

## Assessment of Public Comments

### 6 NYCRR Part 495, Sulfur Hexafluoride Standards and Reporting

#### Comments received from January 10, 2024 through March 21, 2024

In January 2024, the New York State Department of Environmental Conservation (Department or DEC) proposed regulations pertaining to standards and reporting for sulfur hexafluoride (SF<sub>6</sub>). The proposed regulation includes a program to phasedown the use of SF<sub>6</sub> in gas insulated equipment used by the electricity sector, an emissions limit for gas insulated equipment owners, limitations on the use of SF<sub>6</sub>, and reporting requirements for certain users and suppliers of SF<sub>6</sub> and other fluorinated greenhouse gases. The goal of this rule is to implement recommendations of the New York State Climate Action Council Scoping Plan (Scoping Plan) necessary to achieve the required statewide GHG emission limits and net zero goal mandated in the Climate Leadership and Community Protection Act (Climate Act). Notice of the proposed rulemaking appeared in the January 10, 2024 State Register as well as in the DEC’s Environmental Notice Bulletin. Public comments were accepted from January 10, 2024 through March 21, 2024. Virtual public hearings were held on March 14, 2024 at 2:00pm and 6:00pm. This Assessment of Public Comments responds to all substantive comments received during the public comment period, including written comments as well as oral statements made at the two virtual public hearings. Comments were compiled, reviewed, and categorized based on their content.

### Table of Contents

General Comments or Unrelated Comments .....	2
Impact of Rule on Emissions .....	2
Impact of Rule on Renewable Energy Projects .....	3
Harmonization of Rule with Other States and EU.....	3
Costs.....	4
Phase-out of All F-Gases .....	5
Terms.....	6
Phase-out Schedule .....	7
1% Emissions Limit .....	10
GIE Reporting, Registration, and Recordkeeping .....	11
Exemptions and Emergency Events .....	13
Part 2 .....	14
References.....	16
List of Commenters .....	17

## General Comments or Unrelated Comments

**Comment 1:** Generally, does not support rulemaking. (Commenter 2)

**Response to Comment 1:** The Department acknowledges these comments.

**Comment 2:** General support for the rule and limiting use of SF<sub>6</sub> for compliance with the Climate Act and to follow recommendations in the Scoping Plan. (Commenters 3, 6, 10, 11, 13, 14, 15, 16, 18, 19, 20, 21)

**Response to Comment 2:** The Department acknowledges these comments and agrees, and such is noted in the Regulatory Impact Statement

**Comment 3:** Recommends requirement that operators of gas handling equipment be certified every two years. Align with similar European Union (EU) requirement. Benefits include emissions mitigation, improved reporting, and safety. (Commenter 5)

**Response to Comment 3:** This is outside the scope of this regulation. While this regulation imposes new restrictions and reporting requirements on regulated entities, it does not prescribe how or what measures entities implement to comply with the regulation. The Department acknowledges the benefits of gas handling certification as described in the comment, but defers to state and federal workplace certification and safety standards.

## Impact of Rule on Emissions

**Comment 4:** Reducing greenhouse gas (GHG) emissions in New York State will have no impact on climate change due to the small portion of worldwide emissions occurring here. (Commenter 7)

**Response to Comment 4:** Since climate change is a collective problem, the steps we take provide benefits not just in NY but everywhere. By the same token, the progress made elsewhere to reduce emissions provides benefits to NY. We are working with other states in the United States Climate Alliance and like-minded governments worldwide to achieve that collective action. Additionally, the Climate Act requires the Department to promulgate regulations, aligned with the recommendations from the Climate Action Council Scoping Plan, to meet the statewide GHG emission limits.

**Comment 5:** Concentrations of SF<sub>6</sub> are too low in the atmosphere to have any warming effect. (Commenter 7)

**Comment 6:** Due to high global warming potential (GWP) and long lifetime of SF<sub>6</sub>, even small quantities of emissions have a large impact on the climate. (Commenters 13, 15)

**Response to Comments 5 and 6:** As discussed in the RIS, SF<sub>6</sub> is an important GHG to regulate in New York State due to its high GWP and long atmospheric lifetime. Kovács et al. (2017) estimated the 20-, 100-, and 500-year integrated GWP values of SF<sub>6</sub> as 18,000, 23,600, and 31,300, respectively, using atmospheric model simulations. The GWP estimates of SF<sub>6</sub> reported by Kovács et al. (2017) compare well with the SF<sub>6</sub> GWP values stated in the IPCC sixth assessment report (IPCC 2023). Based on the reported SF<sub>6</sub> GWP metrics, emitting one million metric tons (mmt) of SF<sub>6</sub> is the equivalent of emitting 18,000, 23,600, and 31,300 mmt of CO<sub>2</sub> over 20-, 100-, and 500-year periods, respectively. Thus, relatively small emissions of SF<sub>6</sub> greatly enhance the greenhouse effect and make a significant contribution to emissions totals, motivating regulation to reduce emissions of this potent GHG. Further, the GWP value of SF<sub>6</sub> increases for longer timescale integrations, implying that increased concentrations of SF<sub>6</sub> will produce a

stronger warming effect in the future relative to the present. Thus, proposed Part 495 will greatly mitigate future warming related to SF<sub>6</sub> emissions.

Additionally, Hu et al. (2023) reported the atmospheric lifetime or the ratio of the atmospheric concentration to the rate of removal (Hartmann 2016) of SF<sub>6</sub> as 580-3200 years. This suggests that SF<sub>6</sub> is a chemically stable compound with few natural sinks that will accumulate in the atmosphere if emissions continue. Regulations to mitigate SF<sub>6</sub> emissions will prevent further accumulation of atmospheric SF<sub>6</sub> and thus reduce future warming.

**Comment 7:** Regulation is not needed to achieve 2030/50 limits due to small portion of total statewide emissions. (Commenters 7, 8, 9)

**Response to Comment 7:** All emission sources must be addressed in order to achieve the emission reductions required for compliance with 6 NYCRR Part 496 Statewide Greenhouse Gas Emission Limits. Sources with known emission mitigation strategies and/or viable alternatives must be pursued. Regulation of SF<sub>6</sub> is one of many recommendations outlined in the Scoping Plan to meet those emission limits.

**Comment 8:** The RIS over emphasizes the impact of SF<sub>6</sub> as portion of total statewide emissions. Seven percent represents total emissions of fluorinated gases (F-gas), not exclusively SF<sub>6</sub>. (Commenters 7, 8, 9)

**Response to Comment 8:** While SF<sub>6</sub> is the substance of primary focus regulated by this rule, additional F-gases are accounted for in their use as an SF<sub>6</sub> alternative in GIE and are also included in registration and reporting requirements in Subpart 2. The RIS is revised to clarify the portion of emissions related to SF<sub>6</sub> versus other F-gases.

## Impact of Rule on Renewable Energy Projects

**Comment 9:** The proposed restrictions on SF<sub>6</sub> use in GIE equipment could have significant implications for our ability to efficiently and timely deploy renewable energy infrastructure in densely populated areas. SF<sub>6</sub> is currently the preferred insulating gas for GIE due to its excellent electrical insulation properties and high dielectric strength. Alternatives to SF<sub>6</sub> exist, but they often lack comparable performance characteristics, leading to potential reliability and efficiency concerns. (Commenter 14)

**Response to Comment 9:** The Department appreciates the characteristics of SF<sub>6</sub> that currently make it a preferred insulating gas for GIE, but disagrees with the comment regarding reliability and efficiency concerns relating to this rule. Alternative GIE, for available voltage capacity (kV), and short-circuit current rating (kA) classes, have proven reliability and efficiency in the U.S. and internationally. Based on stakeholder outreach and comments received, it is reasonable to assume that newly developed alternative GIE for additional kV/kA classes will continue to perform reliably and efficiently.

**Comment 10:** Offshore wind projects should be evaluated for potential SF<sub>6</sub> emissions. (Commenter 2)

**Response to Comment 10:** This is outside the scope of this regulation.

## Harmonization of Rule with Other States and EU

**Comment 11:** DEC should align phase-down of SF<sub>6</sub> with the EU F-Gas rule. (Commenters 3, 6, 15)

**Comment 12:** At a global level, an SF<sub>6</sub> phase-out is also consistent, in spirit, with the latest amendments to the EU's F-gas Regulation, which states that where technically suitable alternatives are available, new electrical switchgear with relevant F-gases should be prohibited. (Commenter 13)

**Response to Comments 11 and 12:** The rule is most closely aligned with California's SF<sub>6</sub> regulation, but is also harmonious with the intent of the EU F-gas regulation. The phase-out schedule of Part 495 is consistent with both jurisdictions' timelines, but includes extensions to the first phase-out dates to provide time for regulated entities to plan and institute changes.

**Comment 13:** Harmonization with California's rule facilitates planning for original equipment manufacturers (OEMs) to supply market. (Commenter 10)

**Comment 14:** Harmonizing with other state F-gas regulations increases ease of implementation for the agencies, ease of compliance for regulated entities, and amplifies the impact of the policy signals, including alignment between California and New York SF<sub>6</sub> phase-outs. (Commenter 13)

**Response to Comments 13 and 14:** Harmonization with existing regulations was a goal of this regulation. As noted on page 7 of the RIS, the Scoping Plan recommends that New York "collaborate with other U.S. Climate Alliance states to align policies across the country to drive a market shift toward SF<sub>6</sub> alternative technologies nationwide." California is a U.S. Climate Alliance state and the Department greatly aligned the rule with California's regulations. Similarly, the rule also aligns with Massachusetts' (another U.S. Climate Alliance state) SF<sub>6</sub> emissions limit regulation.

**Comment 15:** Align with EU F-gas rule: Prohibit the use of virgin SF<sub>6</sub> for maintenance and servicing of GIE starting in 2035. As well as require leakage checks, emissions containment, and labeling for SF<sub>6</sub> in GIE. (Commenter 15)

**Comment 16:** Recommends that destruction of sulfur hexafluoride (SF<sub>6</sub>) not be considered, as recycling is a viable alternative with lower life-cycle emissions than virgin SF<sub>6</sub>. (Commenters 5, 20)

**Response to Comments 15 and 16:** The rule does not regulate whether the SF<sub>6</sub> being used for maintenance and servicing of GIE is recycled or virgin. Additionally, leakage checks and emissions containment are necessary for regulated entities to comply with the 1% emissions rate limit, and labeling is necessary for compliance with other recordkeeping requirements.

## Costs

**Comment 17:** Based on already developed products for high and medium voltage switchgear, lifetime costs show natural-origin gas solutions are more cost-effective as there is no need for special gas handling tools or specific F-gas trainings and no costs related to reporting and other requirements. (Commenters 3, 6, 11)

**Comment 18:** Unlike some F-gases used in switchgear, there is no patent on natural origin gases (NOG). NOG technologies are produced by many suppliers globally and demand for these gases to replace F-gases will keep prices low and result in no extra costs to households. Additionally, net costs to society are negative when considering avoided costs to the climate. (Commenters 3, 6, 11, 15)

**Response to Comments 17 and 18:** While the regulation is technology-neutral in regard to SF<sub>6</sub>-alternative GIE, the described benefits of F-gas-free technology are appreciated.

**Comment 19:** The cost impacts provided in the RIS are optimistic and understated. (Commenter 7)

**Response to Comment 19:** While acknowledging the uncertainty of economic forecasting, the cost impacts assessment provided in the RIS reflects common market assumptions such as the downward pressure on prices for mature technology in a competitive market.

**Comment 20:** Cost estimates of societal benefits are biased high. The method of social benefit calculation provided in New York's Value of Carbon Guidance is incorrect. Cumulative lifetime values of social benefits are incorrect; only annual values are appropriate. (Commenter 7)

**Response to Comment 20:** The societal benefits from the mitigation of SF<sub>6</sub> emissions provided in the RIS utilizes New York State's Value of Carbon guidance per Environmental Conservation Law Section 75-0113, which states that the Value of Carbon established by the Department is for "use by state agencies" to "serve as a monetary estimate of the value of not emitting a ton of greenhouse gas emissions." Comments related to the methodology and approach of the Value of Carbon guidance are outside of the scope of this rulemaking.

## Phase-out of All F-Gases

**Comment 21:** F-gas based alternatives to SF<sub>6</sub> GIE should be prohibited due to health and safety (per- and polyfluoroalkyl substances or PFAS) and climate impact concerns. (Commenters 3, 6, 11, 13, 15)

**Comment 22:** There should be a ban on all F-gases in GIE for voltage capacity ≤38kV due to environmental and health issues, as well as GHG emissions. (Commenter 4)

**Comment 23:** F-gas alternatives to SF<sub>6</sub> have a GWP greater than 1, therefore they are still contributing to climate change. Only non-F-gas alternatives should be considered. (Commenters 3, 6, 11, 15)

**Comment 24:** Supply of SF<sub>6</sub> and other F-Gases is dependent on foreign supply chains, which creates a reliability concern. (Commenters 3, 5)

**Comment 25:** Provide a definition for Non-F-gas GIE. (Commenter 4)

**Comment 26:** Revise the definition of Non-SF<sub>6</sub> GIE to exclude F-gases with GWP 1000 or greater: "does not contain SF<sub>6</sub> but another insulating gas or gas mixture having a GWP20 below 1,000." (Commenter 4)

**Comment 27:** Restrict GIE using other F-gases along with SF<sub>6</sub> for ≤38kV in 2028. (Commenter 4)

**Response to Comments 21, 22, 23, 24, 25, 26 and 27:** Comments relating to the regulation of PFAS are outside the scope of this rule. In response to the other related points in the comments, the rule is intended to reduce GHG emissions and aligns with California's regulation that phases out SF<sub>6</sub> specifically. Although harmonious with the intent of the EU's regulation to reduce greenhouse gas emissions, instead of phasing out all F-gases, this rule focuses on SF<sub>6</sub> as the most potent greenhouse gas currently being used in gas insulated equipment. In addition, the 1% emissions limit will encourage replacement with lower GWP alternatives, as the calculation includes covered insulating gases, which are defined as "[a]n insulating gas with a GWP20 greater than one." A substance is considered a covered insulating gas if the GWP20 is unknown, but the substance may be reasonably anticipated to have a GWP greater than one over an integrated twenty-year time frame." (Section 495-1.3). Further, if insulating gases with a GWP20 of 1 or less replace SF<sub>6</sub> GIE, less reporting is required of GIE owners, adding more incentive to switch to

use of such gases. Based on required reporting under the rule, the Department will evaluate the potential need to regulate other F-gases as part of the regulatory review required by Section 207 of SAPA.

**Comment 28:** Revise the GIE definition to exclude non-GHG containing equipment, by removing list of technologies and replacing with, "using or whose functioning relies upon a covered insulating gas." (Commenter 4)

**Response to Comment 28:** Gas-insulated equipment must also include non-GHG containing equipment as many references are broader than GHG-containing gas-insulated equipment. For instance, references to non-SF<sub>6</sub> GIE are made throughout the rule, which would include non-GHG-containing GIE as well as GHG-containing GIE, distinguishing non-SF<sub>6</sub> GIE from SF<sub>6</sub> GIE. Since SF<sub>6</sub> is what is being phased out, any replacement would be included as non-SF<sub>6</sub> GIE.

## Terms

**Comment 29:** In Section 495-1.2 Applicability, recommend striking "or substitutes" and replacing with "or other covered insulating gas(es)." (Commenter 3)

**Response to Comment 29:** Section 495-1.2 has been revised per this recommendation to change "or substitutes" to "or other covered insulating gas(es)" to make it clearer by using a defined term.

**Comment 30:** Clarification on the term "installation" as used in the proposed regulation is needed to understand the minimum requirements for the GIE to be considered "installed." (Commenter 12)

**Response to Comment 30:** Section 495-1.4(f) has been revised to add clarification to what is considered installed which is "connected to an electrical power system."

**Comment 31:** Replace "active service" with "active GIE" in Section 495-1.5. Active service is not defined, but active GIE is. Replace in other instances of document where term occurs. (Commenter 1)

**Response to Comment 31:** "Active service" has been replaced with "active GIE" in Sections 495-1.10(a)(6) and 495-1.10(b).

**Comment 32:** The below terms are used in several sections of the proposed rule but do not have a corresponding definition. The commenter proposes the following definitions for incorporation that align with the definitions used in the California Code of Regulations Title 17 § 95351:

1. "Hermetically Sealed Gas-Insulated Equipment" or "Hermetically Sealed GIE" means GIE that are pre-charged with covered insulating gas, sealed at the factory, and designed by the manufacturer to not be fillable by the GIE owner or a third-party designee.

2. "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. (Commenter 1)

**Response to Comment 32:** Definitions for Hermetically Sealed GIE and Non-hermetically Sealed GIE have been added to Section 495-1.3.

**Comment 33:** The commenter "recommends that DEC clarify that any SF<sub>6</sub> GIE placed in federal waters lies outside the jurisdiction of Part 495." (Commenter 16)

**Response to Comment 33:** The recommended edit is unnecessary to clarify as the current language in 6 NYCRR 495-1.4(a) states that "no person may acquire SF<sub>6</sub> GIE *for use in New York State*...." This excludes anything in federal waters outside of the jurisdictional boundaries of New York State, which is 3 nautical miles from New York's coastline. See 43 U.S.C. 1312.

**Comment 34:** In order to make language in Section 495-2.1 consistent with Section 495-2.3(a)(1), strike "equipment containing SF<sub>6</sub>" and replace with "equipment pre-charged with SF<sub>6</sub>." (Commenter 3)

**Response to Comment 34:** In order to make the language consistent in Part 2 of Section 495, "equipment pre-charged with SF<sub>6</sub>" in Section 495-2.3(a)(1) has been revised to "equipment containing SF<sub>6</sub>." Although the commenter suggested to change the terminology to "equipment pre-charged with SF<sub>6</sub>," the rule is intended to cover equipment containing SF<sub>6</sub>, whether or not it is pre-charged.

**Comment 35:** The commenter recommends clarifying in Section 495-1.7 the use specifically of GWP20 for converting GIE emissions into CO<sub>2</sub>e. The regulation defines GWP20 but does not mandate its use. Proposed language: "GWP<sub>j</sub> is the GWP20 of covered insulating gas *j* released during one or more emergency events..." (Commenter 1)

**Response to Comment 35:** The recommended revision was made to the calculation in Section 495-1.7(b) of the rule, which also aligns with Section 495-1.7(a) of the rule.

**Comment 36:** Replace "suppliers" with "original equipment manufacturers" in Section 495-1.10(a)(1)(i). (Commenter 1)

**Response to Comment 36:** The recommended revision was made in Section 495-1.10(a)(1)(i) of the rule and other associated provision to specify original equipment manufacturers to avoid a scenario in which multiple suppliers quote the same piece of equipment, but less equipment is actually available.

## Phase-out Schedule

**Comment 37:** Commenter suggests including provision that all projects submitted to the regulatory agency queue and approved by NYISO and PSC are exempt from phase-out dates. Proposed language: "SF<sub>6</sub> GIE approved for use as part of a project filing and determination by the NYISO or the PSC for those projects submitted prior to the phase-out dates. SF<sub>6</sub> GIE proposed as part of a project that is (i) either approved by the Department or approved in a proceeding in which the Department was a party and (ii) determined not to be inconsistent with Section 7(2) of the CLCPA." (Commenter 9)

**Comment 38:** Explicitly exempt spare GIE from phase-out requirements and revise language of Section 495-1.4(f) regarding installation window to allow for long delivery lead times. Proposed language: "(f) Any SF<sub>6</sub> GIE device ~~purchased~~ordered by the GIE Owner prior to the applicable phase-out date listed in sections 495-1.4(b)-(c) of this Part must be installed no later than 24 months after the date of ~~purchase~~delivery to the GIE Owner, except for spare GIE." Similarly, replace "present in New York State" with "ordered for installation" in 495-1.4(a)(2). (Commenters 9, 12)

**Response to Comments 37 and 38:** Language of Section 495.1.4(f) is revised as suggested to mitigate concern over long delivery lead times. Change also addresses concerns regarding acquisition of equipment for projects substantially far along in planning process. This language is revised in similar provisions throughout the Express Terms.



**Comment 39:** Clarify equipment rating in Section 495-1.4 as "labels/listing" for sale, rather than product ratings. (Commenter 4)

**Response to Comment 39:** The tables in Section 495-1.4 include voltage capacity based on product ratings, not based on labels/listing. Voltage capacity is defined in Section 495-1.3 as "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.'" Therefore, no additional clarification is needed in the Express Terms.

**Comment 40:** With respect to phase-out dates for Belowground equipment in section 495-1.4(b), below and above 38 kV and 25 kA are included in the table, but not 38 kV or 25 kA. Propose to revise "<38" to "≤38" and ">25" to "≥25." (Commenters 1, 4, 5, 11, 12, 19)

**Response to Comment 40:** Table 1 in Section 495-1.4(b) has been revised to reflect the recommended edits as 38 kV and 25 kA were inadvertently excluded.

**Comment 41:** The phase-out dates for  $38 < kV \leq 145$  and  $145 < kV \leq 245$  in Section 495-1.4(c) do not include 63 kA. Propose to revise ">63" to "≥63" for both voltage capacities. (Commenters 1, 4, 5, 9, 11, 12)

**Comment 42:** Revise "<63" to "≤63" in Section 495-1.4(c). (Commenter 3)

**Response to Comments 41 and 42:** Table 2 in Section 495-1.4(c) has been revised to reflect these recommended edits and to match California's regulations, as 63 kV was inadvertently excluded.

**Comment 43:** Recommends a proprietary supply chain survey of manufacturers to avoid a regulatory construct that creates longer supply chain delivery time with increased prices. Concern for compounding effect multiple jurisdiction implementation dates will have on the supply chain. (Commenters 4, 19)

**Response to Comment 43:** As noted in the RIS, Stakeholder Outreach, the initial outreach efforts concentrated on discussions with individual OEMs about the proposed rule and timeline and no such concerns were raised based on the proposed timelines. Furthermore, the timelines originally provided to OEMs for feedback have since been pushed out to allow for more time for compliance.

**Comment 44:** There is concern regarding the availability of SF<sub>6</sub> alternative GIE by the proposed phase-out dates. Specific concerns include lack of IEEE certified products, lack of metal-enclosed SF<sub>6</sub> alternative GIE, and adequate competition in the SF<sub>6</sub> alternative GIE market. (Commenters 8, 12)

**Response to Comment 44:** The Department acknowledges regulated entities' concerns regarding availability of compliant GIE following phase-out dates. The proposed schedule aligns with, but is more lenient than, both California's Regulation for Reducing Sulfur Hexafluoride Emissions phase-out schedule, and the EU's F-gas regulation phase-out schedule. Several comments received point to the current availability of F-gas-free GIE up to 145kv with higher kV models in development. Additional comments discuss significant competition within the marketplace as OEMs build out supply, and that several OEMs are voluntarily phasing out medium voltage SF<sub>6</sub> switchgear as the market shifts towards alternatives. The Department can evaluate market maturation and the availability of alternatives as part of the regulatory review required by Section 207 of SAPA.

**Comment 45:** Requirement that installation of phased-out equipment be installed 24 months after purchase is problematic given long lead-times. (Commenter 9)



**Response to Comment 45:** The regulation has been revised to address this issue. The ordering and delivery of equipment has been decoupled to address lead times. The revised regulation now states that an order for GIE must be placed within 12 months of receiving the exemption approval, and that equipment must become active GIE within 24 months following deliver. Therefore, lead times are no longer part of any time requirements.

**Comment 46:** Revise first phaseout date from 2026 to 2028 to ensure ample supply of equipment. (Commenter 4)

**Response to Comment 46:** The first phaseout dates have been revised to 2027 to address this and other comments. Additionally, phaseout language specifies order date, rather than installation date, of GIE. Thus, supply of equipment and long lead times for delivery are mitigated.

**Comment 47:** Extension of the Phase-Out Dates will allow for SF<sub>6</sub>-free switchgear to achieve a higher degree of maturity for reliable deployment to the electrical grid. (Commenter 12)

**Comment 48:** The phaseout dates should be extended to allow for utility field testing to avoid risks relating to safety, reliability, costs, supply chain disruptions, and delays in major renewable energy projects. (Commenter 12)

**Comment 49:** Recommend and support participation in a work group with major SF<sub>6</sub> metal-enclosed switchgear manufacturers, industry representatives, as well as NYSDEC to arrive at an implementation schedule which matches product availability, certification, and field-testing requirements. (Commenter 12)

**Comment 50:** Existence of alternatives on the market should be prerequisite for phase-out, as in EU F-gas regulation. (Commenter 3)

**Response to Comments 47, 48, 49 and 50:** Safety and reliability of the electrical grid were prime considerations during development of the regulation. The regulation has been revised with a one-year extension to the first phase-out in order to provide additional time for planning and testing by regulated entities. As part of the rule development process, outreach was conducted with OEMs and utilities to determine the implementation schedule. This feedback was used to develop the phase-out schedule with product availability and testing requirements as key considerations. Two years were added to the expected availability date to account for potential delays and pilot testing of equipment. Additionally, the exemption process outlined in Section 495-1.10 provides an avenue for continued use of SF<sub>6</sub> GIE if less than two options exist in the market for the required kV/kA rating. The Department can evaluate market maturation and the availability of alternatives as part of the regulatory review required by Section 207 of SAPA.

**Comment 51:** Section 495-1.4(a)(3) provides an exception to the phaseout schedule if, “[t]he SF<sub>6</sub> GIE manufacturer replaces a defective SF<sub>6</sub> GIE device under the terms of the manufacturer’s warranty.” The commenter recommends that DEC broaden this clause to include a wider range of scenarios, such as a situation in which a GIE Owner has a product that is still under a more limited warranty in which a party other than the manufacturer (such as the GIE Owner or any party designated for performing such works) is the party conducting the replacement. (Commenter 16)

**Response to Comment 51:** Language has been revised to allow for a party other than the manufacturer to perform replacement work.

**Comment 52:** Recommends replacement of "installation no later than 24 months after date of purchase" with "no later than... applicable phase-out date." Allowing older equipment with planned use to be installed. (Commenter 16)

**Response to Comment 52:** Revisions provided in Response to Comment #45 addresses the concern raised here. The intention of installation timeline requirements outlined in this section are to mitigate concerns over stockpiling of equipment prior to phaseout dates, which would increase likelihood of additional future SF<sub>6</sub> emissions.

## 1% Emissions Limit

**Comment 53:** To address annual variability and potential for single catastrophic failures, commenters propose using a rolling 3-year average of emissions for determining compliance with 1% emissions limit. (Commenters 8, 9)

**Response to Comment 53:** The recommended 3-year rolling average for emissions rate calculation has been added to Sections 495-1.5 and 495-1.7. However, in response to concern over inclusion of emergency event emissions in annual emissions, it should be noted that emissions related to emergency events are excluded from the calculation of the annual systemwide emissions rate. Therefore, there is no concern of emergency events impacting regulated entities' ability to comply with the 1% emissions limit.

**Comment 54:** The 1% emissions limit is infeasible by the proposed date and without replacement of existing equipment. In addition, this is contrary to statements in the RIS. Proposes revising RIS language to address these potential costs and impact on ratepayers. (Commenter 9)

**Response to Comment 54:** In order to address comments relating to meeting the 1% emissions limit, the timeline has been revised to 2030. This will allow GIE owners additional time to comply and can allow for flexibility as opposed to a step-down approach like Massachusetts and California. While equipment may need to be replaced to reduce emissions, comments received indicate that cited costs of replacement are related to regular system maintenance as the highest leaking equipment would be failing and need replacement regardless. These are costs incurred regardless, even if on a faster timeframe. No value is attributed to the marginal cost of achieving compliance based on regular system maintenance. Further, extending the 1% emissions limit date to 2030 is on a longer timeline than both California and Massachusetts. Lastly, the 2030 emissions limit will align with New York's Part 496 statewide GHG emission limit date of 2030. **Comment 55:** Proposes adding an exemption process from the 1% emissions limit in Section 495-1.10. The exemption process would require regulated entity to submit plan for future compliance. (Commenters 8, 9)

**Response to Comment 55:** Mitigation of SF<sub>6</sub> emissions is the primary goal of this regulation, therefore exemptions from the 1% emissions limit will not be incorporated as this would be in conflict with the regulation's goal. However, the date for the 1% emissions limit has been moved from 2028 to 2030 to facilitate compliance (see comment above).

**Comment 56:** Allow gas-insulated equipment (GIE) in New York State Independent System Operator (NYISO) and Public Service Commission (PSC) approved projects, that will be installed after baseline year to be included in baseline system capacity once installed. (Commenter 9)

**Response to Comment 56:** The establishment of a baseline year is intended to discourage increasing use of SF<sub>6</sub>, and minimize the risk of increasing SF<sub>6</sub> emissions even when complying with the 1% emissions limit. Both Massachusetts' and California's regulations include mechanisms to mitigate the potential of increased total emissions due to system capacity increases even with emissions limit compliance. Establishment of a baseline year also encourages early adoption of SF<sub>6</sub>-alternative GIE as a way to facilitate compliance with emissions limit, as removal of SF<sub>6</sub> GIE from a system will not decrease the system capacity against which the emissions limit is calculated.

**Comment 57:** Exclude temporary fluctuations in SF<sub>6</sub> spare parts and gas containers to avoid double-counting in Section 495-1.5(b) baseline calculation. Failed and replacement parts could be in New York State simultaneously. (Commenter 16)

**Response to Comment 57:** The commenter did not provide sufficient information to justify deviation from California's regulatory language which has been in effect since 2011. Alignment with existing regulations is an important component of this language, in order to establish national standards and allow for more consistency for industry.

## GIE Reporting, Registration, and Recordkeeping

**Comment 58:** Threshold for annual reporting requirement should be increased to 25,000 MTCO<sub>2</sub>e to align with Environmental Protection Agency's (EPA) Part 98. (Commenters 8, 9)

**Response to Comment 58:** The intent of the reporting threshold is to capture the significant majority of SF<sub>6</sub> emissions, without burdening smaller entities. Section 6 of the RIS notes that municipally-owned electric utilities will be below the reporting threshold of 7,500 MTCO<sub>2</sub>e due and is the basis for this part of the regulation to their relatively small SF<sub>6</sub> capacity. A lower threshold of 7,500 MTCO<sub>2</sub>e aligns with California's higher tier for large emitters, after conversion to 20-year global warming potential, that has been in place since 2009. (Commenters 8, 9)

**Comment 59:** Emissions due to catastrophic failure of GIE should not be included in reporting threshold considerations. (Commenter 9)

**Response to Comment 59:** As written, the regulation does not include emissions due to catastrophic failure in reporting threshold considerations.

**Comment 60:** Recommends aligning first reporting year, baseline year, and first phase-out date. Clarify first reporting year start date. (Commenter 9)

**Response to Comment 60:** The reporting year, baseline year, and first phase-out date in Subpart 1 of the rule are revised to be aligned to January 1, 2027. Reporting for year 2027 will be due by March 31, 2028.

**Comment 61:** Seeks clarification on reporting requirements stated in section 495-1.8 as to when the parent company or one or more individual entities within the parent company having SF<sub>6</sub> GIE should report to the Department. (Commenter 16)

**Response to Comment 61:** Calendar year 2027 will be the first year of required reporting. Reports will be due by March 31, 2028, and annually thereafter. Entities with annual GIE emissions calculated pursuant to section 495-1.7(a) exceeding 7,500 metric tons CO<sub>2</sub>e must submit reporting by June 1 of the following year for each calendar year beginning in 2028. Beginning in calendar year 2027, any GIE owner with GIE emissions calculated pursuant to section 495-1.7(a) that does not exceed 7,500 metric tons CO<sub>2</sub>e must register with the department by March 31, 2028.

**Comment 62:** Revise start date for requirement to have unique ID system for gas container management to July 1, 2026 or 12 months after the finalization of this part. (Commenter 8)

**Response to Comment 62:** In response to this and other comments the start date for reporting has been revised to calendar year 2027. First reports will be due by March 31, 2028.

**Comment 63:** "[I]t is important for states and EPA to eliminate all non-essential uses of this climate super pollutant. It is also vital that states collect as much robust data as possible to validate SF<sub>6</sub> inventories, support regulatory implementation and enforcement activities, evaluate the efficacy of regulations, and develop any additional policy measures that may be needed in the future." (Commenter 13)

**Response to Comment 63:** The Department appreciates and agrees with this comment.

**Comment 64:** The proposed rule contains registration, recordkeeping, and reporting requirements that are similar to California's regulation as well as federal SF<sub>6</sub> reporting requirements under the Greenhouse Gas Reporting Program. [The commenter] supports the inclusion of these provisions. (Commenter 13)

**Response to Comment 64:** The Department appreciates and agrees with this comment.

**Comment 65:** Proposes aligning required reporting data with EPA Part 98/SF<sub>6</sub> Emissions Reduction Partnership rather than California. States that information proposed in regulation is beyond what utilities currently maintain, and more than the Department needs to ensure compliance with the regulation. (Comment 8, 9)

**Response to Comment 65:** The reporting requirements align more closely with California's regulation than with EPA Part 98 due to differences in the intent of reporting. The primary intent of EPA Part 98 reporting is to assess the quantity of emission from large sources. The additional components of reporting required in California's regulation and this regulation are necessary to ensure compliance with both the phase-out schedule and the emissions limit. The initial reporting date has been revised to provide an additional year to afford adequate time for regulated entities to implement practices to begin collecting and maintaining the necessary information. Additionally, reporting requirement for dates and quantities of SF<sub>6</sub> added to GIE in Section 495-1.6(a)(1)(v) has been revised to limit historical scope to, "starting effective date of this Part."

**Comment 66:** Recommends DEC not mandate GHG recording and reporting requirements for SF<sub>6</sub> GIE installed prior to the applicable phase-out date, unless there is an emergency or a gas leak. (Commenter 16)

**Response to Comment 66:** GHG recording and reporting requirements are necessary to ensure compliance with Section 495-1.5 GIE Emissions Limit. Additionally, data reported as a requirement of

this regulation will improve SF<sub>6</sub> emissions estimates used in the Statewide GHG Emissions Inventory and for evaluating progress towards the GHG emissions reduction goals established by the CLCPA.

**Comment 67:** Recommends replacing or adding additional methodology for nameplate capacity adjustment, that are based on weight rather than pressure readings. Additionally, suggest alternative recordkeeping, maintaining adjusted capacity in a database rather than affixing a new value to each piece of equipment. 495-1.3(a)(23) (Commenters 8, 9)

**Response to Comment 67:** The methodology for nameplate capacity has been revised. The regulation now incorporates by reference the nameplate capacity adjustment methodology adopted by EPA in Part 98 – Mandatory Greenhouse Gas Reporting, effective January 1, 2025. EPA’s newly adopted revisions improve upon the methodology employed in CARB’s regulation and is applied nationally. Alignment with existing regulations is an important component of this language, in order to establish national standards and allow for more consistency for industry.

## Exemptions and Emergency Events

**Comment 68:** Change the date from 2026 to 2025 in Section 495-1.10 (a)(1). The current date is after the phase-out date. Changing date will allow exemption requests prior to phase-out date. (Commenters 1, 9)

**Response to Comment 68:** The current date of September 1, 2026 remains the same, but the first phase-out date is changed from January 1, 2026 to January 1, 2027 due to the timing of release of the rule. This change addresses the issue raised by the comment.

**Comment 69:** Proposes the exemption process be revised so regulated entities would self-attest to meeting exemption requirements, in contrast to requiring DEC review and approval. Additional related comment is removal of language enabling DEC to deny requests. (Commenters 8, 9)

**Response to Comment 69:** The parameters of Section 495-1.10 are specific and providing that the applicant supplies sufficient information to serve as a basis for an exemption, the Department will approve the request. The intention of this language is that all requests that provide the required information and meet the basis of the exemption will be approved. Therefore, the language has been clarified. Maintaining the ability for the Department to deny a request that does not meet these detailed parameters is necessary to ensure compliance with the requirements of the regulation.

**Comment 70:** Replace "may acquire" with "may order" GIE for exempted projects, to account for long lead times that may hinder ability to comply with 24-month window. Twenty-four months should apply to installation following "delivery." Remove "or removed from active service" from section.

Proposed Language: A GIE owner with an approved SF<sub>6</sub> phase-out exemption ~~may acquire~~ must order the specific SF<sub>6</sub> GIE described in the SF<sub>6</sub> phase-out exemption within 24 months of the department’s approval of the request. ~~If the SF<sub>6</sub> GIE is not acquired within the specified timeframe, the GIE owner must submit another SF<sub>6</sub> phase-out exemption request.~~ 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~~ within 24 months of delivery to the owner ~~the approval of the exemption request~~. (Commenter 9).

**Response to Comment 70:** Similar to the language revision in Section 495-1.4(f), “may acquire” is revised to “may order,” but the Department revised 24 months to 12 months to discourage GIE Owners

from requesting an exemption too far in advance of placing into active service. Some exemption conditions, in particular the availability of alternatives, may change if there is too long of a lead time. In making these timeline revisions, the Department balanced long lead time concerns with the need to ensure exemption conditions remained as accurate as possible. The Department finds that 12 months allows for a reasonable amount of time to order SF<sub>6</sub> GIE based on an exemption. The Department disagrees with using “must” in this sentence as there is no requirement to order SF<sub>6</sub> GIE if an exemption is received. The GIE Owner may ultimately not require the exemption and may purchase non-SF<sub>6</sub> GIE. The Department disagrees with removing the following sentence, “If the SF<sub>6</sub> GIE is not acquired within the specified timeframe, the GIE Owner must submit another SF<sub>6</sub> phase out exemption request.” However, “not acquired” has been replaced with “not ordered.” Lastly, due to reported long lead times in the public comments received, the last sentence of the provision is revised based on the commenter’s recommendation.

**Comment 71:** Recommends that DEC also reserve the ability to deem no suitable products available without requiring GIE owners and operators to continually go through a redundant and unnecessary tender and exemption process. (Commenter 16)

**Response to Comment 71:** Section 495-1.10(a)(2) outlines a process for applying for an extension for multiple GIE, but specific information is still needed, including justification details to determine whether an exemption is necessary for the additional GIE for which the GIE owner is seeking an exemption. Any new GIE not already provided in an exemption is required to apply for another exemption as outlined in Section 495-1.10.

**Comment 72:** Rephrase list of emergency events in Section 495-1.11 to those that are more common in New York State and to add “including failure of GIE for reasons beyond the control of the GIE owner.” (Commenter 9)

**Response to Comment 72:** The definition included in Section 495-1.3 defines “emergency event” as “a situation arising from a sudden unforeseen event, including, but not limited to, an earthquake, fire, flood, or act of vandalism.” “An Earthquake” is removed and “a severe storm” is added as severe storms are more common in New York State. The definition includes broad language, “including, but not limited to,” and then provides examples of emergency events. Section 495-1.11 outlines what GIE owners must demonstrate for an emergency event, including that such event “(1) could not have been prevented by the exercise of prudence, diligence, and care; and (2) was beyond the control of the GIE owner.” Therefore, “beyond the control of the GIE owner” is unnecessary to add to the definition of emergency event.

## Part 2

**Comment 73:** Not supportive of Subpart 2 of Part 495. (Commenter 1)

**Response to Comment 73:** As noted in the RIS, Subpart 2 of Part 495 used California's regulations that have been in place since 2009 and EPA's GHG reporting as a model in that it focuses on supplies of F-gases as opposed to actual leakage and emissions since those sources cannot be directly monitored. This ultimately saves costs to regulated entities by focusing on the suppliers instead of including monitoring requirements.

**Comment 74:** Suggests limiting “products” to GIE in section 495-2.5(b)(1). (Commenter 1)

**Response to Comment 74:** The intent of Part 2 is to acquire information on potential sources of emissions outside of the electricity transmission and distribution system, as well as to mitigate emissions from additional uses of SF<sub>6</sub>. Therefore, limiting “products” exclusively to GIE could allow for potential emission sources to be missed.

**Comment 75:** Suggests revising language of Section 495-2.5 (c)(1)(ii) to, “(ii) total statewide annual aggregated weight in pounds of each type of regulated substance sold, supplied, or distributed directly to a customer in New York State.” This revision will clarify the scope of reporting required by entities so that quantities of regulated substances produced by them but sold by distributors or re-sellers into New York State will not be included in reporting. (Commenter 1)

**Comment 76:** Suggests adding geographic constraint to records retention provision, e.g., State of New York. (Commenter 1)

**Response to Comments 75 and 76:** Section 495-2(d)(1)-(4) references suppliers and reclaimers referenced in Section 495-2(a), “any person who supplies (manufacturers, produces, or distributes) bulk regulated substances or products containing regulated substances intended for sale or use in New York State or who reclaims regulated substances collected in New York State.” This limits the entities which are required to maintain records for five years. As noted by a commenter, suppliers may only know what substances they sell directly into New York. If information is provided by distributors, which are also included as suppliers pursuant to this Subpart, information may be needed on substances and products they sold into New York in which the manufacturer or other supplier supplied to the distributor. This information would be missing if this provision was limited to only substances directly sold into the State.

**Comment 77:** In the proposed rule, DEC has proposed limiting the use of SF<sub>6</sub> for all non-essential uses. This part of the proposed rule bears close similarities with a California regulation for limiting SF<sub>6</sub> in non-electric, non-semiconductor sources. The aforementioned California regulation has been effective since 2010 and has helped minimize all non-essential uses of SF<sub>6</sub> in the state and prevented the development of new, non-essential uses. Given the nearly 15-year precedence set by California’s regulation, eliminating non-essential SF<sub>6</sub> uses is both, technically and economically feasible. (Comment 13)

**Response to Comment 77:** The Department acknowledges this comment.



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## List of Commenters

#	Name	Organization
1	Jonathan Stewart	National Electrical Manufacturers Association
2	Michelle Leo	
3	Chris Clement	Siemens Energy
4	Jeff Morris	Schneider Electric
5	Billy Lao	DILO
6	Ryan Dalton	Siemens
7	Roger Caiazza	
8	William Slade	Con-Ed
9	Sandra Meier	Environmental Energy Alliance of New York
10	Judi Sobecki	Hitachi Energy
11	Julia Quintella	Switching Gears for Net Zero Alliance
12	Katlynn Buyck	Avangrid
13	Richie Kaur	NRDC
14	John McDermott	Rise Light & Power
15	Christopher Douglas	Environmental Investigation Agency
16	Kevin Hansen	Ørsted
17	Richard Voorberg	Siemens Energy North American
18	Jeff Morris	Schneider Electric
19	Billy Lao	DILO
20	Thomas Duerr	Siemens Energy Germany