Alternative Gases Task force

Location:	Disney Contemporary Resort, Orlando FL
Date:	April 25, 2018
Room:	Fantasia Room
Time	10:15AM to 12:00PM
TF Chair:	Nenad Uzelac

Minutes

1. **Call to order**

   The meeting was called to order at 9:17AM.

2. **Circulation of the Task Force roster**

   Sign-in sheets were circulated. Quorum was not verified.
   There were 67 people in attendance, 12 (of 28) were members.

3. **CIGRE Update by René Smeets from DNV Netherland.**

   There are already 2 working groups (B3.45 –
   "Application of non-SF6 gases or gas-mixtures in medium voltage and
   high voltage gas-insulated switchgear" and D1.67 – Dielectric performance of new non-SF6 gases and gas mixtures for gas-insulated systems).

   CIGRE is about to start a working group on the impact of switching in alternate gases "• CIGRE A3.41: Interrupting and switching performance with SF6 free switching equipment" Rene Smeets, will convene this WG. There are three US members currently. There will be a kick-off meeting at the CIGRE conference in Paris (August 2018). If someone from IEEE TF is interesting to participate, contact Rene and could be invited as an expert guest.

4. **Self-introductions of members and guests**

   Self-introductions were made by the attendees.

5. **Discussion:**

   a. Status of the TF report

   The report was finalized, the chair thanked those involved with the final editing.
   It was provided to the Switchgear Committee in February 2018. One editorial comment has been received so far. Approval of the report will be brought before the Switchgear Committee as an agenda item during the Main Committee meeting on Thursday.

Question from equipment user – There are a number of gases and gas mixtures, will IEEE help determine which to use? The TF has proposed a PAR for performance evaluation guidelines for the gases/gas mixtures.

Another user question – Is there any agreement between the manufacturers to develop a standard? This question could not be answered. The use of different gases at one user sets up the possibility for human error. This is not just a commercial issue, it is a reliability issue.

A manufacturer noted that there is a technology issue (different applications have different technology characteristics) which leads to different preferred gases/ gas mixtures per application.

One user noted that due to regulations they are working on removing SF6 and looking at alternatives.

One manufacturer noted that there is a SF6 Coalition that is working with a number a California utilities that are working with the California Air Resources Board to modify the regulation proposal.

A suggestion was made to share the IEEE report with CARB if it is approved at the main meeting. The team will speak with IEEE.

One user mentioned that there is an organization (EUISSCA) working to encourage the industry to standardize. (http://euissca.org/about/) A number of manufacturers have presented their roadmaps to meet environmental regulations.

As a technical group is it possible to develop a requirement for the products to be backwards compatible (so that SF6 could be used instead of the new gas) or for the gas to meet a minimum set of requirements? The equipment standards provide a list of performance standards. The proposed PAR for additional performance characteristics was reviewed.

b. Other publications/presentations in works

c. IEEE Working groups / task forces (Switchgear committee / substation committee)

There are three ways to get involved. The following are being proposed to the main Switchgear and Substation committees:

- PAR (Guide for the evaluation of performance characteristics of non-SF6 insulation and arc quenching media for switchgear rated above 1000 V.) - Switchgear
- PAR (Guide for Handling non-SF6 gas mixtures for HV equipment) - Substation
- Moving IEEE TF on Alternative gases under Innovation & Technology - Switchgear
    - Updating report periodically (every 2 years)

d. IEC/CIGRE/T&D Europe

CIGRE B3.45 report is being worked on.
IEC 62271-4 is working on SF6/ Alternative Gas handling.
T&D Europe released a new report (2018).

6. Time Schedule next Meeting

Next meeting will be held during IEEE Switchgear Fall meeting

7. Adjourn

The meeting was adjourned at 11:23 AM.

NAME	COMPANY	EMAIL	MEMBER
LUIS OSORIO	H-J	luisO@h-j.com	GUEST
Mark Parrison	H-J	markp@h-j.com	Guest
JEFF DOOR	H-J	jeffreyd@h-j.com	GUEST
Anil Dhawan	COMED	Anil.Dhawan@ComEd.com	M
Francois Soulard	Hydro-Quebec	soulard.francois@hydro.qc.ca	G.
STEVEN MAY	SOUTHERN Company Services	SGMAY@SOUTHERNCO.COM	GUEST
Paul Leufkens	Power Projects Leufkens	paul@powerprojectsleufkens.com	member
Jeff Ward	Doble Engineering Co	JEFFWARD@IEEE.ORG	GUEST
[illegible]	[illegible] Siemens Industry	[illegible]@siemens.com	M?
RAHUL JAIN	S&C ELECTRIC CO.	RAHUL.JAIN@SANDC.COM	GUEST
HUA LIU	Southern California Edison	HUA.LIU@SCE.COM	Guest
Jerry Wen	BC Hydro	jerry.wen@bchydro.com	Member
Joe Rostron	Southern States	J.Rostron@SouthernStatesLLC.com	Guest
Michael Culhane	Eaton	michaelpculhane@eaton.com	Guest
V TOUPS	SIEMENS	Vernon.toups@siemens.com	G
Li Yu	EATON	Liyu2@eaton.com	Member
Jeremy Hensberger	MEPPI	jeremy.hensberger@meppi.com	Guest
Jennifer Hunter	MEPPI	jennifer.hunter@meppi.com	Guest
ANDY KEELS	SALT RIVER PROJECT	andy.keels@srpnet.com	Guest
Paul Masterson	Hitachi	paul.masterson@hitachi-tds.com	Guest
RICHARD ROHR	POWELL ELECTRICAL SYSTEMS	richard.rohr@powellind.com	GUEST
Edwin Almeida	Southern California Edison	edwin.almeida@sce.com	Guest
Brad Lecce	Eaton	BradALecce@eaton.com	GUEST
Francois TRICHON	Schneider Electric	francois.trichon@schneider-electric.com	Member
Jared Hines	EATON	jaredkhines@eaton.com	Guest
GARETT SIMS	EATON	DANIELGSIMS@EATON.COM	GUEST
JASON CUNNINGHAM	SOUTHERN STATES	j.cunningham@southernstatesllc.com	GUEST
Hong Jun Kim	HICO	kcircle82@hyosung.com	Guest
SANGTAE KIM	HICO	[illegible]@hyosung.com	Guest
Victor Hermosillo	GE	victor.hermosillo@ge.com	Member
ANDREW CHOVANEC	GE	ANDREW.CHOVANEC@GE.COM	GUEST