

FINAL REGULATION ORDER

Adopt new Subarticle 3.1, Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, to read as follows:

[Note: All of the text below is new language to be added to the California Code of Regulations (CCR)]

Subchapter 10. Climate Change

Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 3.1. Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

§ 95350. Purpose, Scope, and Applicability.

- (a) *Purpose.* The purpose of this regulation is to achieve greenhouse gas emission reductions by reducing sulfur hexafluoride (SF₆) emissions from gas insulated switchgear.
- (b) *Applicability.* The provisions of this subarticle apply to owners of gas insulated switchgear. Any person who is subject to this subarticle must meet the requirements of this subarticle, notwithstanding any contractual arrangement that person may have with any third parties.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95351. Definitions.

- (a) For the purposes of this subarticle, the following definitions apply:
 - (1) **“Active GIS Equipment”** means non-hermetically sealed SF₆ gas insulated switchgear that is:
 - (A) Connected through busbars or cables to the GIS owner’s electrical power system; or
 - (B) Fully-charged, ready for service, located at the site in which it will be activated, and employs a mechanism to monitor SF₆ emissions.

“Active GIS equipment” does not include equipment in storage.

- (2) **“Electrical Power System”** means the combination of electrical generators (i.e., power plants), transmission and distribution lines, equipment, circuits, and transformers used to generate and transport electricity from the generator to consumption areas or to adjacent electrical power systems.
- (3) **“Emergency Event”** means a situation arising from a sudden and unforeseen event including, but not limited to, an earthquake, flood, or fire.
- (4) **“Emission rate”** means, subject to the provisions of section 95356(e), a GIS owner’s total annual SF₆ emissions from all active GIS equipment divided by the average annual SF₆ nameplate capacity of all active GIS equipment.
- (5) **“Executive Officer”** means the Executive Officer of the Air Resources Board (ARB) or his or her designee.
- (6) **“Gas container”** means a vessel containing or designed to contain SF₆. “Gas container” includes pressurized cylinders, gas carts, or other containers.
- (7) **“Gas-insulated switchgear or GIS”** means all electrical power equipment insulated with SF₆ gas regardless of location. Gas insulated switchgear or GIS includes switches, stand-alone gas-insulated equipment, and any combination of electrical disconnects, fuses, electrical transmission lines, transformers and/or circuit breakers used to isolate gas insulated electrical equipment.
- (8) **“GIS Owner”** means the person who owns gas insulated switchgear. “GIS owner” excludes temporary ownership by the original equipment manufacturer during GIS equipment transport and installation at a customer’s site.
- (9) **“Hermetically Sealed Gas Insulated Switchgear”** means switchgear that is designed to be gas-tight and sealed for life. This type of switchgear is pre-charged with SF₆, sealed at the factory, and is not refillable by its user.
- (10) **“Nameplate Capacity”** means the design capacity of SF₆ specified by the manufacturer for optimal performance of a GIS device. Nameplate capacity may be found on the nameplate attached to the GIS device, or may be stated within the manufacturer’s official product specifications.
- (11) **“NIST-Traceable Standards”** means national, traceable measurement standards developed by the National Institute of Standards and Technology (NIST).

- (12) **“Person”** shall have the same meaning as defined in Health and Safety Code section 39047.
- (13) **“Responsible Official”** means one of the following:
- (A) For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person; or
 - (B) For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or
 - (C) For a municipal, state, federal, or other public agency, either a principal executive officer or a ranking elected official.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95352. Maximum Annual SF₆ Emission Rate.

For each calendar year specified below, the maximum annual SF₆ emission rate for each GIS owner’s active GIS equipment shall not exceed the following:

Maximum Annual SF₆ Emission Rate	
Calendar Year	Maximum Allowable SF₆ Emission Rate
2011	10.0%
2012	9.0%
2013	8.0%
2014	7.0%
2015	6.0%
2016	5.0%
2017	4.0%
2018	3.0%
2019	2.0%
2020, and each calendar year thereafter	1.0%

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95353. Emergency Event Exemption.

- (a) A GIS owner may request emissions from an emergency event to be exempted from the calculation of the maximum allowable emission rate if it is demonstrated to the Executive Officer's satisfaction that the release of SF₆:
 - (1) Could not have been prevented by the exercise of prudence, diligence, and care; and
 - (2) Was beyond the control of the GIS owner.
- (b) A request for an exemption pursuant to this section must be submitted in writing to the Executive Officer within 30 calendar days after the occurrence of the emergency event, and must contain the following information:
 - (1) The GIS owner's name, physical address, mailing address, e-mail address and telephone number;
 - (2) A detailed description of the emergency event, including but not limited to the following:
 - (A) The nature of the event (e.g., fire, flood, earthquake);
 - (B) The date and time the event occurred;
 - (C) The location of the event;
 - (D) The GIS equipment that was affected by the event;
 - (E) The amount of SF₆ released (in pounds);
 - (3) A statement and supporting documentation that the release occurred as a result of an emergency event; and
 - (4) A signed and dated statement, under penalty of perjury, provided by the appropriate responsible official that the statements and information contained in the submitted request are true, accurate, and complete.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95354. SF₆ Inventory Measurement Procedures.

- (a) GIS owners must do all of the following:
- (1) Establish and adhere to written procedures to track all gas containers as they are leaving and entering storage;
 - (2) Weigh all gas containers on a scale that is certified by the manufacturer to be accurate to within one percent of the true weight;
 - (3) Calibrate all scales used to measure quantities that are to be reported under this subarticle by:
 - (A) Using calibration procedures specified by the scale manufacturer; or
 - (B) If a scale manufacturer has not specified calibration procedures, using:
 1. A NIST traceable standard; and
 2. A published calibration method identified as appropriate for that scale by either the International Society of Weighing and Measurement or the National Conference on Weights and Measures.
 - (4) Calibrate scales used to measure quantities reported under this subarticle prior to the first reporting year.
 - (5) Recalibrate scales used to measure quantities reported under this subarticle at least annually, or at the minimum frequency specified by the manufacturer, whichever is more frequent.
- (b) GIS owners must:
- (1) Establish and maintain a log of all measurements required by this section;
 - (2) Record the scale calibration methods used pursuant to this section; and
 - (3) Retain all documents and records required by this section for a minimum of three years.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95355. Recordkeeping.

GIS owners must:

- (a) Establish and maintain a current and complete GIS equipment inventory, which includes the following information for each piece of equipment:
 - (1) Manufacturer serial number;
 - (2) Equipment type (e.g., circuit breaker, transformer, etc);
 - (3) Seal type (hermetic or non-hermetic);
 - (4) Equipment manufacturer name;
 - (5) Date equipment was manufactured;
 - (6) Equipment voltage capacity (in kilovolts);
 - (7) Equipment SF₆ nameplate capacity (charge in pounds);
 - (8) A chronological record of the dates on which SF₆ was transferred into or out of active GIS equipment;
 - (9) The amount, in pounds, of SF₆ transferred into or out of the active GIS equipment;
 - (10) Equipment status (active or inactive); and
 - (11) Equipment location:
 - (A) The physical address for each piece of equipment must be listed; and
 - (B) Complete records must be kept of changes to the equipment inventory and the dates the changes occurred (such as installation of new equipment, removal of equipment, and disposition of the equipment (e.g., sold, returned to manufacturer, etc.)).
- (b) Establish and maintain a current and complete inventory of gas containers, which includes the following information for each container:
 - (1) A unique identification number;
 - (2) Size;

- (3) Location;
 - (4) The weight, in pounds, of SF₆ in each container at the end of each calendar year, and when gas containers are added or removed from inventory.
- (c) Retain SF₆ gas and equipment purchase documentation (such as contracts, material invoices, receipts, etc.);
 - (d) Retain all records required by this subarticle for a minimum of three calendar years;
 - (1) GIS owners headquartered in California must retain all records at a location within California;
 - (2) GIS owners headquartered in other states may retain all records at location in California or at their business offices nearest to California;
 - (e) Have all records available for ARB inspection at time of inspection; and
 - (f) Upon request by ARB, provide these records to the Executive Officer.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95356. Annual Reporting Requirements.

- (a) By June 1, 2012, and June 1st of each year thereafter, each GIS owner must submit an annual report to the Executive Officer for emissions that occurred during the previous calendar year.
- (b) The annual report must contain all of the following information:
 - (1) Reporting entity name, physical address, and mailing address;
 - (2) Location of records and documents maintained in California if different from the reporting entity's physical address.
 - (3) Name and contact information including e-mail address and telephone number of the person submitting the report, and the person primarily responsible for preparing the report;
 - (4) The year for which the information is submitted;
 - (5) A signed and dated statement provided by the appropriate responsible official that the information has been prepared in accordance with this

subarticle, and that the statements and information contained in the submitted emission data are true, accurate, and complete.

- (6) Annual SF₆ emissions as calculated using the equation specified in subsection (d), below;
 - (7) Annual SF₆ emission rate as calculated using the equation specified in subsection (e), below;
 - (8) A gas insulated switchgear inventory report containing the information required by Section 95355, subsections (a)(1) through (a)(10); and
 - (9) A gas container inventory report containing the information required by Section 95355, subsections (b)(1) through (b)(4).
- (c) The annual report shall be submitted to the Executive Officer as follows:
- (1) GIS owners subject to the requirements of title 17, California Code of Regulations, section 95100 *et seq.*, shall use the ARB Greenhouse Gas Reporting Tool or other mechanism, as specified in title 17, California Code of Regulations, section 95104.
 - (2) GIS owners not subject to the requirements of title 17, California Code of Regulations, section 95100 *et seq.*, may either:
 - (A) Use the ARB's Greenhouse Gas Reporting tool, or other mechanism, as specified in title 17, California Code of Regulations, section 95104; or
 - (B) Submit reports in writing to ARB through the US Postal Service, electronic mail or by personal delivery.
- (d) *Annual SF₆ Emissions.* GIS owners must use the following equation to determine their SF₆ emissions:

Equation for determining annual SF₆ emissions:

$$\text{User Emissions} = (\text{Decrease in SF}_6 \text{ inventory}) + (\text{Acquisitions of SF}_6) - (\text{Disbursements of SF}_6) - (\text{Net increase in total nameplate capacity of active GIS equipment owned}).$$

Where:

Decrease in SF₆ inventory = (SF₆ stored in containers, but not in equipment, at the beginning of the year) - (SF₆ stored in containers, but not in equipment, at the end of the year).

Acquisitions of SF₆ = (SF₆ purchased in bulk from chemical producers, distributors, or other entities) + (SF₆ purchased from equipment manufacturers, distributors, or other entities with or inside active GIS equipment) + (SF₆ returned to site after off-site recycling).

Disbursements of SF₆ = (SF₆ in bulk and contained in active GIS equipment that is sold to other entities) + (SF₆ returned to suppliers) + (SF₆ sent off site for recycling) + (SF₆ sent to destruction facilities).

Net increase in total nameplate capacity of active GIS equipment owned = (The nameplate capacity of new active GIS equipment) - (Nameplate capacity of retiring active GIS equipment).

- (e) *Annual SF₆ Emission Rate.* GIS owners shall use the following equations to determine their SF₆ emission rate.

Equation for determining emissions rate:

$$ER = \frac{\text{Emissions}}{C_{avg}}$$

Where: ER = Emission Rate
Emissions = Annual emissions per subsection (d) (lbs)
C_{avg} = Average system nameplate capacity as expressed in the equation below (lbs)

$$C_{avg} = \frac{\sum_{i=1}^n (d_i C_i)}{365}$$

Where: C_{avg} = The average system nameplate capacity (lbs)
n = The number of GIS devices
d_i = The number of days during the year the GIS device was in active service
C_i = The nameplate capacity (lbs) of the GIS device

NOTE: Authority cited: Sections 38510, 38560, 38580, 39600, and 39601, Health and Safety Code. Reference: Sections 38560, 39600, and 39601, Health and Safety Code.

§ 95357. Treatment of Confidential Information.

Information submitted pursuant to this subarticle may be claimed as confidential. Such information shall be handled in accordance with the procedures specified in title 17, California Code of Regulations, sections 91000 through 91022.

NOTE: Authority cited: Sections 38510, 38560, 39600, 39601, and 41511, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.

§ 95358. Enforcement.

- (a) *Penalties.* Penalties may be assessed for any violation of this subarticle pursuant to Health and Safety Code section 38580. Each day during any portion of which a violation occurs is a separate offense.
- (b) Each day or portion thereof that any report required by this subarticle remains unsubmitted, is submitted late, or contains incomplete or inaccurate information, shall constitute a single, separate violation of this subarticle.
- (c) Any exceedance of the maximum allowable SF₆ emission rate for a calendar year shall constitute a single, separate violation of this subarticle for each day of the calendar year.
- (d) *Injunctions.* Any violation of this subarticle may be enjoined pursuant to Health and Safety Code section 41513.

NOTE: Authority cited: Sections 38510, 38560, 39600, 39601, and 41510, Health and Safety Code. Reference: Sections 38580, 39600, 39601, 41510, and 41513, Health and Safety Code.

§ 95359. Severability.

Each part of this subarticle is deemed severable, and in the event that any part of this subarticle is held to be invalid, the remainder of this subarticle shall continue in full force and effect.

NOTE: Authority cited: Sections 38510, 38560, 39600, and 39601, Health and Safety Code. Reference: Sections 38562, 38580, 39600, and 39601, Health and Safety Code.