

Opinion

**Proposal for a European Parliament and Council
regulation for reviewing Regulation 842/2006 of
the European Parliament and the Council of
17th May 2006 regarding specific fluorinated
greenhouse gases KOM (2012) 643.**

March 2013

Preliminary Remark

Because of current developments regarding the revision of the fluorinated greenhouse gases regulation, 'BDEW Bundesverband der Energie- und Wasserwirtschaft e.V.', 'VIK – Verband der Industriellen Energie- und Kraftwirtschaft e.V.', 'VCI - Verband der Chemischen Industrie e.V.', 'VKU - Verband kommunaler Unternehmen e.V.' and the Professional Association on Energy Technology organised within 'ZVEI - Zentralverband Elektrotechnik und Elektroindustrie e.V.' state their position in the following.¹

The comments by the involved associations exclusively refer to electrical switchgear (SF₆ reference).

In principle, the involved associations agree on the revision of regulation (EC) no. 482/2006 of the European Parliament and Council of 17th May 2006, regarding specific fluorinated greenhouse gases.

The involved associations therefore welcome the European Commission's proposal regarding a regulation on fluorinated greenhouse gases (KOM (2012) 643). However, from the involved associations' point of view, some adjustments will be necessary with respect to implementing the proposals.

In view of the individual requirements within:

- rapporteur Bas Eickhout's published draft report [1] and
- the EU Commission's regulation proposal [2]

with the following articles, corrections and clarifications will be absolutely necessary from the standpoint of manufacturers and operators of electrical equipment:

- **Article 2** (Prevention of emissions)
- **Article 5** (Record keeping)
- **Article 8** (Training and certification)
- **Article 11** (Control of use)

¹ In this context, it must be taken into consideration that in addition to the segment electrical switchgear (SF₆ reference), two other ZVEI segments are affected by the revision of the F-gas regulation. These are household appliances, refrigerators/freezers, heat pump dryers and domestic heating technology organised within the ZVEI, as well as the semiconductor production segment. Comments on other segments are currently being compiled by other European sector associations and will be available shortly.

1 Introduction

Electrical equipment, in which fluorinated gases are used, is the main component of a functioning infrastructure. Operating equipment, such as switchgear, switching devices and transformers, are required in electricity grids for transforming and distributing energy and for interconnecting and disconnecting parts of the grid.

State-of-the-art energy supply networks benefit from electrical switchgear and switching devices using SF₆ technology, in particular, with respect to installation space, personal safety and operational reliability as well as high availability in the grid operation.

SF₆ (sulphur hexafluoride) is a gas, which, because of its special physical characteristics, has been used since the 1960s for switching and insulating in various applications in the electrical equipment used in energy transmission and distribution in the medium and high voltage range (>1,000 V). SF₆ is an inert, non-flammable, non-toxic gas, not harmful to the ozone layer, but with a high Global Warming Potential.

In order to limit emissions with Global Warming Potential, the special use of fluorinated gases (F-gases), including SF₆, has been regulated in the F-Gas Regulation (EC) No 842/2006, since 2006.

Within the scope of the planned review, based on Article 10 of the current regulation, on 7th November 2012, the European Commission submitted a proposal for revising the regulation. It will complement and extend, in particular, the recovery, labelling and personnel training obligations when using the F-gases.

In this connection, the involved associations refer to the voluntary self-commitment of SF₆ producers, manufacturers and operators of electrical equipment >1 kV in Germany, which exists since 1996 and which was renewed in 2005. Similar self-commitments also exist in other European countries. The effectiveness of this self-commitment has been proven and therefore should be confirmed as 'sufficient', which, among other things, also applies to the recovery and recycling of SF₆ and the returning of SF₆ and SF₆-containing operating equipment [3].

2 Regarding the considerations in the draft report of rapporteur Bas Eickhout of 1st March 2013 and the European Commission proposals of 7th November 2012

Bas Eickhout, rapporteur and Member of the European Parliament, in his report of 1st March 2013, Amendment 26, proposed to ban the use of SF₆ in medium-voltage switchgear for secondary energy distribution levels (among other things, in secondary substations) as of 1st January 2020.

The involved associations reject this ban for existing and new switchgear, in particular, because at this time this would lead to extensive and unforeseeable consequences for the electrical energy supply, cause disproportionate high abatement costs and prevent the expansion of large wind power systems. This is in contrast to an extremely small reduction in greenhouse gas emissions (calculated in CO₂ eq.).

The report regarding the existing F-gas regulation of September 2011 [4], which was prepared by Öko-Recherche (et al.) on behalf of the European Commission, found that a ban of the use of SF₆ in medium-voltage switchgear would not satisfy the established effectiveness nor the efficiency criterion.

A very low emission reduction potential of 97 kt CO₂ eq. until 2030 (<1 % of all SF₆ and HFC-caused CO₂ eq.) is in contrast to abatement costs in the amount of € 347.70 /t CO₂ eq. [5]. The decisive factor for CO₂ eq. emissions for the entire life cycle is that SF₆ gas is nowadays contained in a closed cycle and is reusable up to 98 %.

So far, no alternative has been found that satisfies the requirements of insensitivity against environmental influences, a high degree of reliability of supply, low space requirements and energy efficiency, or is even more favourable. This has been demonstrated by the investigations performed by Öko-Recherche_(1999/2011) and the German Federal Environmental Agency (UBA, 2011) [6].

Alternatives are offered only for a few applications and only in the lower range of <52 kV voltage levels, however, with characteristics that are not comparable and also the required capacities for realisation are not available. For all other voltage ranges there currently is no alternative to SF₆ as insulation and switching gas, and therefore for switchgear. Such voltage levels, in particular, can be found with installations for renewable energies (e.g., wind farms); a restriction of use could restrict their development.

European manufacturers supply international markets, including so-called emerging markets. There they find a global trend towards SF₆-insulated switchgear in which European manufacturers today participate. A unilateral restriction or even a ban in Europe would have a massive influence on the competitiveness of European companies.

In view of the Commission's proposals, the involved associations are of the opinion that the certification of personnel (Article 2, Article 5 and Article 8) would be appropriate only where SF₆ is transferred. Personnel in charge of gas-handling have already been trained and certified in accordance with Regulation (EC) No 305/2008 – an extension hereof is not required.

Because of the complex structure of switchgear, records on each piece of equipment (container) of electrical switchgear are too detailed. Instead, legislators should introduce established practice and/or records from the self-commitments of countries in the regulation.

The changes regarding these issues proposed in the draft regulation will not result in a further reduction of SF₆ emissions, but will only produce considerably more bureaucracy.

3 Summary

The involved associations reject banning the use of medium-voltage range switchgear for the secondary energy distribution level as of 1st January 2020, as proposed by Bas Eickhout, rapporteur and Member of the European Parliament. A ban will mean a disproportionate high level of abatement costs compared with an extremely low reduction in greenhouse gas emissions, and therefore the cost-benefit ratio is disproportionate.

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List of references:

- [1] Draft Report on the proposal for a regulation of the European Parliament and of the Council on fluorinated greenhouse gases (COM (2012) 0643 – 012/0305 (COD)).
- [2] Proposal for a regulation of the European Parliament and of the Council on fluorinated greenhouse gases, 2012/0305 (COD), COM (2012) 643 Final der European Commission of 7.11.2012
- [3] Voluntarily self-commitment of SF6 producers, producers and operators of electrical equipment >1 kV for electrical energy transmission and distribution in the Federal Republic of Germany, relating to SF6 as insulation and quenching gas, status July 2005
- [4] Preparatory study for a review of Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases, S. 295
- [5] Preparatory study for a review of Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases. Table 6-15 on p. 213, table 8-10 on p.262
- [6] Avoiding Fluorinated Greenhouse Gases, Prospects for Phasing Out, German Federal Environment Agency (EPA), 08/2011, pp. 210-216