



Mandatory Greenhouse Gas Reporting Rule: EPA's Response to Public Comments

Subpart DD: Electric Transmission and Distribution Equipment Use

FOREWORD

This document provides responses to public comments on the U.S. Environmental Protection Agency's (EPA's) Proposed Mandatory Greenhouse Gas Reporting Rule: Additional Sources of Fluorinated GHGs: Subpart DD, Electric Transmission and Distribution Equipment Use. EPA published a Notice of Proposed Rulemaking in the Federal Register (FR) on April 12, 2010 (75 FR 18652). EPA received comments on this proposed rule via mail, e-mail, and at a public hearing held in Washington D.C. on April 20, 2010. Copies of all comments submitted are available at the EPA Docket Center Public Reading Room. Comments letters and transcripts of the public hearings are also available electronically through <http://www.regulations.gov> by searching Docket ID EPA-HQ-OAR-2009-0927.

EPA prepared this document in multiple sections, with each section focusing on a different broad category of comments on the rule. In light of the large number of comments received and the significant overlap between many comments, this document does not respond to each comment individually. Rather, EPA summarized and provided a single response to each significant argument, assertion, and question contained within the totality of comments. Within each comment summary, EPA provides in parentheses one or more lists of Docket ID numbers for commenters who raised particular issues; however, these lists are not meant to be exhaustive, and EPA does not individually identify each and every commenter who made a certain point in all instances, particularly in cases where multiple commenters expressed essentially identical arguments.

EPA's responses to comments are generally provided immediately following each comment summary. In some cases, EPA provided responses to specific comments or groups of similar comments in the preamble to the final rulemaking. Rather than repeating those responses in this document, EPA has referenced the preamble.

Comments were assigned to specific section of this document based on an assessment of the principal subject of the comment; however, some comments inevitably overlap multiple subject areas.

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1. Definition of the Source Category

1.1 Definition of a Facility—Track 1

Relevant Bin Number 4.1.1

Comment Summary 1.1-a: Two commenters (0407 and 0639) supported the concept of a reporting facility as an entire transmission and distribution system rather than an individual building, such as a gas-insulated substation.

Response 1.1-a: EPA appreciates the commenters' support of the proposed definition of a facility.

Comment Summary 1.1-b: One commenter (0608) sought clarification on how to determine the boundary of a facility if numerous electric power retail companies have a common owner. The commenter asked if the common owner should be considered one facility, or whether each individual electric power retail company should be considered a separate facility.

Response 1.1-b: The final rule clarifies that the facility boundary is based on a physical collection of equipment that functions as an integrated unit between two specified points: (1) the point(s) at which electric energy is obtained by the facility from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner and (2) the point(s) at which the customer(s) or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. Therefore, numerous electric power retail companies would only be considered one reporting facility if they are electrically linked through transmission and distribution lines in a continuous manner without being separated by electric power entities with a different owner.

It should also be noted that for purposes of the reporting threshold, if distinct facilities have a common owner and the total nameplate capacity of all the facilities with the common owner exceeds 17,820 pounds, then each facility must report emissions even if the nameplate capacity of an individual facility is less than 17,820 pounds.

Comment Summary 1.1-c: Commenters 0624, 1021, and 1080 stated that reporting should be corporate-level to ensure that the largest potential emitters of SF₆ are covered by the rule as well as to ensure accurate reporting. The commenters argued that corporate-level reporting will minimize the burden among owners and operators of electric power systems in determining what collections of electrical equipment constitute each electric power system.

Response 1.1-c: See the Subpart DD Final Preamble, Section III, "Summary of Comments and Responses" for EPA's response on corporate-level reporting.

1.2 Definition of a Facility—Track 2

Relevant Bin Number 4.1.1

Comment Summary 1.2-a: EPA requested comment on whether it would be appropriate to use the Regional Greenhouse Gas Initiative (RGGI) definition of a transmission and/or distribution entity for assistance in defining an electric power system facility. RGGI defines a transmission and/or distribution entity as "the assets and equipment used to transmit and distribute electricity from an electric generator to the electrical load of a customer. Includes all related assets and equipment located within the service territory of the entity, defined as the service territory of a load-servicing entity specified by the applicable state regulatory agency." Commenters 0075, 0086, 0088, 0109, and 0133 did not think the RGGI definition is appropriate for use in the definition of a facility for Subpart DD. Commenter 0075 considered the EPA definition more "specific and definitive." Commenter 0088 considered EPA's proposed definition to be generally more consistent with national industry standards than the RGGI definition.

Response 1.2-a: EPA appreciates the comments regarding the appropriateness of the RGGI definition of a transmission and/or distribution entity. EPA did not incorporate the RGGI definition into the definition of a facility for this subpart due to the ambiguity involved with the definition and the lack of support of the RGGI definition among commenters.

Comment Summary 1.2-b: Six commenters (0075, 0088, 0097, 0098, 0115, 0128) generally agreed with the system-wide facility concept contained in EPA's proposed definition of an electric power system facility. Commenter 0075 noted that it is reflective of the way the commenter has reported emissions under EPA's SF6 Emission Reduction Partnership for Electric Power Systems.

Response 1.2-b: EPA has retained the system-wide facility concept as part of the facility definition for this subpart.

Comment Summary 1.2-c: EPA proposed the following as part of the language relating to the definition of a facility: "Reporting by the electric power system would comprise all gas-insulated equipment located between the point of generation and the point at which the ultimate customer receives the electricity." Commenters 0075 and 0088 requested that the reference to "ultimate" customer be removed from the language since many utilities and electric power providers do not provide electric power directly to the ultimate consumer, but rather to a different utility or electric power provider. Commenter 0075 explained that removing the word "ultimate" from the physical description of an electric power system would clarify that there might be numerous distinct facilities from the point at which electric power is generated to the point at which electric power is provided to the ultimate consumer.

Response 1.2-c: EPA acknowledges that the proposed language would not be appropriate for cases in which an electric power entity provides electricity to another electric power entity rather than the ultimate retail customer. EPA has removed reference to the "ultimate customer" in the final rule and has clarified that the downstream boundary of the facility is "the point(s) at which the customer(s) or another electric power transmission or distribution entity that does not have a common owner receives the electric energy."

Comment Summary 1.2-d: Commenter 0083 stated that the proposed language describing electric power systems as equipment "operated as an integrated unit by one electric power entity or several entities that have a single owner" could be interpreted to mean that one parent company would have to report emissions for all its subsidiaries, which would not be desirable for the commenter given its ownership structure. The commenter explained that it is a subsidiary company with its own board of directors that is distinct from its parent company's other subsidiaries, and thereby thought each subsidiary should be allowed to report separately.

Response 1.2-d : The final rule clarifies that the facility boundary is based on a physical collection of equipment that functions as an integrated unit between two specified points: (1) the point(s) at which electric energy is obtained by the facility from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner and (2) the point(s) at which the customer(s) or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. Therefore, numerous subsidiaries would only be considered one reporting facility if they are electrically linked through transmission and distribution lines in a continuous manner without being separated by electric power entities with a different owner.
. See Subpart DD Final Preamble, Section III, "Summary of Comments and Responses" for EPA's additional discussion of the final Definition of a Facility language.

Comment Summary 1.2-e: Seven commenters (0083, 0087, 0097, 0098, 0101, 0127, 0133) argued that reporting should be based on the ownership of equipment (frequently referred to in comments as corporate-level reporting) to ensure accurate reporting, reduce ambiguity regarding what collections of equipment constitute facilities, and reduce the overall burden of reporting. Commenters 0083, 0087, and

0133 considered the term “operated as” in the proposed definition of a facility to be ambiguous since the operation of electrical equipment can mean many different things. Commenter 0083 thought that “operated as” could be interpreted to mean the performance of maintenance activities and argued that the entity responsible for performing maintenance activities on equipment should not be responsible for reporting emissions from that equipment since the entity has no power to make decisions regarding the purchase or replacement of the equipment.

Commenter 0087 acknowledged that corporate-level reporting can lead to ambiguities if there are multiple owners of equipment. To avoid this potential ambiguity in multiple-owner situations, commenters 0087 and 0101 suggested that reporting be based on whichever owner is responsible for the maintenance of the equipment.

Commenter 0133 stated that “corporate reporting would allow an entity to determine quickly and accurately what equipment should be counted toward the reporting threshold (that which it owns) and then report fully the emissions related to that equipment (based on service and maintenance records). It also would eliminate any confusion that may be caused by introducing operational relationships into the definition of ‘electric power system’.”

Commenter 0133 agreed with EPA that the entity responsible for equipment service and maintenance activities is most capable of accurate data collection and compiling, but the commenter argued this notion supports reporting based on ownership since the owners have the obligation to service and maintain their equipment.

Response 1.2-e: See the Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for EPA’s response on corporate-level reporting. To avoid confusion, EPA has removed the term “operated as” from the definition of facility. The definition of facility in the final rule refers to equipment that “is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner).” The phrase “owned, serviced, or maintained” as used in the definition of facility is not intended to allow or suggest segmenting portions of a system for the purpose of avoiding General Provisions (40 CFR 98.2 - 98.4), the reporting requirements that are applicable to all owners and operators associated with the facility.

Comment Summary 1.2-f: Commenters 0127 and 0133 interpreted the definition of a facility proposed by EPA to mean that a single facility constitutes all generation, transmission, or distribution assets that are operated as an integrated unit even if different companies are responsible for the generation, transmission, and distribution of the electricity. The commenters expressed concern that the proposed facility definition will lead to confusion and inaccurate emission reports if numerous companies have to share data in order to calculate emissions.

Response 1.2-f: To avoid confusion, EPA has removed the term “operated as” from the definition of facility. Instead, the definition refers to equipment that “functions as” an integrated unit, and that is owned, serviced, or maintained by a single electric power transmission or distribution entity. The final rule clarifies that the facility boundary is based on a physical collection of equipment that functions as an integrated unit, that is owned, serviced or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner), and that is located between two specified points: (1) the point(s) at which electric energy is obtained by the facility from an electricity generating unit or a different electric power transmission or distribution entity that does not have a common owner and (2) the point(s) at which the customer(s) or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. Therefore, numerous electric power retail companies would only be considered one reporting facility if they are electrically linked through transmission and distribution lines in a continuous manner without being separated by electric power entities with a different owner.

Comment Summary 1.2-g: Commenter 0096 requested that reporting be required by whichever entity directly owns and operates a collection of equipment. The commenter elaborated as follows, “For example, at a power plant where most of the switchyard is owned by a local distribution company (LDG), the LDG would report on the equipment that it operates as part of its overall T&D system SF₆ reporting.”

To the extent that the power plant operator manages any SF₆ containing equipment at the same power plant, the power plant operator would report SF₆ emissions from any equipment that it manages at the facility as part of its power plant facility-level reporting. However, the power plant operator would only report SF₆ emissions for equipment it owns as part of its facility report if the facility would otherwise exceed the 25,000 tonne Mandatory Reporting Rule (MRR) reporting threshold for the facility.”

Response 1.2-g: The commenter’s proposal may be suitable for certain ownership and operational relationships. However, the definition of a facility for this subpart must be applicable to scenarios in which there are multiple owners or complex ownership and operational relationships involved with specific pieces equipment. EPA’s final definition of a facility is based on a physical collection of equipment located between two specified points, where the equipment is owned, serviced, or maintained by a single electric power entity (or multiple entities with a common owner). Per the General Provisions (40 CFR 98.2 - 98.4), the reporting requirements are applicable to all owners and operators associated with the facility. See Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for additional discussion of the final Definition of a Facility language.

Comment Summary 1.2-h: Commenter 0098 recommended the following edits to EPA’s proposed facility definition:

EPA proposes to define the facility as follows: For purposes of this subpart, “facility” means an electric power system. Electric power system means the collection of SF₆- and PFC-insulated equipment linked through electric power transmission or distribution lines and operated as an integrated unit by one electric power entity ~~or several entities that have a single owner.~~

The commenter did not indicate why this edit should be made.

Response 1.2-h: One of EPA’s intentions of the proposed language was to avoid situations where a parent company divides several subsidiary companies into separate facilities even though the subsidiary companies are located next to each other and operate electrical equipment that is interconnected by lines. Therefore, EPA used language to clarify that in this scenario, the electrical equipment throughout the subsidiary companies would be considered as part of a single facility. See Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for additional discussion of the final Definition of a Facility language.

Comment Summary 1.2-i: Commenter 0101 indicated that EPA assumed a single electric power company always owns and operates all transmission and distribution equipment from the point of generation to the point at which customers ultimately receive electricity. The commenter noted that in some cases the owner of a piece of equipment is different from the operator of that piece of equipment, and the commenter is concerned that under the proposed definition of a facility, double-counting of emissions might occur from both the owners and operators of a piece of equipment reporting SF₆ emissions from the equipment.

Response 1.2-i: EPA acknowledges that the transmission and distribution equipment from the point of generation to the point at which customers ultimately receive electricity is not always owned and operated by a single electric power entity. EPA has clarified the boundaries of a Subpart DD facility in the final rule, and notes that there may be more than one distinct electric power system facility located from the point at which electricity is generated to the point at which the ultimate customer receives the electricity. See Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for additional discussion of the final Definition of a Facility language and clarification of reporting obligations.

Comment Summary 1.2-j: Commenter 0101 argued that the following activities listed in the Monitoring and QA/QC requirements of 40 CFR §98.304 are not possible for an owner that does not operate or maintain a substation to conduct: (1) Ensure purchases from bulk gas distributors, Original Equipment Manufacturers, and off-site recycling are accounted for, (2) Ensure all cylinders are consistently weighed on certified scales, and (3) Provide proof that all scales are certified using NIST-traceable standards.

Response 1.2-j: Per the General Provisions (40 CFR 98.2 - 98.4), the reporting requirements are applicable to all owners and operators of a facility, but is up to the owners and operators to designate a representative who will be responsible for certifying, signing, and submitting GHG reports to EPA. This means that the owner, operator, or some combination of the two can conduct the monitoring and QA/QC measures listed in 40 CFR §98.304 for the facility.

Comment Summary 1.2-k: Commenter 0109 supported the “operation” differentiation between electric power systems in the definition of a facility proposed by EPA and noted that it will be reporting on an “operation basis” under other subparts of the rule.

Response 1.2-k: EPA appreciates the commenter’s support of the proposed definition of a facility. EPA did propose defining the facility boundaries on the basis of operation. However, due to the myriad relationships and operational structures among owners and operators of electric power systems as well as other issues raised by commenters, it was necessary to revise the facility definition to no longer differentiate facility boundaries solely on the basis of equipment operation. The definition now refers to equipment that is “owned, serviced, or maintained by” a single entity. To avoid confusion, EPA has removed the term “operated as” from the definition of facility. The definition of facility in the final rule refers to equipment that “is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner).” The phrase “owned, serviced, or maintained” as used in the definition of facility is not intended to allow or suggest segmenting portions of a system for the purpose of avoiding General Provisions (40 CFR 98.2 - 98.4), the reporting requirements that are applicable to all owners and operators associated with the facility. See Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for additional discussion of the final Definition of a Facility language.

Comment Summary 1.2-l: Commenter 0115 requested flexibility in the EPA proposed definition of a facility “with respect to ownership, geographic service territories and business structure.” The commenter explained that there are multiple transmission assets located geographically within the boundaries of its service territories that it operates and maintains but does not own. The commenter would like the definition to “allow for segregation of assets by ownership or by operating entity in the event future operating practices and agreements with these third parties provide for a mechanism to segregate the affects these third-party assets have on [the commenter’s] overall emissions.”

Response 1.2-l: EPA acknowledges that flexibility in the definition of an electric power system facility to segregate electrical equipment based on either ownership or operational control might provide convenience to certain SF₆ equipment users under certain conditions. However, it is essential that the definition of a facility for this subpart clearly identify which collections of equipment constitute a facility and the points at which a facility begins and ends. This is essential because given the complex owner and operator relationships in the industry, allowing flexibility to define a facility differently depending on the situation encountered would greatly increase the risk of double-counting, underreporting, and/or confusion regarding the boundaries of a facility. To avoid confusion, EPA has removed the term “operated as” from the definition of facility. The definition of facility in the final rule refers to equipment that “is owned, serviced, or maintained by a single electric power transmission or distribution entity (or multiple entities with a common owner).” The phrase “owned, serviced, or maintained” as used in the definition of facility is not intended to allow or suggest segmenting portions of a system for the purpose of avoiding General Provisions (40 CFR 98.2 - 98.4), the reporting requirements that are applicable to all owners and operators associated with the facility. See Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” for additional discussion of the final Definition of a Facility language.

Comment Summary 1.2-m: Commenter 0119 suggested that “EPA clarify the applicability of the rule to clarify that ‘electric power systems’ are owned by electric distribution companies and that these companies would be responsible for reporting any emissions.”

Response 1.2-m: Per the General Provisions (40 CFR 98.2 - 98.4), the reporting requirements are applicable to all owners and operators of a facility, and it is up to the owners and operators to designate a representative who will be responsible for certifying, signing, and submitting GHG reports to EPA. Furthermore, the owners of electric power system facilities are not limited to electric distribution companies; there are myriad types of entities that can own an electric power system facility. For more information on the types of entities that can be considered owners of electric power system facilities as well as which entities are responsible for reporting emissions, please see Subpart DD Final Preamble, Section III, “Summary of Comments and Responses.”

Comment Summary 1.2-n: Commenter 0120 suggested that the system boundary in the final rule include all equipment operated by a single owner, regardless of whether or not the equipment is electrically linked through lines. The commenter noted that it currently has a single unified information collection protocol for the three “affiliates” it operates even though the “affiliates” are not linked through lines. The commenter stated that having to report emissions for the three affiliates separately would be an incremental burden since it would necessitate establishing multiple information collection systems.

Response 1.2-n: EPA acknowledges that in certain cases, it may be more convenient for affiliate companies to compile a single set of emission estimates and submit one report to EPA through a common owner. However, EPA examined a variety of reporting levels for Subpart DD and concluded that the facility definition must be based on a physical collection of equipment to avoid issues associated with corporate-level reporting (or reporting based solely on a common ownership). These issues include the complexity of corporate ownership structures, the potential for double-counting emissions when there are multiple owners associated with an electric power system, and the challenges of tracking and monitoring emissions for a facility over time if there are changes in the ownership. For more information on the EPA’s examination of options for defining a facility for Subpart DD, see Subpart DD Final Preamble, Section III, “Summary of Comments and Responses” as well as the TSD, located here: www.epa.gov/climatechange/emissions/ghgrulemaking.html

Comment Summary 1.2-o: Commenter 0133 argued that the joint obligation for reporting between owners and operators in §98.3 will be confusing in practice if applied to Subpart DD since owners and operators are not equally capable of measuring emissions or defining clear facility boundaries for the source category. The commenter stated that in order to avoid confusion and inaccurate emission reports, EPA needs to clarify “how this joint reporting obligation would be structured.”

Response 1.2-o: The details of the joint reporting obligation between owners and operators are provided in the General Provisions (40 CFR 98.2 - 98.4). According to the General Provisions, the reporting requirements are applicable to all owners and operators of a facility. But it is up to the owners and operators to designate a representative who will be responsible for certifying, signing, and submitting GHG reports to EPA. Therefore, the owners and operators of a facility can coordinate in measuring emissions and confirming the facility boundary if they are indeed “not equally capable of measuring emissions from a facility or defining clear facility boundaries.”

Comment Summary 1.2-p: Commenter 0088 was supportive of how EPA’s proposed definition of a facility recognized the physical interconnection and operational interdependence of system components, but was concerned about EPA’s assertion that “regardless of the role that operation or ownership plays in the final source category definition, the obligation to report will apply to both owners and operators.” The commenter thought this could lead to double-counting of emissions. Commenter TRANS-DC-04 (2010) also expressed concern that holding both owners and operators of electric power systems responsible for SF₆ may lead to double-counting of emissions.”

Response 1.2-p: The details of the joint reporting obligation between owners and operators are provided in the General Provisions (40 CFR 98.2 - 98.4). According to the General Provisions, the reporting requirements are applicable to all owners and operators of a facility. But it is up to the owners and operators to designate a representative who will be responsible for certifying, signing, and submitting GHG reports to EPA. Since the designated representative is selected by an agreement binding on *all* the

owners and operators of the facility, then the designated representative should be fully capable of ensuring that the facility emissions were measured properly and that emissions were not double-counted.

Comment Summary 1.2-q: Commenter TRANS-DC-04 (2010) thought that in certain cases, the myriad of ownership and operational relationships for electric power systems across regions and companies might not be “amenable” to reporting at the system-wide level.

Response 1.2-q: The mass-balance monitoring methods for subpart DD, which are based on the IPCC Tier 3 method of measuring emissions from electric power systems, require monitoring of emissions for an entire electric power system and are not conducive for measuring emissions for a specific piece of equipment or single substation within a larger electric power system. Given the myriad ownership and operational relationships in the electric power system industry, EPA acknowledges that coordination might be required among distinct owners and operators in order to ensure that emissions are measured accurately and reliably. For more information on EPA’s rationale for system-wide reporting, please see the TSD located here: www.epa.gov/climatechange/emissions/ghgrulemaking.html

1.3 All-in Provision and Boundary between Electricity Generation Facility and T&D Facility—Track 1

Relevant Bin Number 4.1.1.1

Comment Summary 1.3-a: Twelve commenters (0407, 0455, 0584, 0597, 0618, 0624, 0661, 0725, 1021, 1080, 1566, 1741) requested clarification and/or expressed concern over the general reporting requirement located in §98.2(a)(2) that any subpart D electric generating unit facility above the reporting threshold would be required to report emissions for all source categories that are located at the facility, including SF₆ emissions under subpart DD.

Five commenters (0407, 0584, 1021, 1080, 1741) stated that including SF₆ emissions from electric equipment in subpart D facility emission reports could lead to double-counting of emissions since facilities in subpart DD might encompass electrical equipment that is located at a subpart D facility.

Response 1.3-a: Based on the concerns expressed by commenters, EPA has made alterations to the Reporting Threshold language in §98.301 so that a subpart D electric generating unit facility would only be required to report emissions associated with the Electrical Transmission and Distribution Equipment Use source category if the amount of SF₆ and PFC-insulated equipment within the subpart D facility exceeds the reporting threshold for subpart DD, which is 17,820 lbs of SF₆ and PFC nameplate capacity. EPA expects that in general, the subpart D facility will not independently meet this threshold and thus is unlikely to incur the reporting obligation and the risk of double-counting emissions. For more information, please see the Subpart DD Final Preamble, Section III, “Summary of Comments and Responses.”

Comment Summary 1.3-b: Seven commenters (0407, 0455, 0597, 0624, 1021, 1080, 1741) argued that it would be very difficult to accurately measure SF₆ emissions from only electrical equipment at a electric generating unit that is part of an integrated utility since the SF₆ stocks that services this equipment are often stored and tracked in a central storage area for the integrated utility. In this scenario, the SF₆ stored at the central storage areas would be used to service equipment throughout the integrated transmission and distribution system, not just a single electric generating unit. These commenters noted that the mass-balance is only an efficient and effective method for measuring emissions at the system-level and not for a single physical location such as an electric generating unit facility.

Response 1.3-b: As explained in section §98.301-Reporting Threshold of the final rule, Subpart DD emissions occurring at an electric generating unit (EGU) facility would only need to be reported if the nameplate capacity of the SF₆ and PFC insulated equipment at the facility exceeds the subpart DD threshold of 17,820 pounds of nameplate capacity. EPA does not expect that many EGU facilities will have this much SF₆ and PFC-insulated equipment. If an EGU does exceed the subpart DD threshold,

then conducting mass-balance emissions monitoring at this facility, as required by subpart DD, should be a similar process and similar burden as conducting the mass-balance monitoring methods for non-EGU facilities. For more information, please see the Subpart DD Final Preamble, Section III, “Summary of Comments and Responses.”

Comment Summary 1.3-c: Commenters 0624, 1021, and 1741 specifically requested clarification on reporting responsibilities between different owners in certain cases where substations are “co-located” with electricity generation facilities. As explained by commenter 0624, “If co-located substations and other supporting infrastructure included SF₆-containing equipment owned by the same electric generating facility owner, then it appears that the proposed rule would require any SF₆ emissions to be included in the reporting by the generating facility owner. However, if the substation and other supporting infrastructure is owned by another entity (i.e., not the owner of the generating facility), it is unclear who would be responsible for reporting any SF₆ emissions emanating from the co-located substations and other supporting structure, the owner of the generating facility or the owner of the SF₆ -containing equipment.”

Response 1.3-c: According to the General Provisions (40 CFR 98.2 - 98.4), the reporting requirements are applicable to all owners and operators of a facility (although the actual emission report is certified, signed, and submitted to EPA by the representative designated by the owners and operators of the facility). If the SF₆ insulated equipment co-located at an electricity generating unit is part of a subpart DD electric power system facility, then the owners and operators of the electric power system facility would report emissions for that equipment. In the case of an electricity generating unit that must report subpart DD emissions for SF₆ -insulated equipment co-located at the facility (note that this would only be required if the EGU had more than 17,820 pounds of SF₆ and PFC insulating equipment located within its facility), the emissions report for the EGU facility would need to include emissions for any SF₆ insulated equipment located within the facility, regardless of whether the owners and operators of the EGU are the same as the owners and operators of the SF₆-insulated equipment. See subpart A §98.2-98.4 and subpart D §98.301 for more information.

Comment Summary 1.3-d: Commenters 0624, 0479, and 0547 sought clarification on whether a Subpart DD facility that falls above the threshold would be required to report emissions from a source category that is located at the same site as the Subpart DD facility. Commenters 0624 and 0479 asked whether a Subpart DD facility would be required to report emissions from combustion sources on site if under the same ownership control and, if so, whether there would be any emissions or heat input size threshold for determining applicability. Commenters 0624, 0479, and 0547 recommended that portable equipment or generating units designated as emergency generators should be exempted from Subpart DD facility emission reports.

Response 1.3-d: The *facility* definition for subpart DD (see 40 CFR §98.307) is unique from the definition of a facility used in other subparts (see General Provisions, 40 CFR 98.2 - 98.4) in that the electric power system facility only encompasses electric transmission and distribution equipment and servicing inventory insulated with or containing SF₆ or PFCs. The electric power system facility does not include co-located emission sources. However, per General Provisions 40 CFR 98.2 - 98.4, the facility must report for all applicable source categories listed in Table A—3 and Table A—4 of subpart A that are triggered by the facility..

1.4 All-in Provision and Boundary between Electricity Generation Facility and T&D Facility—Track 2

Relevant Bin Number 4.1.1.1

Comment Summary 1.4-a: Seven commenters (0088, 0096, 0097, 0126, 0127, 0133, TRANS-DC-04 (2010)) requested clarification and/or expressed concern over the general reporting requirement located in § 98.2(a)(2) that any subpart D electric generating unit facility above the reporting threshold would be

required to report emissions for all source categories that are located at the facility, including SF₆ emissions under Subpart DD. The commenters argued that this would lead to ambiguities in reporting responsibilities and impose an unreasonable burden while only capturing a relatively small amount of emissions.

Commenters 0096 and 0126 requested a de minimis exception for SF₆ -insulated equipment for electric generating unit emission reports. Commenter 0096 stated "in the case of power plants, that a de minimis exemption from SF₆ reporting should be explicitly allowed for the power plant facility since the vast majority of SF₆ is typically used in T&O applications that will be reported on by LOCs as part of their system-wide reporting of SF₆. As an alternative, simplified engineering estimation techniques should be allowed at facilities with de minimis SF₆ emissions. Overall, in the context of the magnitude of CO₂ emissions from power plants, SF₆ emissions are negligible. As an example, we estimate that SF₆ emissions at the largest fossil plant operated by [the commenter] that SF₆ emissions were less than 0.1% of the facility's total GHG emissions in 2008." Commenter 0126 recommended either a complete de minimis exception or a separate threshold of 17,820 lbs of SF₆ nameplate capacity at the electric generating facility to trigger SF₆ emissions reporting.

Commenter 0097 cited the complexity of electric generation and electricity transmission ownership structures as a major impediment to accounting for SF₆ emissions from switchyards at electricity generation facilities and recommends the following: "1. Require transmission and distribution entities to report SF₆ emissions for the equipment that it owns within the switchyard, and 2. Require electric generation facility entities to report SF₆ emissions for the equipment that it owns within the switchyard. However, EPA should identify SF₆ emissions as de minimis compared to stationary combustion greenhouse gas emissions on site, and permit the use of alternative calculation methodologies (such as engineering calculations) to estimate the emissions of SF₆ containing equipment rather than the mass balance methodology."

Commenter 0098 supported the general recommendations from commenter 0097, but offered slightly different recommendations: "1. Require transmission/distribution and electric generating entities to separately report SF₆ emissions for the equipment that they own within the switchyard, and 2. Allow electric generation facility entities to report SF₆ emissions for the equipment that it owns within the switchyard/contiguous power block with utilization of alternative calculation methodologies (such as engineering calculations) to estimate the emissions of SF₆ containing equipment rather than the mass balance methodology. EPA should identify SF₆ emissions as de minimis compared to stationary combustion greenhouse gas emissions on-site. (Also, keep the 17,820 pound minimum by reporting entity.) Reporters should be allowed the option to report per mass balance where the incoming inventory and the returning bottles are weight certified by the suppliers/recyclers. Suppliers of equipment or bottles must supply certified gas weight to the purchaser 3. Electric generation facilities and T&D entities that are owned by the same parent company but operated as distinct companies should be allowed to report at the distinct company level."

Response 1.4-a: EPA agrees that reporting subpart DD emissions as part of subpart D facility emission reports would, in most cases, only capture emissions that are minor and/or already captured as part of a subpart DD facility emission report. However, in some cases there might be considerable SF₆ emissions that occur at an EGU facility that would not be accounted for if subpart D facilities were not required to report any subpart DD emissions that occur. To balance the risk of unaccounted emissions with the burden associated with reporting subpart DD emissions for distinct EGU facilities, EPA is only requiring that subpart D facilities include subpart DD emissions in their emission reports if the total nameplate capacity of SF₆ and PFC containing equipment located within that facility exceeds 17,820 pounds.

In terms of the reporting responsibility for SF₆ -insulated equipment located at an EGU facility, the General Provisions (40 CFR 98.2 - 98.4) dictate that the reporting requirements are applicable to all owners and operators of a facility (although the actual emission report is certified, signed, and submitted to EPA by the representative designated by the owners and operators of the facility). If the SF₆ insulated equipment co-located at an electricity generating unit is part of a subpart DD electric power system facility, then the owners and operators of the electric power system facility would report emissions for that equipment. In the case of an electricity generating unit that must report subpart DD emissions for SF₆ -

insulated equipment co-located at the facility (i.e., an EGU with more than 17,820 pounds of SF₆ and PFC insulating equipment located within its facility), the emissions report for the EGU facility would need to include emissions for any SF₆ insulated equipment located within the facility, regardless of whether the owners and operators of the EGU are the same as the owners and operators of the SF₆ -insulated equipment. See subpart A §98.2-98.4 and subpart D §98.301 for more information.

1.5 Installation of Electrical Equipment at Electric Power Systems—Track 2

Relevant Bin Number 4.1.3

Comment Summary 1.5-a: Five commenters (0081, 0094, 0096, 0097, 0125) recommended that a Subpart DD facility should not be responsible for emissions from new equipment being installed at the Subpart DD facility until the equipment has been transferred to the equipment user by the electrical equipment manufacturer. Commenter 0081 recommended that the point of transfer be when the equipment has been “received, inspected, and accepted by the utility and the title has been transferred.” Commenter 0096 stated that “regarding GIS equipment assembled on-site by a manufacturer, [the commenter] requests that the manufacturer be responsible for any SF₆ reporting up until the point in time that the end user takes final acceptance of the equipment (i.e., at the point in time when the end user confirms that all contract agreements have been met and takes “final delivery” of the completed GIS equipment). For shipped, pre-assembled GIS equipment, the end user should take responsibility for SF₆ reporting at the point in time at which the title for the equipment transfers to the end user.” Commenter 0125 recommends the point of transfer be defined as “the point when the equipment warranty is activated or when the title is transferred or another such point described in the contract between the customer and the equipment manufacturer or third party.”

Response 1.5-a: EPA has confirmed that some equipment is not installed by the purchaser of the equipment. For example gas insulated substations are typically assembled by the manufacturer onsite and it can take several months to complete assembly, inspection, and final acceptance and commissioning. For this reason, gas accounting is best done by the entity that is commissioning the equipment and handling the gas that will be installed into the equipment. EPA agrees with the commenters that the Subpart DD facilities should not be responsible for reporting emissions from new equipment being installed (or from the installation process itself) at the Subpart DD facility until the title to the equipment has been transferred to the equipment user by the electrical equipment manufacturer. EPA has included the following language in Subpart DD §98.302—GHGs to report: “For acquisitions of equipment containing or insulated with SF₆ or PFCs, you must report emissions from the equipment after the title to the equipment is transferred to the electric power transmission or distribution entity.”

1.6 De Minimis Exemption for Sealed-pressure Equipment—Track 1

Relevant Bin Number 4.1.4

Comment Summary 1.6-a: Eight commenters (0407, 0479, 0547, 0624, 1021, 1080, 1569, 1741) requested clarification on whether there is a de minimis exception for hermetically sealed-pressure equipment that is not intended to be serviced during its lifetime. Seven commenters (0407, 0479, 0547, 0624, 1021, 1080, 1741) specifically argued for a de minimis exception in the context of the Data Reporting Requirement *Nameplate capacity of equipment containing SF₆*. Commenters 0407 and 1741 noted that a de minimis exception only for the total system-wide nameplate capacity reporting requirement would not exclude hermetically sealed-pressure equipment from being captured in the mass-balance emissions monitoring method since the system-wide nameplate capacity is not an input to the mass-balance equation.

Commenter 1569 argued for a general de minimis exception throughout Subpart DD. In addition to arguing for a de minimis exception for hermetically sealed-pressure equipment, commenter 1569 also argued that any equipment with less than 15 pounds of nameplate capacity should be exempted from all Subpart DD inventory and emission reporting requirements.

Commenter 1741 suggested that if there is no de minimis exception for hermetically sealed-pressure equipment, there should be an option for facilities to estimate the internal volume for a typical piece of

sealed-pressure equipment within different equipment categories, and then use the internal volumes to assume a maximum nameplate capacity amount for equipment within each category.

Response 1.6-a: EPA concurs that the burden associated with performing a bottom-up assessment to determine the nameplate capacity of each piece of sealed-pressure equipment within an electric power transmission and distribution facility is high when compared to the benefits of performing such an assessment. As a result, EPA has excluded sealed-pressure equipment from the data reporting requirement for total facility-wide nameplate capacity existing as of the beginning of the year. However, the potential for emissions from sealed-pressure equipment due to catastrophic events or equipment disposal still makes it important to document emissions from sealed-pressure equipment, especially for facilities that specialize in electricity distribution. EPA has clarified that SF₆ arriving inside newly acquired sealed-pressure equipment must still be included as part of the SF₆ acquisitions input of the mass-balance equation, and sealed-pressure equipment that is new or retired must still be considered as a change to the nameplate capacity in the mass-balance equation.

For the purpose of determining which equipment must be included in the overall nameplate capacity threshold, EPA considers it more appropriate to distinguish equipment based on whether it is hermetically sealed rather than whether it is above or below a specified nameplate capacity threshold (such as 15 pounds as suggested by commenter 1569). This is because it can be burdensome to obtain the exact nameplate capacity of relatively small distribution equipment whereas it is generally straightforward to determine whether the equipment is sealed-pressure equipment. Distinguishing equipment based on whether it is sealed-pressure or closed-pressure reduces the potential error associated with determining whether a piece of equipment should be included in the system-wide nameplate capacity estimate. Sealed pressure equipment generally contains anywhere from a few ounces to 15 pounds of SF₆.

1.7 De Minimis Exemption for Sealed-pressure Equipment—Track 2

Relevant Bin Number 4.1.4

Comment Summary 1.7-a: Ten commenters (0075, 0083, 0086, 0096, 0097, 0098, 0109, 0120, 0126, 0133) recommended a de minimis exception for hermetically sealed-pressure equipment in the Subpart DD source category. Commenters 0075 and 0083 noted that emissions from this type of equipment are very low—except in the case of catastrophic failure—and that the equipment does not typically require servicing or recharging of SF₆ over its operational lifetime.

Commenter 0075 asserted that “including this equipment in the definition of a ‘facility’ simply complicates reporting and verification with essentially no added benefit or value to the reporting rule or the compilation of total SF₆ emissions.”

Since hermetically sealed-pressure equipment is non-serviceable, Commenter 0083 recommended excluding the equipment by using the following language in §98.302—GHGs to Report: “You must report total SF₆ and PFC emissions (including emissions from fugitive equipment leaks, installation, servicing, equipment decommissioning and disposal, and from storage cylinders) from the following types of *serviceable* equipment: (a) Gas-insulated substations (b) Circuit breakers (c) Switchgear (d) Gas-insulated lines (e) Electrical transformers.”

Commenter 0086 recommended three options for reducing the burden associated with inventorying hermetically sealed-pressure equipment for the §98.302 Data Reporting Requirement for system-wide nameplate capacity of equipment containing SF₆. The three recommended options provided by commenter 0086 were as follows: “(1) establish a de-minimus capacity for specific equipment below which the equipment would be exempt from the inventory requirements, (2) clarify that, after an initial inventory, smaller pieces of equipment do not need to be included in annual inventories, or (3) for smaller equipment, such as switches, allow affected entities the option of estimating the volume of small equipment and assuming a maximum nameplate amount of SF₆ for each one.”

Commenters 0094 and 0096 recommended excluding “small distribution equipment, containing less than 35 pounds of SF₆” from reporting. Commenter 0094 did not think that tracking small equipment is

efficient, and notes that while approximately 43% of its circuit breakers have less than 35 lbs of SF₆, distribution equipment accounts for only 2% of its total SF₆ emissions.

Commenter 0120 recommended a de minimis exception for equipment containing less than 15 pounds, or a complete reporting exception for all distribution equipment. Commenter 0133 recommended a de minimis exception for sealed-pressure equipment in the context of the §98.302 Data Reporting Requirement for system-wide nameplate capacity of equipment containing SF₆, and noted that this would not exclude hermetically sealed-pressure equipment from being captured in the mass-balance emissions monitoring method since the system-wide nameplate capacity is not an input to the mass-balance equation.

Response 1.7-a: Comments regarding the inclusion of sealed-pressure equipment in reporting requirements that were received after EPA's second Subpart DD proposal in 2010 were very similar to the comments received in EPA's first Subpart DD proposal from 2009. Please see Response 1.6-a or Subpart DD Final Preamble, Section III, "Summary of Comments and Responses" for EPA's response.

Comment Summary 1.7-b: Commenter 0096 thought that tracking of SF₆ from hermetically sealed-pressure equipment "would be better performed by upstream reporting of SF₆ by original equipment manufacturers (OEMs) where it would be much easier for OEMs to report a complete picture of small sealed equipment sold in the United States." Commenter 0097 supports this notion by stating that hermetically sealed-pressure equipment is a case where "upstream regulation of SF₆ is more effective, specifically at the original equipment manufacturer."

Response 1.7-b: Under Subpart SS—Electrical Equipment Manufacture and Refurbishment and Manufacturing of Electrical Components, OEMs must monitor emissions that occur from the manufacture of sealed-pressure as well as include sealed-pressure equipment in their data reporting requirements. However, this does not render the inclusion of sealed-pressure equipment in subpart DD reporting requirements unnecessary. The potential for emissions from sealed-pressure equipment due to catastrophic events or equipment disposal still makes it important for electrical equipment users to document emissions from sealed-pressure equipment, especially for Subpart DD facilities that are highly involved in electricity distribution. While emissions from sealed-pressure equipment must be monitored by Subpart DD facilities, EPA has removed the requirement for including sealed-pressure equipment as part of the data reporting requirement for total facility-wide nameplate capacity existing as of the beginning of the year.

Comment Summary 1.7-c: Commenter 0109 provided separate recommendations for three different types of sealed pressure equipment: transmission, distribution—SF₆ gas insulated, and distribution—SF₆ gas insulated/interrupting. The commenter thought it was reasonable for sealed-pressure transmission equipment to be included in reporting since the typical mass of SF₆ in each piece is between 5 and 18 pounds, and "there are facilities with a good quantity of devices (typically identified as circuit switchers) yielding significant nameplate capacity." The commenter stated that the "interrupting type" used in distribution applications has not been available in the U.S. for many years, and should only be included in reporting if this type of equipment represents more than 0.5% of total nameplate capacity. Lastly, the commenter stated that reporting on "distribution equipment with SF₆ as an insulating gas at very low pressure (typically less than 1 atmosphere)" would be a significant issue since this equipment holds such small amounts of SF₆ and the "administrative burden of estimating the nameplate capacity and tracking this distributed distribution equipment is extremely high."

Response 1.7-c: EPA appreciates the commenter's detailed delineation of the various types of sealed-pressure equipment as well as the commenter's thoughts on the appropriateness of including each type of sealed-pressure equipment in the Subpart DD reporting requirements. Due to the need for simplicity in knowing when to include a piece of equipment in the reporting requirements as well as the potential for emissions from sealed-pressure equipment used for electricity distribution, EPA is requiring that SF₆ arriving inside all types of newly acquired sealed-pressure equipment must still be considered as part of the SF₆ acquisitions input of the mass-balance equation, and all types of sealed-pressure equipment that is new or retired must be considered as a change to the nameplate capacity in the mass-balance equation. But in an effort to reduce the overall burden for affected entities, EPA has excluded all types of

sealed-pressure equipment from the data reporting requirement for total facility-wide nameplate capacity existing as of the beginning of the year.

1.8 Other (Definition of Source Category)

Relevant Bin Number: 4.1

Track 1

Comment Summary 1.8-a: Two commenters (0612, 1741) requested clarification on exactly what equipment is included in the Subpart DD source category. Commenter 0612 specifically requested clarification on whether scientific research equipment that contains SF₆ would be included in the electrical equipment regulated in Subpart DD. Commenter 1741 sought clarification on whether processes that use SF₆ as a testing gas would be regulated in Subpart DD.

Response 1.8-a: The Subpart DD source category includes all SF₆ and PFC insulated equipment and servicing inventory that is used within an electric power system. For a definition of the electric power system facility, see Subpart DD §98.307-Definitions. If the SF₆-insulated equipment and servicing inventory discussed by the commenters are used within an electric power system, then the equipment and servicing inventory would be covered under Subpart DD even if the equipment is not listed in §98.307-Definition of the Source Category.

The subpart A General Provisions (40 CFR 98.2 - 98.4) do exclude research and development activities from being covered by the source categories provided in the rule. Research and development activities are defined in subpart A as those activities conducted in process units or at laboratory bench-scale settings whose purpose is to conduct research and development for new processes, technologies, or products and whose purpose is not for the manufacture of products for commercial sale, except in a de minimis manner.

Track 2

Comment Summary 1.8-b: Commenter 0109 explained that the use of SF₆ in transformers is not widespread due to largely unsuccessful experimental trials using SF₆ insulated transformers. The commenter recommended that due to the high administrative burden for tracking and reporting this non-switchgear equipment, EPA establish “a minimum threshold on quantity to trigger reporting (i.e. 2 or more transformers).”

Response 1.8-b: Although the use of SF₆ in electric power transformers might not be as widespread as SF₆ use in other types of electrical equipment, there is still the potential for SF₆ emissions from SF₆-insulated transformers that are actively in use in the United States today. Furthermore, SF₆-insulated transformers are marketed to electrical equipment users in the United States, and it is unclear how much of this equipment will be utilized in the future. Due to the potential for emissions from electric power transformers currently in use as well as the potential for an increase in the use of these transformers, EPA is not providing reporting exceptions for SF₆-insulated transformers in the Subpart DD source category.

2. Reporting Threshold

Relevant Bin Number 4.2

Track 1

Comment Summary 2-a: Commenter 0413 questioned why EPA “appears to be requiring reporting of very minor SF₆ gas emissions when nameplate capacity exceeds 17,820 pounds, while a larger emission from electrical equipment with lower SF₆ nameplate capacity equipment will be unreported.”

Response 2-a: The 17,820 pound threshold was developed as a nameplate-based approximate of the 25,000 metric tons of CO₂ equivalent threshold. The nameplate capacity equivalent to a 25,000 metric ton of CO₂ equivalent was estimated using data reported by Partners in EPA’s SF₆ Emission Reduction Partnership for Electric Power Systems. EPA’s threshold analysis showed that the 17,820 pound nameplate capacity threshold would cover a small percentage of the total electric utilities in the United States (approximately 10%) while covering a large percentage of annual SF₆ emissions from electric power systems in the United States (approximately 83 percent). A nameplate capacity-based threshold was chosen because it allows potential sources to determine whether they are above or below the threshold much quicker than if the sources had to measuring emissions for this determination, thereby reducing the burden for the industry as a whole. While it is possible that a facility with less than 17,820 pounds of nameplate capacity has greater SF₆ emissions than a facility with greater than 17,820 pounds of nameplate capacity, EPA’s analysis concluded that nameplate capacity is strongly correlated with SF₆ emissions, more so than other parameters like high-voltage transmission miles. For more information on EPA’s threshold analysis, please see the TSD located here: www.epa.gov/climatechange/emissions/ghgrulemaking.html

Comment Summary 2-b: Commenters 0551, 0479, and 0547 agreed with the 17,820 pounds of SF₆ nameplate capacity threshold proposed by EPA for subpart DD. Commenters 0479 and 0547 noted that it allows potential sources to quickly determine whether they are covered.

Response 2-b: EPA appreciates the commenters’ support of the reporting threshold.

2.1 Threshold Analysis—Track 1

Relevant Bin Number 4.2.1

Comment Summary 2.1-a: Commenter 0413 stated that “no peer review scientific evidence exists to link nameplate capacity with actual SF₆ gas emissions or leakage.” The commenter disagreed with EPA’s method for calculating the 17,280 pounds of SF₆ nameplate capacity threshold for subpart DD. Specifically, the commenter considered the use of 1999 weighted utility leak rates of SF₆ to be inaccurate since utilities currently emit SF₆ at lower rates than they did in 1999. The commenter thought a “more rational assumption would be leakage rates well below 1% annually.”

Response 2.1-a: The relationship between nameplate capacity (how much SF₆ equipment contains when full) and the amount of SF₆ emissions that occur from equipment is not perfect; other factors such as equipment age and geographic location can have an impact on emissions. Nonetheless, EPA’s analysis showed that nameplate capacity is a strong correlate to SF₆ emissions and stronger than other potential correlates such as high-voltage transmission miles. EPA used 1999 weighted leak rates from 42 Partners of EPA’s SF₆ Emission Reduction Partnership for Electric Power Systems (1999 was the first year that the Partnership received data) because it is assumed that utilities who have not participated in the Partnership activities have not achieved the emission reductions from 1999-2008 that have been achieved by Partners, and it was essential that a non-emissions based threshold be conservative enough to ensure that sources emitting more than 25,000 metric tons of CO₂ equivalent were covered by the threshold. EPA does not consider the leakage rates of “well below 1% annually” to be a rational assumption since the average Partnership leak rates have never been below 4% since the inception of the Partnership.

2.2 Other (Reporting Threshold)

Relevant Bin Number 4.2.2

Track 1

Comment Summary 2.2-a: Commenter 0547 stated that “EPA should recognize that nameplate capacity inventory of in-service power systems is achievable for distinct facilities such as substation sites but would be virtually impossible for most power systems in the transmission and distribution lines system.”

Response 2.2-a: EPA is assuming the commenter is stating that it would be virtually impossible for an entity that transmits and distributes electricity to determine the entire system-wide nameplate capacity of all equipment within its electric transmission and distribution system. Contrary to the opinion of the commenter, many electric power entities in EPA’s SF₆ Emission Reduction Partnership for Electric Power Systems have provided system-wide nameplate capacity estimates to EPA for all SF₆-insulated equipment within the system except sealed-pressure equipment used for electricity distribution.

Comment Summary 2.2-b: Commenter 1569 remarked that “There are some pieces of electrical equipment that do not list the capacity of SF₆ in pounds on the nameplate, but rather give the pressure of SF₆ in the system in pounds per square inch (psig). It is our recommendation that the EPA establish a set protocol to use to calculate the weight of SF₆ in the equipment based on a set pressure and temperature when the weight is not explicitly listed on the nameplate.”

Response 2.2-b: EPA understands that in some cases the capacity of a piece of equipment is not clearly affixed to the equipment itself. In these cases, EPA recommends contacting the original manufacturer of the equipment, who should be able to provide the nameplate capacity of the equipment.

Track 2

Comment Summary 2.2-c: Commenter 0126 stated that “EPA is proposing to add electric power systems to the list of “all-in” source categories in 40 CFR 98.2(a)(1). The reason for EPA’s proposal is that electric power systems have a production capacity or gas consumption threshold rather than a CO₂e emission threshold. Sources in the “all-in” category must report emissions from all source categories for which calculation methodologies are provided in any subpart of the rule.” The commenter questions why EPA would abandon the concept of a CO₂e emission threshold for SF₆ and PFC that existed in 2009 (for the initial proposal) and instead “consider in its current proposal a production capacity or a gas consumption threshold.”

Response 2.2-c: The 17,820 pound nameplate capacity threshold for Subpart DD proposed in 2010 was the same threshold as proposed in 2009. The reason EPA is listing Subpart DD as an “all-in” category is because the threshold for Subpart DD is capacity-based rather than a CO₂e emission threshold. EPA notes that if a facility contains either an “all-in” source category listed in §98.2(a)(1) or a source category listed in §98.2(a)(2) that triggers the 25,000 metric ton of CO₂e threshold, the facility must report for all applicable source categories listed in Table A—3 and Table A—4 of subpart A that are triggered by the facility. But EPA also notes that an electric power system facility (as specifically defined in subpart DD) only encompasses electric transmission and distribution equipment and servicing inventory insulated with or containing SF₆ or PFCs; as such, the electric power system facility boundaries do not extend to emission sources other than the electric transmission and distribution equipment and servicing inventory.

3. GHGs to Report—Track 1

Relevant Bin Number 4.3

Comment Summary 3-a: Commenter 0661 asked “EPA to clarify whether PFCs are based on nameplates or whether mass balances can be used to assess PFC emissions.”

Response 3-a: PFC emissions must be measured in the exact same manner as SF₆ emissions using the mass balance monitoring methods provided in §98.302.

Comment Summary 3-b: Commenter 1569 noted that sometimes SF₆ is emitted or destroyed due to a lightning strike or fire, and recommended that EPA exempt emissions of SF₆ from a force majeure event, or at least establish a separate reporting section for those cases.

Response 3-b: Emissions of SF₆ that occur from a force majeure event are not exempted from the Subpart DD reporting requirements. The mass-balance monitoring methods required for Subpart DD are designed for a system-wide emissions measurement and are not conducive for use in measuring emissions occurring from specific events affecting specific pieces of equipment. The commenter should note that the purpose of the Mandatory Reporting Rule is to collect emissions data; the rule does not penalize facilities based on the quantity of their emissions.

4. Detailed GHG Emission Calculation Procedures/Equations

Relevant Bin Number 4.4

Track 1

Comment Summary 4-a: Commenter 0096 requested that EPA allow for flexibility for “higher quality, direct measurement data when available” in place of the proposed mass-balance method. The commenter stated that the objective of EPA’s proposed regulation can be “best accomplished by looking at the amount of SF₆ added to equipment which would equate to loss of SF₆ as emissions. For example, a company may have the actual weight of SF₆ added to equipment during the year based on actual SF₆ use which is a far better measure than simply looking at a mass balance for that year. The use of SF₆ may be determined by the weight difference between the amount SF₆ purchased (full bottle) and the remaining amount of SF₆ in an empty bottle of SF₆. In other cases a company may actually weigh the amount of SF₆ gas added to each piece of equipment.”

Response 4-a: The monitoring methods required by Subpart DD to measure SF₆ emissions are based on the IPCC Tier 3 method provided in the peer-reviewed *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. The Tier 3 mass balance method is considered by IPCC to be the most accurate method for measuring SF₆ emissions from electric power systems. Observing the amount of SF₆ that is charged into leaky equipment might be a useful tool for estimating emissions from a specific piece of equipment, but this direct measurement completely overlooks potential emissions that can occur elsewhere within an electric power system. For example, if a circuit breaker is decommissioned from the electric power system and the SF₆ within the breakers is vented into the atmosphere, the direct measurement method described by the commenter would not capture these emissions. Another example of emissions that would not be captured using the commenter’s method would be emissions that occur from a faulty cylinder valve.

Track 2

Comment Summary 4-b: Commenter 0096 argued that the mass-balance formula should not include annual nameplate capacity changes since these changes have “no bearing on the amount of SF₆ used during the year.” The commenter stated that instead of using the annual change in nameplate capacity, “a single system capacity value, such as the start of the year capacity, should be used in the SF₆ leak rate formula.”

Response 4-b: The annual nameplate capacity change is essential to include in the mass-balance monitoring methods for Subpart DD in order to measure emissions accurately. The mass-balance method works by systematically accounting for all SF₆ uses within the system. The amount of SF₆ that cannot be accounted for by the electric power system is equal to the emissions during the year since the unaccounted for SF₆ was not recorded as being used in a non-emissions context (such as the SF₆ being sent offsite for recycling or added to the storage inventory). Assessing the changes in nameplate capacity plays an integral role in accounting for SF₆ gas uses. For example, if new equipment is purchased during the year and the equipment is filled with SF₆ stocks from the user’s storage inventory, then the nameplate capacity of the new equipment must be used to reconcile the amount of SF₆ that was withdrawn from inventory, otherwise the amount of gas withdrawn from the storage inventory would register as an emission.

5. Monitoring and QA/QC Requirements

Relevant Bin Numbers: Section 4.5

Track 1

Comment Summary 5-a: Commenter 0608 stated that it is very difficult to weigh the amount of SF₆ in gas carts with on board storage vessels to an accuracy of 1 percent. This commenter's current practice is to estimate the weight of gas carts with onboard storage vessels using engineering calculations. Commenter 0608 noted that the "weighing method is based on a pivoting table single point measuring system and removal of individual cylinders from the gas carts is difficult." The commenter also explained that large carts are also used that have non-removable tanks on trailers; the proposed rule would require the weighing of the entire trailer, which would not yield an accurate measurement of gas because of "other materials such as compressor fluid and filter material which vary overtime." The commenter requested "a more pragmatic approach that tracks its current business practice: (1) cylinders should be weighed at the beginning and end of each reporting period; 2) the weight of SF₆ in gas carts with onboard storage vessels may be calculated using the current methodology; and (3) the manufactured supplied and installed weighing system in gas carts with onboard SF₆ cylinders should be permitted. By allowing [the commenter] to continue its current practices, US EPA would reduce the reporting burden and still achieve its aim of gathering emissions data." Commenter 0608 also explained that this approach is consistent with methods provided for under the Climate Registry Protocol for reporting SF₆ emissions from Electricity Transmission and Distribution systems.

Response 5-a: After assessing concerns among numerous reporters about the proposed scale accuracy requirements, EPA eased the scale accuracy requirement from a relative requirement of 1% of true weight to an absolute requirement of +/- 2 pounds of true weight. In addition, EPA has removed the proposed requirement in §98.306 (b)(2) for weighing storage cylinders as they enter and leave the storage inventory and clarified that the QA/QC requirements for scale accuracy and calibration apply only to cylinders returned to the gas supplier and cylinders weighed at the beginning and end of each year for the beginning and end-of-year storage inventory. EPA also examined the use of engineering calculations and alternative techniques other than scale weighing for determining SF₆ weight. Due to the unreliability of the most commonly used engineering calculations for weighing gas, such as using temperature and pressure readings, EPA determined that such methods are not suitable for the Subpart DD mass-balance monitoring methods, which rely on highly accurate inputs. For more information on the potential issues with using engineering calculations to determine the weight of SF₆, see comment response 5.1-b. For more information on the necessity for highly accurate mass-balance inputs, see comment response 5.2-a.

5.1 Frequency of Weighing Cylinders—Track 1

Relevant Bin Numbers: Section 4.5, 4.5.1, and 4.5.3

Comment Summary 5.1-a: Ten commenters (0455, 1021, 0608, 0624, 0618, 1566, 0902, 0479, 0547, 1645) disfavored EPA's proposed requirement of weighing gas cylinders each time they leave and enter storage. Commenter 1021 noted that EPA does not explain what purpose weighing cylinders leaving and entering storage in addition to the weighing of cylinders at the beginning and the end of every year would serve.

Commenter 0455 asserted that "weighing cylinders twice each time they are used, 'as they are leaving and entering storage,' would result in a significant increase in worker hours." Commenters 0455, 0624, 0618, and 1566 suggested that SF₆ cylinders could be monitored by taking initial measurement of SF₆ stored in containers, combined with the submission of records tracking subsequent SF₆. This approach, they stated, would be less costly than monitoring requirement proposed in §98.304(b)(2).

Commenters 0479 and 0547 are concerned about the potential administrative burden and health and safety issues associated with frequent cylinder weighing by substation personnel, and preferred a standardized approach that relies on SF₆ vendors and recyclers to provide weighing services of the delivered cylinders and residual gas upon return of the cylinder. These commenters believed that SF₆

vendors and recyclers are better prepared to report this information, as they already employ procedures to weigh cylinders using scales that are routinely maintained and calibrated.

Commenter 0902 noted that the “rule as written will require employees to manually lift and weigh each tank of SF₆ in order to gather the information needed in the reporting process. Because a full tank of SF₆ weighs over 200 lbs., increased handling of cylinders could increase risk of worker injury.” Commenter 0902 favored the use of alternate methods of information gathering, stating that, “although current technology requires weighing gas cylinders to obtain an accurate measurement of SF₆ usage, future reporting need not be limited to this inherently unsafe method of information gathering. An alternate method of data collection that meets the stated accuracy requirements will allow reporting methods to keep pace with advances in technology.”

Commenters 1645 and 0608 favored the approach used under the existing voluntary program between electric power systems and EPA. Commenter 1645 noted that, “although the interim weighing of cylinders as they are used, handled, and relocated may have internal inventory value to the user, this information is not necessary for accurate annual reporting, and can add significantly and unnecessarily to an organization’s labor burden and book keeping requirements, if mandated by the reporting rule.”

Commenter 0608 asserted that individual cylinder weighing is impractical and questionably cost effective given that at each facility, cylinders may leave and enter storage 20 times per year.

Response 5.1-a: EPA agrees that the benefit of weighing SF₆ gas cylinders as they enter and leave inventory does not justify the costs of performing this activity. EPA has removed this requirement from § 98.306 (b)(2) and clarified that the QA/QC requirements for scale accuracy and calibration apply to cylinders returned to the gas supplier and cylinders weighed at the beginning and end of each year for the beginning and end-of-year storage inventory.

Comment Summary 5.1-b: Commenter 1566 suggested that instead of weighing cylinders to track the quantity of contained SF₆, the pressure of the gas could be measured using a standard pressure gauge and the mass calculated using the ideal gas law. Commenter 1566 noted, “considering the relatively de minimis greenhouse gas emissions resulting from use and handling of SF₆, this method of tracking the SF₆ content in cylinders in lieu of weighing cylinders should be sufficient.”

Response 5.1-b: Measuring the amount of SF₆ in cylinders using temperature and pressure calculations is not an adequate method for weighing SF₆ cylinders in the context of mandatory reporting since SF₆ in a cylinder can be in both a gaseous and liquefied state, thereby making pressure readings unreliable. For example, in cases where gas extraction from the cylinder has cooled the temperature of SF₆ liquid in the cylinder to the point where it will no longer vaporize, a zero PSIG pressure reading could be read from the cylinder when there is still SF₆ remaining as a heel in the cylinder.

5.2 Frequency of Weighing Cylinders—Track 2

Relevant Bin Numbers: Section 4.5, 4.5.1, and 4.5.3

Comment Summary 5.2-a: Four commenters (0133, 0097, 0098, 0083) disfavored EPA’s proposed requirement of weighing gas cylinders each time they leave and enter storage. Commenters 0133 noted that EPA does not explain what purpose weighing cylinders leaving and entering storage in addition to the weighing of cylinders at the beginning and the end of every year would serve.

Commenters 0097 and 0098 were concerned about the potential administrative burden and health and safety issues associated with frequent cylinder weighing by substation personnel, and preferred a standardized approach that relies on SF₆ vendors and recyclers to provide weighing services of the delivered cylinders and residual gas upon return of the cylinder. These commenters believed that SF₆ vendors and recyclers are better prepared to report this information, as they already employ procedures to weigh cylinders using scales that are routinely maintained and calibrated.

In regards to administrative burden, Commenter 0083 explained that while a spreadsheet maintained by one person may be appropriate for smaller or densely developed utilities, it is not feasible for a company

with transmission operations spanning large geographic areas, which would instead require expensive software upgrades that can take months or years to install.

Response 5.2-a: EPA agrees that the benefit of weighing SF₆ gas cylinders as they enter and leave inventory does not justify the costs of performing this activity. EPA has removed this requirement from § 98.306 (b)(2) and clarified that the QA/QC requirements for scale accuracy and calibration apply to cylinders returned to the gas supplier and cylinders weighed at the beginning and end of each year for the beginning and end-of-year storage inventory.

Comment Summary 5.2-b: Commenters 0097 and 0098 were in favor of EPA permitting the use of best available estimation methodologies in the first reporting year to limit the administrative burden on industry to weigh each SF₆ cylinder, which would allow facilities flexibility in reporting using a combination of internal engineering calculations and/or purchase records.

Response 5.2-b: EPA understands that it might be difficult for some entities to employ the monitoring, data reporting, and QA/QC requirements by the beginning of 2011. Therefore, facilities may use best available monitoring methods during 2011 to the extent provided in §98.3(d)(1) through (d)(2), with the date changes specified in the final rule. For more information, see §98.303(a) of the final rule.

5.3 Accuracy and Precision of Scales—Track 1

Relevant Bin Numbers: Section 4.5.2

Comment Summary 5.3-a: Six commenters (0902, 1021, 0618, 0624, 1566, 0608) disagreed with the proposed scale accuracy language at §98.304(b)(1), that states, "cylinders returned to the gas supplier are consistently weighed on a scale that is certified to be accurate and precise to within 1 percent of the true weight", and "If the gas supplier weighs the residual gas, obtain from the gas supplier a detailed monthly accounting, within 1 percent, of residual gas amounts in the cylinders returned to the gas supplier" and at §98.304(b)(2), that states, "Cylinders shall be weighed on a scale that is certified to be accurate within 1 percent of the true weight."

Commenters were concerned about the cost of scales requiring this level of accuracy and the need to purchase several of them for each site where cylinders are stored. Commenter 0902 stated that they will have to purchase multiple scales at each location, which span thousands of transmission miles. This commenter was concerned about the cost of a scale of this accuracy, which is around \$1,200 and the need for several scales, which would result in the expenditure of thousands of dollars."

Commenter 1012 remarked that given the expense of highly accurate scales and the associated worker-hours with repeated weighing and scale recalibration, EPA should explain "why its chosen methodology—the mass balance approach—does not provide sufficient information for reporting purposes such that the additional burden of frequent, highly accurate weighing is justified."

Commenters 0618, 0624, and 1566 were also concerned about the need to purchase and maintain numerous high-accuracy scales at each facility storing SF₆ cylinders, which is costly for monitoring "what translates to 'de minimis' quantities of GHG emissions."

Commenter 0902 appreciated the necessity for accurate reporting but believed that a one percent accuracy requirement is arbitrary and unnecessarily burdensome on the industry. Commenter 0902 explained that a one percent requirement will vary greatly within the reporting process. "A scale that is one percent accurate for a full 220 pound tank of SF₆ will not be one percent accurate for a tank containing only a couple pounds of residual gas being returned to the supplier." Commenter 0902 suggested a maximum variance in pounds rather than a percentage of the true weight. "A requirement that scales be accurate within two pounds, which is one percent of a full SF₆ tank, will reduce the financial burden on affected companies while still providing accurate reporting." This commenter explained that "designating a variance in terms of pounds establishes a clearly defined limit, and will result in more consistent and accurate reporting."

Response 5.3-a: The 1 percent accuracy requirement was proposed by EPA because the mass-balance method for measuring emissions requires accurate inputs, and the overall uncertainty of the emission

estimate rises significantly as the potential inaccuracy of each input increases. However, EPA also recognizes that the price of scales does increase as the accuracy of the scale increases and that many electric power entities do not currently use scales that are accurate to within 1 percent of the true weight.

In order to balance the reporting burden with the need for accurate mass-balance inputs, this Final Rule requires the accuracy and precision of scales used to weigh cylinders to be based on pounds, within +/- 2 pounds of true weight.

EPA deemed the +/- 2 pound accuracy requirement to be an appropriate accuracy level based on a sensitivity analysis using mass-balance emission estimate data from four different size Partners from EPA's SF₆ Emission Reduction Partnership for Electric Power Systems. The sensitivity analysis involved testing the effect of five different scale accuracies on the relative uncertainty of the emissions estimates (on a 95% confidence interval). The five scale accuracies tested included: 1% (relative), 2% (relative), 1 pound (absolute), 2 pounds (absolute), and 1% of full scale at 330 pounds (absolute). Assuming 2% uncertainty in the nameplate capacity parameters of the mass-balance formula (which are not measured using scales), the 2 pound scale accuracy requirement resulted in a range of relative uncertainties among Partners between 1% and 4.4%. The analysis also showed that the 1% relative scale accuracy resulted in a range of relative uncertainties between 0.5% and 4.1%, and the 5% relative scale accuracy resulted in a range of relative uncertainties between 2.6% and 6.5%. The complete sensitivity analysis can be found here: www.epa.gov/climatechange/emissions/ghgrulemaking.html

5.4 Accuracy and Precision of Scales—Track 2

Relevant Bin Numbers: Section 4.5.2

Comment summary 5.4-a: Commenter 0083 stated that they will have to purchase multiple scales at each location, which span thousands of transmission miles. This commenter was concerned about the cost of a scale of this accuracy, which is around \$2,000 and the need for several scales, which would result in the expenditure of thousands of dollars. The commenter appreciated the necessity for accurate reporting but believed that a one percent accuracy requirement is arbitrary and unnecessarily burdensome on the industry. Commenter 0083 recommended amending §98.304(b)(1) and (2) as follows:

“(1) Ensure that cylinders returned to the gas supplier are consistently measured by a method certified to be accurate and precise within 2 pounds, and are recalibrated per the manufacturer's specifications. Either measure residual gas (the amount of gas remaining in returned cylinders) or have the gas supplier measure it. If the gas supplier measures the residual gas, obtain from the gas supplier a detailed monthly accounting, within 2 pounds, of residual gas amounts in each cylinder returned to the gas supplier.

(2) Ensure that procedures are in place to measure all cylinders as they are leaving and entering the electric power system. Cylinders shall be measured by a method certified to be accurate and precise within 2 pounds and shall be recalibrated at the frequency specified by the manufacturer.”

Commenter 0902 explained that a one percent requirement will vary greatly within the reporting process. “A scale that is one percent accurate for a full 220 pound tank of SF₆ will not be one percent accurate for a tank containing only a couple pounds of residual gas being returned to the supplier.” Commenter 0902 suggests a maximum variance in pounds rather than a percentage of the true weight. “A requirement that scales be accurate within two pounds, which is one percent of a full SF₆ tank, will reduce the financial burden on affected companies while still providing accurate reporting.” This commenter explains that “designating a variance in terms of pounds establishes a clearly defined limit, and will result in more consistent and accurate reporting.”

Commenter 0133 remarked that given the expense of highly accurate scales and the associated worker-hours with repeated weighing and scale recalibration, EPA should explain “why its chosen methodology—the mass balance approach—does not provide sufficient information for reporting purposes such that the additional burden of frequent, highly accurate weighing is justified.”

Response 5.4-a: Please see Response 5.3a for EPA's response to this comment.

5.5 Frequency of Scale Calibration

Relevant Bin Numbers: Section 4.5.1 and 4.5.2

Track 1

Comment Summary 5.5-a: Three commenters (0568, Email-034-1, and 1645) did not support a calibration frequency that requires annual recalibration or the minimum frequency specified by the manufacturer, whichever is more frequent. Commenter 0568 advocated removing the phrase, “whichever is more frequent” found at § 98.304(b)(2) because removing this phrase “will allow for the purchase of a higher quality scale that may not require recalibration as often as once a year, and will not provide an incentive for the regulated entity to purchase a lower quality scale and replace it yearly.” This commenter stated that “the current wording of the Proposal encourages this practice because the cost of replacement for scales can be less than the cost in time and money of recalibrating scales.” Commenter Email-034-1 recommended this change because the calibration cycle of the scales they intend to purchase is every 3 years.

Response 5.5-a: EPA agrees that scale recalibration in accordance with manufacturer specifications is sufficient and that the incremental costs associated with annual recalibration (when the manufacturer’s specified calibration is less frequent) are not justified. EPA has retained the requirement that recalibration occur in accordance with manufacturer specifications but removed the requirement for a minimum of annual recalibration.

Track 2

Comment Summary 5.5-b: Three commenters (0083, 0109, 0115) did not support a calibration frequency that requires annual recalibration or the minimum frequency specified by the manufacturer, whichever is more frequent because of cost and logistical reasons. Commenter 0083 stated that “the manufacturer of the scale is better equipped than the EPA to determine the minimum maintenance requirements for their own product. Annual certification is costly, time consuming, and most notably unnecessary.”

Response 5.5-b: Please see Response 5.5-a for EPA’s response to this comment.

5.6 Other (Monitoring and QA/QC Requirements)—Track 1

Relevant Bin Numbers: Section 4.5.3

Comment Summary 5.6-a: Commenter 1062 “supports the Tier 3 mass-balance protocol as being adequate as long as good QA/QC procedures are utilized. It is important that reporting methods and verification be consistent nationally.”

Response 5.6-a: EPA appreciates the support of the commenter. §98.303 and §98.305 of Subpart DD provide numerous QA/QC and data reporting requirements to ensure that data reported to EPA is accurate and complete.

6. Data Reporting Requirements—Track 1

Relevant Bin Numbers: Section 4.7

Comment Summary 6-a: Commenter 0413 said that “EPA is seeking excessively detailed and redundant information regarding electrical equipment containing SF₆ gas.” The commenter states that “the amount of information sought creates a reporting requirement for use of SF₆ gas not its emissions into the atmosphere. This new regulation of ‘use’ is unauthorized and unnecessary as EPA’s data showing significant reduction in SF₆ emissions from 1990 to 2007. Congress only authorized reporting of SF₆ gas emission and did not authorize a complex regulatory system for regulating the use of SF₆ gas.”

Response 6-a: The system-level mass-balance monitoring methods required by Subpart DD are considered the most accurate and complete method for measuring SF₆ emissions for an electric power system because the method captures emissions that occur anywhere within the system by tracking system-level SF₆ use. This comprehensive monitoring method is important because an electric power system can span thousands of miles, and emissions can occur from a wide variety of causes throughout the electric power system including improper gas handling, leaky equipment, and faulty cylinder valves. While facilities are required to track and document SF₆ gas use within the system to yield accurate inputs for the mass-balance formula, EPA is not regulating how or when SF₆ can be used by the facility. For more information on the selection of monitoring methods for Subpart DD, please see the TSD located here: www.epa.gov/climatechange/emissions/ghgrulemaking.html For a further detailed response on the amount of information required to be reported on U.S. greenhouse gas emissions, please see the *2009 Response to Comments Volume 13 – Content of the Annual Report* document, comment EPA-HQ-OAR-2008-0508-0604.1 excerpt 5 (p. 1-2).

Comment Summary 6-b: Commenter 0413 stated that due to the amount of data reporting requirements required for Subpart DD, “EPA is seeking to create a significant amount of paperwork for utilities, which have successfully and significantly reduced SF₆ emissions” from 1990 to 2007.

Response 6-b: Through the mandatory reporting rule, EPA is seeking to collect accurate and comprehensive greenhouse gas emissions data to inform policymaking. EPA values the progress made under the Partnership in reducing emissions, but this does not obviate the need for mandatory reporting. There are large electric power systems that have not participated in the voluntary Partnership, and the emissions estimated through the voluntary Partnership have not undergone the QA/QC requirements necessary to ensure they are reliable enough to inform policymaking. While compiling and reporting emission data does involve a burden to affected entities, EPA has attempted to minimize the burden as much as possible while still insuring that emissions data is accurate, complete, and verifiable.

Comment Summary 6-c: Commenter 0413 stated that the reporting requirement for total system-wide nameplate capacity is excessively detailed because “there should be no need to report if the equipment is no longer in service.”

Response 6-c: The data reporting requirements for Subpart DD require reporting the nameplate capacity of equipment containing SF₆ and the nameplate capacity of equipment containing PFC existing at the beginning of the year (not including hermetically sealed-pressure switchgear). For purposes of compiling the system-wide nameplate capacity value, facilities should only include equipment that is energized. Equipment that is not in service but still contains SF₆ should be treated as a part of the storage inventory.

Comment Summary 6-d: Commenters 0902 and 0568 requested clarification on whether the SF₆ inside partially-filled electrical equipment that has been purchased but not yet installed should be considered as part of the mass-balance input §98.306(h) “SF₆ with or inside new equipment purchased in the year” or the input §98.306(g) “SF₆ stored in containers at the beginning and end of the year.” Commenter 0568 also requested clarification regarding whether the nameplate capacity of this equipment should be recorded as new nameplate capacity acquired during the year (if the equipment is not yet installed at the end of the year).

Response 6-d: SF₆ that is inside partially-filled electrical equipment that has been purchased by the facility (i.e., the title has been transferred to the facility) but is not yet installed should be counted as part of the mass balance input §98.306(h) "SF₆ with or inside new equipment purchased in the year" as well as the mass-balance input §98.306(g) "SF₆ stored in containers at the beginning and end of the year" (assuming the equipment still has not been installed by the end of the year).

Comment Summary 6-e: Commenter 1645 argued that the number of transmission miles for a facility, as requested in the data reporting requirements of Subpart DD, is not a good metric for correlating with nameplate capacity and SF₆ emissions. The commenter thought a better metric for evaluating "SF₆ emission intensity" would be the number of SF₆ breakers within an electric power system facility. The commenter noted that the amount of SF₆ emissions associated with transmission miles is largely dependent on the geographic region of the country and whether the transmission miles are located in rural or urban areas within specific geographic regions.

Response 6-e: EPA acknowledges that the amount of SF₆ used per transmission mile varies depending on the geographic region where the transmission lines occur. However, EPA's analysis indicated that transmission miles still correlates strongly with nameplate capacity and SF₆ emissions, albeit not as strongly as the correlation between nameplate capacity and SF₆ emissions, and therefore EPA is requiring transmission miles as a data reporting requirement. (For more information on EPA's threshold analysis, please see the TSD located here: www.epa.gov/climatechange/emissions/ghgrulemaking.html.)

The number of SF₆ breakers within an electric power system facility could also provide useful information. However, due to the wide-variety of circuit breaker sizes and vintages, which can hold drastically different amounts of SF₆, there is limited usefulness to simply knowing the total number of breakers within an electric power system facility. Therefore, EPA is not requiring this value as a data reporting requirement.

7. Other Subpart DD Comments – Track 1

Relevant Bin Numbers: Section 4.10

Comment Summary 7-a: Commenter 0212 stated that the nameplate capacity approach for Subpart DD does allow utilities to quickly determine whether they must report, but does not allow utilities to get credit for reduced emissions, which may be possible even as nameplate capacity increases. The commenter asked whether EPA has a mechanism to address this going forward. Commenter 0902 suggested that “EPA adopt an incentive program to encourage continued emission reductions and to offset the additional reporting costs under the mandatory reporting rule. Utilization of tax or other financial incentives will provide a business case for companies to aggressively pursue reduction of SF₆ emissions.”

Response 7-a: The purpose of the Mandatory Reporting Rule is to collect accurate and comprehensive data on the amount of greenhouse gases emissions from various sources to help inform policymaking. EPA does not have a mechanism for providing financial incentives for greenhouse gas emission reductions through the Mandatory Reporting Rule because such incentives would be outside the scope of the rule.

Comment Summary 7-b: Commenter 0555, after reviewing the mechanisms for the use of SF₆ in electrical equipment, “applaud[s] EPA for a substantial document, and agree that the general methodology for SF₆ emissions from electric power systems is feasible.”

Response 7-b: EPA appreciates the support from the commenter.

Comment Summary 7-c: Commenter 1569 agreed that greenhouse gas emission reports for Subpart DD should be submitted on an annual basis since more frequent reporting using the mass-balance emission measurement methods could result in errors.

Response 7-c: EPA appreciates commenter’s support of annual reporting.

8. Other Subpart DD Comments – Track 2

Relevant Bin Numbers: Section 4.10

Comment Summary 8-a: Commenter 0075 noted that “the proposed rule does not address the small quantities of SF₆ used as a tracer for leak detection in pressurized systems, such as nuclear power plant boiler tubes.”

Response 8-a: EPA appreciates the commenter’s concern about other uses of SF₆ that are not covered by the rule. The purpose of the Mandatory Reporting Rule is to collect greenhouse gas emissions data from significant sources without subjecting small sources to a reporting burden. EPA is not currently aware of significant SF₆ emissions occurring from its use as a tracer gas for leak detection in pressurized systems, but will continue to examine whether significant greenhouse gas emissions occur from sources not currently covered by the Mandatory Reporting Rule.

Comment Summary 8-b: Commenter 0128 supported EPA’s inclusion of fluorinated greenhouse gas reporting provisions for electric transmission and distribution use and thought it will enhance the overall accuracy of EPA’s greenhouse gas reporting rule and help the agency move towards a “truly comprehensive inventory of national GHG emissions.”

Response 8-b: EPA appreciates the support from the commenter.

Appendix A – List of Commenters Sorted by Submission Number

Submission No.	Commenter	Organization
EPA-HQ-OAR-2009-0927-0075	Kenneth Boyd	Southern Company
EPA-HQ-OAR-2009-0927-0081	Kenneth Boyd	Southern Company
EPA-HQ-OAR-2009-0927-0083	Deborah Boyle	Oncor
EPA-HQ-OAR-2009-0927-0086	Pamela F. Faggert	Dominion Resource Services, Inc.
EPA-HQ-OAR-2009-0927-0087	Holly Propst	Western Business Roundtable
EPA-HQ-OAR-2009-0927-0088	Carol Whitman	National Rural Electric Cooperative Association
EPA-HQ-OAR-2009-0927-0094	Alexander G. Taft	National Grid
EPA-HQ-OAR-2009-0927-0096	Bruce D. Alexander	Exelon Corporation
EPA-HQ-OAR-2009-0927-0097	Michael Bradley	The Clean Energy Group
EPA-HQ-OAR-2009-0927-0098	Rayburn L. Butts	Nextera Energy, Inc.
EPA-HQ-OAR-2009-0927-0101	Scott Davis	Arizona Public Service
EPA-HQ-OAR-2009-0927-0109	McCabe	American Electric Power
EPA-HQ-OAR-2009-0927-0115	Michael B. McNulty	ITC Holdings
EPA-HQ-OAR-2009-0927-0119	Rob Rouse	The Dow Chemical Company
EPA-HQ-OAR-2009-0927-0120	Ruthanne Calabrese	Northeast Utilities
EPA-HQ-OAR-2009-0927-0125	Eric Hsieh	National Electric Managers Association
EPA-HQ-OAR-2009-0927-0126	Wesley McNealy	Pepco Holdings, Inc.
EPA-HQ-OAR-2009-0927-0127	Gregory Ryan	DTE, Energy
EPA-HQ-OAR-2009-0927-0128	Pamela Campos	Environmental Defense Fund
EPA-HQ-OAR-2009-0927-0133	Quinlan Shea	Edison Electric Institute
EPA-HQ-OAR-2008-0508-0212	Emily Fisher	Edison Electric Institute
EPA-HQ-OAR-2008-0508-0407	Michael Stroben	Duke Energy Corporation,
EPA-HQ-OAR-2008-0508-0413		Environmental Task Force of the Northwest Public Power Association
EPA-HQ-OAR-2008-0508-0455	Debra Jezouit	Class of '85 Regulatory Response Group
EPA-HQ-OAR-2008-0508-0479	Michael Bradley	The Clean Energy Group
EPA-HQ-OAR-2008-0508-0547	Wesley McNealy	Pepco Holdings, Inc.
EPA-HQ-OAR-2008-0508-0551	Delaine Shane	Metropolitan Water District of Southern California,
EPA-HQ-OAR-2008-0508-0555	Kyle Pistor	NEMA
EPA-HQ-OAR-2008-0508-0568	Rita Hayen	American Transmission Company LLC
EPA-HQ-OAR-2008-0508-0584	Nicole McIntosh	Consumers Energy
EPA-HQ-OAR-2008-0508-0597	Angila Retherford	Vectren
EPA-HQ-OAR-2008-0508-0608	Linda Sullivan	National Grid
EPA-HQ-OAR-2008-0508-0612	Andrew Lawrence	Department of Energy
EPA-HQ-OAR-2008-0508-0618	Vincent Brisini	RRI Energy, Inc.
EPA-HQ-OAR-2008-0508-0624	Joseph Miakisz	FPL Group
EPA-HQ-OAR-2008-0508-0639	Scott Davis	Arizona Public Service Company
EPA-HQ-OAR-2008-0508-0661	J.P. Blackford	American Public Power

Submission No.	Commenter	Organization
		Association
EPA-HQ-OAR-2008-0508-0685	Helen A. Howes	Exelon Corporation
EPA-HQ-OAR-2008-0508-0725	John McManus	American Electric Power
EPA-HQ-OAR-2008-0508-0902	Deborah Boyle	Oncor Electric Delivery
EPA-HQ-OAR-2008-0508-1021	Quinlan Shea	Edison Electric Institute
EPA-HQ-OAR-2008-0508-1062	Matthew Frank	State of Wisconsin
EPA-HQ-OAR-2008-0508-1080	Kelly Carmichael	NiSource
EPA-HQ-OAR-2008-0508-1566	Robbie LaBorde	Cleco Corporation
EPA-HQ-OAR-2008-0508-1569	Patricia Meehan	New York Power Authority
EPA-HQ-OAR-2008-0508-1645		Southern Company
EPA-HQ-OAR-2008-0508-1741	Pamela Faggert	Dominion
EMAIL-034	Steve Lowder	Bonneville Power Administration
Trans-DC-04	Dan Chartier	Edison Electric Institute