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Industrial Strategies Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: California Municipal Utilities Association Comments on the Discussion Draft of Potential Changes to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

Dear Ms. Bylin,

The California Municipal Utilities Association ("CMUA") appreciates the opportunity to submit these comments on the California Air Resources Board's ("CARB") *Discussion Draft of Potential Changes to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear*, ("Discussion Draft").

CMUA is a statewide organization of local public agencies in California that provide electricity and water service to California consumers. CMUA membership includes publicly-owned electric utilities ("POUs") that operate electric distribution and transmission systems. In total, CMUA members provide approximately 25 percent of the electric load in California. California's POUs are committed to, and have a strong track record of, providing safe, reliable, affordable and sustainable electric service.

CMUA's comments focus on the following sections of the Discussion Draft:

§ 95351 – Definition of "Substantive Error",
§ 95352(a) – Sulfur Hexafluoride (SF_6) Phase Out Dates,
§ 95352(a)(1) – Transfer of SF_6 Gas Insulated Equipment (GIE),
§ 95352(a)(2) – Labeling of GIE Containers,
§ 95352.2 – Annual Emissions Limit,

§ 95353 – Reporting Requirements,
§ 95355 – Measurement Procedures,
§ 95355.2 – Nameplate Capacity Adjustments, and
§ 95355.3 – Technical Infeasibility Exemption.

Where CMUA suggests revisions to the Discussion Draft, ~~strikeouts~~ will be noted as such, and new language will be <u>underlined</u>.

§ 95351 – Definition of "Substantive Error"

CMUA encourages CARB to clarify the definition of "Substantive Error." As presented in the Discussion Draft, a "Substantive Error means an error that affects calculated emissions, data used to calculate emissions, or any other data element required to be reported pursuant to section 95353(a), (b), (e), (f), (g), (h), (i), and (j) of the annual report, resulting from a nonconformance of this regulation."[1] In order to provide the clarity needed in the compliance process, the Discussion Draft should stipulate that a Substantive Error is defined in relationship to the change in emissions that would result from a correction of the error. To this point, CMUA suggests the following revision:

> "Substantive Error" means an error that affects calculated emissions~~, data used to calculate emissions, or any other data element required to be~~ reported pursuant to section 95353(a), (b), (e), (f), (g), (h), (i), and (j) of the annual report, <u>resulting in a change in emissions greater than 5%</u> ~~resulting from a nonconformance of this regulation~~.

§ 95352(a) – SF_6 Phase Out Dates

CMUA appreciates that CARB has proposed following a tiered timeline to phase out the manufacture, purchase, import, transfer, sale, or lease of SF_6 GIE for use in

[1] Discussion Draft, p. 5.

California.[2] However, such a timeline must follow a realistic assessment of the commercial availability of alternative technologies. Additionally, CMUA member utilities typically require that at least two manufacturers provide equipment or services that meet the safety, technical, reliability standards of the application in order to have competitive bidding. In addition, the timeline needs to allow sufficient time for utilities to procure, pilot test and evaluate the operation and reliability of brand-new technologies within their electric system, prior to making the switch from proven technology (SF_6) over to the new (non-SF_6) technology.

When a new technology first becomes available, the phase out schedule should allow five to seven years for pilot testing and evaluation of the new technology. The time frame for pilot testing of new technology among California electric utilities requires up to two years on the front end for pilot project design and specification writing, competitive bidding and selection, manufacture of the equipment, and field installation and then 36 to 72 months for evaluation once the equipment is installed.

As such, CMUA suggests the timeline presented in Table 1. This reflects the different technical needs for above ground distribution GIE, subsurface GIE, and substation or transmission GIE based on manufacturer estimates of product availability, and sufficient time for utility pilot project design, procurement, and evaluation of the new technology within its electric system.

[2] Discussion Draft, pp. 6-7.

Table 1

Equipment Type	Voltage Range	Proposed Phase Out Date
Distribution (Above Ground)	kV ≤ 17.5	January 1, 2025
	17.5 < kV ≤ 38	January 1, 2031
Distribution (Subsurface)	kV ≤ 38	January 1, 2031
Substation/Transmission	kV ≤ 72.5	January 1, 2025
	72.5 < kV ≤ 145	January 1, 2029
	145 < kV ≤ 245	January 1, 2033

§ 95352(a)(1) – Transfer of SF_6 GIE

The Discussion Draft stipulates that after phase out, no person may "Manufacture, purchase, import, transfer, sell, lease, or offer for sale or lease SF_6 GIE for use in California."[3] CMUA encourages CARB to clarify that as described, transfer does not apply to a GIE owner moving GIE from one site to another.

CMUA appreciates that CARB recognizes the potential need for a technical infeasibility exemption. In the event of a technical infeasibility exemption, the language in 95352(a)(1)(A)(1) should be clarified to allow an equipment manufacturer to build and sell traditional SF_6 equipment to a GIE owner who has been granted a technical infeasibility exemption. CMUA recommends the Discussion Draft be revised as follows:

§ 95352(a)(1)(A)(1)

This provision does not apply ~~to~~ <u>when</u> a GIE owner ~~who~~ has received a technical infeasibility exemption pursuant to section 95355.3.

Lastly, CMUA appreciates that the Discussion Draft recognizes the need for an Emergency Event Exemption.[4] CMUA requests that CARB also recognize the need for

[3] *Ibid.*
[4] *Id.*, p. 29.

an exception to the phase out restriction in the event of a critical circumstance where safety or reliability dictates that replacement equipment be provided without delay.

§ 95352(a)(2) – Labeling of GIE Containers

The Discussion Draft requires that "GIE owners must ensure that all GIE and gas containers are clearly marked or labeled such that it is readily apparent which gas they are to be filled with."[5] The purpose of this requirement is unclear. If the purpose is to track inventory of GIE, CMUA encourages CARB to strike this requirement, recognizing that labeling has not been necessary for reporting inventories of gas insulated switchgear (GIS) and gas containers since this regulation first went into effect in 2011. As noted by the Utilities Group, such a requirement will not advance the intent of the regulation to reduce SF_6 emissions.[6]

However, as noted in comments submitted by the Sacramento Municipal Utility District (SMUD), if the purpose of this section is to allow utility crews to visually distinguish between SF_6 and non-SF_6 GIE gas containers, CMUA agrees that labeling non-SF_6 gas GIE and containers is a more reasonable approach to avoid accidentally filling the wrong container or mixing SF_6 with other gasses.[7] Under this approach, non-SF_6 equipment and containers would effectively be labelled as such. When developing regulations to reduce emissions from SF_6, the safety of the public and utility crews, and reliability are critical. This approach achieves the goal of distinguishing between SF_6 and non-SF_6 while reducing the requirement to deploy utility crews to install labels on

[5] *Id*., p. 7.
[6] Utilities Group Comments on Discussion Draft of Potential Changes to the Regulation of Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear, p. 4.
[7] Sacramento Municipal Utility District's Comments to the Discussion Draft of Potential Changes to the Regulation for Reducing SF_6 Emissions from GIS, 17 CCR, Sections 95350-95359, p. 3.

existing equipment when they could be working on more critical needs. To that end, CMUA suggests that the Discussion Draft be revised as follows:

§ 95352(a)(2)

Starting January 1, 2022, GIE owners must ensure that all non-SF_6 GIE and gas containers are clearly marked or labeled such that it is readily apparent which non-SF_6 gas they are to be filled with. GIE and gas containers filled with SF_6 may be left unmarked or may, at the utility's discretion, be marked as containing SF_6.

§ 95352.2 – Annual Emissions Limit

The Discussion Draft establishes a baseline year to be used when calculating the GIE owner's annual emissions limit which is proposed to be the GIE owner's 2019 CO_2e nameplate capacity. While CMUA recognizes the goal of establishing a mass based annual emissions limit, basing that emission limit on 2019 nameplate capacity does not allow for system growth or planned equipment replacements, and is inconsistent with other sections of this regulation. Many CMUA member utilities will be experiencing substantial growth within their transmission and distribution systems. While alternatives to SF_6 are anticipated in the future, utilities need to build safe and reliable transmission and distribution systems now in response to this growth and prepare for increases in distributed generation (e.g. rooftop solar) and 60% renewables by 2030. Both investor owned utilities (IOUs) and POUs have an obligation to reliably serve the load in their service territories. Forcing utilities to set their annual emissions limit based on their 2019 nameplate capacity, without accounting for growth in nameplate capacity between 2019 and the phase out date, would set the emission limit lower than what it would have been under the existing regulation's maximum emission rate limit of 1.0% from 2020 onwards. The emission rate allows for growth in nameplate capacity; however a mass emission limit based on 2019 nameplate capacity would not allow for growth.

In addition to growth, in order to maintain safe and reliable systems, utilities regularly maintain and upgrade their existing systems. These maintenance programs are often planned three to five years in advance. For example, CMUA members regularly replace aging equipment, such as oil circuit breakers. Often, the SF_6 GIE has been contracted for purchase or has already been acquired in advance of planned replacements post 2019. Establishing a 2019 baseline could require that utilities risk being out of compliance in order to maintain their systems to the highest safety and reliability standards. Further, where alternatives to SF_6 are not commercially available, most notably in higher voltage applications, a 2019 baseline would place utilities at risk of exceeding the mass emission limit if they add SF_6 equipment to their system between 2019 and the phase out date.

CMUA notes that the Discussion Draft establishes a phase out schedule which identifies the date after which SF_6 cannot be acquired or manufactured. The earliest date for this phase out is January 1, 2025 with later dates for higher voltage applications.[8] While specific dates of the phase out schedule are being discussed, CMUA agrees that the concept of a tiered phase out schedule appropriately recognizes the need to develop commercially available alternatives to SF_6. The Discussion Draft should reflect the phase out schedule in establishing the baseline year for specific voltage applications. Additionally, CMUA agrees with the need for a Technical Infeasibility Exemption to allow for installations where appropriate alternatives to SF_6 do not exist. In the event that GIE is installed under a Technical Infeasibility Exemption, the baseline should be adjusted accordingly.

[8] Discussion Draft, p. 6.

CMUA encourages CARB to modify this section of the regulation to indicate that:

1. The annual emission limit will adjust consistent with the tiered phase out schedule, with the baseline being adjusted due to maintenance and load growth from 2020 until the phase out date for the specific voltage and application; and
2. The nameplate capacity of any SF_6 equipment installed pursuant to a Technical Infeasibility Exemption be added to the baseline.

§ 95353 – Reporting Requirements

The Discussion Draft requires that any GIE owner must submit an annual report by June 1st of the following year. CMUA recognizes the need to establish a reporting deadline. However, the deadline for reporting under the Greenhouse Gas Mandatory Reporting Regulation (GHG MRR) is also June 1st of each year.[9] For many CMUA members the same staff are deployed to develop and submit both the GHG MRR and the annual SF_6 Report. Recognizing the likely burden this simultaneous reporting requirement would impose on utility resources, CMUA requests that CARB establish the deadline for the annual SF_6 report as June 30th, or first business day thereafter, of each year. By staggering these two reporting requirements, CARB can better facilitate an accurate report without impacting the intent of the SF_6 rule.

This Discussion Draft also requires that the GIE owner measure the weight of each container between December 1 and December 31.[10] CMUA encourages CARB to consider expanding this timeframe for conducting the end-of-year gas-in-storage inventory to January 15 in recognition of the constraints on resources during winter weather. The Discussion Draft further stipulates that the weight of each container must

[9] § 95103(e).
[10] Discussion Draft, p. 15.

be the same at the beginning of each year as the value reported for the end of the previous year.[11] CMUA requests that CARB clarify that the end of year weight is also to be used as the weight at the beginning of the next year so that it doesn't appear to require the gas containers be weighed twice. Consistent with these comments, CMUA suggests the following changes to the Discussion Draft:

§ 95353(g)(5)

(A) At the end of the data year. The measurement must occur between December 1 ~~and December 31~~ of the data year <u>and January 15 of the next data year. This value is also to be used as the weight at the beginning of the next data year</u>;
(B) ~~At the beginning of the data year. For containers reported in the previous data year, this value must be the same as the value reported for the end of the previous data year~~;

§ 95355 – Measurement Procedures

The Discussion Draft requires that GIE owners electronically submit their inventory management plans (IMP) to CARB. While CMUA agrees that an IMP is necessary, submitting an report electronically places confidential information at risk. These reports will likely contain confidential information about substation and GIE locations. Some of these facilities may be identified as Critical Infrastructure and require additional protection pursuant to Federal Energy Regulatory Commission regulation.[12] CMUA proposes that the Discussion Draft reflect that IMPs shall be stored on site and be available to CARB staff for inspection upon request. To address these confidentiality and national security concerns, CMUA proposes the following changes to the Discussion Draft:

[11] *Ibid.*
[12] *Reliability Standards for Physical Security Measures*, 146 FERC ¶ 61,166 (2014).

§ 95355(a)(1)(A)

By April 1, 2021, GIE owners must develop ~~electronically submit~~ written procedures used to track gas containers ~~to~~ and must inform CARB staff that such procedures are available for review. Upon review CARB staff may notify the GIE owner that additional information must be added to the procedures to meet the requirements of section 95355(a)(1)(C). In the event said notification is received by the GIE owner, the GIE owner must update the procedures within 60 days and inform CARB staff that ~~electronically submit~~ the revised procedures are available for review ~~to CARB within 60 days~~.

§ 95355.2 – Nameplate Capacity Adjustments

The Discussion Draft presents a series of questions related to the Nameplate Capacity Adjustment to which CMUA responds below:[13]

CARB Question:

Which non-hermetically sealed SF_6 GIE should be required to go through the process (e.g., non-hermetic, equipment of a specific type, equipment manufactured by a certain manufacturer, equipment manufactured before a certain date, equipment above a certain capacity or above a certain percentage of the GIE owner's total capacity)?

CMUA Response:

GIE owners should determine which GIE should be evaluated for a Nameplate Capacity Adjustment. Additionally, GIE owners should be allowed to determine when GIE is to be evaluated.

CARB Question:

Should all GIE owners be required to complete the process (e.g., GIE owners not subject to the emissions limit, grant GIE owners a choice)?

CMUA Response:

Nameplate Capacity Adjustments should be an option for all GIE owners and be performed at the GIE owner's discretion.

CARB Question:

When should the process be performed (e.g., end of GIE life, as part of routine maintenance schedule)?

[13] Discussion Draft, pp. 24-27.

CMUA Response:

GIE owners should have the discretion to determine when to perform Nameplate Capacity Adjustments. This would most likely be prior to installing GIE, or when GIE is removed from service for maintenance or for storage as spare equipment.

GIE owners must not be forced to perform Nameplate Capacity Adjustments per an established schedule, as this may require removing active equipment from service for the sole purpose of performing the Nameplate Capacity Adjustment. Such action would adversely impact system reliability and needlessly increase the cost of complying with the regulation.

CARB Question:

What should the cut-off date be after which the process can no longer be performed?

CMUA Response:

The process should be permitted for the useful life of the GIE. The GIE owner should be authorized to determine whether processing the Nameplate Capacity Adjustment is a worthwhile activity.

CARB Question:

Should CARB require that a consistent method be used for calculating revised nameplate capacity? If not, how can CARB be assured of consistent results?

CMUA Response:

CMUA encourages CARB to allow GIE owners or reporting entities flexibility to determine their process. The reporting entity could then report its procedure to CARB.

In addition, CARB should authorize reporting entities to use the manufacturer's recommended procedure for the Nameplate Capacity Adjustment.

CMUA recommends that CARB provide suggested procedures for a Nameplate Capacity Adjustment in a separate guidance document. By doing so, and not prescribing a detailed procedure in the regulation, CARB will allow flexibility to revise the methodology without opening the regulation for revision.

§ 95355.3 – Technical Infeasibility Exemption

CMUA appreciates CARB's interest in developing a Technical Infeasibility Exemption, recognizing the possibility that non-SF_6 GIE may not be available for the particular project, size, or may not be suitable based on safety or reliability requirements.[14]

CMUA encourages CARB to clarify in the regulation what was stated by staff at the February 25, 2019 workshop, that once approved, a Technical Infeasibility Exemption is valid for the life of the GIE.

The Discussion Draft establishes a timeline for submitting a Technical Infeasibility Exemption request.[15] CMUA requests that CARB authorize a shorter timeline when the replacement is needed to address failure or anticipated failure of equipment. CMUA also encourages CARB to reflect in the regulation the purchasing restrictions facing member utilities. It is typical for POUs to require bids from at least two vendors.

CMUA suggests that CARB include an economic component to the Technical Infeasibility Exemption. In moving to a cleaner energy future, California policy has recognized the need to do so in an economically efficient manner. CARB must recognize the potential for non-SF_6 GIE alternatives to come at a significantly greater cost than $SF_{6\ GIE}$. The Discussion Draft addresses the need to provide incentives to develop SF_6 alternatives. CARB must send a clear message to manufacturers that California's energy customers must not be expected to pay an unlimited price. Further, California has a responsibility to develop emission reduction policies judiciously. This

[14] *Id*., pp. 27-28.
[15] *Id*., pp. 28.

means that the state must not implement policy that would create emission reductions at a higher cost than other available policy solutions.

Consistent with these comments on Technical Infeasibility Exemption, CMUA suggests the following changes to the Discussion Draft:

§ 95355.3

(a) (1) Non-SF_6 GIE meeting the specifications for the particular project or application are unavailable <u>from at least two independent manufacturers</u>;

(a) <u>(5) Non-SF_6 GIE is not available at a reasonable cost as quantified in the exemption request.</u>

(b) A technical infeasibility exemption request pursuant to this section must be ~~electronically~~ submitted to the Executive Officer at least 75 days prior to the intended date of SF_6 GIE acquisition<u>, or within seven days of GIE replacement due to failure or anticipated failure affecting safety or reliability</u>.

CMUA appreciates the opportunity to comment on the Discussion Draft and looks forward to continuing to work with CARB to implement this regulation.

Respectfully submitted,

/s/

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