

Department for Environment, Food and Rural Affairs

# General Guidance for Switchgear Containing SF<sub>6</sub>

Guidance: F Gas and Ozone Regulations

Information Sheet SCS 3: Key Obligations

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This Information Sheet provides a detailed description of the key obligations under the EU F gas Regulation for operators of switchgear containing sulphur hexafluoride (SF<sub>6</sub>). See Information Sheet GEN 1 for a glossary of common terms related to these Regulations.

## 1 Which Regulations are covered by this Information Sheet?

This Information Sheet addresses the **F Gas Regulation**<sup>1</sup>. This is EU Regulation 842/2006 on certain fluorinated greenhouse gases (F gases). This Regulation aims to reduce emissions of HFCs, PFCs and SF<sub>6</sub>. Users of high voltage power transmission and distribution systems frequently use SF<sub>6</sub> in switchgear. The key obligations in this Regulation applied from July 2007.

In Great Britain the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261) applied from 9<sup>th</sup> March 2009. This Statutory Instrument prescribes offences and penalties applicable to infringements of the EU F gas Regulation and lays out the current qualifications and certification requirements.

## 2 What Types of Equipment are covered by this Information Sheet?

This Information Sheet covers any switchgear equipment operating above 1 kV that contains SF<sub>6</sub>.

## 3 Who is Responsible for Compliance?

In GB, the person having control over the switchgear containing SF<sub>6</sub> (the “operator”), typically a company, is likely to have responsibility. Also, any company employing personnel to undertake activities which require the recovery of SF<sub>6</sub> from switchgear must ensure that these personnel have the appropriate qualifications.

The EU F gas Regulation defines the operator as follows:

*“Operator means the natural or legal person exercising actual power over the technical functioning of the equipment and systems covered by this Regulation”*

According to guidance and interpretation from the EU issued in 2008, the “actual power over the technical functioning” of a piece of equipment or system must include the following elements:

- Free access to the system, which entails the possibility to supervise its components and their functioning, and the possibility to grant access to third parties;

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<sup>1</sup> See Information Sheet GEN 4 for a list of relevant regulations and links to download the full text.

- The control over the day-to-day functioning/running (e.g. take the decision to switch it on or off);
- The powers (including financial power) to decide on technical modifications, modification of the quantities of F gas in the equipment, and to have checks or repairs carried out.

It can be assumed that at the earliest stage of the system's lifetime, all these powers lie with a single natural or legal person, normally the owner. If all these powers are devolved by the operator to a third party through contractual arrangements, the authority of operator and the responsibilities attached to it under EU F gas Regulation should be deemed transferred to that third party. If these powers are only partially transferred, the authority of operator should not be deemed transferred.

## 4 Obligations for Users of Switchgear containing SF<sub>6</sub> under the EU F Gas Regulation

The key obligations on the user under the Regulation are summarised in Table 1.

**Table 1 Summary of EU F Gas Regulation Obligations**

Section	Obligation
4.1	Recover SF <sub>6</sub> during plant servicing and maintenance, and at end of plant life.
4.2	Arrange for proper recovery of any residual SF <sub>6</sub> in used refillable or non refillable containers.
4.3	Use appropriately qualified personnel to ensure the recycling, reclamation or destruction of SF <sub>6</sub> from switchgear.
4.4	Labelling of new equipment placed on the market (a manufacturers obligation)
4.5	Non-refillable containers shall not be used to transport SF <sub>6</sub> .

Be able to demonstrate compliance with these Regulations for all equipment that contains SF<sub>6</sub>. See good practice advice on record keeping covered in Section 4.6.

### 4.1 Gas recovery from SF<sub>6</sub> Switchgear

*Article 4.1: Applicable from 4<sup>th</sup> July 2007.*

If SF<sub>6</sub> needs to be removed from switchgear containing SF<sub>6</sub> (e.g. to gain access to part of a system for maintenance or during system decommissioning at the end of life) it must be properly recovered. This recovery must be undertaken by appropriately qualified personnel. After recovery the SF<sub>6</sub> can be reused or sent for reclamation or destruction. SF<sub>6</sub> must not be vented to the atmosphere.

## 4.2 Gas recovery from SF<sub>6</sub> containers

Article 4.2. Applicable from 4<sup>th</sup> July 2007.

Any residual SF<sub>6</sub> in a used storage cylinder must be properly recovered by appropriately qualified personnel. After recovery the SF<sub>6</sub> can be reused or sent for reclamation or destruction.

## 4.3 Use of appropriately qualified personnel

Article 4.1. Applicable from 4<sup>th</sup> July 2009.

Personnel carrying out activities that require the recovery of SF<sub>6</sub> from switchgear must have the appropriate qualifications.

To take delivery of containers of SF<sub>6</sub>, when carrying out the activities covered by Article 4 namely recovery, an organisation needs to employ appropriately qualified personnel.

See Information Sheet SCS 5 for further information about qualifications and taking delivery.

## 4.4 Labelling

Article 7.2. Applicable from April 2008 to all sizes of system.

Any new switchgear system containing SF<sub>6</sub> placed on the market must be fitted with a label clearly stating the type and quantity of SF<sub>6</sub> used and that shows that the equipment contains a high global warming potential F gas. In addition any instruction manuals that come with the product/equipment need to state that SF<sub>6</sub> is contained in the equipment and give its global warming potential. See Information Sheet SCS 6 for more details about labelling.

Whilst this obligation for correct labelling falls on equipment manufacturers, it is good practice for the equipment user to ensure that it is followed. Existing equipment does not need to be labelled, although it is also good practice to consider labelling all existing equipment in a similar format.

## 4.5 Non-refillable containers

Article 9.1. Applicable to any container filled after July 2007.

The use of non-refillable containers for transporting or storing F gases, including SF<sub>6</sub>, is banned.

## 4.6 Maintaining records

Good records are essential for the effective management of SF<sub>6</sub> inventories and SF<sub>6</sub> switchgear, although not an obligation. It is recommended that best practice asset management principles such as those in **PAS55 - Asset management. Specification for**

**the optimised management of physical infrastructure assets** are adopted for SF<sub>6</sub> switchgear and that the principles of **EN 50423 – Reporting of SF<sub>6</sub> Banks, Emissions and Recoveries** are adopted for the management of SF<sub>6</sub> inventories. As a minimum the following should be recorded:

- The **location and identification reference** of the equipment,
- The make and type of the equipment
- The **quantity** of SF<sub>6</sub> installed in each item when first commissioned,
- The **quantity** of SF<sub>6</sub> **added**,
- Any **quantity** of SF<sub>6</sub> **recovered** during servicing, maintenance and final disposal.

You should also ensure that you can demonstrate that only certified personnel are used for any activity involving the recovery of SF<sub>6</sub>.

## 5 Possible Obligations Related to Non Switchgear Applications

Most obligations will relate to switchgear containing SF<sub>6</sub> equipment as described in this Information Sheet. Some companies may have other F gas technologies, e.g.:

**Refrigeration and Air Conditioning.** There are a large number of requirements for users of Refrigeration and Air Conditioning equipment containing F gases. See Information Sheet RAC 1.

**HFC Fire protection.** Some fire protection systems used for high value assets such as large computer systems use gaseous HFCs. See Information Sheet FP 1.

Refer to Information Sheet SEM 3 to check whether you have any other uses of F gases or any uses of ozone-depleting substances (as covered by EU Ozone Regulation).

The information in this document is intended as guidance and must not be taken as formal legal advice or as a definitive statement of the law. Ultimately only the courts can decide on legal questions and matters of legal interpretation. If you have continuing concerns you should seek legal advice from your own lawyers.

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