

# Proposed Amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

## FINAL REGULATION ORDER

Amend Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 3.1, sections 95350, 95351, 95352, 95353, 95354, 95355, 95356, 95357, 95358 and 95359; and adopt new sections 95354.1, 95357.1, 95357.2 and 95359.1 title 17, California Code of Regulations, to read as follows:

[Note: The proposed amendments are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions from the existing regulatory text.]

### Subchapter 10. Climate Change

#### Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

##### Subarticle 3.1. Regulation for Reducing Greenhouse Gas Sulfur Hexafluoride Emissions from ~~Gas Insulated Switchgear~~ Gas-Insulated Equipment

###### § 95350. Purpose, Scope, and Applicability.

- (a) *Purpose.* The purpose of this regulation is to achieve greenhouse gas (GHG) emission reductions ~~by reducing sulfur hexafluoride (SF<sub>6</sub>) emissions from gas-insulated switchgear~~ from the operation of electrical equipment that uses a GHG as an insulating medium.
- (b) *Applicability.* The provisions of this subarticle apply to owners of ~~gas-insulated switchgear~~ gas-insulated equipment (GIE) that uses covered insulating gas. Any ~~person~~ GIE owner who is subject to this subarticle must meet the requirements of this subarticle, notwithstanding any contractual arrangement that ~~person~~ GIE owners may have with any third parties.

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

###### § 95351. Definitions and Acronyms.

- (a) For the purposes of this subarticle, the following definitions apply:
  - (1) **"Active GIS Gas-Insulated Equipment" or "Active GIE"** means GIE that is non-hermetically sealed SF<sub>6</sub> gas-insulated switchgear that is: and is

~~(A) Connected through busbars or cables to the GIS owner's an electrical power system; or~~

~~(B) that is Fully-charged, ready for service, located at the site in which it will be activated, and employs a mechanism to monitor SF<sub>6</sub> emissions. and being prepared for connection to the electrical power system. This does not include spare GIE.~~

~~"Active GIS equipment" does not include equipment in storage.~~

"Acquire" means to take possession and/or ownership of an item or to obtain an item through lease. Equipment under temporary ownership by the manufacturer during transport and equipment transported through California that will never be used in California are not considered to have been "acquired."

"ARB Identification Number" or "ARB ID" means the unique identification number assigned to each GIE owner that reports GHG emissions to the California Air Resources Board (CARB) through the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT).

"Blank-off Pressure" is the lowest achievable pressure of a GIE device or gas cart, as recommended by the manufacturer.

"Carbon Dioxide Equivalent" or "CO<sub>2</sub>e" means the amount of CO<sub>2</sub> emissions equivalent to the emissions of a given quantity of another GHG when calculated using the individual global warming potentials as specified in the "global warming potential" definition of this subarticle.

"Circuit Breaker" means a device designed to automatically interrupt high currents in order to protect electrical equipment from damage.

"Covered Gas Container" means a gas container containing or designed to contain covered insulating gas.

"Covered Insulating Gas" means an insulating gas with a GWP greater than one. When the amount of covered insulating gas must be calculated for gas blends, it must be calculated pursuant to section 95354(m).

"Covered Insulating Gas at Activation" means the value calculated in section 95354(a)(10)(A)6.; if this value is not calculated, this term means the nameplate capacity of the GIE device.

"Data Year" means the calendar year for which a GIE owner must submit an annual GHG emissions data report.

"Day" means one calendar day.

"Designated Representative" means the person responsible for certifying, signing, and submitting the GHG emissions data report.

~~(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 SF<sub>6</sub> emissions from all active GIS equipment divided by the average annual SF<sub>6</sub> nameplate capacity of all active GIS equipment.

~~(5)~~ "Executive Officer" means the Executive Officer of the California Air Resources Board (CARB) or her or his or ~~her~~ designee.

"Failure" means the sudden and unexpected, or imminent, failure of a GIE device that requires replacement of the device.

"Flow meter" means a measurement device consisting of one or more individual components that is designed to measure the bulk fluid movement of liquid or gas through a piped system at a designated point. Bulk fluid movement can be measured with a variety of devices in units of mass flow or volume.

"Gas Cart" means any device designed to transfer insulating gas into or out of GIE, with the gas coming from or going into a permanent or removable gas container or the gas cart itself. A gas cart may utilize gas containers, but gas containers do not fall within the definition of gas cart.

~~(6)~~ "Gas Container" means a single vessel containing or designed to contain SF<sub>6</sub>. ~~"Gas container"~~ a gas used as an insulating gas in GIE. This includes pressurized cylinders, any container that can be removed from a gas carts, or other containers, but does not include GIE or the gas cart itself.

~~(7)~~ "Gas-Insulated switchgear Equipment" or GIS "GIE" means all electrical power equipment, regardless of location and insulating medium (e.g., solid dielectric, vacuum, SF<sub>6</sub>, alternative gas), insulated with SF<sub>6</sub> gas that provide insulating and/or interrupting (arc quenching) functions related to operation of electrical power systems regardless of location. Gas-insulated switchgear or GIEs includes, but are not limited to, switchgear, switches, stand-alone gas-insulated equipment, and any combination of electrical disconnects, fuses, electrical transmission lines, transformers circuit switchers, coupling capacitor potential

devices, gas-insulated substations, and/or circuit breakers used to isolate gas-insulated electrical equipment. This definition includes hermetically sealed GIE and non-hermetically sealed GIE.

**"Gas-Insulated Equipment Characteristics" or "GIE Characteristics"** means, for GIE whose voltage capacity is 38 kV or less, the combination of attributes listed in Table 1 (configuration, voltage capacity (kV), and short-circuit current rating (kA)). For GIE whose voltage capacity is greater than 38 kV, this means the combination of attributes listed in Table 2 (voltage capacity (kV) and short-circuit current rating (kA)).

~~(8)~~ **"Gas-Insulated Equipment Owner" or "GIE GIS Owner"** means the person who owns gas-insulated switchgear. GIE that use covered insulating gas. "GIS GIE owner" excludes temporary ownership by the original equipment manufacturer during GIS GIE equipment transport for purposes of and installation at a customer's site or repair. A GIE owner may be a limited liability company, subsidiary, parent company, or other entity that is an owner of the GIE that use covered insulating gas.

**"Global Warming Potential" or "GWP"** means the ratio of the time-integrated radiative forcing from the instantaneous release of one unit of a trace substance relative to that of one unit of a reference gas, in this case, carbon dioxide. The GWP values for this subarticle are as specified in Table A-1 to Subpart A of Title 40 CFR Part 98 as published to the Federal Register on December 11, 2014, which is hereby incorporated by reference. The GWP of Novec-4710 shall be the default GWP for "other fluorinated GHGs" (2,000) as listed in Table A-1 of Subpart A of Title 40 CFR Part 98 as published to the Federal Register on December 11, 2014. Reporting of Novec 5110 is not required because the default GWP in Table A-1 (Subpart A of Title 40 CFR Part 98 as published to the Federal Register on December 11, 2014) for a compound of its type is 1.

**"Greenhouse Gas" or "GHG"** means CO<sub>2</sub>, methane, nitrous oxide, SF<sub>6</sub>, hydrofluorocarbons, perfluorocarbons, and other fluorinated GHGs or GHG groups included in Table A-1 to Subpart A of Title 40, CFR Part 98 as published in the Federal Register on December 11, 2014, which is hereby incorporated by reference.

~~(9)~~ **"Hermetically Sealed Gas-Insulated Switchgear Equipment" or "Hermetically Sealed GIE"** means switchgear GIE that is designed to be gas-tight and sealed for life. This type of switchgear is are pre-charged with SF<sub>6</sub> covered insulating gas, sealed at the factory, and is designed by the manufacturer to not be refillable by its user the GIE owner or a third-party designee.

**"Insulating Gas"** means the gas used in GIE to provide dielectric insulation and/or to interrupt electrical currents.

~~(10)~~ **"Nameplate Capacity"** means the design capacity of SF<sub>6</sub> the insulating gas specified by the manufacturer for optimal performance of a GIS GIE device. Nameplate capacity may be found on the nameplate attached to the GIS GIE device, or may be stated within the manufacturer's official product specifications, or may be the value calculated by the GIE owner pursuant to section 95357.2, if applicable.

~~(11)~~ **"NIST-Traceable Standards"** means national, traceable measurement standards developed by the National Institute of Standards and Technology (NIST).

**"Non-Hermetically Sealed Gas-Insulated Equipment" or "Non-Hermetically Sealed GIE"** means GIE that contain a covered insulating gas and are designed by the manufacturer to be fillable by the GIE owner or a third-party designee.

~~(12)~~ **"Person"** shall have the same meaning as defined in Health and Safety Code section 39047.

**"Purchase"** means executing a formalized agreement between the buyer and the seller to acquire a product such that any reversal on behalf of the buyer or the seller could result in a breach of the agreement and/or trigger cancellation or termination charges.

**"Replacement Parts"** are interchangeable components used to repair a GIE device.

**"Spare GIE"** are GIE that have been acquired by the GIE owner and are intended for use by the GIE owner, but are not being used as active GIE or being prepared for connection to the electrical power system (e.g., they are in storage).

~~(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.

**"Sulfur Hexafluoride Gas-Insulated Equipment" or "SF<sub>6</sub> Gas-Insulated Equipment" or "SF<sub>6</sub> GIE"** means GIE configured to use SF<sub>6</sub> as the insulating gas.

"Tare weight" means the weight of an empty gas container that when subtracted from the gross weight yields the amount of gas in the gas container.

"Voltage Capacity" means the maximum voltage within which the manufacturer specifies that a GIE device should operate. This value is often reflected on the GIE nameplate as "Rated Voltage."

(b) For the purposes of this subarticle, the following acronyms apply:

"ARB" or "CARB" means the California Air Resources Board.

"CFR" means the Code of Federal Regulations.

"CO<sub>2</sub>" means carbon dioxide.

"CO<sub>2</sub>e" means carbon dioxide equivalent.

"GHG" means greenhouse gas.

"GIE" means gas-insulated equipment.

"GWP" means global warming potential.

"kA" means kiloamperes.

"kV" means kilovolts.

"MT" means metric tons.

"MTCO<sub>2</sub>e" means metric tons of carbon dioxide equivalent.

"NIST" means National Institute of Standards and Technology.

"SF<sub>6</sub>" means sulfur hexafluoride.

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

**§ 95352. ~~Maximum Annual SF<sub>6</sub> Emission Rate Sulfur Hexafluoride Phase-Out.~~**

~~For each calendar year specified below, the maximum annual SF<sub>6</sub> emission rate for each GIS owner's active GIS equipment shall not exceed the following:~~

<del>Maximum Annual SF<sub>6</sub> Emission Rate</del>	
<del>Calendar Year</del>	<del>Maximum Allowable SF<sub>6</sub> Emission Rate</del>

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%

(a) Starting on the dates, and per the GIE characteristics, provided in Table 1 and Table 2, no person may acquire, as defined in section 95351(a), SF<sub>6</sub> GIE for use in California unless one of the following provisions apply:

(1) An SF<sub>6</sub> phase-out exemption was approved by the Executive Officer, or SF<sub>6</sub> GIE were acquired in response to a failure, pursuant to section 95357.

(A) GIE acquired with an SF<sub>6</sub> phase-out exemption pursuant to sections 95357(b-h) shall only be used in the projects identified in section 95357(d)(3)(B), except for GIE that are initially spare GIE, which shall only be used in the type of locations described in section 95357(d)(3)(A).

(B) GIE acquired through the notification process pursuant to sections 95357(i-j) shall only be used in the location described in section 95357(i)(1)(C)(2.), except for GIE that are initially spare GIE, which shall only be used in the type of locations described in section 95357(j)(2).

(2) The SF<sub>6</sub> GIE device was present in the State and reported to CARB pursuant to section 95355(a) for a data year prior to the applicable phase-out date listed in Table 1 or Table 2.

(3) The SF<sub>6</sub> GIE device was purchased by the GIE owner prior to the applicable phase-out date listed in Table 1 or Table 2 for the relevant GIE characteristics, and enters California no later than 24 months after the purchase date.

(4) The SF<sub>6</sub> GIE manufacturer replaces a defective SF<sub>6</sub> GIE device under the terms of the manufacturer's warranty.

*Table 1. Phase-Out Dates for SF<sub>6</sub> GIE with Voltage Capacity ≤ 38 kV*

<u>Configuration</u>	<u>Voltage Capacity (kV)</u>	<u>Short-Circuit Current Rating (kA)</u>	<u>Phase-Out Date</u>
<u>Aboveground</u>	<u>&lt; 38</u>	<u>All</u>	<u>January 1, 2025</u>
	<u>38</u>	<u>All</u>	<u>January 1, 2028</u>
<u>Belowground</u>	<u>≤ 38</u>	<u>&lt; 25</u>	<u>January 1, 2025</u>
		<u>≥ 25</u>	<u>January 1, 2031</u>

*Table 2. Phase-Out Dates for SF<sub>6</sub> GIE with Voltage Capacity > 38 kV*

<u>Voltage Capacity (kV)</u>	<u>Short-Circuit Current Rating (kA)</u>	<u>Phase-Out Date</u>
<u>38 &lt; kV ≤ 145</u>	<u>&lt; 63</u>	<u>January 1, 2025</u>
	<u>≥ 63</u>	<u>January 1, 2028</u>
<u>145 &lt; kV ≤ 245</u>	<u>&lt; 63</u>	<u>January 1, 2027</u>
	<u>≥ 63</u>	<u>January 1, 2031</u>
<u>&gt; 245</u>	<u>All</u>	<u>January 1, 2033</u>

(b) Starting on the applicable dates provided in Table 1 and Table 2, no GIE owner may convert non-SF<sub>6</sub> GIE to SF<sub>6</sub> GIE.

(c) Replacement parts are not subject to the phase-out.

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

**§ 953537.1. Emergency Event Exemption.**

(a) A GIS GIE owner may request emissions from an emergency event to be exempted from the calculation of the GIE owner's annual emissions as calculated pursuant to section 95354.1 maximum allowable emission rate if it is demonstrated to the Executive Officer's satisfaction that the release of SF<sub>6</sub>; covered insulating gases

- (1) Could not have been prevented by the exercise of prudence, diligence, and care; and
- (2) Was beyond the control of the GIS GIE 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~~ GIE 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~~ The manufacturer serial number pursuant to section 95354(a)(3) of all GIE that were affected by the event; and
    - (E) The type and amount of ~~SF<sub>6</sub>~~ each covered insulating gas released (in pounds);<sup>7</sup>
  - (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~~ The appropriate attestation statement from section 95355(c).

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

**§ 95353. Annual Emissions Limit**

- (a) No GIE owner's annual CO<sub>2</sub>e emissions excluding emergency events, as calculated pursuant to section 95354.1(c), shall exceed their annual emissions limit.
- (b) GIE owners must calculate their average system capacity,  $C_{avg,j,i}$  for each covered insulating gas  $j$  for data year  $i$  as follows:

$$C_{avg,j,i} = \frac{\sum_k^n (d_{k,j} * C_{k,j})}{D_i}$$

Where:

"C<sub>avg,j,i</sub>" is the average system capacity (pounds) for covered insulating gas j in data year i;

"n" is the number of GIE devices k that were active GIE insulated with covered insulating gas j at some point during data year i;

"d<sub>kj</sub>" is the number of days during year i that GIE device k with covered insulating gas j was in active service;

"C<sub>kj</sub>" is the covered insulating gas at activation (pounds) as defined in section 95351(a), for covered insulating gas j of GIE device k; and

"D<sub>i</sub>" is the number of days in data year i.

- (1) For data year 2021, GIE owners must calculate C<sub>avg,j,i</sub> for SF<sub>6</sub> only.
  - (2) For data years 2022 through 2024, GIE owners must calculate C<sub>avg,j,i</sub> for each covered insulating gas j used in GIE.
  - (3) For data years 2025 and beyond, GIE owners must calculate C<sub>avg,j,i</sub> for each covered insulating gas j used in GIE devices k only if all of the following criteria are met:
    - (A) The GIE device was not included in the calculation of BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub>;
    - (B) The GIE device has not replaced a GIE device that was included in the calculation of BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub>; and
    - (C) The GIE device was not acquired pursuant to section 95352(a)(1), either by the GIE owner or by a previous owner of the GIE device.
  - (4) For each GIE device k that is jointly owned, each GIE owner must apply its equity share to calculate the GIE owner's share of the C<sub>kj</sub> value to use in the equation above, pursuant to section 95354(a)(7)(B).
- (c) GIE owners must calculate their average CO<sub>2</sub>e capacity on an annual basis as follows for each covered insulating gas j:

$$\text{Average CO}_2\text{e capacity}_i = \frac{\sum_j^m \text{GWP}_j * C_{\text{avg},j,i}}{2204.62}$$

Where:

"Average CO<sub>2</sub>e capacity<sub>i</sub>" is the average system capacity expressed in units of metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) as calculated for data year *i*;

"*m*" is the number of covered insulating gases *j*;

"GWP<sub>j</sub>" is the global warming potential of covered insulating gas *j*;

"C<sub>avg,j,i</sub>" is the average system capacity (pounds) as calculated pursuant to section 95353(b); and

"2204.62" is the number of pounds in a metric ton.

(d) Beginning with data year 2021, GIE owners who elect to apply an early action credit must calculate their early action credit (EAC) as follows on an annual basis:

$$EAC_i = \sum_k^n C_{e,k} - \sum_l^o C_{er,l} + EAC_{i-1}$$

Where:

"EAC<sub>i</sub>" is the early action credit (MTCO<sub>2</sub>e) for data year *i*;

"*n*" is the number of GIE devices *k* that are circuit breakers that became active GIE for the first time during the data year, have a voltage capacity of 72.5 kV or greater, are not insulated with SF<sub>6</sub> or oil, and for which the phase-out date for an equivalent SF<sub>6</sub> GIE (i.e., has the same GIE characteristics), provided in Table 2, has not been reached;

"C<sub>e,k</sub>" is the GHG capacity (MTCO<sub>2</sub>e) of each equivalent SF<sub>6</sub> GIE from Table 3 for device *k*;

"*o*" is the number of GIE devices *l* that were removed from regular use pursuant to section 95354(c)(1) or transferred while in use pursuant to section 95354(c)(2) during the data year that were used to calculate EAC<sub>i-1</sub>;

"C<sub>er,l</sub>" is the GHG capacity (MTCO<sub>2</sub>e) of each equivalent SF<sub>6</sub> GIE from Table 3 for device *l*; and

"EAC<sub>i-1</sub>" is the early action credit (MTCO<sub>2e</sub>) calculated for the prior data year. The value of EAC<sub>i-1</sub> for data year i = 2021 is zero.

Table 3. Voltage and GHG Capacities of Equivalent SF<sub>6</sub> Circuit Breakers (MTCO<sub>2e</sub>)

<u>Voltage Capacity (kV)</u>	<u>C<sub>e,k</sub> or C<sub>er,l</sub> (MTCO<sub>2e</sub>)</u>
<u>72.5</u>	<u>300</u>
<u>72.5 &lt; x ≤ 145</u>	<u>700</u>
<u>145 &lt; x ≤ 245</u>	<u>1,900</u>
<u>&gt; 245</u>	<u>2,400</u>

When determining EAC for GIE that are jointly owned, each GIE owner must apply its equity share to calculate the GIE owner's share of the credit, pursuant to section 95354(a)(7)(B).

- (e) For data year 2025, GIE owners must calculate their baseline (BL) CO<sub>2e</sub> capacity<sub>12/31/2024</sub> as follows for each covered insulating gas j:

$$\underline{\underline{BL\ CO_2e\ capacity_{12/31/2024} = \sum_j^m \frac{GWP_j * C_{k,j}}{2204.62}}}$$

Where:

"BL CO<sub>2e</sub> capacity<sub>12/31/2024</sub>" is the system capacity (MTCO<sub>2e</sub>) as calculated for December 31, 2024;

"m" is the number of covered insulating gases j;

"GWP<sub>j</sub>" is the global warming potential of covered insulating gas j;

"C<sub>k,j</sub>" is the covered insulating gas at activation (pounds) of GIE device k that was active GIE insulated with gas j on December 31, 2024; and

"2204.62" is the number of pounds in a metric ton.

- (1) For data years 2025 and beyond, GIE owners must calculate the value of BL CO<sub>2e</sub> capacity<sub>12/31/2024,j</sub> as follows for each covered insulating gas j:

$$\begin{aligned}
& \underline{BL\ CO_2e\ capacity_{12/31/2024,i}} \\
& = \underline{BL\ CO_2e\ capacity_{12/31/2024,i-1}} \\
& \quad - \sum_j^m \frac{GWP_j * C_{knc,j}}{2204.62} + \sum_j^m \frac{GWP_j * C_{knca,j}}{2204.62} - \sum_j^m \frac{GWP_j * C_{kr,j}}{2204.62} \\
& \quad + \sum_j^m \frac{GWP_j * C_{kn,j}}{2204.62}
\end{aligned}$$

Where:

"BL CO<sub>2</sub>e capacity<sub>12/31/2024,i</sub>" is the system capacity (MTCO<sub>2</sub>e) as calculated for data year *i*;

"BL CO<sub>2</sub>e capacity<sub>12/31/2024,i-1</sub>" is the system capacity (MTCO<sub>2</sub>e) calculated for the prior data year. The value of BL CO<sub>2</sub>e capacity<sub>12/31/2024,i-1</sub> for data year 2025 is BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub>;

"*m*" is the number of covered insulating gases *j*;

"GWP<sub>*j*</sub>" is the global warming potential of covered insulating gas *j*;

"C<sub>knc,j</sub>" is the covered insulating gas at activation (pounds) that was last used to calculate BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub> or BL CO<sub>2</sub>e capacity<sub>12/31/2024,i-1</sub> for any GIE device *knc* that underwent a nameplate capacity adjustment pursuant to section 95357.2 during the data year;

"C<sub>knca,j</sub>" is the new nameplate capacity (pounds) of SF<sub>6</sub> GIE device *knc* that underwent a nameplate capacity adjustment during the data year;

"C<sub>kr,j</sub>" is the covered insulating gas at activation (pounds) that was last used to calculate BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub> or BL CO<sub>2</sub>e capacity<sub>12/31/2024,i-1</sub> for any GIE device *kr* that was removed from regular use pursuant to section 95354(c)(1) or was transferred while in use pursuant to section 95354(c)(2) during the data year and was not replaced or was replaced with a SF<sub>6</sub> GIE device;

"C<sub>kn,j</sub>" is the covered insulating gas at activation (pounds) of SF<sub>6</sub> GIE device *kn* that replaced GIE device *kr* and was not acquired pursuant to section 95352(a)(1); and

"2204.62" is the number of pounds in a metric ton.

- (f) For data years 2025 and beyond, GIE owners must calculate their baseline CO<sub>2</sub>e capacity as follows for each covered insulating gas *j*:

$$\underline{BL\ CO_2e\ capacity_i = EAC_{\leq 10} + BL\ CO_2e\ capacity_{12/31/2024,i} + Average\ CO_2e\ capacity_i}$$

Where:

"BL CO<sub>2</sub>e capacity<sub>i</sub>" is the system capacity (MTCO<sub>2</sub>e) as calculated for data year *i*;

"EAC<sub>≤10</sub>" is the value of EAC<sub>i</sub> (MTCO<sub>2</sub>e) for data year *i*, as calculated pursuant to section 95353(d), unless the value of EAC<sub>i</sub> exceeds 10 percent of the reported value for average CO<sub>2</sub>e capacity<sub>i</sub> for data year 2021, in which case EAC<sub>≤10</sub> is equal to 10 percent of the reported value for average CO<sub>2</sub>e capacity<sub>i</sub> for data year 2021;

"BL CO<sub>2</sub>e capacity<sub>12/31/2024,i</sub>" is the system capacity (MTCO<sub>2</sub>e) as calculated pursuant to section 95353(e)(1); and

"Average CO<sub>2</sub>e capacity<sub>i</sub> " is the average system capacity (MTCO<sub>2</sub>e) as calculated pursuant to section 95353(c).

(g) GIE owners shall establish their emissions limit using the following formulas in conjunction with Table 4 and Table 5:

(1) For data years 2021 through 2024, GIE owners shall establish their emissions limit using the following formula in conjunction with the applicable values provided in Table 4 and Table 5:

$$\text{Emissions Limit}_i = \frac{AEF_i}{100} * (\text{Average CO}_2\text{e capacity}_i + EAC_{\leq 10})$$

Where:

"Emissions limit<sub>i</sub>" is the GIE owner's emissions limit (MTCO<sub>2</sub>e) for data year *i*;

"AEF<sub>i</sub>" is the annual emission factor from Table 4 or Table 5 for data year *i*;

"Average CO<sub>2</sub>e capacity<sub>i</sub>" is the average system capacity (MTCO<sub>2</sub>e) as calculated pursuant to section 95353(c); and

"EAC<sub>≤10</sub>" is the value of EAC<sub>i</sub> (MTCO<sub>2</sub>e) for data year *i*, as calculated pursuant to section 95353(d), unless the value of EAC<sub>i</sub> exceeds 10 percent of the reported value for average CO<sub>2</sub>e capacity<sub>i</sub> for data year 2021, in which case EAC<sub>≤10</sub> is equal to 10 percent of the reported value for average CO<sub>2</sub>e capacity<sub>i</sub> for data year 2021;

Table 4. Annual Emission Factors for Average CO<sub>2</sub>e capacity (data years 2021-2024) and "BL CO<sub>2</sub>e capacity" (data years 2025 and beyond) ≥ 10,000 MTCO<sub>2</sub>e

<u>Year (i)</u>	<u>AEF<sub>i</sub></u>
<u>2021 through 2034</u>	<u>1.0</u>
<u>2035 and each calendar year thereafter</u>	<u>0.95</u>

Table 5. Annual Emission Factors for Average CO<sub>2</sub>e capacity (data years 2021-2024) and "BL CO<sub>2</sub>e capacity" (data years 2025 and beyond) < 10,000 MTCO<sub>2</sub>e

<u>Year (i)</u>	<u>AEF<sub>i</sub></u>
<u>2021 through 2034</u>	<u>2.0</u>
<u>2035 and each calendar year thereafter</u>	<u>1.9</u>

- (2) For data years 2025 and beyond, GIE owners shall establish their emissions limit using the following formula in conjunction with the applicable values provided in Table 4 and Table 5:

$$\text{Emissions Limit}_i = \frac{AEF_i}{100} * BL\ CO_2e\ capacity_i$$

Where:

"Emissions Limit<sub>i</sub>:" is the GIE owner's emissions limit (MTCO<sub>2</sub>e) for data year i;

"AEF<sub>i</sub>" is the annual emission factor from Table 4 or Table 5 for data year i; and

"BL CO<sub>2</sub>e capacity<sub>i</sub>" is the system capacity (MTCO<sub>2</sub>e) as calculated pursuant to section 95353(f);

- (h) If in 2021 or any subsequent year the calculated emissions limit is less than 50 MTCO<sub>2</sub>e, the emissions limit shall be 50 MTCO<sub>2</sub>e.
- (i) Combining of GIE Owners. Whenever multiple GIE owners combine to be under the same GIE owner, the GIE owner's new emissions limit will be the sum of the emission limits that would have been established for each GIE owner had the GIE owners not combined.

All GIE owners who have combined must notify CARB that the combination has occurred within 30 days of the effective date of the combination. The notification must include the date of the combination, the names and ARB identification numbers (if assigned) of the GIE owners who combined, the name of the new GIE owner following the combination, the emission limits previously assigned to each

GIE owner, the new GIE owner's emissions limit, the reason(s) for the change, a description of the relationship between the entities being combined (e.g., that they have a common parent organization), and the appropriate attestation statement from section 95355(c).

- (j) Splitting of a GIE Owner. Whenever a GIE owner splits into multiple GIE owners, the emissions limit that would have been assigned to the original GIE owner must be split and assigned to the new GIE owners proportionally based on each new GIE owner's equity share of the original system's capacity at the time of the split, calculated pursuant to section 95354(a)(7)(B).

All GIE owners who have split from a former GIE owner must notify CARB that the split has occurred within 30 days of the effective date of the split. The notification must include the date of the split, the name and ARB identification number (if assigned) of the GIE owner that split, the names of the new GIE owners following the split, the emissions limit previously assigned to the GIE owner that split, the new GIE owner's Average CO<sub>2</sub>e capacity<sub>i</sub> at the time of the split (prior to 2025) or BL CO<sub>2</sub>e Capacity<sub>i</sub> (for 2025 and later data years), the new GIE owner's emissions limit, the reason(s) for the change, a description of the relationship between the entities being split (e.g., that they have a common parent organization but are independent limited liability companies), and the appropriate attestation statement from section 95355(c).

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

#### **§ 95354. SF<sub>6</sub> Inventory Measurement and Insulating Gas 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.~~

(a) GIE owners must establish and maintain a current and complete GIE inventory for each data year, which includes the following information for each GIE device that uses covered insulating gas:

(1) Equipment manufacturer name.

(2) Year equipment was manufactured.

(A) If the year the device was manufactured cannot be determined, report a best estimate of the year of manufacture and record how the estimated year was determined.

(3) Manufacturer serial number.

(A) For any GIE device whose serial number is unknown (e.g., the serial number does not exist, or is not visible), another unique identifier must be recorded as the manufacturer serial number. The GIE owner must retain documentation that allows for each GIE device to be readily identifiable.

(B) Whenever a GIE owner owns multiple GIE with identical serial numbers, unique identifiers must be recorded as the manufacturer serial number for each GIE device. The GIE owner must retain documentation that allows for each GIE device to be readily identifiable.

(4) Equipment type.

(5) Equipment voltage capacity (in kilovolts).

(6) The name and GWP of each covered insulating gas used.

(7) Whether the device is jointly owned with another GIE owner.

(A) For each GIE device that is jointly owned, specify each co-owners' name, ARB ID (if known), and equity share.

(B) Whenever a value to be calculated under this subarticle must be divided between multiple GIE owners (such as, but not limited to, a situation involving the splitting of a GIE owner pursuant to section 95353(j)), or to determine each GIE owner's share of emissions or covered insulating gas at activation for a jointly owned GIE device, GIE owners must use the following formula to calculate their share of the value:

$$\underline{GIE\ Owner\ Share = (Total) * (Equity\ Share)}$$

Where:

"GIE Owner Share" is the GIE owner's reportable share of a GIE device's capacity or emissions;

"Total" is the total value being divided between GIE owners; and

"Equity Share" is the GIE owner's equity share of the GIE device, expressed as a decimal value.

(8) Nameplate capacity (pounds), as specified by the GIE manufacturer or as determined pursuant to section 95357.2.

(A) If using the nameplate capacity specified by the GIE manufacturer, the value must reflect the latest value specified by the manufacturer during the data year.

(B) For each GIE device whose nameplate capacity was adjusted during the data year, the GIE owner must also record:

1. The date the nameplate capacity adjustment process was completed, and

2. The pressure reading of the GIE device five minutes after the blank-off pressure was achieved pursuant to section 95357.2(c)(5); the blank-off pressure for the GIE device; the blank-off pressure of the gas cart; and the units, which must be the same for all values recorded pursuant to this section.
- (C) In the event that the device was removed from regular use during the data year, but never underwent a nameplate capacity adjustment due to compromised integrity pursuant to section 95357.2(b)(3), record the manufacturer serial number of the device.
- (9) If the GIE device has been active GIE at some point during its ownership by the GIE owner but was not active GIE on December 31 of the data year, the last date when it was active GIE.
- (10) Seal type (hermetic or non-hermetic).
  - (A) For non-hermetically sealed GIE:
    1. The number of days in the data year that the device was active GIE;
    2. For GIE acquired after December 31, 2021, record the amount of covered insulating gas in the device at the time the device was acquired (pounds), either per information provided by the manufacturer, or by transferring covered insulating gas from the GIE device to a gas container and measuring the amount of covered insulating gas transferred. The GIE owner is responsible for ensuring the gas is accounted for consistent with the methodologies specified in sections 95354(b)(1), 95354(b)(2), 95354(d)(1), or 95354(d)(2). If no covered insulating gas was in the device when it was acquired, record this value as zero;
    3. For GIE acquired after December 31, 2021, if covered insulating gas is added to the GIE device subsequent to the acquisition of the device to make it active GIE for the first time, record the following:
      - a. The date(s) that covered insulating gas was added to the device, and
      - b. The total amount of covered insulating gas added to the device, calculated per section 95354(b)(1) or 95354(b)(2);

4. Whether the device was active GIE or not on January 1 of the data year (required beginning January 1, 2022);
5. Whether the device was active GIE or not on December 31 of the data year (required beginning January 1, 2022);
6. For GIE acquired after December 31, 2021 and made active for the first time after December 31, 2021, covered insulating gas at activation shall be calculated as the sum of the values recorded in sections 95354(a)(10)(A)2. and 95354(a)(10)(A)3.b. (pounds). If no covered insulating gas was added to the GIE device per section 95354(a)(10)(A)3., covered insulating gas at activation shall be equal to the value recorded in section 95354(a)(10)(A)2;
7. Any of the following changes in operational status that occurred during the data year:
  - (a.) The GIE device became active for the first time or after it was previously considered removed from regular use pursuant to section 95354(c)(1);
  - (b.) The GIE device was transferred while in use to or from another entity pursuant to section 95354(c)(2); and/or
  - (c.) The GIE device was removed from regular use pursuant to section 95354(c)(1).
8. Whether the GIE device was included in the calculation of *BL CO<sub>2</sub>e capacity*<sub>12/31/2024</sub> (required for data year 2025 only) or *BL CO<sub>2</sub>e capacity*<sub>12/31/2024,y</sub> for data year i-1 (required beginning January 1, 2026); and
9. For GIE removed from regular use during the data year and included in the calculation of *BL CO<sub>2</sub>e capacity*<sub>12/31/2024</sub> (required for data year 2025 only) or *BL CO<sub>2</sub>e capacity*<sub>12/31/2024,y</sub> for data year i-1 (required beginning January 1, 2026), whether the GIE device was:
  - a. Not replaced, or
  - b. Replaced by a non-SF<sub>6</sub> GIE device, or
  - c. Replaced by an SF<sub>6</sub> GIE device acquired pursuant to section 95352(a)(1). If the GIE device was so replaced,

provide the manufacturer serial number of the replacement SF<sub>6</sub> GIE device, or

d. Replaced by an SF<sub>6</sub> GIE device not acquired pursuant to section 95352(a)(1). If the GIE device was so replaced, provide the manufacturer serial number of the replacement SF<sub>6</sub> GIE device.

(B) For hermetically sealed GIE, whether the device was connected through busbars or cables to an electrical power system or not (required beginning January 1, 2022) on the following dates:

1. January 1 of the data year; and
2. December 31 of the data year.

(11) For GIE acquired after December 31, 2021:

- (A) Date purchased and date acquired;
- (B) Short-circuit current rating (kA); and
- (C) Whether the device is or will be used above or below ground.

(12) For SF<sub>6</sub>-containing replacement parts installed during the data year on active SF<sub>6</sub> GIE for which the phase-out date has already passed (required beginning January 1, 2025):

- (A) Name or description of the part;
- (B) SF<sub>6</sub> capacity of the part (if available); and
- (C) Manufacturer's serial number of the SF<sub>6</sub> GIE device.

(13) For SF<sub>6</sub> GIE acquired after the applicable phase-out date, indicate the following:

- (A) If acquired pursuant to section 95352(a)(1), the SF<sub>6</sub> phase-out exemption request identification number, or that the device was acquired in response to a failure pursuant to section 95357(i) or 95357(j).
- (B) If acquired pursuant to section 95352(a)(2), the name and ARB ID (if known) of the previous GIE owner.

(C) If acquired pursuant to section 95352(a)(4), the manufacturer serial number pursuant to section 95354(a)(3) of the SF<sub>6</sub> GIE device that was returned to the manufacturer.

(14) Whether the GIE device was no longer owned by the GIE owner on December 31 of the data year.

(b) Beginning January 1, 2022, for any GIE device that has never been in the GIE owner's inventory as active GIE or that was accounted for in section 95354(c)(1) in a prior data year, and to which covered insulating gas must be added for it to become active GIE, GIE owners shall not add covered insulating gas to a GIE device prior to the data year in which it first becomes active GIE or becomes active GIE after being accounted for in section 95354(c)(1). The amount of covered insulating gas transferred to the GIE device (pounds) must be determined using either of the following methodologies and recorded.

(1) Weigh the gas container being used to fill the device prior to, and after, the addition of the covered insulating gas to the GIE device following the requirements of section 95354(e), and subtract the second value (after-transfer gas container weight) from the first value (prior-to-transfer gas container weight).

(2) Connect a mass flow meter between the GIE device and a gas cart. Transfer gas to the GIE to reach the temperature-compensated design operating pressure per manufacturer specifications. Close the connection to the GIE from the mass flow meter hose and ensure that the gas trapped in the filling hose returns through the mass flow meter. Calculate the amount of gas transferred from the mass reading on the mass flow meter.

(c) Beginning January 1, 2022, any GIE device that has been active GIE at some point during ownership by the GIE owner:

(1) Shall be considered "removed from regular use" in section 95354.1(a) when covered insulating gas has been extracted pursuant to section 95354(d) after any of the following circumstances:

(A) When the GIE device has not been active GIE for five consecutive years, or

(B) When the GIE device is taken out of active service for the purpose of removing the device from a GIE owner's inventory (e.g., to be disposed of, sold, transferred to a new GIE owner).

(C) When the GIE device has been inactive GIE for less than five consecutive years and is being removed from the GIE owner's

inventory (e.g., to be disposed of, sold, transferred to a new GIE owner).

- (2) Shall be considered “transferred while in use” in section 95354.1(a) when the GIE device is removed from a GIE owner’s inventory without being taken out of active service (e.g., transferred to a new GIE owner while remaining in place and continuing operation).
- (d) Within one year of a GIE device meeting the specifications in sections 95354(c)(1)(A) through 95354(c)(1)(C), covered insulating gas must be removed and accounted for. The amount of covered insulating gas transferred out of the GIE device (pounds) must be recorded by the GIE owner or by the manufacturer, contractor, or vendor that recovers the gas. The GIE owner is responsible for ensuring the gas is accounted for consistent with the methodologies specified in section 95354(d)(1) or (2).
- (1) Weigh the gas container being used to receive the covered insulating gas from the device prior to, and after, recovery of the covered insulating gas from the GIE device following the requirements of section 95354(e), and subtract the first value (prior-to-transfer gas container weight) from the second value (after-transfer gas container weight).
- (2) Use a mass flow meter as described in section 95354(b)(2).
- (e) Whenever a gas container or gas cart is required to be weighed, weigh the gas container or gas cart on a scale that is certified by the manufacturer to be accurate to within one percent of the true weight.
- (f) The following accuracy requirements apply to equipment used to determine values required to be recorded under this subarticle:
- (1) Flow meters must be certified by the manufacturer to be accurate to within one percent of the largest value that the flow meter can, according to the manufacturer's specifications, accurately record.
- (2) Pressure gauges must be certified by the manufacturer to be accurate within 0.5% of the largest value that the gauge can, according to the manufacturer’s specifications, accurately record.
- (3) Temperature gauges must be certified by the manufacturer to be accurate within +/- 1.0° F.
- (4) Gas carts used to perform nameplate capacity adjustments must be capable of recovering gas from the GIE device to the maximum achievable blank-off pressure specified by the GIE manufacturer.

- (g) GIE owners must weigh covered gas containers at the points in time set forth in sections 95354(g)(1)(A)-(B) and 95354(g)(2). Each time a container is weighed, record the date, the amount of covered insulating gas in the container (pounds), and the reason why the container was weighed (end of calendar year weighing, added to inventory, removed from inventory).
- (1) For each covered gas container owned by or stored on the property of the GIE owner, all of which make up the GIE owner's gas container inventory, weigh the gas container at the following times:
- (A) The end of the calendar year. To determine this value, containers must be weighed on or between December 1 of the data year and January 15 of the next data year. The container may only be weighed in January of the next data year if it was not used between December 31 of the data year and the date the container is weighed.
- (B) Whenever the covered gas container is added to, or removed from, the GIE owner's gas container inventory.
- (2) For covered gas containers that are neither owned by nor stored on the property of the GIE owner, weigh the gas container both immediately before and immediately after use at any of the GIE owner's facilities for the purpose of adding or removing insulating gas to or from GIE, a gas cart, or another container following the requirements of section 95354(e).
- (3) To determine the amount of covered insulating gas in the gas container, weigh the gas container (along with its contents), and subtract the tare weight of the container.
- (h) GIE owners must establish and maintain a current and complete inventory of all covered gas containers and gas carts that contain covered insulating gas. The inventory must include the following information for each covered gas container and gas cart:
- (1) For gas containers, whether it is required to be weighed pursuant to section 95354(g)(1) or 95354(g)(2), and for gas carts, whether the amount of gas within the cart is determined pursuant to section 95354(j)(2-3) or 95354(j)(4).
- (2) A unique identification number.
- (3) The name and GWP of each covered insulating gas used.
- (4) For gas containers, information required to be recorded pursuant to section 95354(g), and for gas carts, information required to be recorded pursuant to section 95354(j).

- (5) The amount of covered insulating gas in the container or gas cart (pounds) at the beginning of the data year. This value must be identical to the value reported for the end of the prior data year pursuant to section 95354(g)(1)(A) or 95354(j)(2).
- (i) Transfers of covered insulating gas. Each time covered insulating gas is transferred into or out of a GIE device, GIE owners must record:
- (1) The manufacturer serial number pursuant to section 95354(a)(3);
  - (2) The gas container's identification number;
  - (3) Whether the covered insulating gas was transferred into or out of the GIE device;
  - (4) The date of the transfer; and
  - (5) The type of covered insulating gas.
- (j) Gas Carts. GIE owners must do the following for all gas carts owned by or stored on the property of the GIE owner that contain covered insulating gas:
- (1) By January 1, 2022, the GIE owner must determine whether they will account for covered insulating gas in each gas cart using the "container method" following the requirements of section 95354(j)(2)(A), the "scale method" following the requirements of section 95354(j)(2)(B), or the "mass flow meter method" following the requirements of section 95354(j)(2)(C) and must, for each gas cart, use the method selected for all subsequent measurements of the amount of covered insulating gas in that gas cart pursuant to section 95354(j)(2-3). Whenever a GIE owner acquires a gas cart after December 31, 2021, they must select the methodology they will use at the time the gas cart is acquired.
  - (2) For each gas cart owned by or stored on the property of the GIE owner on December 31 of the data year, the amount of covered insulating gas within the gas cart at the end of the calendar year must be determined during the timeframe established in section 95354(g)(1)(A) using the methodology selected pursuant to section 95354(j)(1):
    - (A) Container method. Transfer insulating gas from the gas cart to a covered gas container(s) until the gas cart reaches the pressure specified by the GIE owner in section 95354(j)(2)(D). Weigh the gas container(s) before and after the transfer and determine the weight of the covered insulating gas in the gas cart by subtracting the first recorded value from the second;

- (B) Scale method. Determine the amount of gas stored in the gas cart by weighing the gas cart itself, and subtracting the tare weight, following the procedures in section 95354(g)(3); or
- (C) Mass flow meter method. Connect a mass flow meter between the gas cart and a container or another gas cart and recover gas until the pressure specified by the GIE owner in section 95354(j)(2)(D) is reached, then determine the amount of gas transferred from the mass reading on the mass flow meter.
- (D) GIE owners using the container method or mass flow meter method must, for each gas cart, specify by January 1, 2022 or the date the gas cart is acquired, the pressure at which the cart is empty according to manufacturer specifications, and bring the cart to that pressure every time they account for covered insulating gas in that gas cart.
- (E) GIE owners must not include gas accounted for pursuant to section 95354(j)(2) in any measurements made pursuant to section 95354(g)(1) or (2).
- (3) Whenever a gas cart is added to, or removed from, the GIE owner's inventory, the amount of covered insulating gas within the gas cart must be determined using the method selected pursuant to section 95354(j)(1).
- (4) Each time a gas cart that is neither owned by nor stored on the property of the GIE owner is brought onto or removed from the property of the GIE owner, either:

  - (A) Follow the procedures of section 95354(j)(2)(A);
  - (B) Follow the procedures of section 95354(j)(2)(B); or
  - (C) Follow the procedures of section 95354(j)(2)(C).

- (k) GIE owners must establish and adhere to written procedures to track all covered gas containers included in the inventory compiled pursuant to section 95354(h). The GIE owner must review the procedures annually and revise them as needed to ensure the information is current and the requirements of sections 95354(e)-(j) are met.
- (l) Calibration. GIE owners must:

  - (1) Prior to a scale's initial use to measure quantities reported under this subarticle, the scale must be calibrated according to the calibration procedures specified by the scale manufacturer. If a scale manufacturer has not specified calibration procedures, use NIST-traceable standards and 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.

- (2) Recalibrate scales used to measure quantities reported under this subarticle every three years, or at the minimum frequency specified by the manufacturer, whichever is more frequent. If a scale manufacturer has not specified calibration procedures, use NIST-traceable standards and 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.
- (3) Prior to a mass flow meter's initial use to measure quantities reported under this subarticle, the flow meter must be calibrated according to the calibration procedures specified by the manufacturer. If a mass flow meter manufacturer has not specified calibration procedures, use NIST-traceable standards and an appropriate flow meter calibration method published by a consensus-based standards organization.
- (4) Recalibrate mass flow meters, pressure gauges, and temperature gauges used to measure quantities reported under this subarticle at the minimum frequency specified by the manufacturer.
- (5) Establish and maintain a log of all measurements and calibrations required by sections 95354(l)(1-4), including a description of all methods used to calibrate the scale or flow meter, providing sufficient detail to establish that the method complies with the requirements of sections 95354(l)(1-4).
- (m) Gas Blends. Whenever covered insulating gas that is a constituent of a gas blend must be quantified, use the following equation to calculate the amount of covered insulating gas to be reported (pounds) and record the values of the inputs used:

$$\underline{Covered\ Insulating\ Gas = (Insulating\ Gas) * (Mass\ Share)}$$

Where

"Covered Insulating Gas" is the amount of covered insulating gas required to be reported (pounds);

"Insulating Gas" is the total amount of insulating gas (pounds) in the gas blend of which the covered insulating gas is a constituent member; and

"Mass Share" is the ratio of the mass of covered insulating gas relative to the total amount of insulating gas expressed as a decimal value.

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

**§ 95354.1. Calculating Annual Emissions.**

- (a) Annual Emissions by Covered Insulating Gas. For each covered insulating gas *j* emitted during data year *i*, GIE owners must use the following equation to calculate and report their annual emissions (pounds):

$$\text{Annual Emissions}_{j,i} = (\text{Decrease in covered insulating gas } j \text{ inventory}) + (\text{Acquisitions of covered insulating gas } j) - (\text{Disbursements of covered insulating gas } j) - (\text{Net increase in total capacity of active GIE owned and filled with covered insulating gas } j).$$

Where all of the following values are measured in pounds of gas for data year *i*:

Decrease in covered insulating gas *j* inventory = (covered insulating gas *j* stored in gas containers and gas carts included in the gas container inventory, but not GIE, at the beginning of data year *i*) - (covered insulating gas *j* stored in gas containers and gas carts included in the gas container inventory, but not GIE, at the end of the data year);

Acquisitions of covered insulating gas *j* = (covered insulating gas *j* obtained in bulk during the data year (e.g., in gas containers or gas carts) from chemical producers, distributors, or other entities) + (covered insulating gas *j* inside GIE when acquired by the GIE owner, for any GIE that became active GIE for the first time during the data year) + (covered insulating gas *j* at activation for active GIE transferred while in use from another entity during the data year pursuant to section 95354(c)(2)) + (covered insulating gas *j* returned to site during the data year (e.g., in gas containers or gas carts) after off-site recycling);

Disbursements of covered insulating gas *j* = (covered insulating gas *j* at activation for active GIE transferred while in use to another entity during the data year pursuant to section 95354(c)(2)) + (covered insulating gas *j* returned to suppliers (e.g., in gas containers or gas carts) during the data year) + (covered insulating gas *j* sent off site for recycling in gas containers or gas carts during the data year) + (covered insulating gas *j* sent to destruction facilities in gas containers or gas carts during the data year) + (covered insulating gas *j* sent to other entities); and

Net increase in total capacity of active GIE owned and filled with covered insulating gas  $j$  = (covered insulating gas  $j$  at activation for GIE whose status changed to active GIE for the first time during the data year or after being considered removed from regular use during the data year pursuant to section 95354(c)(1)) - (covered insulating gas  $j$  at activation for GIE removed from regular use during the data year pursuant to section 95354(c)(1)) – (covered insulating gas  $j$  at activation for active GIE transferred while in use to another entity during the data year pursuant to section 95354(c)(2)) + (covered insulating gas  $j$  at activation for active GIE transferred while in use from another entity during the data year pursuant to section 95354(c)(2)).

When accounting for emissions associated with GIE that are jointly owned by multiple GIE owners, each joint GIE owner must apply its equity share of the relevant GIE when calculating annual emissions, pursuant to section 95354(a)(7)(B).

- (b) CO<sub>2</sub>e emissions. GIE owners must use the following equation to calculate their covered insulating gas emissions (MTCO<sub>2</sub>e) for data year  $i$ :

$$CO_2e\ emissions_i = \sum_j^n \frac{GWP_j * Emissions_{j,i}}{2204.62}$$

Where:

"CO<sub>2</sub>e emissions <sub>$i$</sub> " is the GIE owner's total covered insulating gas emissions (MTCO<sub>2</sub>e) in data year  $i$ ;

" $n$ " is the number of covered insulating gases  $j$ ;

"GWP <sub>$j$</sub> " is the global warming potential of covered insulating gas  $j$ ;

"Emissions <sub>$j,i$</sub> " is the annual emissions (pounds) of covered insulating gas  $j$  in data year  $i$ ; and

"2204.62" is the number of pounds in a metric ton.

- (c) CO<sub>2</sub>e Emissions Excluding Emergency Events. GIE owners must use the following equation to calculate their covered insulating gas emissions in MTCO<sub>2</sub>e excluding emergency events approved by CARB pursuant to section 95357.1:

$$CO_2e\ emissions\ excluding\ E.E._i = CO_2e\ emissions_i - \sum_j^n \frac{GWP_j * E.E.\ Emissions_{j,i}}{2204.62}$$

Where:

"CO<sub>2</sub>e emissions excluding E.E.<sub>i</sub>" is the GIE owner's total covered insulating gas emissions (MTCO<sub>2</sub>e) in data year *i*, excluding emissions from emergency events for which the Executive Officer approved an exemption (also in MTCO<sub>2</sub>e) for data year *i*;

"*n*" is the number of covered insulating gases *j*;

"GWP<sub>*j*</sub>" is the global warming potential of covered insulating gas *j* released during one or more emergency events;

"E.E. Emissions<sub>*j*</sub>" is the annual emissions of gas *j* (pounds) from all emergency event exemptions approved by the Executive Officer during data year *i*; and

"2204.62" is the number of pounds in a metric ton.

(d) For data year 2021, GIE owners must calculate the values required by section 95354.1(a)-(c) for SF<sub>6</sub> only.

(e) For data year 2022 and all subsequent data years, GIE owners must calculate the values required by section 95354.1(a)-(c) for each covered insulating gas in their GIE, gas containers, and/or gas carts during the data year.

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

### **§ 95355. Recordkeeping Reporting Requirements.**

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 SF<sub>6</sub> nameplate capacity (charge in pounds);~~

- ~~(8) — A chronological record of the dates on which SF<sub>6</sub> was transferred into or out of active GIS equipment;~~
- ~~(9) — The amount, in pounds, of SF<sub>6</sub> 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 SF<sub>6</sub> in each container at the end of each calendar year, and when gas containers are added or removed from inventory.~~~~
- ~~(c) — Retain SF<sub>6</sub> 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) — GIE owners headquartered in California must retain all records at a location within California;~~
  - ~~(2) — GIE owners headquartered in other states may retain all records at a 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.~~

- (a) Annual Reporting. By June 1 of each year, any person who was a GIE owner at any point during the previous calendar year must submit an annual GHG emissions data report to the Executive Officer for the previous calendar year. A single annual GHG emissions data report containing the information required by this section must be submitted by each GIE owner regardless of whether the GIE owner's GIE are located in a single physical location or multiple non-contiguous locations within California. Annual reports must contain all of the following information:
- (1) GIE owner's name, ARB identification number (if assigned), telephone number, and the physical address and mailing address of the GIE owner's headquarters;
  - (2) Location in California of records and documents maintained pursuant to this subsection, if the location is different from the GIE owner's physical address;
  - (3) Name, official title, email address, telephone number, and mailing address of the designated representative;
  - (4) The data year for which the information is submitted;
  - (5) Report the information required to be recorded pursuant to sections 95354(a), (d), (h), and (m);
  - (6) For each GIE device for which the GIE owner claims an early action credit pursuant to section 95353(d), report:
    - (A) Data elements described in section 95354(a)(1), (3)-(7)(A), and (11);
    - (B) The date the device became active GIE for the first time;
    - (C) Medium that provides insulating and/or interrupting (arc quenching) functions; and
    - (D) Whether during the data year the GIE device was removed from regular use pursuant to section 95354(c)(1) or transferred while in use pursuant to section 95354(c)(2).
  - (7) The following information related to emissions:
    - (A) Average system capacity ( $C_{avg,ji}$ ) (pounds), as calculated pursuant to section 95353(b) for each covered insulating gas required to be reported during the data year;
    - (B) Average CO<sub>2</sub>e capacity<sub>i</sub> (MTCO<sub>2</sub>e), as calculated pursuant to section 95353(c);

- (C) Early Action Credit (EAC)<sub>i</sub> (MTCO<sub>2</sub>e), as calculated pursuant to section 95353(d), and EAC<sub><10</sub> pursuant to section 95353(f);
  - (D) BL CO<sub>2</sub>e capacity<sub>12/31/2024,i</sub> (MTCO<sub>2</sub>e) and BL CO<sub>2</sub>e capacity<sub>i</sub> (MTCO<sub>2</sub>e) as calculated pursuant to section 95353(e)(1) and (f), respectively (for data years 2025 and beyond);
    - 1. BL CO<sub>2</sub>e capacity<sub>12/31/2024</sub> (for data year 2025 only);
  - (E) The GIE owner's Emissions Limit<sub>i</sub> (MTCO<sub>2</sub>e) for the data year, as calculated pursuant to sections 95353(g) or (h);
  - (F) Annual Emissions<sub>j,i</sub> (pounds) for each covered insulating gas and the values used for all the terms listed in section 95354.1(a);
  - (G) CO<sub>2</sub>e emissions<sub>i</sub> (MTCO<sub>2</sub>e) as calculated pursuant to section 95354.1(b);
  - (H) E.E. Emissions<sub>j,i</sub> (pounds), GWP of covered insulating gas(es), and type of covered insulating gas(es) associated with each emergency event exemption approved by the Executive Officer pursuant to section 95357.1 for the data year; and
  - (I) CO<sub>2</sub>e emissions excluding E.E.<sub>i</sub> (MTCO<sub>2</sub>e) as calculated pursuant to section 95354.1(c).
- (8) Documentation submitted per sections 95353(i) or 95353(j) for any GIE owners combining or splitting during the data year; and
- (9) The appropriate attestation statement from section 95355(c).
- (b) Submission Process. The annual GHG emissions data report shall be submitted to the Executive Officer as follows:
- (1) GIE owners subject to this regulation that own, are owned by, have previously owned, or have previously been owned by an entity subject to the requirements of title 17, California Code of Regulations, section 95100 et seq. shall use the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT) or another mechanism specified in title 17, California Code of Regulations, section 95104(e).
  - (2) GIE owners not subject to the requirements of title 17, California Code of Regulations, section 95100 et seq., may either:
    - (A) Use Cal e-GGRT, or other mechanism as specified in title 17, California Code of Regulations, section 95104(e); or

(B) Submit reports to CARB through electronic mail.

(c) Attestations. Any statements and/or information, including the annual report, submitted to CARB pursuant to this regulation must include the appropriate attestation statement, signed by the designated representative, under penalty of perjury, from the options below.

(1) If the information is submitted using Cal e-GGRT, the attestation must state "By submitting my electronic signature via the California Air Resources Board's Greenhouse Gas Reporting Tool, I hereby certify that I am authorized to make this submission on behalf of the gas-insulated equipment owner for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information in this report submitted pursuant to title 17, California Code of Regulations, sections 95350-95359.1. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine."

(2) If the information is not submitted using Cal e-GGRT, the GIE owner must sign, date and submit this attestation to CARB. The attestation must state "I hereby certify that I am authorized to make this submission on behalf of the gas-insulated equipment owner for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information in this report or information submitted pursuant to title 17, California Code of Regulations, sections 95350-95359.1. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine."

(d) Designated Representative. Within 30 days of the designated representative of a GIE owner being relieved of their duties, the GIE owner must appoint a new designated representative and notify CARB of the change. The notification must include the name, official title, mailing address, phone number, and email address of the new designated representative. A GIE owner who submitted their prior annual report using Cal e-GGRT must update the name and contact information of the designated representative in Cal e-GRRT to meet this requirement.

(e) Retirement and Changes in Ownership. Any GIE owner who permanently relinquishes ownership of all GIE that uses any covered insulating gas must notify

CARB that they are no longer subject to this subarticle within 30 days of the date the GIE were relinquished. The notification must contain the following information:

- (1) GIE owner name, phone number, and physical address;
- (2) Designated representative's name, official title, mailing address, phone number, and email address;
- (3) The final date that the entity was a GIE owner;
- (4) The method by which the GIE were relinquished. Specifically, the GIE owner must indicate whether the GIE were sold, transferred, disposed of, or other. "Other" may only be reported if the GIE were not relinquished by way of sale, transfer, or disposal.
  - (A) If the method is reported as "other," report the method.
  - (B) If the method is reported as "sold" or "transferred," report the name of the entity(s) to which the GIE were sold or transferred to.
    1. Any entity not previously subject to this section that receives any of these GIE becomes a GIE owner subject to this section. The new GIE owner must notify CARB of the ownership change. The notification must include the name of the previous GIE owner, the name of the new GIE owner, the date of the change in ownership and the name, official title, mailing address, phone number and email address of the new designated representative.
    2. If the previous GIE owner submitted the most recent annual report using Cal e-GGRT, the GIE owner must submit all future reports through Cal e-GGRT. The new GIE owner must register in Cal e-GGRT within 30 days of the change of ownership.
  - (C) If the method is reported as "disposed of," report the location(s) where the GIE were disposed of, either expressed as a physical street address or latitude and longitude. Whenever GIE are transferred to a third party who would then be responsible for disposal, the GIE owner should follow the requirements of section 95355(e)(4)(B).
- (5) The appropriate attestation statement from section 95355(c).

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

**§ 95356. Annual Reporting Requirements Recordkeeping.**

- (a) ~~By June 1, 2012, and June 1<sup>st</sup> 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 SF<sub>6</sub> emissions as calculated using the equation specified in subsection (d), below;~~
  - (7) ~~Annual SF<sub>6</sub> 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 SF<sub>6</sub> Emissions. GIS owners must use the following equation to determine their SF<sub>6</sub> emissions:~~

~~Equation for determining annual SF<sub>6</sub> emissions:~~

~~User Emissions = (Decrease in SF<sub>6</sub> inventory) + (Acquisitions of SF<sub>6</sub>) - (Disbursements of SF<sub>6</sub>) - (Net increase in total nameplate capacity of active GIS equipment owned).~~

~~Where:~~

~~Decrease in SF<sub>6</sub> inventory = (SF<sub>6</sub> stored in containers, but not in equipment, at the beginning of the year) - (SF<sub>6</sub> stored in containers, but not in equipment, at the end of the year).~~

~~Acquisitions of SF<sub>6</sub> = (SF<sub>6</sub> purchased in bulk from chemical producers, distributors, or other entities) + (SF<sub>6</sub> purchased from equipment manufacturers, distributors, or other entities with or inside active GIS equipment) + (SF<sub>6</sub> returned to site after off-site recycling).~~

~~Disbursements of SF<sub>6</sub> = (SF<sub>6</sub> in bulk and contained in active GIS equipment that is sold to other entities) + (SF<sub>6</sub> returned to suppliers) + (SF<sub>6</sub> sent off site for recycling) + (SF<sub>6</sub> 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 SF<sub>6</sub> Emission Rate. GIS owners shall use the following equations to determine their SF<sub>6</sub> 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

- (a) GIE owners must retain the following records for the time period specified by section 95356(b) and, upon request by CARB, provide these records to CARB staff within 30 days of the request:
- (1) All data, measurements, and documentation required pursuant to section 95354;
  - (2) All data required to be reported pursuant to section 95355;
  - (3) The location, either expressed as a physical address or a latitude and longitude, of each device included in the GIE inventory and each covered gas container and gas cart included in the inventory of containers reported pursuant to section 95354(a) and (h);
  - (4) Documentation regarding the purchase and acquisition of any covered insulating gas and/or GIE (including but not limited to, contracts, material invoices, manufacturer warranties, and receipts), including any information used to justify the acquisition of SF<sub>6</sub> GIE after the phase-out date pursuant to section 95352(a)(2)-(4);
  - (5) All information used to determine the values included in the calculations in sections 95353(b)-(g), (i), and (j);
  - (6) All notifications sent to CARB pursuant to this subarticle, and any associated correspondence with CARB;
  - (7) All SF<sub>6</sub> phase-out exemption requests, notifications of failures, and notifications of SF<sub>6</sub> GIE acquired in response to failures submitted to the

Executive Officer pursuant to section 95357, any associated correspondence with CARB, and any information and documentation that the GIE owner uses as justification for the exemption in the request(s) including bids received pursuant to section 95357(l);

- (8) All requests sent to the Executive Officer for emergency event exemptions pursuant to section 95357.1, any associated correspondence with CARB, and any documentation that the GIE owner uses as justification in the request(s);
- (9) Documentation that allows for each GIE device included in the GIE inventory pursuant to section 95354(a) that has a serial number that is identical to the serial number of any other GIE device to be readily identified by the manufacturer serial number reported to CARB pursuant to section 95354(a)(3);
- (10) All documentation that supports and/or explains any revisions to previously submitted annual reports;
- (11) The method by which the amount of covered insulating gas in each gas cart will be determined, and for GIE owners who elect to use either the "mass flow meter method," or the "container method," the pressure that the gas cart will be brought to prior to measurement;
- (12) The tare weight of each gas container, which must be the same every year;
- (13) Any written safety or reliability requirements cited in SF<sub>6</sub> phase-out exemption requests pursuant to section 95357(d)(8)(D); and
- (14) For GIE owners that elect to perform nameplate capacity adjustments pursuant to section 95357.2:
  - (A) All documentation submitted to the Executive Officer pursuant to section 95357.2, and any associated correspondence with CARB;
  - (B) All data and measurements required to be recorded pursuant to section 95357.2;
  - (C) Manufacturer temperature/pressure curves or other manufacturer-provided materials used to convert the initial system pressure to a temperature compensated initial system pressure for each GIE device subject to nameplate capacity adjustments pursuant to section 95357.2.
  - (D) Supporting documentation to demonstrate that the GIE device had compromised integrity, for any GIE device listed pursuant to section

95357.2(a)(1)(C) that was removed from regular use during the data year but for which a revised nameplate capacity was not determined pursuant to section 95357.2(b)(3).

(b) Retain all records required by this subarticle for a minimum of five calendar years;

- (1) GIE owners headquartered in California must retain all records at a location within California;
- (2) GIE owners headquartered elsewhere must retain all records at a location in California or at their business offices nearest to California;
- (3) Records required by this subarticle that were generated prior to January 1, 2022 are required to be retained for a minimum of three calendar years.

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~~ 95358. 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, 38580, 39600, 39601, and 41511, Health and Safety Code. Reference: Sections 38560, ~~38562, 38580~~, 39600, and ~~39601~~, and 41511, Health and Safety Code.

#### **§ 95357. SF<sub>6</sub> Phase-Out Exemption and Failure Notification.**

- (a) Pursuant to section 95352(a)(1), a GIE owner who wishes to acquire SF<sub>6</sub> GIE after the applicable phase-out date indicated in Table 1 or Table 2 must electronically submit an SF<sub>6</sub> phase-out exemption request to the Executive Officer that, if approved, would allow the GIE owner to acquire the requested SF<sub>6</sub> GIE unless there is a failure as defined in section 95351(a). In the event of a failure, the GIE owner may acquire SF<sub>6</sub> GIE pursuant to section 95357(i) or (j).
- (b) Beginning September 1, 2024, a GIE owner may submit an SF<sub>6</sub> phase-out exemption request if, based on bids received pursuant to section 95357(l) either:
  - (1) Non-SF<sub>6</sub> GIE of the equipment type and GIE characteristics necessary for the particular project(s) or application(s) are unavailable from at least two suppliers; or

- (2) Available non-SF<sub>6</sub> GIE cannot meet the size requirements for the particular project(s) or application(s), taking into consideration the physical size of the GIE, the physical constraints of the project location(s), including required clearance; or
  - (3) Available non-SF<sub>6</sub> GIE cannot be used for the specific project(s) or application(s) due to incompatibility with existing equipment, wiring, or connectors; or
  - (4) Available non-SF<sub>6</sub> GIE cannot meet required technical specifications and/or are not suitable based on the GIE owner's documented safety or reliability requirements.
- (c) Whenever a GIE owner wishes to acquire multiple SF<sub>6</sub> GIE of the same equipment type and GIE characteristics, for which the justification provided under section 95357(d)(8) is identical, the GIE owner may submit a single request to cover all associated SF<sub>6</sub> GIE. In this case, the GIE owner must specify the number of SF<sub>6</sub> GIE it is requesting to acquire under the exemption and list the locations where the SF<sub>6</sub> GIE would be installed, but does not need to identify which specific SF<sub>6</sub> GIE device would be installed at each location.
- (d) The SF<sub>6</sub> phase-out exemption request must contain the following:
- (1) GIE owner's name and ARB identification number (if assigned);
  - (2) Designated representative's name, official title, mailing address, phone number and email address;
  - (3) Whether or not the requested GIE would initially be spare GIE;
    - (A) For GIE that would initially be spare GIE, a description of the type of locations to which the SF<sub>6</sub> phase-out exemption would apply (e.g., underground vaults with diameter less than X feet, all substations with a certain configuration);
    - (B) For all other GIE, a description of the specific project(s) to which the SF<sub>6</sub> phase-out exemption would apply, including location(s); whether it is an existing or new facility, or if it has been subject to a process that significantly changes the in-place infrastructure (e.g., overhaul, re-powering); and the number of each type of GIE device described in section 95357(d)(4) that would be installed there;
  - (4) Description and quantity of SF<sub>6</sub> GIE to be exempted, including but not limited to the GIE characteristics (per Tables 1 and 2) and equipment type, seal type, manufacturer and model, and nameplate capacity;

- (5) The names of manufacturers:
- (A) Contacted about the availability of non-SF<sub>6</sub> GIE that might be appropriate for use in the type of project(s) described in section 95357(d)(3)(A) and/or 95357(d)(3)(B), and the dates contact was initiated;
  - (B) That submitted bids pursuant to section 95357(l); and
  - (C) A description of the universe of entities eligible to bid based on the bidding process used by the GIE owner (e.g., public solicitation, qualified vendor list);
- (6) The appropriate attestation statement from section 95355(c);
- (7) The section number under which the exemption is being submitted (section 95357(b)(1), (2), (3), or (4)); and
- (8) The applicable justifications for the exemption, as follows:
- (A) For exemptions submitted under section 95357(b)(1), the specific GIE characteristics (per Tables 1 and 2) that cannot be met by at least two suppliers.
  - (B) For exemptions submitted under section 95357(b)(2), the complete dimensions of each space within which requested SF<sub>6</sub> GIE would reside; the complete dimensions of each available non-SF<sub>6</sub> GIE that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers; the complete dimensions of the SF<sub>6</sub> GIE specified in section 95357(d)(4); and a picture showing the space where the SF<sub>6</sub> GIE would be installed. If the dimensions of the non-SF<sub>6</sub> GIE are smaller than the dimensions of the space available, but the device cannot be placed into the space for another reason (e.g., the space lacks the necessary clearance, another obstacle prevents transport of the device to the space), the justification should also include a description of the constraint that clearly demonstrates why the device cannot be placed in the available space.
  - (C) For exemptions submitted under section 95357(b)(3), a list of available non-SF<sub>6</sub> GIE that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers and a justification that clearly explains why each of the available non-SF<sub>6</sub> GIE identified are incompatible and how the SF<sub>6</sub> GIE described in section 95357(d)(4) are compatible.

- (D) For exemptions submitted under section 95357(b)(4), a list of available non-SF<sub>6</sub> GIE that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers and a justification that clearly explains why each of the available non-SF<sub>6</sub> GIE identified fail to meet the technical specifications and/or the GIE owner's documented safety or reliability requirements and how the SF<sub>6</sub> GIE described in section 95357(d)(4) do meet the requirements. If failure rates or other indicators of reliability are used, specific details must be provided. If the GIE owner's justification cites a company-specific policy or procedure that available non-SF<sub>6</sub> GIE do not currently meet and that is within the control of the GIE owner (for example, the company requires three years of testing for new equipment), the justification must also provide an explanation as to how the GIE owner will address the situation to enable the transition to non-SF<sub>6</sub> alternatives in a timely manner.
- (E) Within the timeframe specified in section 95357(f), if the Executive Officer determines that the information provided as part of the exemption request is insufficient to serve as the basis for an exemption under this section, s/he may request additional information and/or clarification related to sections 95357(c) and 95357(d) prior to the application being deemed complete and approved pursuant to section 95357(f).
- (9) Information submitted pursuant to section 95357(d)(8) that relies on documentation provided by an equipment manufacturer must be dated less than 180 days prior to the submission of the SF<sub>6</sub> phase-out exemption request.
- (e) Within seven days of the submittal of the exemption request, the GIE owner will receive a notification of the receipt of the request, which will include an SF<sub>6</sub> phase-out exemption request identification number. If the GIE owner does not receive a receipt within seven days of submittal, the GIE owner must contact CARB to inquire whether CARB has received the request.
- (f) Within 45 days of submittal, the Executive Officer shall notify the submitter that their application is complete and has been approved, or that additional information and/or clarification is necessary to complete the application. Upon receipt of additional information and/or clarification pursuant to section 95357(d)(8)(E) from the submitter, the Executive Officer will perform the actions specified in this subsection within 45 days.
- (g) In the event that the Executive Officer has not responded to the submitter within 45 days of submittal, the SF<sub>6</sub> phase-out exemption request is approved.

- (h) A GIE owner with an approved SF<sub>6</sub> phase-out exemption may acquire the specific SF<sub>6</sub> GIE described in the SF<sub>6</sub> phase-out exemption within 24 months of CARB's approval of the request. If the SF<sub>6</sub> GIE are not acquired within the specified timeframe, the GIE owner must submit another SF<sub>6</sub> phase-out exemption request. There is no date by which SF<sub>6</sub> GIE acquired utilizing an SF<sub>6</sub> phase-out exemption must be placed into active service, or removed from active service.
- (i) In the event of a failure of a GIE device in active service that, in the estimation of the GIE owner may only be resolved through the acquisition of SF<sub>6</sub> GIE that would otherwise require an SF<sub>6</sub> exemption, the GIE owner may acquire an SF<sub>6</sub> GIE device with the same GIE characteristics as the failed GIE without prior approval from the Executive Officer, and must:
- (1) Within 15 days of the failure, electronically submit a notification to the Executive Officer that includes:
- (A) GIE owner's name and ARB identification number (if assigned);
- (B) Designated representative's name, official title, mailing address, phone number and email address;
- (C) The following information regarding the failure:
- (1.) The date and time of the failure;
- (2.) The location of the failure; and
- (3.) The manufacturer's serial numbers, pursuant to section 95354(a)(3), of all GIE that were affected by the failure.
- (D) The appropriate attestation statement from section 95355(c).
- (2) Within 45 days of the acquisition of the GIE device used to resolve the failure, electronically submit the following information to the Executive Officer for each GIE device acquired:
- (A) Date acquired;
- (B) Date activated;
- (C) GIE characteristics;
- (D) Equipment type;
- (E) Manufacturer's serial number;

- (F) An explanation of the cause of the failure, including, in cases of imminent failure, the circumstances that led the GIE owner to believe failure was imminent, and the timeframe within which the GIE owner expected the GIE device to fail; and
- (G) The appropriate attestation statement from section 95355(c).
- (j) Whenever the GIE owner resolves a failure by activating a spare SF<sub>6</sub> GIE device, the GIE owner may acquire an SF<sub>6</sub> GIE device with the same GIE characteristics as the spare SF<sub>6</sub> GIE device that was activated, without prior approval from the Executive Officer, and must:

  - (1) Follow the notification process pursuant to section 95357(i)(1), but must also include the manufacturer's serial numbers of spare SF<sub>6</sub> GIE activated to resolve the failure.
  - (2) Follow the notification process pursuant to section 95357(i)(2), excluding 95357(i)(2)(B); providing the date acquired, GIE characteristics, equipment type, and manufacturer's serial number for the spare GIE device(s) acquired; and adding a description of the locations in which the spare device(s) could be activated consistent with section 95357(d)(3)(A).
- (k) Upon receipt of a notification pursuant to sections 95357(i)(1), (i)(2), (j)(1), or (j)(2):

  - (1) Within seven days the GIE owner will receive an acknowledgement of the receipt of the notification, which will include a failure identification number. If the GIE owner does not receive a receipt within seven days of submittal, the GIE owner must contact CARB to inquire whether CARB has received the notification.
  - (2) Within 21 days of submittal, the Executive Officer shall notify the submitter if additional information is necessary to complete the notification:

    - (A) Within 21 days of being notified by the Executive Officer that additional information is necessary to complete the notification, the GIE owner must provide the requested information.
    - (B) Upon receipt of additional information from the submitter pursuant to section 95357(k)(2)(A), the Executive Officer will notify the submitter if additional information is necessary to complete the notification within 21 days.
- (l) A GIE owner who wishes to use a phase-out exemption to acquire SF<sub>6</sub> GIE after the applicable phase-out date indicated in Table 1 or Table 2 shall base the information required in sections 95357(d)(4) and 95357(d)(8) on bids received by the GIE owner in relation to the projects, locations, and/or structure types.

identified in sections 95357(d)(3)(A) and/or 95357(d)(3)(B) per the timeframe specified in section 95357(d)(9).

(1) GIE owners submitting exemption requests under section 95357(b)(1) or the technical specifications condition in section 95357(b)(4) must provide an explanation of the efforts they will undertake to identify applicable non-SF<sub>6</sub> GIE to enable the transition to non-SF<sub>6</sub> alternatives in a timely manner.

(m) All emissions from SF<sub>6</sub> GIE acquired pursuant to section 95357 must be included in the GIE owner's annual emissions calculated pursuant to Section 95354.1.

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

### **§ 95357.2. Nameplate Capacity Adjustments.**

GIE owners who elect to adjust the nameplate capacity value specified by the manufacturer on the nameplate attached to the GIE device, or within the manufacturer's official product specifications, may do so by undertaking the following process.

(a) Notify CARB of the intention to perform nameplate capacity adjustments. The provisions of sections 95357.2(b)-(e) will only apply to GIE owners that elect to perform adjustments and that have notified CARB of their intent to do so.

(1) The notification must include:

(A) GIE owner name and ARB identification number (if assigned);

(B) Designated representative's name, official title, mailing address, phone number and email address; and

(C) The manufacturer serial numbers of the GIE subject to the nameplate capacity adjustment process per section 95357.2(b).

(2) The nameplate capacity of a GIE device may only be adjusted more than once if the physical capacity of the device has changed (e.g., replacement of bushings) after the initial adjustment was performed, in which case the GIE owner must adjust the nameplate capacity pursuant to the provisions of section 95357.2(b).

(b) After submitting the notification per section 95357.2(a), perform the steps required pursuant to sections 95357.2(c-d) on all non-hermetically sealed SF<sub>6</sub> GIE the first time each device is removed from regular use pursuant to section 95354(c)(1) or during maintenance activities that require opening the gas compartment. GIE that

fall into the categories listed in the subsections below are exempted from this requirement:

- (1) GIE with a voltage capacity less than or equal to 38 kV;
- (2) GIE that are fully-charged GIE to which the GIE owner does not add or remove gas;
- (3) GIE whose integrity have been compromised (e.g., due to damage to the gas containment vessel); or
- (4) GIE that were acquired after December 31, 2021.

(c) If a GIE owner elects to adjust the nameplate capacity of any GIE, the owner must:

- (1) Record the initial system pressure and vessel temperature prior to removing any insulating gas using a pressure gauge meeting the minimum accuracy requirements of section 95354(f)(2) and a temperature gauge meeting the minimum accuracy requirements of section 95354(f)(3).
- (2) Convert the initial system pressure to a temperature compensated initial system pressure by using the manufacturer-specified temperature/pressure curve or other manufacturer-provided materials that can be used to convert the initial system pressure to a temperature compensated initial system pressure.
- (3) If the temperature-compensated initial system pressure of the GIE device does not match the temperature-compensated design operating pressure specified by the manufacturer, add or remove insulating gas to/from the GIE device until the manufacturer-specified value is reached.
- (4) Follow one of the following processes, depending on the methodology being used to measure the amount of gas recovered:
  - (A) Connect a mass flow meter between the GIE device and a gas cart; or
  - (B) Weigh the gas container being used to receive the gas and record this value.
- (5) Recover insulating gas from the GIE device until five minutes after the pressure in the GIE device reaches the blank-off pressure.
- (6) Record the amount of insulating gas recovered (pounds), either based on the reading from the mass flow meter, or by weighing the gas container that

received the gas and subtracting the weight recorded pursuant to section 95357.2(c)(4)(B) from this value. The amount of gas recovered shall be the revised nameplate capacity for the GIE device.

(7) Record the final system pressure.

- (d) If the GIE device will remain in active service, and the revised nameplate capacity value differs from the nameplate capacity assigned to the device prior to the adjustment, the GIE owner must affix a revised nameplate capacity label, showing the revised nameplate value and the year the nameplate capacity adjustment process was performed, to the device by the end of the calendar year in which the process was completed. The manufacturer's previous nameplate capacity label must remain visible after the revised nameplate capacity label is affixed to the device.
- (e) For each GIE device whose nameplate capacity was adjusted during the data year, the revised nameplate capacity value must be used in all provisions wherein the nameplate capacity is required to be recorded, reported, or used in a calculation in this subarticle unless otherwise specified herein.

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

**§ ~~95358~~ 95359. 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 or contains an incomplete, untrue or inaccurate data field after the reporting deadline or inaccurate information, shall constitute a single, separate violation of this subarticle. The Executive Officer shall take into consideration the materiality of any incomplete or inaccurate information when penalties are assessed.
- (c) ~~Any~~ Each MTCO<sub>2e</sub> exceedance of the maximum allowable SF<sub>6</sub> emission rate limit for a calendar year data year prior to 2021 or to the emissions limit for data years 2021 and beyond shall constitute a single, separate violation of this subarticle for each day of the calendar year.
- (d) Any acquisition of an SF<sub>6</sub> GIE device after the dates provided in Table 1 and Table 2 shall constitute a single, separate violation of this subarticle for each day the GIE owner is in possession of the device and for each MTCO<sub>2e</sub> of covered insulating gas at activation, in that device, or that the device is designed to contain, unless it was acquired pursuant to one of the exceptions noted in section 95352(a)(1-4).

~~(d)~~(e) *Injunctions.* Any violation of this subarticle may be enjoined pursuant to Health and Safety Code section 41513.

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

**§ 95359.1. 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, 38580, 39600, and 39601, Health and Safety Code. Reference: Sections 38560, ~~38562, 38580~~, 39600, and 39601, Health and Safety Code.