



California Council for Environmental and Economic Balance

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September 22, 2020

Mary Nichols
Chair
California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Comments on July 21, 2020, Proposed Amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

Dear Chair Nichols:

On behalf of the members of the California Council for Environmental and Economic Balance (CCEEB), we appreciate the opportunity to offer comments on the California Air Resources Board (ARB) proposed amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear (Proposed Amendments), released on July 21, 2020. CCEEB is a non-profit and non-partisan coalition of business, labor, and public leaders that advances balanced policies for a strong economy and a healthy environment.

We appreciate ARB staff's availability to discuss and work on the proposed amendments with CCEEB and our members to this specialized regulation designed to reduce greenhouse gas impacts from releases of sulfur hexafluoride (SF₆). CCEEB understands and supports the reasoning to systematically phase-out the use of SF₆ in gas-insulated equipment (GIE), thereby reducing the long-term impact of a greenhouse gas with a GWP of 23,500 relative to CO₂ and an environmental persistence of 3,200 years.

CCEEB appreciates ARB staff's recognition of the technical nature of regulation and amendments to address several stakeholder comments from the last draft, including:

- Amending Definitions to match practices
- Developing a phase-out schedule that provides:
 - A clear signal to OEMs/Suppliers to develop equipment using alternative technologies (ongoing need incentives & state support to drive the transition).
 - Sufficient time provisions for regulated parties.
- SF₆ phase-out exemption when needed.
- Forward-looking nameplate accuracy mechanism.
- Recognizing entities with smaller inventories.

In this letter, we will express some outstanding concerns with specific provisions of the proposed amendments that we believe still need to be addressed to successfully implement this regulation, while providing for reliability, safety, and cost-effectiveness for compliance entities and ratepayers.

Change SF₆ Phase-out Exemptions Following GIE Failure

CCEEB suggests changing the request for exemption after equipment failure to a notification. This is important to assure that the GIE and associated systems (e.g. power generation sources, substations,

transmission and distribution lines) are not adversely impacted due to administrative delays in repair. The request timeline in the proposed regulatory amendment could significantly delay needed work following a product failure. In some instances, (e.g. distribution of GIE), customers may experience loss of power from time of equipment failure until the equipment is replaced. Additionally, engineered installations require significant work to replace equipment failure and maintain system reliability.

Under the request process, no work can begin for as long as 75 days, imposing significant risk to system reliability. The time to replace equipment upon failure varies based on equipment status and line characteristics for that specific installation. If spare replacement equipment is available, it is reasonable to expect a 3 to 10-week turnaround from failure to being re-energized for substation equipment and 8 to 48-hour turnaround for distribution equipment.

The exemption request process could increase this timeline three to five-fold. If equipment must be ordered, expect a 24 to 30-week turnaround from failure to being re-energized.

Recommendations

- *Change Definition of Catastrophic Failure to FAILURE (§95351)*
 - Transmission and Distribution systems are designed with redundancy.
 - Recognize the need to maintain a reliable system.
 - Equipment failure removes this redundancy.
- *Add Reporting: Professional Engineer submit notification to ARB replacement with statement of SF₆ GIE necessity (§95355).*
- *Delete SF₆ Phase-out Exemption - Catastrophic Failure §95351(h).*

Nameplate Capacity Recordkeeping for Existing GIE

For existing GIE, the regulation does not address how to reconcile differences between the nominal nameplate capacity and the real gas capacity of individual GIE. Nameplates assigned by OEMs are nominal; the real nameplate capacity can only be determined at the time of initial installation. It is important to determine the actual gas capacity value and have that value be recorded to accurately account for the covered gas in a GIE.

Recommendation

- Prior to evacuation of SF₆ gas from a GIE, a *qualified* technician validates that the GIE pressure gauge reads the correct operating pressure to meet utility accuracy standards.
- A *qualified* technician certifies the accuracy of the mass of gas removed at the time of decommissioning for a reported GIE.
- The reporter uses the certified mass of gas removed as the corrected nameplate capacity value for that specific reporting year.
- The Nameplate capacity would be certified by the Designated Representative with the Annual Report (§95355).

Management of Spare GIE

The ARB Staff Report supports the concept of an SF₆ Phase-Out Exemption to acquire new spare GIE. While CCEEB supports this change, we note that the acquisition of a spare does not appear to fall clearly into the four identified categories where SF₆ GIE is allowed:

1. Available from at least two suppliers
2. Cannot meet size requirements
3. Incompatibility with existing equipment, wiring, or connectors
4. Not suitable due to safety or reliability

Immediate access to spare GIE for repairs is critical to minimize outage times. Occasionally, through a mutual aid network, utilities may call upon GIE inventory from a fellow utility's inventory. In this instance the replacement GIE should not be subject to the regulation as this would disincentivize providing aid. The ability to acquire or replace a spare is fundamental to maintaining reliability of the grid.

Recommendation

- Add fifth exemption category:
§95357 (b)(5) Available non-SF₆ GIE cannot be used to replenish inactive spare inventory.

Accounting of SF₆ Gas in GIE

CCEEB recognizes the objective to maintain accuracy in the mass balance per data year. However, GIE taken out of service later in the year will not meet the deadline to remove the gas (“in the same year that the GIE is counted as removed from regular use”). We believe it is reasonable to extract the gas from GIE (excluding fully charged switches and hermetically sealed GIE) within one year of the GIE being removed from active use.

Additionally, we propose amending Section (a)(4) as noted below to remove the prescriptive documentation that needs to be retained by a reporter. This is unnecessary since electronic recordkeeping systems commonly record GIE properties and procurement and can be used to demonstrate purchase and acquisition.

Recommendation

- To avoid phantom emissions, we propose that a GIE device be considered “removed from regular use” on the date when the gas is extracted:
 - 95453(c)(B) *“When the GIE device is taken out of active service and the covered insulating gas has been extracted 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, sent to the manufacturer for repair).”*
- Some GIE (e.g. fully charged switches, hermetically sealed GIE) can be sent to the manufacturer for repair or transferred to a new GIE owner without extracting the SF₆. The GIE owner may not have the special equipment necessary to extract the gas from certain types of GIE. One cannot remove gas from hermetically sealed GIE that is being transferred to another entity (as this would render GIE useless).
- **95354(d)** *For any GIE device meeting the specifications in sections 95354(c)(1)(A) and 95354(c)(1)(B), covered insulating gas must be removed and evacuated into a covered gas container or containers, and accounted for following the requirements of section 95354(d)(1) in the same year that the GIE device is counted as “removed from regular use.” Within one year from the date that the GIE device has been removed from active use. The amount of covered insulating gas transferred out of the GIE device (pounds) must be recorded. GIE devices that are sold or transferred to a new GIE owner or returned to the manufacturer for repair do not require the covered gas to be extracted unless necessary to comply with Department of Transportation requirements.*
- **§95356(a)(4)** Documentation regarding the purchase and acquisition of any covered insulating gas and/or GIE (including but not limited to, contracts, material invoices, and receipts), including any information used to justify the acquisition of SF₆ GIE after the phase-out date pursuant to section 95352(a)(2)-(4);

- Amend §95354(a)(2) to require only the year of manufacture in GIE equipment inventory because GIE manufacturers do not provide specific days and months of manufacture on their nameplates.

Early Action Credit

CCEEB appreciates the recognition in the proposed regulation for early action to phase-out SF₆. This helps build momentum for development of alternatives in a time of significant uncertainty. We believe some additional incentives could overcome the indications that OEM solutions are being delayed due to COVID-19, international tariffs, industry consolidations (ABB-Hitachi), spinoffs (Siemens Energy), and reprioritization of R&D in response to new economic circumstances.

Recommendation

- Advance Early-action credit from 2021 to 2017 (§95353(d)) will recognize the work done to advance the phase-out and send a strong signal to OEMs and compliance entities to continue development of alternative technologies.

Enforcement Provisions

CCEEB believes the proposed enforcement provisions for non-emission related violations are unnecessary, overly punitive, and inflate the maximum penalty. The existing provisions provide clear authority for ARB to enforce any violation of the rule—emissions or reporting/recordkeeping. There is already a per-day clause and the ability to adequately enforce under the ARB’s Enforcement Policy.

The new proposal separates similar errors into multiple violation categories, or otherwise serves to multiply maximum penalty amounts. These changes are counterproductive and will not serve the regulated community, or ARB, in implementation. As an example, utilities have experienced several situations where a serial number or voltage was recorded incorrectly. These paperwork errors do not have a significant, if any, impact on the emissions and should not result in a violation.

CCEEB does not believe the legislature intended for ARB to issue a mandatory penalty provision deeming an annual emission violation automatically constitutes 365 days of violation. An exceedance of the annual emission limit should, therefore, not automatically constitute 365 separate violations, especially when an event or date of exceedance can be found. CCEEB requests ARB exercise its discretion and develop a method to calculate the number of days in violation for entities that exceed the annual emission rate or mass emission limit. If ARB makes a determination into what caused the exceedance, the duration of the exceedance, and the extent of the exceedance, the number of days should be reduced. Real-world examples exist where a release of gas occurred on a definitive date and, therefore, would not constitute a full year of violations.

Recommendation

- **§95359 (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. **In seeking any penalty amount, ARB shall consider all relevant circumstances, including any pattern of violation, the size and complexity of the reporting entity’s operations, and the other criteria in Health and Safety Code section 42403(b).**
 (b) Each day or portion thereof that any report required by this subarticle remains unsubmitted, ~~or is submitted late, or shall constitute a single, separate violation of this subarticle, or contains~~ **Additionally, each incomplete data field that exists after the reporting deadline (either in a submitted report or an unsubmitted report), or shall constitute a single, separate violation of this subarticle. Finally, each data field that contains or inaccurate information after the reporting deadline, shall constitute a single, separate violation of this**

subarticle. The Executive Officer shall take into consideration the materiality, with respect to emission compliance, of any incomplete or inaccurate information when penalties are assessed.

~~(c) Any Each MTCO_{2e} An~~ exceedance of the ~~maximum allowable SF₆-emission rate limit for a calendar year-data year prior to 2020 or to the emissions limit for data year 2020 and beyond~~ shall constitute a single, separate violation of this subarticle for each day of the calendar year, ***except where a defined event triggered such an exceedance.***

~~(d) Any acquisition, for use in California, of a SF₆ 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_{2e} of covered insulating gas at is active 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.

Conclusion

This is a very technical and important regulation. While CCEEB supports the phase-out of SF₆ GIE, we believe there are some critical open items that need additional work. ARB staff and compliance stakeholders have been working well together, and we encourage this to continue. CCEEB supports the need for subsequent 15-day notices to continue this work to achieve the ultimate goal of phasing out SF₆ GIE.

Thank you for your consideration of our comments. We look forward to working with you. Should you have any questions or comments, please contact me or Jackson R. Gualco, Kendra Daijogo, or Mikhael Skvarla, CCEEB's governmental relations representatives at The Gualco Group, Inc. at (916) 441-1392.

Sincerely,



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President & CEO

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