



## SF<sub>6</sub> Reporting Form Supplemental Instructions for Data Year 2021

Updated February 25, 2022

The [Regulation for Reducing Sulfur Hexafluoride \(SF<sub>6</sub>\) Emissions from Gas Insulated Switchgear \(GIS\) \(original Regulation\)](#) requires all regulated entities to submit an annual report to the California Air Resources Board (CARB), by June 1 (or first business day thereafter) of each year, for activities and emissions that occurred during the previous calendar year. The [Regulation for Reducing Greenhouse Gas Emissions from Gas Insulated Equipment \(amended Regulation\)](#) became effective January 1, 2022. For data year 2021, CARB has developed a standardized [SF<sub>6</sub> GIS Reporting Form](#) for submission. The reporting form for data year 2021 largely reflects the requirements of the original Regulation. The emissions limit, its associated inputs, and Early Action Credit are new provisions found in the amended Regulation which became effective January 1, 2022 and are applicable to data year 2021 reporting. These new elements for data year 2021 reporting are marked with "amended Regulation" in the following sections. This document provides instructions on how to complete the data year 2021 reporting form. These instructions are supplemental to those contained in the reporting form itself.

**Please carefully read the reporting form's "Instructions" Worksheet in addition to the information below.**

### Worksheet: Facility Overview Information

This worksheet captures basic information about the reporting entity and its annual emissions and emissions limit. Non-Cal e-GGRT reporters must provide their physical and mailing addresses in their annual report submission. Cal e-GGRT reporters need not provide these addresses in their report because they provide them during registration. New reporting elements in this worksheet capture the transition from the emissions rate limit in the original Regulation to the emissions limit in the amended Regulation. See section 95353 of the amended Regulation for more information.

#### Entity Name

Enter the legal name of the entity (e.g., company, corporation, or agency) that is required to report under this Regulation. The reporting entity is also referred to as "GIS owner" in the regulatory text.

#### ARB ID

Enter the unique ID number that CARB assigned to the entity for reporting under this Regulation. This field is only applicable to Cal e-GGRT reporters.

Record Location: **Street**

Record Location: **City**

Record Location: **State**

Record Location: **ZIP/Postal Code**

Enter the street name and number, city, state, and zip/postal code where records are kept for the entity. This field is only required if the record location is different from the reporting entity's physical address.

**Preparer's Name**

**Preparer's e-Mail**

**Preparer's Phone**

Enter the name, e-mail address, and the ten-digit phone number of the person who prepared this report.

**Reporting Year**

Because this version (R.04) of the reporting form is designed for data year 2021 only, the reporting year is pre-filled.

**Average System Capacity (pounds) – amended Regulation**

Calculate and report the average system capacity using the formula found in section 95353(b) of the amended Regulation. Other than minor terminology changes, this quantity is calculated in the same manner as the Average System Nameplate Capacity defined in section 95356(e) of the original Regulation.

**Average CO<sub>2e</sub> Capacity (MTCO<sub>2e</sub>) – amended Regulation**

This field contains a calculated result based on other reported information and is locked from editing. This field calculates the average CO<sub>2e</sub> capacity (in MTCO<sub>2e</sub>) using the formula found in section 95353(c) of the amended Regulation.

**Early Action Credit (MTCO<sub>2e</sub>) – amended Regulation**

This field contains a calculated result based on other information reported in the new "Early Action Credit" worksheet and is locked from editing. If there are entries in the Early Action Credit worksheet, this field calculates the early action credit (in MTCO<sub>2e</sub>) using the formula found in section 95353(d) of the amended Regulation.

**EAC<sub>≤10</sub> (MTCO<sub>2e</sub>) – amended Regulation**

This field contains a calculated result based on other reported information and is locked from editing. This field calculates the amount of early action credit (in MTCO<sub>2e</sub>) the entity is allowed to apply toward their emissions limit using the formula found in section 95353(f) of the amended Regulation.

**Emissions Limit (MTCO<sub>2e</sub>) – amended Regulation**

This field contains a calculated result based on other reported information and is locked from editing. This field calculates the emissions limit (in MTCO<sub>2e</sub>) using the formula found in sections 95353(g) and (h) of the amended Regulation.

**Annual SF<sub>6</sub> Emissions (in pounds):**

Calculate and report the annual SF<sub>6</sub> emissions (in pounds) using the formula found in section 95356(d) of the original Regulation.

**CO<sub>2</sub>e Emissions (MTCO<sub>2</sub>e) – amended Regulation**

This field contains a calculated result based on other reported information and is locked from editing. This field calculates total emissions (in MTCO<sub>2</sub>e) using the formula found in section 95354.1(b) of the amended Regulation.

**Worksheet: SF<sub>6</sub> GIS Equipment**

This worksheet captures a current and complete inventory of the reporting entity's SF<sub>6</sub> GIS equipment for data year 2021. Include all such equipment regardless of the operating status or the duration of ownership in data year 2021.

**GIS Serial Number**

The serial number is usually found on the nameplate affixed to the piece of equipment. If a device does not have a serial number, use any permanently affixed unique identifier in place of a serial number.

**GIS Equipment Type**

Enter the equipment type (e.g., busbar, circuit breaker, or switch).

**GIS Seal Type**

Select a seal type (Hermetic or Non-hermetic) from the drop-down menu. The original Regulation defines "hermetically sealed" as gas tight and sealed for life. Hermetically sealed equipment are pre-charged with SF<sub>6</sub>, sealed at the factory, and are not refillable by the user.

**GIS Manufacturer**

Enter the name of the manufacturer of the GIS equipment.

**GIS Date Manufactured (mm/dd/yyyy)**

Enter the date each piece of GIS equipment was manufactured in mm/dd/yyyy format. If only the year is known, enter January 1 and the year (e.g., 01/01/1985). If only the year and month are known, enter the date using the first day of that month and the year (e.g., 06/01/1989). If the manufacturing date cannot be determined, CARB would accept a best estimated date. CARB expects that the entity records how the estimated date was determined but not submit it with the annual report.

**GIS Voltage Capacity (kilovolts, kV)**

Record the voltage capacity in kilovolts (kV).

**GIS SF<sub>6</sub> Capacity (lbs.)**

Record the SF<sub>6</sub> capacity in pounds as stated on the nameplate or in the manufacturer's official product specification.

## **GIS Status**

Select the operating status (“Active” or “Inactive”) from the drop-down menu, per the definition of “Active GIS Equipment” in section 95351(a)(1) of the original Regulation. Select “Active” if the GIS device was active for any part of 2021.

## **Worksheet: Early Action Credit – amended Regulation**

Per section 95353(d) of the amended Regulation, regulated entities may accrue early action credit starting in 2021 for each circuit breaker that meets the following conditions: became active gas-insulated equipment (GIE)<sup>1</sup> for the first time between January 1, 2021 and the phase-out date for equivalent SF<sub>6</sub> GIE device, has a voltage capacity of 72.5 kV or greater, is not insulated with SF<sub>6</sub> or oil, and has not been removed from regular use or transferred while in use. If an entity wishes to claim early action credit towards its data year 2021 emissions limit, it must report all circuit breakers that meet the above criteria in this worksheet. All data elements and terminology used on this worksheet is guided by the amended Regulation. If the entity does not own any circuit breakers that qualify for early action credit, leave this worksheet blank.

## **Serial Number**

The manufacturer serial number is usually found on the nameplate affixed to the device.

## **Equipment Type**

The only type of equipment eligible for early action credit is a circuit breaker, hence this field is pre-filled. Please verify that the device is a “Circuit Breaker” as defined in section 95351(a) of the amended Regulation.

## **Manufacturer**

Enter the name of the manufacturer of the circuit breaker.

## **Date Activated for the First Time (mm/dd/yyyy)**

Enter the date that the circuit breaker became “Active GIE” for the first time in mm/dd/yyyy format. The definition of “Active GIE” is provided in section 95351(a) of the amended Regulation.

## **Voltage Capacity (kilovolts)**

Enter the voltage capacity (often referred to as the rated voltage) of the circuit breaker in kilovolts (kV).

## **Medium that Provides Insulating and/or Interrupting Functions**

Enter the medium that provides insulating and/or interrupting (arc quenching) functions (e.g., non-SF<sub>6</sub> gas, vacuum/dry air).

---

<sup>1</sup> The original Regulation uses the term “gas insulated switchgear,” which has been converted to be “gas-insulated equipment” in the amended Regulation. This terminology from the original Regulation has been retained throughout this document, with the exception of the Early Action Credit worksheet, the inclusion of which is guided by the amended Regulation.

**Covered Insulating Gas (if applicable)**

If the circuit breaker uses a covered insulating gas for interrupting or insulation functions, enter the name of gas used (e.g., Novec-4710, 2000).

**Covered Insulating Gas GWP (if applicable)**

If the circuit breaker uses a covered insulating gas for interrupting or insulation functions, enter the global warming potential (GWP) of the gas.

**Was Device Removed from Regular Use/Transferred While in Use During Data Year?**

Select "yes" from the drop-down menu if the circuit breaker was either "removed from regular use" or "transferred while in use" to another entity during data year 2021. Otherwise, select "no." See sections 95354(c)(1) and 95354(c)(2) of the amended Regulation for the definitions of "removed from regular use" and "transferred while in use," respectively.

**Jointly Owned?**

Select "yes" or "no" from the drop-down menu to indicate whether the device is jointly owned with another owner.

**GIE Owner's Equity Share (%)**

This field is required only for jointly owned circuit breakers. Enter your entity's equity share of the circuit breaker as a percentage.

**Name, ARB ID and Equity Shares (%) of Other Co-Owners**

This field is required only for jointly owned circuit breakers. Enter the name(s), ARB ID(s) (if known), and equity share(s) of all other co-owners of the circuit breaker. For example, enter "Alpha Corp., 511111, 30%. Beta Corp., Unknown ARB ID, 25%."

**Worksheet: SF<sub>6</sub> Transferred**

This worksheet records all SF<sub>6</sub> gas transfers into and out of the GIS equipment listed in the "GIS Equipment" worksheet for data year 2021. Include gas transfers from containers owned by or stored on the property of the entity and from any third party gas distributors.

**GIS Serial Number**

Enter the serial number of the GIS equipment that SF<sub>6</sub> gas was added to or removed from during data year 2021. The serial number should match one of those listed in the "SF<sub>6</sub> GIS Equipment" worksheet.

**Date SF<sub>6</sub> Transferred (mm/dd/yyyy)**

Enter the date that SF<sub>6</sub> was added to or removed from the GIS equipment in mm/dd/yyyy format.

**Amount Transferred (lbs.)**

Enter the amount, in pounds, of SF<sub>6</sub> transferred into or out of the GIS equipment. Use a positive number for gas added to equipment and a negative number for gas removed.

## Worksheet: SF<sub>6</sub> Gas Containers

This worksheet captures a current and complete inventory of SF<sub>6</sub> gas containers owned by or stored on the property of the reporting entity for data year 2021.

### Container ID

Enter the container ID number for each SF<sub>6</sub> gas container.

### Container Size (SF<sub>6</sub> capacity in pounds)

Enter the amount, in pounds, that the gas container is designed to hold. If the container size cannot be determined, contact the manufacturer or distributor. The table below may also be used to look up the size of containers from common gas distributors.

Company	Designation	SF <sub>6</sub> Cylinder Size (lbs.)
Air Gas Great Lakes	200	115
Air Gas Great Lakes	150	80
Air Gas Great Lakes	80	35
Matheson Tri-Gas	1A	247
Matheson Tri-Gas	1R	139
Matheson Tri-Gas	QX	109
Matheson Tri-Gas	2	92
Matheson Tri-Gas	2R	81
Matheson Tri-Gas	GX	81
Matheson Tri-Gas	LD	61
Matheson Tri-Gas	3	49
Matheson Tri-Gas	3R	39
Matheson Tri-Gas	UX	39
Matheson Tri-Gas	4	27
Polar Technology	D	5
Polar Technology	40cf	18
Polar Technology	55cf	28
Polar Technology	80cf	38
Polar Technology	110cf	57.5
Polar Technology	125cf	57.5
Polar Technology	220cf	115
Polar Technology	250cf	115
Praxair	K	115
Praxair	AS	70

**Street Address****City****State****ZIP/Postal Code**

Enter the street name and number, city, state, and zip/postal code where each SF<sub>6</sub> gas container was stored.

**SF<sub>6</sub> Weight in Container (lbs.)**

Enter the weight, in pounds, of SF<sub>6</sub> in each container at the end of the calendar year, and when each container was added to or removed from inventory. The reported SF<sub>6</sub> weight in the container should exclude the tare weight of the container.

SF<sub>6</sub> gas containers owned by or stored on site the property of the reporting entity must be weighed annually at the end of the calendar year.

If a new container is added to the inventory at any time during data year 2021, record the weight upon its arrival. If the added container remains in the inventory through the end of the calendar year, it must be weighed again at the end of the calendar year and recorded as a separate entry.

If a container was removed from the inventory at any time during data year 2021, record the weight upon its departure.

**Date Container Weighed (mm/dd/yyyy)**

Record the date that the container was weighed in mm/dd/yyyy format.

**Reason for Weighing Container**

Select the reason the container was weighed ("End of Calendar Year Weighing," "Added to Inventory," or "Removed from Inventory") from the drop-down menu.