

**Meeting WG Gases for switchgear
12 June 2018
Brussels - Orgalime Office
Draft MOM**

Participants:

Edgar Dullni – ABB
Lukas Zehnder – ABB
Maik Hyrenbach – ABB
Martin Kristoffersen – ABB
Dirk Uhde – General Electric
Nadi Assaf – Gimelec
François Trichon – Schneider Electric (Chairman of the Working Group)
Joerg Hilse – Siemens
Guenter Kachelriess – Siemens (afternoon in conf call)
Etienne Barbier – Inventec
Hervé Vaudray – Inventec
Vincent Hay – ENA
Sundeeep Singh – Lucy Electric
José Manuel Inchausti – Ormazabal
Paul Schmitz – Ormazabal
Guillermo Amann – Ormazabal (morning)

Apologized:

Francesco Iannello – ANIE
Thomas Schwarze – Solvay
Peter Glaubitz – Siemens
David Crawley – Ena
Laure Dulière – Orgalime/T&D Europe

The Chairman, François Trichon, opens the meeting at 10:10, welcoming all

1. Approval of the agenda

Approved

2. Approval of the MOM of WG GFS of 16 January 2018

Approved with one modification requested by Edgar Dullni. (new MOM attached)

3. Appointment of a secretary for the meeting

Nadi Assaf from Gimélec

4. Membership

New members have joined the WG GFS

- Vincent Hay (ENA Energy Networks association) as representative of EURELECTRIC. He is succeeding to David Crawley who retired recently
- Maik Hyrenbach (ABB)
- Dirk Uhde (GE)

Edgar Dullni ABB is stepping out as from today. The WG members are thanking him for his contributions to the GFS activities.

As to the creation of a new type of members “Associate Members” in T&D Europe, 3 companies were invited as new guest to join the WG GFS as gas producers: Solvay, Inventec and 3M. 2 representatives of Inventec were already present at the present meeting with Hervé Vaudray and Etienne Barbier. The discussion with 3M is still going on. Solvay Didn't yet confirmed his joining to “associate Member”.

The visiting cards of the new members are attached as per as description of new status “associate Member”.

5. F-Gas regulation (SF6) 517/2014

5.1. F-Gas Implementation, update of Regulations on labelling, reporting, training and certification

No update from the members

5.2. EC & EP events (Consultation forum,...)

5.2.1. Consultation forum (March 2018): refer to slide 6 of FT slide show, and Minutes&slides from EC

Most of alternatives are flammables

Life project : leak analysis : they have to improve safety. Standardisation actions. They have to communicate on a lot of new alternatives.

Adaptation of training to flammable refrigerant

Lot of gases: complexity and lack of skilled people.

Quotas are decreasing (quantities to be used every year by each company), and prices are dramatically increasing because there is not enough gases. There are many alternatives but not yet or not enough industrialised. Nevertheless, there is still progress on HFC phase down.

About SF₆, 2 things were said by the European Commission (source EEA report 2017): SF₆ electricity applications account for 50% of EU exports of CO₂ equivalent.(see slide) This kind of statement seems to be very strange for WG GFS members, and they were very confusing for non T&D companies attending to the forum. (50% of total CO₂eq emission???)

Information on next step of the European Commission:

Assessment report by July 2020 on SF₆ and alternatives. Beginning of next year the work will start with an external consultant

December 2018	European Commission call for tender
Q1 2019	Award of tender to consultant
Q2 2019	Preparation of consultant report
Q3 2019	Final consultant report to DG Environment
July 2020	European Commission Report published

Concerning EEA report by the participants to the GFS meeting: there are a lot of tables (i.e. 4.43 & 4.49) giving information on SF₆. And it's very difficult to identify the responsibilities of the electric industry on the emissions. Also it is said that Germany contributes to 58% of SF₆ emission which is obviously not correct. This makes not very easy at all to come to a conclusion. The impact of other applications is not very clear. Jose Manuel Inchausti will make a short analysis of the report pointing out "fake" information and comments

François will then agree with D. Peereboom to a T&D Europe letter forwarded to the European Commission and complaining about the conclusion of the EEA report.

Edgar Dullni said that a similar action has been planned by ZVEI and will forward the letter sent by ZVEI.

5.2.2. Event in front of European Parliament (7 March 2018)

The MOM and conclusion were distributed by FT to GFS members (not distributed again) .
Refer to slide 11 of FT slide Show.

5.3. Initiative in Germany

Refere to Edgar Dullni slide show here attached .

- German environmental agency is supporting voluntary agreement and agreed to collaborate more with ZVEI in order to raise to European level
- ZVEI will positioning on ECOFYS study and ask for mistake corrections
- A Co-action is decided with T&D Europe standardization WG (Dominique Serve) in order to remove reference to SF6 in EN 50676 “Electric apparatus used for detection and concentration measurement of refrigerant gases or SF6 - Performance requirements and test methods” because SF6 Switchgear must be monitored by other equipment more accurate.
- Results of German self commitment has been presented showing emission factor for different kind of equipment that have not changed since 2007. Although mass installed steadily increases, the emission rate steadily decreases to reach 0,35 % p.a. in 2016.

New meeting ZVEI/UBA end of october for the evaluation of Ecofys study. Total emission in 2016 reached 13,7t SF6.

ZVEI guideline on SF6 (transport) is intended to be published by end of June, but it still needs review and improvement.

Discussion about reuse of gases: Etienne Barbier from Inventec raised the difficulty to get acceptance of recycled gas from OEM.

5.4. Initiative in France

A WG SF6 and alternative solutions was set up in France by Gimélec with

- DSO (ENEDIS) , TSO (RTE) , Energy provider (EDF),
- Switchgear Manufacturers (GE, Siemens, Ormazabal, Schneider Electric, ENSTO),

With the objective to produce a common position agreed between the above actors to inform French representatives in the perspective of the future European discussions on F gas regulation. The principle is based on the identification of Flux of emission based on SWISSMEM model. The position is rather finalised but some points are still in discussion. The presentation to the French administration is planed in September. The final position will be translated in English.

Some members discovered that MV primary GIS are not used by utility in France and that is why there is no such category

5.5. Action plan vs 2020 Assessment

5.5.1. Report from SM1: status of regulations and standards

Martin Kristoffersen presented the table that can be used by T&D Europe members .

This table is attached to the MOM

The spreadsheet shows point of contact, countries (EU and ROW), legislation, political issues, green movement or tendencies, NGOs , general issues, historic.

Martin is expecting comments and improvements from SM1 members (point of contact) for the next meeting.

- Report from TF about roadmap (see slides)

François Trichon presented the 6 steps to reach common position with the most important sept : define T&D Europe objective. He decomposed the market according to last GFS technical report classification (MV/HV/Generator CB/Other) . Decomposition is discussed and primary, secondary, renewable is requested for MV. Delayed current zero is also requested for GCB. General request is made to have an intermediary step to help Manufacturers to define the “technical step” between SF6 and SF6 free technology.

François will make a new proposal and will send a doodle to find a date for a confcall.

6. Standards

Revision process of IEC standards dealing with SF6: IEC 60376, IEC 60480 and IEC 62271-4 on technical grades and handling of SF6

IEC 60376 “technical grade” has passed the FDIS stage and will be published (doc attached)

IEC 60480 “reuse grade” is on CDV stage with a deadline.(doc attached)

IEC 62271-4 has begun revision cycle with the objective to include also alternatives. (last mom attached)

7. CIGRE studies

7.1. SCB3 WGB3.45 : alternative to SF6

Last meeting in April. Presentation of China Southern Power Grid : They plan to test SF6 free technology up to 2022. See slides of F. Trichon

7.2. SCD1 WG D1.67

No information

8. IEEE and US information

Report on alternative gases published. IEEE plan to keep the WG active.

California propose a ban of SF6 in2025 for new installation. Discussion is on going

9. Documents, papers and conferences

9.1. EURELECTRIC technical report on technologies for transmission systems

See slides .

9.2. ZVEI remarks on T&D Europe PP on the condition of gas tightness

Due to lack of time the paper with the suggestions given by ZVEI will be distributed among the members for approval. Then the paper will be send to Executive Committee for final approval and publication

10. Ongoing country projects on SF6 and SF6 alternatives

Spain : Voluntary agreement is confirmed and includes the obligation on informing about results (positive and negative) on tests with alternative substances to SF6.

The main novelty is the inclusion of recyclers on this renovated Voluntary Agreement.

11. Miscellaneous

11.1. EPEE Roundtable

Interesting process from EPEE: they have established a roadmap, with a monitoring process and a communication leaflet in all EU languages in order to promote new gases. See the leaflet attached and the MOM, and the slide of F. Trichon

11.2. Blog « why EU should ban SF6 » Proposal for answer

DECISION NOT TO ANSWER / Reason : it will give too much importance for this small aggressive company that propose a solution for a niche market
























12. Next meeting: date and location

Next meeting wil take place in Paris (GIMELEC) 17 Rue de l'amiral Hamelin, on 2nd October 10:00 to 16:00.

The Chairman thanked the participants and closed the meeting at 16 :00

Documents attached

Numbered according to topics. Available on T&D web site

-  00 slides T&DE-WG GFS 2018-06-12 brussels V2.pptx
-  0- 12-06-2018 participant list.pdf
-  2- WG-GFS-meet-16 Jan 18 MoM_approved.docx
-  4-new members & participants.pdf
-  4-T&D Europe associate member - extract from T&DE status.docx
-  5-2-1 2018_03_06_agenda_en.pdf
-  5-2-1 2018_03_06_consultation forum slides_en.pdf
-  5-2-1 2018_03_06_summary_minutes_en.pdf
-  5-2-1 Analysis of EEA Report 2018.docx
-  5-3 prEN 50676 comments TC17C.doc
-  5-3 WG gases contribution Edgar Dullni 2018-06-12.pptx
-  5-5-1 SM1 - Regulations_2.xlsx
-  6-1 10_1056e_FDIS.pdf
-  6-2 10_1058e_CDV.PDF
-  6-3 MOM_IEC-MT3_2018-04-1213.docx
-  8- 2017-11-28 CARB sf6_strawman_potential_reg_changes.pdf
-  8- 2017-11-28 CARB- sf6_workshop_presentation_11-28-17.pdf
-  8- JUG Strawman Proposal Comment Letter 12-20-2017.pdf
-  8- SF6 coalition answer to CARB - Public Workshop 2017 Comments FINAL.PDF
-  9-2 ZVEI Input - PP on Warranty conditions regarding gas tightness of SF6-SWG.docx
-  9-2 ZVEI Input - PP on Warranty conditions regarding gas tightness of SF6-SWG-FT.docx
-  11-1 Fgas Industry roundtable 30 05_summary of discussions.pdf
-  11-2 Why the EU should ban SF6.pdf