

# Electric Transmission and Distribution Equipment Use



## Subpart DD, Greenhouse Gas Reporting Program

*Under Subpart DD, owners and operators of electric power system facilities with a total nameplate capacity that exceeds 17,820 lbs (7,838 kg) of sulfur hexafluoride (SF<sub>6</sub>) and/or perfluorocarbons (PFCs) must report emissions of SF<sub>6</sub> and/or PFCs from the use of electrical transmission and distribution equipment. Owners and operators are required to collect emissions data, calculate GHG emissions, and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting per the requirements of 40 CFR Part 98 Subpart DD – Electric Transmission and Distribution Equipment Use.*

### How Is This Source Category Defined?

The electrical transmission and distribution equipment use source category consists of all electric transmission and distribution equipment and servicing inventory insulated with or containing SF<sub>6</sub> or PFCs used within an electric power system. This equipment includes but is not limited to gas-insulated substations; circuit breakers; switchgear, including closed-pressure and hermetically sealed-pressure switchgear; gas-insulated lines containing SF<sub>6</sub> or PFCs; gas containers such as pressurized cylinders; gas carts; electric power transformers; and other containers of SF<sub>6</sub> or PFC.

For the purposes of this subpart, facility is defined as the electric power system, comprising all electric transmission and distribution equipment insulated with or containing SF<sub>6</sub> or PFCs that is linked through electric power transmission or distribution lines and 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 (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 or another electric power transmission or distribution entity that does not have a common owner receives the electric energy. The facility also includes servicing inventory for such equipment that contains SF<sub>6</sub> or PFCs.

### What Greenhouse Gases Must Be Reported?

The rule requires that each electric power system facility must report total SF<sub>6</sub> and PFC emissions (including emissions from equipment leaks, installation, servicing, decommissioning, and disposal, and from storage cylinders) from the following types of equipment:

- Gas-insulated substations;
- Circuit breakers;
- Switchgear, including closed-pressure and hermetically sealed-pressure switchgear;
- Gas-insulated lines containing SF<sub>6</sub> or PFCs;
- Gas containers such as pressurized cylinders;
- Gas carts;
- Electric power transformers; and
- Other containers of SF<sub>6</sub> or PFC

### How Must Greenhouse Gas Emissions Be Calculated?

Under this rule, electric power system facilities must calculate SF<sub>6</sub> and PFC emissions using a mass-balance approach that takes into account the following:

- **Decrease in SF<sub>6</sub> Inventory.** The SF<sub>6</sub> stored in containers (but not in energized equipment) at the beginning of the year minus the SF<sub>6</sub> stored in containers (but not in energized equipment) at the end of the year. These quantities must be measured using a scale that is accurate to within +/- 2 pounds of true weight, and the scale must be recalibrated periodically per manufacturer specifications.
- **Acquisitions of SF<sub>6</sub>.** The sum of the following:
  - The amount of SF<sub>6</sub> purchased from chemical producers or distributors in bulk,
  - SF<sub>6</sub> purchased from equipment manufacturers or distributors inside or alongside equipment (including hermetically sealed-pressure equipment), and
  - SF<sub>6</sub> returned to the facility after off-site recycling.
- **Disbursements of SF<sub>6</sub>.** The sum of the amount of SF<sub>6</sub> in bulk and contained in equipment that is sold to other entities, returned to suppliers, and sent off-site for recycling or destruction. Facilities returning cylinders to storage or to the supplier must either weigh the cylinders themselves or have the supplier weigh the cylinders, obtaining a detailed monthly account from the supplier. The scale used to weigh these quantities (regardless of whether weighing is performed by the electric power system facility or the supplier) must be accurate to within +/- 2 pounds of true weight, and the scale must be recalibrated periodically per manufacturer specifications.
- **Net Increase in Total Nameplate Capacity of Equipment.** The nameplate capacity of new equipment (including hermetically sealed-pressure equipment) minus the nameplate capacity of retiring equipment (including hermetically sealed-pressure equipment). Nameplate capacity refers to the full and proper charge of gas within equipment as specified by the equipment manufacturer rather than the actual charge, which may reflect leakage.

Using the parameters above, the electric power system facility must calculate emissions (in pounds) using the following mass-balance equation:

$$\text{Emissions} = \text{Decrease in SF}_6 \text{ Inventory} + \text{Acquisitions of SF}_6 - \text{Disbursements of SF}_6 - \text{Net Increase in the Nameplate Capacity of Equipment}$$

PFC emissions (e.g., from transformers that formerly used CFC-113) must be calculated in the same way, substituting the PFC for SF<sub>6</sub> in the equation above.

A checklist for data that must be monitored is available at: <https://www.epa.gov/ghgreporting/electronic-transmission-and-distribution-checklist>

## What Information Must Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), each electric power system must report the following information:

- Nameplate capacity of equipment (pounds) containing SF<sub>6</sub> and PFCs existing at the beginning of the year (excluding hermetically sealed-pressure equipment).
- Nameplate capacity of new hermetically sealed-pressure equipment (pounds) purchased during the year and hermetically sealed-pressure equipment retired during the year.
- Nameplate capacity of new equipment other than hermetically sealed-pressure equipment (pounds) purchased during the year and equipment other than hermetically sealed-pressure equipment retired during the year.

- The number of SF<sub>6</sub>- or PFC-containing pieces of equipment in each of the following equipment categories: (1) New hermetically sealed-pressure switchgear during the year; (2) New equipment other than hermetically sealed-pressure switchgear during the year; (3) Retired hermetically sealed-pressure switchgear during the year; (4) Retired equipment other than hermetically sealed-pressure switchgear during the year.
- Transmission miles (length of lines carrying voltages above 35 kilovolt [kV]).
- Distribution miles (length of lines carrying voltages at or below 35 kilovolt [kV]).
- States and territories in which the facility lies.
- SF<sub>6</sub> and PFC stored in containers, but not in energized equipment, at the beginning of the year (pounds).
- SF<sub>6</sub> and PFC stored in containers, but not in energized equipment, at the end of the year (pounds).
- SF<sub>6</sub> and PFC purchased in bulk from chemical producers or distributors (pounds).
- SF<sub>6</sub> and PFC purchased from equipment manufacturers or distributors with or inside equipment, including hermetically sealed-pressure switchgear (pounds).
- SF<sub>6</sub> and PFC returned to facility after off-site recycling (pounds).
- SF<sub>6</sub> and PFC in bulk and contained in equipment sold to other entities (pounds).
- SF<sub>6</sub> and PFC returned to suppliers (pounds).
- SF<sub>6</sub> and PFC sent off-site for recycling (pounds).
- SF<sub>6</sub> and PFC sent off-site for destruction (pounds).
- For any missing data, the parameters for which the data were missing, the substitute parameters used to estimate emissions in their absence, and the quantity of emissions thereby estimated.

## When and How Must Reports Be Submitted?

Annual reports must be submitted by March 31 of each year, unless the 31st is a Saturday, Sunday, or federal holiday, in which case the reports are due on the next business day. Annual reports must be submitted electronically using the [electronic Greenhouse Gas Reporting Tool \(e-GGRT\)](#), the GHGRP's online reporting system. Additional information on setting up user accounts, registering a facility and submitting annual reports is available at <https://ccdsupport.com/confluence/>.

## When Can a Facility Stop Reporting?

There are several scenarios under which a facility may discontinue reporting. These scenarios are summarized in the [Subpart A Information Sheet](#) as well as in an [FAQ](#).

## For More Information

For additional information on Subpart DD, visit the [Subpart DD Resources](#) webpage. For additional information on the Greenhouse Gas Reporting Program, visit the [Greenhouse Gas Reporting Program Website](#), which includes information sheets on other rule subparts, [data](#) previously reported to the Greenhouse Gas Reporting Program, [training materials](#), and links to [frequently asked questions](#).

This document is provided solely for informational purposes. It does not provide legal advice, have legally binding effect, or expressly or implicitly create, expand, or limit any legal rights, obligations, responsibilities, expectations, or benefits in regard to any person. The series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the Greenhouse Gas Reporting Program.