§ 98.91 Reporting threshold.

(a) You must report GHG emissions under this subpart if electronics manufacturing production processes, as defined in § 98.90, are performed at your facility and your facility meets the requirements of either § 98.2(a)(1) or (a)(2). To calculate total annual GHG emissions for comparison to the 25,000 metric ton CO_2e per year emission threshold in § 98.2(a)(2), follow the requirements of § 98.2(b), with one exception. Rather than using the calculation methodologies in § 98.93 to calculate emissions from electronics manufac-

turing production processes, calculate emissions of each fluorinated GHG from electronics manufacturing production processes by using paragraphs (a)(1), (a)(2), or (a)(3) of this section, as appropriate, and then sum the emissions of each fluorinated GHG by using paragraph (a)(4) of this section.

(1) If you manufacture semiconductors or MEMS you must calculate annual production process emissions of each input gas i for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–1 of this subpart.

$$E_i = S * EF_i * GWP_i * 0.001 \quad (Eq. \ I\text{-}1)$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons CO_2e).
S = 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m^2).
EF_i = Emission factor for input gas i (kg/m^2).
GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.001 = Conversion factor from kg to metric tons.
i = Input gas.

(2) If you manufacture LCDs, you must calculate annual production process emissions of each input gas i for threshold applicability purposes using the default emission factors shown in Table I–1 to this subpart and Equation I–2 of this subpart.

$$E_i = S * EF_i * GWP_i * 0.000001 \quad (Eq. \ I\text{-}2)$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e).
S = 100 percent of annual manufacturing capacity of a facility as calculated using Equation I–5 of this subpart (m^2).
EF_i = Emission factor for input gas i (g/m^2).
GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.000001 = Conversion factor from g to metric tons.
i = Input gas.

(3) If you manufacture PVs, you must calculate annual production process emissions of each input gas i for threshold applicability purposes using gas-appropriate GWP values shown in Table A–1 to subpart A of this part and Equation I–3 of this subpart.

$$E_i = C_i * GWP_i * 0.001 \quad (Eq. \ I\text{-}3)$$

where:

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e).

C_i = Annual fluorinated GHG (input gas i) purchases or consumption (kg). Only gases used in PV manufacturing that have listed GWP values in Table A–1 to

subpart A of this part must be considered for threshold applicability purposes.

GWP_i = Gas-appropriate GWP as provided in Table A–1 to subpart A of this part.

0.001 = Conversion factor from kg to metric tons.

$$E_T = \delta * \sum_i E_i \quad (\text{Eq. I-4})$$

where:

E_T = Annual production process emissions of all fluorinated GHGs for threshold applicability purposes (metric tons Co_2e).

δ = Factor accounting for fluorinated heat transfer fluid emissions, estimated as 10 percent of total annual production process emissions at a semiconductor facility. Set equal to 1.1 when Equation I–4 of this subpart is used to calculate total annual production process emissions from semiconductor manufacturing. Set equal to 1 when Equation I–4 of this subpart is

i = Input gas.

(4) You must calculate total annual production process emissions for threshold applicability purposes using Equation I–4 of this subpart.

used to calculate total annual production process emissions from MEMS, LCD, or PV manufacturing.

E_i = Annual production process emissions of input gas i for threshold applicability purposes (metric tons Co_2e), as calculated in Equations I–1, I–2 or I–3 of this subpart.

i = Input gas.

(b) You must calculate annual manufacturing capacity of a facility using Equation I–5 of this subpart.

$$S = \sum_x^{12} W_x \quad (\text{Eq. I-5})$$

where:

S = 100 percent of annual manufacturing capacity of a facility (m^2).

W_x = Maximum designed substrate starts of a facility in month x (m^2 per month).

x = Month.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10380, Feb. 22, 2012]

§ 98.92 GHGs to report.

(a) You must report emissions of fluorinated GHGs (as defined in §98.6), N_2O, and fluorinated heat transfer fluids (as defined in §98.98). The fluorinated GHGs and fluorinated heat transfer fluids that are emitted from electronics manufacturing production processes include, but are not limited to, those listed in Table I–2 to this subpart. You must individually report, as appropriate:

(1) Fluorinated GHGs emitted from plasma etching.

(2) Fluorinated GHGs emitted from chamber cleaning.

(3) Fluorinated GHGs emitted from wafer cleaning.

(4) N_2O emitted from chemical vapor deposition and other electronics manufacturing processes.

(5) Emissions of fluorinated heat transfer fluids.

(6) All fluorinated GHGs and N_2O consumed, including gases used in manufacturing processes other than those listed in paragraphs (a)(1) through (a)(5) of this section.

(b) CO_2, CH_4, and N_2O combustion emissions from each stationary combustion unit. You must calculate and report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources) by following the requirements of subpart C of this part.

[75 FR 74818, Dec. 1, 2010, as amended at 77 FR 10380, Feb. 22, 2012]

§ 98.93 Calculating GHG emissions.

(a) You must calculate total annual facility-level emissions of each fluorinated GHG used in electronics manufacturing production processes at your facility, for each process type,