

Frequently Asked Questions: Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

A. Purpose, Scope, and Applicability

1. Are all gas insulated switchgear (GIS) owners subject to this regulation, even if the GIS owner is not an electric utility?

Yes. This regulation applies to all owners of GIS equipment that contains sulfur hexafluoride (SF₆). The regulation makes no distinction as to whether or not a GIS device is owned by an electric utility.

2. Is there a threshold in the regulation that exempts small-size GIS devices?

No. Because SF₆ is the most potent greenhouse gas (GHG), even small GIS devices could be responsible for significant emissions of GHGs. As such, CARB staff did not include an exemption threshold in the regulation.

3. My company hires a contractor to service our GIS. Does this alleviate my company from being responsible for the services the contractor is performing?

No. The company that owns the GIS is responsible for ensuring that the contractor is performing its duties in accordance with all applicable requirements of the regulation.

B. Definitions

4. The definition of “Active GIS Equipment” specifies that the GIS equipment is “[c]onnected through busbars or cables to the GIS owner’s electrical power system.” What if GIS equipment owned by one utility is connected to electrical transmission or distribution lines owned by a different utility?

Because the definition of “Electrical Power System” is broad, the units described in the comment would be considered to be active GIS equipment and would therefore be subject to the regulation.

5. The definition of “Gas container” is “a vessel containing or designed to contain SF₆. ‘Gas container’ includes pressurized cylinders, gas carts, or other containers.” Are GIS considered to be gas containers?

No. The definition of “Gas container” was not intended to include GIS, as the regulation treats GIS and gas containers in separate fashions. For example, GIS are not weighed, but gas containers are weighed annually to determine if there are SF₆ losses from one year to the next.

6. “GIS Owner” excludes temporary ownership by the equipment manufacturer during equipment transport. When does this temporary ownership come to an end for the purposes of determining the “GIS Owner?”

The GIS owner’s responsibility begins when the owner has physical possession of the equipment.

7. How can I tell if my device is hermetically sealed?

If you or anyone other than the manufacturer could add gas to the device for any reason whatsoever, it is not hermetically sealed.

C. SF₆ Inventory Measurement Procedures**8. Are scales used to weigh SF₆ gas cylinders required to be certified by the manufacturer?**

Yes. Section 95354 of the regulation states that scales used to weigh SF₆ gas cylinders must be certified by the manufacturer to be accurate to within one percent of the true weight.

9. If a scale has just been purchased, and has been calibrated by the manufacturer within the past year, does this satisfy the calibration requirement in section 95354(a)(3)?

If the manufacturer states in writing that the device meets the accuracy requirements upon delivery to the GIS owner, CARB staff would accept that as proof of having met the requirement of section 95354(a)(3).

10. How often must the scales used to weigh SF₆ gas cylinders be calibrated?

Section 95354 of the regulation states that GIS owners must calibrate scales used to measure quantities reported under this subarticle prior to the first reporting year, and the scales must be recalibrated at least annually or at the minimum frequency specified by the manufacturer, whichever is more frequent.

D. Recordkeeping**11. How should GIS owners maintain an equipment inventory for equipment for which they do not have access to the serial number or manufacturer date?**

If a device does not have a serial number, then any permanently affixed unique identifier can be used in place of a serial number. If the date that the device was manufactured cannot be determined, CARB staff would accept a best estimated date. CARB staff would expect that the GIS owner would record how the estimated date was determined.

12. The regulation requires that the owner list the physical address of each piece of GIS equipment in the equipment inventory. How should the owner list equipment in remote sites that do not have a physical address?

For GIS equipment that does not have a physical address, it is acceptable to provide some other type of location identifier (e.g., UTM coordinates, longitude and latitude, parcel numbers, distance and direction to and the name of the nearest cross streets.)

13. Is equipment in storage that has a slight charge considered active GIS Equipment?

No. GIS equipment in storage is not active GIS equipment.

14. The SF₆ regulation states that GIS owners must take certain actions and maintain certain records. Can operators of GIS equipment or contractors take these actions and keep the records on behalf of the owners?

Yes. GIS owners are free to either use their own staff, contract labor, or a combination

thereof to perform the duties required by the regulation. However, GIS owners will remain liable under this regulation for any errors or omissions, and the GIS owners themselves are responsible for complying with the regulation.

15. When equipment is out of service for maintenance, is the GIS equipment considered active?

Yes. GIS equipment are considered active as long as the maintenance is performed with the equipment in-place (i.e., at its normal active position).

16. Some of the information that is required in the Recordkeeping section of the regulation is not necessary for calculating emissions. Will GIS owners be required to record all this information?

Yes. All information in the Recordkeeping section is required to be recorded.

17. What accuracy requirements apply when weighing SF₆ transferred into or out of GIS equipment?

CARB staff accepts best estimates of the weight for gas transfers and accepts reasonable discrepancies between the summed transfer weights and annual increase or decrease in the container weights.

18. For the SF₆ container inventory, what is meant by the size of the container?

CARB staff expects that GIS owners will report the capacity of containers in weight (pounds) of the contained gas.

19. The container tare weight is needed to determine the weight of SF₆ in each container. If the tare weight is unknown, can an approximate tare weight be used based on a similar sized container?

Title 4, California Code of Regulations, section 4051, Cylinder Labeling, requires that tare weights be legibly stamped on each cylinder used for the sale of gases.

E. Annual Reporting Requirements

20. Does CARB provide an SF₆ annual reporting form?

Regulated parties (see requirements in Question #21) submitting their annual reports via the [California Electronic Greenhouse Gas Report Tool \(Cal e-GGRT\)](#) are required to use the format specified by the tool for their annual reports. Other GIS owners are also encouraged, but not required, to use Cal e-GGRT or use [this linked reporting form](#).

21. Who is required to submit annual reports via Cal e-GGRT?

GIS owners subject to the requirements of title 17, California Code of Regulations (CCR), section 95100 et seq. (commonly referred to as the Mandatory GHG Reporting Regulation), must use Cal e-GGRT. GIS owners not subject to the Mandatory GHG Reporting Regulation may also use this reporting tool.

22. Does an annual report need to be submitted if a GIS owner has no SF₆ emissions for a given year?

Yes. If you own GIS equipment, you are required to submit an annual report whether or not you have any SF₆ emissions.

- 23. Are there any fees/costs that GIS owners must pay the CARB for submittal of the SF₆ annual reports?**
No. GIS owners do not have to pay CARB any fees to submit their annual reports.
- 24. If a GIS owner has a contractor performing maintenance, inventory, cylinder weighing, and preparation of reports, who is responsible for submitting the annual report?**
It is the responsibility of the GIS owner to submit and certify the annual report.
- 25. When do SF₆ gas cylinders have to be weighed?**
SF₆ gas cylinders must be weighed when they are added or removed from inventory and at the end of each calendar year (December 1 through 31).
- 26. If a facility does not have a single SF₆ gas cylinder that enters or leaves storage during the year, are the assumed emissions and emission rates zero?**
No. There is the possibility that gas cylinders may be defective or had valves left open, which can cause emissions. Hence, SF₆ gas cylinders must be weighed annually at the end of each calendar year.
- 27. Are the SF₆ data required to be reported expected to cover all SF₆ emissions associated with GIS?**
Yes. The regulation requires the reporting of SF₆ emissions to include all SF₆ emissions associated with GIS, including, but not limited to, the operation, maintenance, transportation, and storage of GIS and gas containers.
- 28. How should SF₆ gas transferred into or out of active GIS equipment (section 95355(a)(8-9) of the regulation) be presented in the annual report?**
GIS owners should include in the report the date of the transfer, the GIS equipment serial number, and the amount of transfer in pounds. The amount of SF₆ gas transferred into a GIS device should be reported as positive, whereas gas transferred out of a device should be reported as negative. GIS owners not using Cal e-GRRT may also label each transfer amount as “into” or “out of” a GIS device in their report.
- 29. In the formula for determining acquisitions of SF₆, how do utilities account for SF₆ in new GIS equipment (not containers) that is purchased?**
SF₆ inside new GIS equipment is to be counted as an acquisition from the time a GIS owner takes receipt of the equipment. When the device becomes active, its capacity is used to determine the system capacity for the year.
- 30. Section 95356(d) of the regulation requires the use of the amount of SF₆ purchased with or inside active GIS equipment as an input to the equation for determining annual SF₆ emissions. For the amount of SF₆ inside GIS equipment when shipped and received, the GIS owner depends on the accuracy of information from the manufacturer, distributor, or other entity. How does the GIS owner assure the accuracy of the information from the GIS equipment supplier?**
CARB staff expects manufacturers to work with GIS owners to provide them with the information needed to comply with the regulation. Additionally, the U.S. Environmental Protection Agency recordkeeping requirements in 40 CFR 98 Subpart SS require that electrical equipment manufacturers with an SF₆ threshold of 23,000 pounds per year retain “certifications of the quantity of gas, in pounds, charged into equipment at the

electrical equipment manufacturer or refurbished facility as well as the actual quantity of gas, in pounds, charged into equipment at installation.”

31. Where GIS equipment is jointly owned by two or more GIS owners, how should each owner calculate its annual SF₆ emissions and average system nameplate capacity?

Each joint owner is responsible for the proportion of the GIS equipment that they own; therefore, each joint owner may apply its equity share (ownership or entitlement share) of the relevant equipment when calculating annual SF₆ emissions and average nameplate capacity based on the information provided by the operator to each joint owner.

32. The regulation requires an attestation for annual reports by an “appropriate responsible official,” but the reporting tool requires certification by a “Designated Representative.” Who is responsible for verification of the annual reports submitted via Cal e-GGRT?

All annual reports submitted to comply with the regulation must be certified by a “responsible official” as defined in the regulation.

33. We do not own any gas containers; what do we need to report for gas containers in the Reporting Tool?

Regulated parties are required to report information for gas containers they own or store on their property.

34. Is the original equipment manufacturer or GIS owner responsible for reporting SF₆ emissions associated with the installation of new GIS equipment?

Once GIS equipment has been delivered to a GIS owner, the equipment becomes the responsibility of the GIS owner. All SF₆ associated with the installation of a GIS device is the responsibility of the GIS owner and must be reported by the GIS owner.

35. If a GIS owner does not own SF₆ containers, how are annual SF₆ emissions determined?

In this type of situation, every SF₆ container used to add or remove gas from the GIS devices would have to be weighed before and after every use at the GIS owner’s facilities on a scale that meets the standards of the regulation. Documentation that supports that this was properly done must be retained by the GIS owner.

36. If my company includes a number of facilities that are each limited liability companies (LLC) under an umbrella company, at what level are we required to report?

As each LLC is an independent entity that legally owns the GIS at a facility, each LLC would be individually subject to the regulation. Each facility would have to meet all obligations independently, including the emission rate, recordkeeping, and reporting requirements.

F. Enforcement

37. The emission rate is calculated in relation to active GIS equipment only, which is non-hermetically sealed equipment. Does the GIS owner have any liability in relation to hermetically sealed equipment?

No. Hermetically sealed GIS equipment is exempt from the emission rate compliance portion (section 95352) of this regulation.

38. Are entities responsible for the loss of SF₆ during transport of equipment that they purchased?

CARB will not hold a GIS owner responsible for emissions that occur prior to taking possession of a GIS device. CARB staff expect that any piece of equipment be checked for emissions within a reasonable timeframe after receipt. Any emissions that occurred prior to taking possession and the reason for the emissions should be documented by both the owner and manufacturer/distributor to substantiate a claim that the amount of SF₆ delivered in the GIS is different than stated on the bill of lading or similar documentation.

39. What does CARB consider when determining an enforcement penalty?

The following factors are taken into consideration when determining an appropriate penalty:

- The extent of harm caused by the violation;
- The nature and persistence of the violation;
- The length of time over which the violation occurs;
- The frequency of past violations;
- The record of maintenance;
- The unproven or innovative nature of the control equipment;
- Any action taken by the person including the nature, extent, and time of response of any cleanup and construction undertaken to mitigate the violation;
- The financial burden on the defendant; and
- And any other relevant circumstances.