

# F-GAS

## SUPPORT

Promoting Compliance with F Gas and Ozone Regulations

### Guidance for Fire Protection Sectors

This Information Sheet provides a description of the key obligations under the EC F gas Regulation for operators of fire protection equipment (FP systems) in Great Britain. See Information Sheet GEN 1 for a glossary of common terms related to these Regulations.

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

**The F Gas Regulation<sup>1</sup>**. This is EC Regulation 842/2006 on certain fluorinated greenhouse gases. This Regulation aims to reduce emissions of HFCs, PFCs and SF<sub>6</sub>. Certain types of fire protection systems use HFCs. The key obligations in this Regulation applied from 4<sup>th</sup> July 2007.

**The Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No. 261)**. This GB Regulation prescribes offences and penalties applicable to infringements of the EC F gas Regulation and lays out the qualifications and certification requirements. It came into effect on 9<sup>th</sup> March 2009.

There are several supporting EC Regulations which impact on the fire protection sector:

- ◆ Commission Regulation 304/2008 on establishing minimum requirements and the conditions for mutual recognition for the certification of companies and personnel.
- ◆ Commission Regulation 1497/2007 establishing standard leakage checking requirements.
- ◆ Commission Regulation 1494/2007 establishing the form of labels and additional labelling requirements for products and equipment.
- ◆ Commission Regulation 1493/2007 establishing the format for reporting for importers and exporters of certain fluorinated greenhouse gases.

#### 2. What types of equipment are covered by this Information Sheet?

This Information Sheet refers to “fire protection systems”, this market is divided into:

- ◆ **Fixed systems** - designed and installed to ISO 14520 and the components certified to EN 12094.
- ◆ **Portable extinguishers** - designed and certified to EN 3 and service and maintained to BS 5306-3.

The main F gases covered by the EC F gas Regulation used within fire protection systems in the UK are: HFC 23, HFC 125 & HFC 227ea.

Historically **Halons** were used for fixed systems. These are powerful ozone depleting substances, and were banned under the EC Ozone Regulation. All Halons have been removed from service with the exception of some critical uses such as military and aviation. **PFCs** were only used in specialist applications and were withdrawn from the market some time ago. PFC use for fire protection has been banned since July 2007.

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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.

### 3. Who is responsible for compliance?

The main F gas responsibilities are held by the “Operator” of the equipment. Personnel carrying out maintenance and installation work have to ensure that they have the appropriate qualifications and company certification. The EC 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”*

In many circumstances the identity of the operator is clear – the phrase “*exercising actual power*” is an important one and it usually places responsibility with the owner, but in practice the ‘actual power’ over a system may be delegated to the actual facility manager, such as the IT Manager, who has the responsibility for disabling the fire protection system when necessary.

### 4. Obligations for operators under the EC F gas regulation

All operators of fire protection systems that use F gases must comply with obligations in the EC F gas Regulation. See Information Sheet FP 2 for more information about which F gases are affected.

The actual obligations depend on the amount of F gas in each separate system. The Commission’s separate guidance sheet clarifies the definition:

*“In regards to fire protection system this means that if two or more F gas interconnected extinguishant containers are installed to a specific fire risk in a defined space, these containers have to be regarded as a single application.”*

Table 1 summarises the obligations for each separate fire protection system containing F gases. The text following the table provides more detail about each obligation. References to Article numbers in the text below relate to Articles that are set out in the EC F gas Regulation.

**Table 1 Summary of Obligations for Fire Protection Systems**

Section	Obligation	Applicability
4.1	Take steps to prevent F gas leakage and repair detected leakage as soon as possible	All stationary applications
4.2	Regularly check for leakage, see Table 2.	Stationary systems containing 3 kg or more of F gases
4.3	Fit automatic leak detection system	Stationary systems containing 300 kg or more of F gases
4.4	Keep records about systems that use F gases	Stationary systems containing 3 kg or more
4.5	Recover F gases during system servicing and maintenance, and at end of system life	All stationary systems
4.6	Use appropriately qualified personnel to carry out installation, servicing and maintenance, and leakage checking. Company certification obligations for businesses undertaking certain work on F gas containing equipment. Obligations on those wishing to take delivery of containers of F gas.	All stationary systems
4.7	Label new equipment/information in instruction manuals	All systems
4.8	Imports, exports or production of greater than 1 tonne into or from outside the EU must be reported.	As applicable
4.9	Placing on the market of non-refillable containers used to service equipment is banned from July 2007, except for those already filled at that time.	All systems

## 4.1. General obligation to prevent leakage

*Article 3.1. Applicable from 4<sup>th</sup> July 2007.*

Using all measures which are technically feasible and do not entail disproportionate cost operators must: (a) prevent leakage of F gas fire extinguishants and (b) as soon as possible repair any detected leakage.

## 4.2. Regular leakage checking

*Article 3.2. Applicable from 4<sup>th</sup> July 2007 systems containing 3 kg or more*

The operator must ensure that FP systems containing 3 kg or more of F gas is checked for leakage by certified personnel on a regular basis. Certified personnel must comply with requirements of Article 5, see below.

“Checked for leakage” means that the equipment or system is examined for leakage using direct or indirect measuring methods. The frequency of testing depends on the F gas charge (kg). Testing in accordance with ISO 14520<sup>2</sup> is appropriate to satisfy the requirements of the regulation. Table 2 summarises the leakage checking frequencies. Operators must ensure that fire protection systems are rechecked by qualified personnel within one month of a leak being repaired to ensure that the repair has been effective. The operator must also ensure that a leakage test is carried out by qualified personnel prior to recharging and newly installed systems should be checked immediately after they have been put into service. See Information Sheet FP 6 for more guidance about leak testing.

**Table 2 Leak Testing Frequencies**

System (charge) size (kg)	Frequency	Frequency with leak detection system installed
3 kg to 30 kg	Annual	Annual
30 kg to 300 kg	6-monthly	Annual
Greater than 300 kg	Quarterly	6-monthly

The requirements of ISO 14520 meet the leak testing obligations of the Regulation.

## 4.3. Automatic leak detection systems

*Article 3.3. Applicable from 4<sup>th</sup> July 2007.to systems above 300 kg*

Systems with more than 300 kg must be fitted with a leakage detection system, which is defined (in Article 2.10) as:

*“a calibrated mechanical, electrical or electronic device for detecting leakage...which, on detection, alerts the operator”.*

The detection system must be checked at least once a year to ensure proper functioning. For fire protection systems greater than 300 kg, installed before 4<sup>th</sup> July 2007, leakage detection systems shall be fitted by 4<sup>th</sup> July 2010.

For any system fitted with a leakage detection system (including those below the mandatory 300 kg threshold), the frequency of leak checking can be halved, although an annual check remains the minimum frequency.

All gaseous fire protection systems should be checked every 6 months in accordance with ISO 14520 which in practice means that the normal servicing more than meets the obligations of the EC F gas regulation. See Information Sheet FP 6 for more guidance about automatic leak detection.

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<sup>2</sup> EN15004 is now published and is the European equivalent of ISO 14520

#### 4.4. Maintaining records

*Article 3.6. Applicable from July 2007 to RAC systems 3 kg or more.*

Records must be kept by operators on each system with 3 kg or more of F gas. The obligation applies from 4<sup>th</sup> July 2007. The records must include:

- ◆ The **quantity** and type of F gas installed in each system,
- ◆ Any **quantities** of F gas added,
- ◆ The **quantity** of F gas recovered during servicing, maintenance and final disposal,
- ◆ The **identity** of the company or technician who performed the servicing or maintenance, as well as the dates and results of leak checks and leakage detection system checks.

These records shall be made available on request to the competent authority and to the Commission.

#### 4.5. Gas recovery

*Article 4.1. Applicable from 4<sup>th</sup> July 2007 to all fire protection systems.*

If F gas needs to be removed from a system (e.g. during system decommissioning at the end of life) it must be properly recovered by appropriately qualified personnel. After recovery the F gas can be reused or sent for reclamation or destruction. The system operator is responsible for putting in place arrangements for proper recovery.

Note: for fire protection systems the extinguishant is never added or removed at an installation site, only at a specialist filling facility. Therefore the operator must ensure that the disconnection of the container is undertaken by qualified personnel and those removing it from site provide written evidence of its return to a specialist filling/reclamation facility.

#### 4.6. Use of appropriately trained and certificated personnel

*Article 5.1. Applicable from 4<sup>th</sup> July 2007 to all fire protection systems.*

Personnel carrying out leak checking, gas recovery, system installation or maintenance must have an appropriate F gas handling qualification. The operator is responsible for ensuring that the relevant personnel have the appropriate qualifications. An employer must ensure that the employee is suitably qualified and certified. See sheet FP 5 for further information about qualifications and certification.

Businesses that handle F gases for the purpose of installation, maintenance or servicing of FP equipment need to hold a company certificate. FIA are managing this scheme.

#### Contact Fire Industry Association (FIA) for more details:

- ◆ Telephone: 020 8549 5855, email: [info@fia.uk.com](mailto:info@fia.uk.com); website: [www.fia.uk.com](http://www.fia.uk.com)

To take delivery of containers of F gas, for the activities described above, an organisation needs to employ appropriately certificated personnel.

See sheet FP 5 for further information about qualifications and certification.

#### 4.7. Labelling

*Article 7.2. Applicable from 1<sup>st</sup> April 2008 to all sizes of fire protection system.*

Any new fire protection systems and fire extinguishers placed on the market must be fitted with a label clearly stating that the equipment contains F gases, and information on the type and quantity of F gas used. See Information Sheet FP 6 for more details about labelling.

#### 4.8. Reporting obligations for producers, importers & exporters of F gases

*Article 6.1. Applicable from 31<sup>st</sup> March 2008 and annually from 2008.*

Each producer, importer and exporter of more than 1 tonne per year of F gases has to report to the EC and to BERR certain information about those F gases. This only applies to imports and exports from or to a country outside the EU.

#### 4.9. Ban of Non-refillable containers

*Article 9.1. Applicable from 4<sup>th</sup> July 2007.*

The use of non-refillable containers for transporting or storing F gas fluids is banned. Placing on the market of non-refillable containers used to service equipment was banned from July 2007, except for those already filled at that time. For all containers (regardless of kg charge), the person using the container for transport or storage purposes is responsible for putting in place arrangements to ensure their recycling, reclamation or destruction at end of life.

### 5. Possible Obligations Related to other F gas uses

Please note, this Information Sheet only refers to F gases in Fire Protection systems, if you have any refrigeration, air conditioning or high voltage switchgear on your sites which contain F gases you will also have further obligations for this equipment. Refer to Information Sheet GEN 3 to check whether you have any other uses of F gases.



#### How to Contact F-Gas Support:

**Telephone Help Line:** 0161 874 3663 **Website:** [www.defra.gov.uk/fgas](http://www.defra.gov.uk/fgas)

**Email:** [fgas-support@enviros.com](mailto:fgas-support@enviros.com) **Post:** F-Gas Support, P O Box 481, Salford, M50 3UD

This document has been prepared by F-Gas Support; the information provided is intended as guidance and must not be taken as formal legal advice nor 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.

F-Gas Support is a Government funded team set up to help organisations understand their obligations under the EU Fluorinated Greenhouse Gases and Ozone Regulations. F-Gas Support is also working with Regulators to promote compliance. It is being run on behalf of Defra and the devolved administrations by the Local Authorities Coordinators of Regulatory Services (LACORS) and Enviros.