittee  
of the  
Transmission and Distribution Committee  
2014 IEEE PES General Meeting Minutes  
National Harbor, MD**

**Wednesday, July 30, 2014**

**I. Introduction**

The meeting was called to order by the Subcommittee Chairman Richard Sévigny.

Attendees introduced themselves. The following 20 people were in attendance:

<b><u>Name</u></b>	<b><u>Company</u></b>	<b><u>Member/ Guest</u></b>
Richard Sévigny	Hydro Quebec	Chairman
Mike Hulse	Bonneville Power	Vice Chairman
Paul Marken	GE Energy Management	Secretary
Tom Grebe	EnerNex	Webmaster
Roy Alexander	RWA Engineering LLC	Member
Loken Bam	GE	Member *
Bharat Bhargava	Electric Power Group	Member *
Bill Chai	GE - CPQP	Member
Paul Datka	GE Energy Consulting	Member *
Vincent Deslauriers	ABB Inc.	Member
Dan Luke	Eaton	Member
Halim Malaj	ConEd	Member
Mark McVey	Dominion Virginia Power	Member
Joe Meisner	AEP	Member
William Munn	Southern Company	Guest
Pratap Mysore	HDR	Member *
Jeff Peggs	Dominion Virginia Power	Member
Rey Ramos	Southern Company	Member *
Devki Sharma	Entergy	Guest
Biswajit Singh	ABB	Member

\* New Member – Welcome!

**II. Previous Meeting Minutes**

The minutes from the January 2014 New Orleans JTCM were reviewed. Minutes were unanimously approved as submitted by a motion from Bill Chai that was seconded by Biswajit Singh.

### III. Membership Review

Membership roster was sent around for review / correction.

There are currently 40 members in the subcommittee,

- Membership roster can be found at: <http://grouper.ieee.org/groups/td/cap/>

This subcommittee is open to new members and guests.

### IV. Chairman's Report

Richard has not heard from Jeff Nelson regarding the Working Group looking at Standard 18. He will try to contact him and understand what his plans are. It may be that Jeff does not want to chair this working group any longer.

### V. Liaison Reports

#### A. NEMA – Bill Chai

CP1 standard was withdrawn and relevant information was transferred to IEEE Std 18. Last meeting was held in November of 2012. There is a new program manager for this group. Bill has a meeting scheduled with him tomorrow to discuss future plans. An Oct or Nov meeting is being considered. Mark Mason from Eaton has retired and Clay Feller will be the replacement member. Bill suggested if all NEMA members attended IEEE meetings, then a meeting could be held concurrently.

#### B. IEC, CIGRE

##### CIGRE – Mark McVey

Bill asked Mark McVey to cover CIGRE. Mark mentioned the work on A326. This group has not met for a year. A meeting may take place soon to discuss breakers and capacitor switching. As far as technology there is nothing new happening with capacitor technology. A333 is starting a new group.

##### IEC – Bill Chai

IEC held a meeting in May in London with 13 countries participating. Standard TC33 covers all capacitors including low voltage, high voltage, and anything related to capacitors. The USA was mainly interested in high voltage capacitors, and specifically 60143 and 60871. For 60871-1 thru 60971-4, all changes must be completed this year. Changes to 60143 are mostly already done for the 2015 revision. There will be one more meeting in Stockholm, Sweden and then 60143 will be completed. 60871-2 is not really a standard but is a technical specification for endurance test. A major change is being implemented including overvoltage and ageing tests. The overvoltage cycling test is being moved from 60871-2 to 60871-1. This means it will

be a required test instead of an optional test. This was done in the spirit of harmonization with other standards. Bill reports that tremendous progress has been completed. The fuseless test has also been proposed by the Canadian NC and IEC is planning on considering this for the next revision. A NWI (New Work Initiative) was proposed by Germany. They proposed a new standard for capacitors with self-healing properties. Another thought was creating an appendix to 60871-1 to discuss high voltage self-healing capacitors.

Another consideration is creating a 60871-5 for this. There was discussion on if this technology is mature enough or if there is enough information on this technology for this to be a useful standard. A similar proposal was brought up a few years ago by Sweden. It was also questioned if this should be part of maintenance in group 19 instead. A working group is being formed and it will be studied. People are being sought to join this working group. The capacitor subcommittee (this group) is a natural place to look for possible participants. Another NWI is a proposal to form a working group to work on the application of capacitors in high voltage installations. A Chinese NC proposal was rejected due to lack of participation. What was proposed in the past looked much more like a guide than a standard, in the opinion of the US. One thought was that the new proposal for a guide might make more sense in 60871-3.

The chair at IEC spoke highly of IEEE Std. 1036. They are considering making reference to the IEEE document in their new document. It was not known at the time what is required permission-wise to do that. Mark McVey reported that this is fine as long as they get permission and cite the 1036 work. The new group was considering starting by correspondence. Bill thinks a face-to-face meeting may be required. Bill felt the group is in need of people who understand high voltage applications and encouraged people in this subcommittee to consider being involved. This would be a significant time commitment for whoever is involved, but this would also be helpful in the harmonization of the two group's documents.

Another difficulty in IEC is that there is a new chair of the group. The chair was not able to attend the May 2014 meeting in Brazil.

A question was raised about the possibility of a joint IEC/IEEE document. Bill reported that this was not the intent of IEC. The maintenance of such a document is also problematic as the review cycles of IEC and IEEE do not align. The question was raised why IEC has to create a new standard. If they like 1036 they should just use it as is.

It was emphasized there is a need for someone from this group to be involved.

## **VI. Working Group Reports**

### **A. W.G. on Capacitor Technical Papers – Tom Grebe**

One paper was reviewed in the past year. It was rejected.

### **B. W.G. on Capacitor Bibliography – Richard Sévigny**

Nothing to report. If there are any papers, please let Richard know.

### **C. Shunt Capacitor W.G. (Std. 18) – Jeff Nelson**

This group has not been meeting. Richard is concerned that work is not progressing. It is believed that Jeff may not want to be chairman any longer. Richard will speak with Jeff. Richard is asking others to begin considering if they would be willing to chair this group. Perhaps even if we don't have a chair, we should schedule a meeting.

### **D. Shunt Capacitor Technical Report W.G. – Jeff Nelson**

Again we have not heard from Jeff.

### **E. Series Capacitor W.G. – Mark McVey**

Std. 1726 is complete and published. PAR for 824 will be submitted by next meeting. The group discussed what they plan to do for 824 going forward. Mark is going to send out the redline version showing the comments from the previous ballot. Mark also shared that this group has been given opportunity to provide input into the update of C37.116 by Power System Relaying Committee's K13 Working Group. This relationship is working very well right now. It is important that at the winter meeting we coordinate meeting times to facilitate people going to both meetings.

### **F. W.G. on the Application Guide for Shunt Power Capacitors (Std. 1036) – Joe Meisner**

Par was approved in March. Joe had 22 attendees and a good meeting. Joe began working through the negative ballots from the last revision. Ballot date on the PAR is Jan 2018.

### **G. T.F. on Capacitor GMD Mitigation – Mark McVey**

This task force met on Monday afternoon. The group is writing a paper and has concluded too much is being squeezed into one paper. At this point Mark is going to split this into two papers. Beyond that, he will consider what other topics may be of interest. Having GMD in the title is a great draw at this point. Mark mentioned that Reigh Walling was there and is pleased to have him as a valued contributor. One philosophy being presented is use of series capacitors as a means of mitigation for GMD. The intent of the task force is to encourage people to consider other philosophies that may work for them and not have an attitude that a 'one size fits all' solution is out there and should be adopted by everyone.

#### **H. W.G. on Reactor Applications for Capacitor Switching Technologies – Roy Alexander**

Technical report is in the final draft stage. It needs to be cleaned up and then published. Roy does not see a need to have another meeting at this point. A vote by the subcommittee by email ballot may make the most sense, if that is possible. Richard will find out if this is allowed.

### **VII. Old Business**

Tom is continuing to maintain the website.

The subcommittee website can be found at:

<http://grouper.ieee.org/groups/td/cap/>

### **VIII. New Business**

Instead of having many pars and document numbers, the question was asked if it is possible to have a number series for capacitor related documents. Perhaps using “.1, .2” or something similar would make it more helpful for people to find applicable documents. The standards coordinator will be at the T&D committee meeting tomorrow. Richard will investigate this further.

Another issue raised was related to document retention and what repository is available. Richard can ask the standards coordinator what other groups do. It may be possible to put some of this information on our website. This could possibly be posted in a password protected section of the website.

The group congratulated Roy Alexander on receiving the CIGRE Atwood award and also on being elevated to a Distinguished Member of CIGRE.

### **IX. Future Meetings**

- Next winter meeting location is Anaheim, CA.
- The 2015 PES General Meeting will be in Denver, CO.
- The 2016 winter meeting has possibilities of being back in New Orleans.
- The 2016 PES General Meeting will be in Boston, MA
- The 2017 PES General Meeting will be in Chicago, IL

Minutes prepared by Paul E. Marken