



Position Paper

CARB's Proposed Deadline for Nameplate Adjustment

The undersigned coalition of companies, comprised of producers and distributors of SF₆ and SF₆ alternatives, manufacturers of gas-insulated equipment (GIE) and California utilities using GIE, support the California Air Resources Board's (CARB) proposal to allow nameplate adjustment when the manufacturer's nameplate capacity of devices is determined to be imprecise by the GIE owner. Our general support for the concept of nameplate adjustment notwithstanding, we maintain concerns related to the proposed deadline to allow for such adjustment – the proposed language would require all nameplate adjustments to occur prior to January 1, 2023. While this timeframe makes sense in some scenarios which may result in the need for nameplate adjustment, there are other scenarios where it does not. In light of this, it is our recommendation that CARB consider a more nuanced approach to the timeframe which would allow for nameplate adjustment when merited by real-world circumstances and according to different timelines depending on when in the GIE lifecycle the adjustment occurs.

Decommissioning

CARB's SF₆ emission rate calculation formula contemplates the greatest impact to the reported emission rate when a transaction event such as commissioning, decommissioning or a change in amount of SF₆ inventory occurs. For GIE already installed, an imprecise nameplate, and corresponding adjustment, will only impact the reported emission rate at decommissioning. (While it is possible for an imprecise nameplate to cause a change in inventory, the circumstances surrounding this scenario are highly unlikely.)

GIE has a lifespan of about 50 years based on today's field experience. While not all equipment remains in the field this long, it is likely that GIE being taken out of service today was put in service several decades ago. Conversely, equipment installed today will remain in service far beyond 2023, which means that, under the current proposed language, utilities would be forced to de-energize equipment to test nameplate capacity decades before a nameplate adjustment will have any impact at all on the reported emission rate.

In light of the long lifespan of GIE, the January 2023 deadline for all GIE nameplate adjustment appears to be arbitrary and unrelated to any increase in reporting accuracy – what we believe to be the underlying motivation for the proposed rule change. Further, the deadline imposes an unnecessary hardship on utilities who will have to spend hours de-energizing and testing hundreds of GIE each year leading up to 2023 that would otherwise be able to remain in service.

Accordingly, we propose new language that would allow nameplate adjustments to occur through 2060 (2010 + 50 years) *provided the adjustment occurs during decommissioning*. GIE manufacturers agree that 50 years is a timeframe that GIE can reasonably be expected to remain operable. And CARB acknowledges that equipment manufactured prior to 2011 is prone to nameplate imprecision, leaving 2010 as an appropriate baseline year for the sunset date. Allowing nameplate adjustment at decommissioning is a less-burdensome approach to increase reporting accuracy.

Commissioning and Maintenance

GIE users have an opportunity to perform nameplate adjustment when GIE is newly commissioned or when maintenance is performed because in both scenarios de-energization is anticipated. Under these circumstances CARB's proposed date of January 2023 represents a more practical approach without unduly burdening GIE users. Accordingly, we recommend leaving CARB's proposed date of January 2023 intact for these scenarios.

Replacement Parts

We do foresee a scenario wherein allowing for an exception to the January 2023 deadline is merited when maintenance is being performed. Sometimes GIE maintenance involves replacement of parts, which can change the volume of the GIE tank and/or bushings. The need for this type of maintenance can occur as a result of a fault or arc that damages the equipment. In such an instance, acceptable manufacturing tolerances may result in significant dimensional variations between the prior and replacement parts. For example, the internal volume of a 230 kV porcelain bushing may increase approximately 19% from the minimum to maximum tolerance condition as allowed by the product standard. In the interest of accurate reporting, replacement of any or all components due to maintenance should trigger an allowance for nameplate adjustment. These tolerances originate from industry standards based upon well-established manufacturing processes and capabilities.

The above example presupposes that an SF₆ insulated part is replaced with another SF₆ -insulated part. But in reality (and likely as a result of CARB's policies), SF₆-insulated parts can and sometimes are replaced with non SF₆ -insulated parts. For instance, in the example above the utility may choose to replace the SF₆-insulated bushing with a bushing that employs low or no gas volume technology. Doing so would no doubt reduce the mass of SF₆ in the GIE (e.g. via a non-emission scenario) but without a nameplate adjustment the utility would still be forced to report (inaccurately) the figure on the legacy nameplate. Unfortunately neither CARB's proposed revisions to §95356(d) for Annual Emissions nor the proposed revisions to §95356(e) for Annual Emission rate (i.e. the Capacity Adjustment Factor) take into account this scenario since the original GIE (albeit with a non SF₆-insulated part) is still in service.

Because this type of maintenance might reasonably occur at any point along the GIE life cycle, and for equipment already installed as well as equipment installed in the future, we recommend an indefinite allowance for nameplate adjustment *when part replacement has altered the nameplate capacity by a factor of >1%*. In such a scenario, the utility should also be allowed to account for this change in the User Emissions calculation as part of the net increase in total nameplate capacity of the GIE owned. This allowance accounts for the realities of ongoing maintenance and parts replacement while ensuring that it is only used when there is material impact on reporting accuracy.

In sum, the undersigned companies support CARB's effort towards allowance for nameplate adjustment but believe a more nuanced approach is merited with regards to the timing of the adjustments:

- At GIE decommissioning: January 2060
- At Commissioning and during maintenance: January 2023
- When parts are replaced resulting in a nameplate variance of >1%: Continuous

Please contact Jonathan Stewart at jonathan.stewart@nema.org with questions or to discuss further.

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