TABLE I–16 TO SUBPART I OF PART 98—DEFAULT EMISSION DESTRUCTION OR REMOVAL EFFICIENCY (DRE) FACTORS FOR ELECTRONICS MANUFACTURING

Manufacturing type/process type/gas	Default DRE (percent)
MEMS, LCDs, and PV Manufacturing ...	60
Semiconductor Manufacturing:	
Plasma Etch/Wafer Clean Process Type:	
CF_4 ...	75
CH_3F ...	97
CHF_3 ...	97
CH_2F_2 ...	97
C_2F_6 ...	97
C_3F_8 ...	97
C_4F_6 ...	97
C_4F_8 ...	97
C_5F_8 ...	97
SF_6 ...	97
NF_3 ...	96
All other carbon-based plasma etch/wafer clean fluorinated GHG ...	60
Chamber Clean Process Type:	
NF_3 ...	88
All other chamber clean fluorinated GHG ...	60
N_2O Processes:	
CVD and all other N_2O-using processes ...	60

[78 FR 68234, Nov. 13, 2013]

TABLE I–17 TO SUBPART I OF PART 98—EXPECTED AND POSSIBLE BY-PRODUCTS FOR ELECTRONICS MANUFACTURINGLG

For each stack system for which you use the "stack test method" to calculate annual emissions, you must measure the following:	If emissions are detected intermittently, use the following procedures:	If emissions are not detected, use the following procedures:
Expected By-products: ... CF_4 ... C_2F_6 ... CHF_3 ... CH_2F_2 ... CH_3F ...	Use the measured concentration for "X_{ksm}" in Equation I–18 when available and use one-half of the field detection limit you determined for the fluorinated GHG according to § 98.94(j)(2) for the value of "X_{ksm}" when the fluorinated GHG is not detected.	Use one-half of the field detection limit you determined for the fluorinated GHG according to § 98.94(j)(2) for the value of "X_{ksm}" in Equation I–18.
Possible By-products: ... C_3F_8 ... C_4F_6 ... c-C_4F_8 ... C_5F_8 ...	Use the measured concentration for "X_{ksm}" in Equation I–18 when available and use one-half of the field detection limit you determined for the fluorinated GHG according to § 98.94(j)(2) for the value of "X_{ksm}" when the fluorinated GHG is not detected.	Assume zero emissions for that fluorinated GHG for the tested stack system.

[78 FR 68234, Nov. 13, 2013]

APPENDIX A TO SUBPART I OF PART 98—ALTERNATIVE PROCEDURES FOR MEASURING POINT-OF-USE ABATEMENT DEVICE DESTRUCTION OR REMOVAL EFFICIENCY

If you are measuring destruction or removal efficiency of a point-of-use abatement device according to EPA 430–R–10–003 (incorporated by reference, see § 98.7) as specified in § 98.94(f)(4), you may follow the alternative procedures specified in paragraphs (a) through (c) of this appendix.

(a) In place of the Quadrupole Mass Spectrometry protocol requirements specified in section 2.2.4 of EPA 430–R–10–003 (incorporated by reference, see § 98.7), you must conduct mass spectrometry testing in accordance with the provisions in paragraph (a)(1) through (a)(15) of this appendix.

(1) *Detection limits.* The mass spectrometer chosen for this application must have the necessary sensitivity to detect the selected effluent species at or below the maximum field detection limits specified in Table 3 of section 2.2.7 of EPA 430–R–10–003 (incorporated by reference, see § 98.7).

(2) *Sampling location.* The sample at the inlet of the point-of-use abatement device must be taken downstream of the process tool and pump package. The sample exhaust must be vented back into the corrosive house ventilation system at a point downstream of the sample inlet location.

(3) *Sampling conditions.* For etch processes, destruction or removal efficiencies must be determined while etching a substrate (product, dummy, or test). For chemical vapor deposition processes, destruction or removal efficiencies must be determined during a chamber clean after deposition (destruction or removal efficiencies must not be determined in a clean chamber). All sampling must be performed non-intrusively during wafer processing. Samples must be drawn through the mass spectrometer source by an