

May 26, 2021

Cary Bylin
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

RE: TID Comments on 21 Day Draft Language to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear

Dear Ms. Bylin,

Turlock Irrigation District ("TID") submits the following comments on the Air Resources Board's ("ARB") May 5, 2021 Draft amendments to the SF₆ Regulation ("Draft Regulation").

Overview Section 95357 (Phase-Out Exemption and Failure Notification)

TID appreciates the cooperative effort that the ARB has demonstrated in much of the regulatory amendment process and looks forward to engaging with the modifications needed in this very challenging regulation. We also are supportive of the overall direction of this rulemaking to further reduce potential emissions of high global warming potential ("GWP") gases in the state and phase out the use of sulfur hexafluoride SF₆ in gas insulated equipment ("GIE").

TID is concerned that the current structure the ARB has applied to Section 95357 lacks clarity and could result in the ARB identifying an arbitrary number of reasons to deny a phase-out exemption request.

For all utilities, a single denial could pose a serious challenge for future capital projects and operations on our system. In the extreme, TID is concerned that if the ARB were to deny our exemption request to replace an SF₆ breaker, the alternative solution would, at a minimum, require substantial modification within existing facilities up to and including demolition and reconstruction of entire substations. This will necessitate more complex, costly, and extended outages with multiple elements removed from service. For reference, a typical breaker replacement can range between \$100,000 and \$250,000; a new substation can easily exceed \$10 million. As a POU this entire burden is borne by our owners/customers. From a system reliability standpoint, more elements out of service means a more vulnerable system which requires imposing stricter limits. In many cases, these limits cannot be supported, especially as outages are extended in duration. TID would ask the ARB to consider both cost and system reliability constraints that would occur for utilities in the event of a single exemption denial.

In the event a utility submits an exemption request based on technical ratings, utilities would have no viable path to implement a non-SF6 piece of equipment. In this scenario, given the limitations of non-SF6 GIE, utilities would be faced with the reality of having to implement a system redesign, with the goal of relocating the constraint, for the purpose of avoiding the use of a *proven* technology. This would likely result in multi-year capital construction projects that could possibly require new high voltage transmission lines or substation facilities. An undertaking such as this will elongate the timeframe over which the utility must manage system constraints.

Furthermore, TID anticipates in the coming years a large shift in electrical loading due to utilities rising demand as a result of transportation and building electrification. Because of the rise in this electrical demand, TID will need to increase the ratings of currently installed breakers. Clearly, if the ARB were to ever deny a phase-out exemption request, TID's ability to be as responsive to other climate initiatives would be compromised.

The illustrated scenarios conveyed thus far reflect an overarching concern for TID with this regulation; any denial would force the utility to either expand the scope of work (cost/outage/resources) in order to create a viable solution, or run the equipment in question to failure. Simply put, the implications of denying a phase-out exemption request could severely impact TID and, in the most extreme cases, compromise system reliability.

Rather than issuing a denial, TID would ask the ARB to modify Section 95357 in such a way that would invite the ARB staff to work alongside the utility engineer with the common goal of supporting system reliability while incorporating low global warming potential ("GWP") equipment where it is feasible to do so.

While TID continues to believe that utility engineers are the best positioned to determine whether an exemption should be granted, if the, as proposed, regulations allow the Executive Officer to reject an exemption request, they must also include a process by which the utility may appeal this decision. Should the ARB decline to adopt a full notification process in which the utilities phase-out exemption request is not approved, TID strongly supports the Joint Utilities Group recommendation that a **phase-out exemption appeals process** be added to Section 95357(g), enabling the GIE Owner to appeal an ARB staff denial determination to an administrative hearings board.

The following sections reflect TID's comments on proposed changes to Section 95357 we would encourage ARB staff to apply to the regulation.

Section 95357(a)

- (a) *Pursuant to section 95352(a)(1), a GIE owner who wishes to acquire SF6 GIE after the applicable phase-out date indicated in Table 1 or Table 2 must electronically*

submit an SF6 phase-out exemption request to the Executive Officer that, if approved, would allow the GIE owner to acquire the requested SF6 GIE unless there is a failure as defined in section 95351(a). In the event of a failure, the GIE owner may acquire SF6 GIE pursuant to section 95357(i) or (j).

Discussion

As stated in a past comment letter, TID would implore the ARB to recognize that the language being “if approved” is a major problem; as discussed in the overview. Making the determination for acquiring SF6 GIE after the phase-out date should lie with the utilities’ engineering staff who will communicate transparently with ARB personnel to fully understand why the utility submitted a phase-out exemption notification.

Further Section 95357 Discussion

TID supports the entirety of the JUG recommendations made on May 26, 2021 and reiterates JUG recommendations on Section 95357 below.

TID also supports the JUG recommendations adding a definition for the term “imminent” and amending Section 95357(i) to include failures that reflect compromised system reliability.

“Imminent” means a timeframe in which a GIE Owner expects a failure is reasonably likely to occur, either due to end of useful life or the detrimental condition of a GIE device, and during which there is insufficient time for replacement equipment to be properly planned, procured, and installed prior to the anticipated failure.

95357 (i) In the event of **compromised system reliability** or 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 SF6 GIE that would otherwise require an SF6 exemption, the GIE owner may acquire an SF6 GIE device with the same GIE characteristics as the failed **GIE or a compatible GIE characteristics to restore system reliability** without prior approval from the Executive Officer, and must:

TID supports the JUG recommendation for amending Section 95357(b) to provide more responsibility to the GIE owner in determining that a phase-out exemption is necessary.

Recommended changes are as follows;

- (b) Beginning September 1, 2024, a GIE owner may submit an SF6 phase-out exemption request if **the GIE owner determines**, based on bids received pursuant to section 95357 (l), either:

TID supports JUG recommendations Amending Section(s) 95357(d), (f), (g) and (i) that would streamline the informational requirements for a utility phase-out exemption. In addition, TID recommends adjusting the language of Section 95357(d)(8)(A-D) to better align with the recent revision of Section 95357(b)(1-4)

(d) The SF6 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 SF6 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 SF6 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 SF6 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 manufacturer(s):

(A) Contacted about the availability of non-SF6 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; or

(B) That submitted bids or otherwise consulted pursuant to section 95357(l);

~~(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) ~~All~~ The applicable justifications for the exemption and any relevant supporting documentation. Examples of supporting documentation may include, but are not limited to:



(A) For exemptions submitted under section 95357(b)(1), ~~this includes the specific GIE characteristics (per Tables 1 and 2) that cannot be met by at least two suppliers~~ demonstrate non-SF6 GIE of the equipment type and GIE characteristics necessary for the particular project(s) or application(s) are unavailable from at least two suppliers based on the bids received.

(B) For exemptions submitted under section 95357(b)(2), ~~this includes the complete dimensions of each location~~ space within which requested SF6 GIE would reside; the complete dimensions of ~~each~~ available non-SF6 GIE considered that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers and ,based on bids received; the complete dimensions of the SF6 GIE specified in section 95357(d)(4); and a picture showing the space where the SF6 GIE would be installed. If the dimensions of the non-SF6 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), ~~this includes a list of available non-SF6 GIE~~ considered, that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers for which bids were received, and a justification that clearly explains why each of the available non-SF6 GIE identified are incompatible and how the SF6 GIE described in section 95357(d)(4) are compatible.

(D) For exemptions submitted under section 95357(b)(4), ~~this includes a list of available non-SF6 GIE that meet the GIE characteristics (per Tables 1 and 2) identified by the equipment manufacturers~~ for which bids were received and a justification that clearly explains why each of the available non-SF6 GIE identified fail to meet the technical specifications and/or the GIE owner's documented safety or reliability requirements, such as failure rates or other indicators of reliability, and how the SF6 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-SF6 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~~ should also provide an explanation as to how the GIE owner will address the situation to enable the transition to non-SF6 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 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 SF6 phase-out exemption request.

(f) Within 45 days of submittal, the Executive Officer shall notify the submitter that their application is approved ~~their application is complete~~ or that additional information and/or clarification is necessary ~~to complete the application and/or~~ to ensure the Executive Officer has sufficient information to issue a decision. 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~~ notify the submitter of the approval or denial of their application request within 45 days. In the event that the request is denied, the Executive Officer shall specify the reasons for denial.

~~(g) Within 30 days of the acknowledgment that the request is complete pursuant to section 95357(f), the Executive Officer shall notify the submitter of the approval or denial of the SF6 phase-out exemption request.~~ In the event that the Executive Officer has not responded to the submitter within ~~30~~ 45 days of the ~~notification that the application is complete,~~ the SF6 phase-out exemption request is approved.

(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 SF6 GIE that would otherwise require an SF6 exemption, the GIE owner may acquire an SF6 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 was identified;

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.

E. The JUG recommends the inclusion of a phase-out exemption appeal process

As expressed in previous comments, the JUG remains concerned that the phase-out exemption process would grant CARB the authority to second-guess the decisions of the utilities' own experts in determining whether to approve or deny an exemption request. While the JUG continues to believe that GIE owners' lead engineers are the best positioned to determine whether an exemption should be granted, the JUG recommends that if the regulation amendments allow the Executive Officer to reject an exemption request, they must also include a process by which the utility may appeal this decision.

Discussion

TID supports in its entirety the JUG recommendations on part 2 of the May 26, 2021 comment letter, Nameplate Capacity Adjustments Section 95357.2. TID this is a section that ARB staff and utility personnel should be able address discrepancies in the regulatory language.

Conclusion

TID supports the transition away from SF6 as equally capable technology is developed, but believes the process should be measured and appropriate based on current levels of available resources and the need to operate the grid safely and reliably. When a utility, as a good steward of the environment, prioritizes this transition, it is only appropriate to do so by relying on the expertise of knowledgeable staff and hired consultants. No two utilities are exactly alike, and some may be accepting of greater risk than others. If a utility is unable to keep pace with other utilities in this transition based on available resources, it should not be penalized and instead have the freedom to make informed decisions about the safe and reliable operation of its own system. Each utility will transition away from SF6 in a way that is unique to its own determinations of safety, reliability, and system management.

TID appreciates the opportunity to provide feedback on this regulation and the dedicated work of ARB staff throughout this process. TID looks forward to continued engagement with ARB staff to ensure utilities are capable of phasing out SF6 GIE in a manner that does not negatively impact utility operations and community health.



Sincerely,

Austin Avery

Turlock Irrigation District