

SF₆ EU Regulations

In 2014 the European Commission passed [Regulation No 517/2014](#), commonly known as the “2014 F-gas Regulation.” The new regulation repealed and replaced its 2006 predecessor and included some updated requirements for the use of SF₆ in electrical switchgear. The Regulation includes requirements for products and sectors outside the power industry, as well as for all hydrofluorocarbons, but the information below focuses only on the requirements for SF₆ as used in electrical switchgear. Each EU Member State has implemented the requirements according to its own sets of procedures, which may vary widely from jurisdiction to jurisdiction.

The Regulation defines electrical switchgear as “switching devices and their combination with associated control, measuring, protective and regulating equipment, and assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures, intended for usage in connection with the generation, transmission, distribution and conversion of electric energy.” In general, operators of electrical switchgear (including other gas-insulated equipment such as circuit breakers and gas-insulated substations) are required to take all reasonable measures to prevent emissions, including timely repair. Specific requirements can be broken down into four categories.

Leak Checks

Operators of electrical switchgear that contain an amount of SF₆ with a CO₂e of five tons (~0.47 lbs of SF₆) or more must be checked for leaks at specific intervals of 24, 12, 6 or 3 months, depending on the amount of SF₆ and certain other parameters. Hermetically sealed equipment has the same requirement, but only if the collective amount is 10 tons (~0.94 lbs of SF₆) or greater of CO₂e. Switchgear with 500 tons (~47 lbs of SF₆) or more of CO₂e and installed prior to January 1, 2017 must have a leak detection system capable of alerting the operator or service company of any leakage.

Record keeping requirements

Operators of switchgear that is required to be checked for leaks must maintain separate records for each piece of such equipment. Among other information, the records must include quantities of gas added or recovered during installation, maintenance and recovery; and dates and results of leak checks.

Training and Certification requirements

EU Member states must establish or adapt certification programs to ensure proper training for individuals/companies that will be performing installation, servicing, maintenance, repair or decommissioning of equipment, and recovery of SF₆ gas. SF₆ recovery must be performed by individuals or companies that hold the relevant certificates to ensure that the recovered gas is properly recycled, reclaimed or destroyed.

Labelling

Electrical switchgear must be labeled as containing SF₆. The label must also include the mass of SF₆ and CO₂ equivalent of the gas contained in the equipment or that the equipment is designed to contain. Hermetically sealed equipment must be labelled as such, and if the equipment has a tested leak rate of less than 0.1% per year that must also be on the label.

Updates

The European Commission is currently [reviewing](#) the F-gas Regulation to evaluate how well the Regulation has functioned and to analyze policy options to improve the Regulation going forward.