Appendix B. Recordkeeping Requirements

Subpart	Recordkeeping Requirement
C—General Stationary Combustion	See Section 4(b)(i) of the ICR.
D—Electricity Generation (§98.40)	See reporting requirements for general stationary combustion in Section 4(b)(i) of the ICR.
E—Adipic Acid Production (§98.50)	(1) Annual adipic acid production capacity (tons). (2) Records of significant changes to process. (3) Number of facility operating hours in calendar year. (4) Documentation of how accounting procedures were used to estimate production rate. (5) Documentation of how process knowledge was used to estimate abatement technology destruction efficiency. (6) Performance test reports of N2O emissions. (7) Measurements, records and calculations used to determine reported parameters. (8) Documentation of the procedures used to ensure the accuracy of the measurements of all reported parameters, including but not limited to, calibration of weighing equipment, flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.
F—Aluminum Production (§98.60)	(1) Monthly aluminum production in metric tons. (2) Type of smelter technology used. (3) The following PFC-specific information on a monthly basis: Perfluoromethane and perfluoroethane emissions from anode effects in prebake and Søderberg electolysis cells; Anode effect minutes per cell-day (AE-mins/cell-day), anode effect frequency (AE/cell-day), anode effect duration (minutes). (Or anode effect overvoltage factor ((kg CF4/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%)) ; Smelter-specific slope coefficients and the last date when the smelter-specific-slope coefficients were measured. (4) Method used to measure the frequency and duration of anode effects (or to measure anode effect overvoltage And current efficiency). (5) The following CO2-specific information for prebake cells: Annual anode consumption and Annual CO2 emissions from the smelter. (6) The following CO2-specific information for Søderberg cells: Annual paste consumption and Annual CO2 emissions from the smelter. (7) Smelter-specific inputs to the CO2 process equations (e.g., levels of sulfur and ash) that were used in the calculation, on an annual basis. (8) Exact data elements required will vary depending on smelter technology (e.g., point-feed prebake or Søderberg) and process control technology (e.g., Pechiney or other).
G—Ammonia Manufacturing (§98.70)	If a CEMS is used to measure CO2 emissions: All requirements in §98.37 for the Tier 4 Calculation Methodology plus: (1) Retain records of all feedstock purchases. If a CEMS is not used to measure CO2 emissions: All requirements in §98.76(b) plus: (1) Monthly records of carbon content of feedstock from supplier and/or all analyses conducted of carbon content.
H—Cement Production (§98.80)	If a CEMS is used to measure CO2 emissions: All records required in §98.37 for the Tier 4 Calculation Methodology plus: (1) Documentation of monthly calculated kiln-specific clinker CO2 emission factor. (2) Documentation of quarterly calculated kiln-specific CKD CO2 emission factor. (3) Measurements, records and calculations used to determine reported parameters. If a CEMS is not used to measure CO2 emissions: (1) Retain the records specified in paragraphs (a) through (b) of this section for each portland cement manufacturing facility.

Subpart	Recordkeeping Requirement
K—Ferroalloy Production (§98.110)	If a CEMS is used to measure CO2 emissions : All requirements in §98.37 for the Tier 4 Calculation Methodology plus: (1) Monthly EAF production quantity for each ferroalloy product (tons). (2) Number of EAF operating hours each month. (3) Number of EAF operating hours in a calendar year.
	If the carbon mass balance procedure is used to determine CO2 emissions : (1) Monthly EAF production quantity for each ferroalloy product (tons). (2) Number of EAF operating hours each month. (3) Number of EAF operating hours in a calendar year. (4) Monthly material quantity consumed, used, or produced for each material included for the calculations of annual process CO2 emissions (tons). (5) Average carbon content determined and records of the supplier provided information or analyses used for the determination for each material included for the calculations of annual process CO2 emissions.
	All: (1) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input and output to each EAF, including documentation of specific input or output materials excluded from Equation K-1 of this subpart that contribute less than 1 percent of the total carbon into or out of the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an EAF including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided. (2) If you are required to calculate CH4 emissions for the EAF as specified in §98.113(d), you must maintain records of the total amount of each alloy product produced for the specified reporting period, and the appropriate alloy-product specific emission factor used to calculate the CH4 emissions.
N—Glass Production (§98.140)	If a CEMS is used to measure emissions: All records required in §98.37 for the Tier 4 Calculation Methodology plus: (1) Monthly glass production rate for each continuous glass melting furnace (tons). (2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (tons).
	If process CO2 emissions are calculated according to the procedures specified in §98.143(b), (1) Monthly glass production rate for each continuous glass melting furnace (metric tons). (2) Monthly amount of each carbonate-based raw material charged to each continuous glass melting furnace (metric tons). (3) Data on carbonate-based mineral mass fractions provided by the raw material supplier for all raw materials consumed annually and included in calculating process emissions in Equation N-1 of this subpart. (4) Results of all tests used to verify the carbonate-based mineral mass fraction for each carbonate-based raw material charged to a continuous glass melting furnace, including: (i) Date of test; (ii) Method(s), and any variations of the methods, used in the analyses; (iii) Mass fraction of each sample analyzed; (iv) Relevant calibration data for the instrument(s) used in the analyses; and (v) Name and address of laboratory that conducted the tests. (5) The fraction of calcination achieved for each carbonate-based raw material (percentage, expressed as a decimal), if a value other than 1.0 is used to calculate process mass emissions of CO2.
	All: (1) All other documentation used to support the reported GHG emissions.
O—HCFC-22 Production and HFC-23 Destruction (§98.150)	HCFC-22 production facilities (1) The data used to estimate HFC-23 emissions. (2) Records documenting the initial and periodic calibration of the gas chromatographs, weigh scales, volumetric and density measurements, and flowmeters used to measure the quantities reported under this rule, including the industry standards or manufacturer directions used for calibration pursuant to §98.154(p) and (q).
	HFC-23 destruction facilities (1) Records documenting their one-time and annual reports in §98.156(b) through (d). (2) Records documenting the initial and periodic calibration of the gas chromatographs, weigh scales, volumetric and density measurements, and flowmeters used to measure the quantities reported under this subpart, including the industry standard practice or manufacturer directions used for calibration pursuant to §98.154(p) and (q).
P—Hydrogen Production (§98.160)	If a CEMS is used to measure CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology.
	If a CEMS is not used to measure CO2 emissions: (1) Retain records of all analyses and calculations conducted as listed in §§98.166(b), (c), and (d).

Subpart	Recordkeeping Requirement
Q—Iron & Steel Production (§98.170)	If a CEMS is used to measure CO2 emissions: Retain records of the verification data required for the Tier 4 Calculation Methodology in §98.36(e). If the carbon mass balance method is used to estimate emissions for a process: (1) The monthly mass of each process input and output that are used to determine the annual mass. For taconite furnaces, coke oven batteries, sinter production, blast furnaces, direct reduced iron furnaces, and electric arc furnaces: (1) Annual operating hours (2) Production capacity (in metric tons per year) for the production of taconite pellets, coke, sinter, iron, and raw steel. All: (1) Records of all analyses and calculations conducted, including all information reported as required under §98.176. (2) Facilities must keep records that include a detailed explanation of how company records or measurements are used to determine all sources of carbon input and output and the metric tons of coal charged to the coke ovens (e.g., weigh belts, a combination of measuring volume and bulk density). You also must document the procedures used to ensure the accuracy of the measurements of fuel usage including, but not limited to, calibration of weighing equipment, fuel flow meters, coal usage including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.
R—Lead Production (§98.180)	If a CEMS is used to measure combined process and combustion CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology plus: (1) Monthly smelting furnace production quantity for each lead product (tons). (2) Number of smelting furnace operating hours each month. (3) Number of smelting furnace operating hours in calendar year. If the carbon mass balance procedure is used to determine process CO2 emissions : (1) Monthly smelting furnace production quantity for each lead product (tons). (2) Number of smelting furnace operating hours each month. (3) Number of smelting furnace operating hours in calendar year. (4) Monthly material quantity consumed, used, or produced for each material included for the calculations of annual process CO2 emissions using Equation R-1 of this subpart (tons). (5) Average carbon content determined and records of the supplier provided information or analyses used for the determination for each material included for the calculations of annual process CO2 emissions using Equation R-1 of this subpart. All: (1) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input to each smelting furnace, , including documentation of any materials excluded from Equation R-1 of this subpart that contribute less than 1 percent of the total carbon into or out of the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an smelting furnace including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.
S—Lime Manufacturing (§98.190)	(1) Annual operating hours in calendar year. (2) Records of all analyses (e.g. chemical composition of lime products, by type) and calculations conducted.
U—Misc. Uses of Carbonate (§98.210)	(1) Monthly carbonate consumption (by carbonate type in tons). (2) You must document the procedures used to ensure the accuracy of the monthly measurements of carbonate consumption, carbonate input or carbonate output including, but not limited to, calibration of weighing equipment and other measurement devices. (3) Records of all analyses conducted to meet the requirements of this rule. (4) Records of all calculations conducted.
V—Nitric Acid Production (§98.220)	For each nitric acid production facility: (1) Records of significant changes to process. (2) Documentation of how process knowledge was used to estimate abatement technology destruction efficiency (if applicable). (3) Performance test reports. (4) Number of operating hours in the calendar year for each nitric acid train (hours). (5) Annual nitric acid permitted production capacity (tons). (6) Measurements, records, and calculations used to determine reported parameters. (7) Documentation of the procedures used to ensure the accuracy of the measurements of all reported parameters, including but not limited to, calibration of weighing equipment, flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

Subpart	Recordkeeping Requirement
X—Petrochemical Production (§98.240)	If you comply with the CEMS measurement methodology in §98.243(b): All records required under §98.37 for the Tier 4 Calculation Methodology
	If you comply with the mass balance methodology in §98.243(c): (1) Results of feedstock or product composition determinations conducted in accordance with §98.243(c)(4). (2) Start and end times and calculated carbon contents for time periods when off-specification product is produced, if you comply with the alternative methodology in §98.243(c)(4) for determining carbon content of feedstock or product. (3) A part of the monitoring plan required under §98.3(g)(5), record the estimated accuracy of measurement devices and the technical basis for these estimates.
	If you comply with the combustion methodology in §98.243(d): All records required for the Tier 3 and/or Tier 4 Calculation Methodologies in §98.37.
Y—Petroleum Refineries (§98.250)	(1) Retain the records of all parameters monitored under §98.255.
Z—Phosphoric Acid Production (§98.260)	For each wet-process phosphoric acid production facility: (1) Monthly mass of phosphate rock consumed by origin (as listed in Table Z-1 of this subpart) (tons). (2) Records of all phosphate rock purchases and/or deliveries (if vertically integrated with a mine). (3) Documentation of the procedures used to ensure the accuracy of monthly phosphate rock consumption by origin, (as listed in Table Z-1 of this subpart).
AA—Pulp and Paper Manufacturing (§98.270)	(1) GHG emission estimates (including separate estimates of biogenic CO2) for each emissions source listed under §98.270(b). (2) Annual analyses of spent pulping liquor HHV for each chemical recovery furnace at kraft and soda facilities. (3) Annual analyses of spent pulping liquor carbon content for each chemical recovery combustion unit at a sulfite or semichemical pulp facility. (4) Annual quantity of spent liquor solids combusted in each chemical recovery furnace and chemical recovery combustion unit, and the basis for detemining the annual quantity of the spent liquor solids combusted (whether based on T650 om–05 Solids Content of Black Liquor, TAPPI (incorporated by reference, see §98.7) or an online measurement system). If an online measurement system is used, you must retain records of the calaulations used to determine the annual quantity of spent liquor solids combusted from the continuous measurements. (5) Annual steam purchases. (6) Annual quantities of makeup chemicals used.
BB—Silicon Carbide Production (§98.280)	If a CEMS is used to measure CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology plus: (1) Records of all petroleum coke purchases. (2) Annual operating hours.
	If a CEMS is not used to measure emissions: (1) Records of all analyses and calculations conducted for reported data listed in §98.286(b). (2) Records of all petroleum coke purchases. (3) Annual operating hours.
CC—Soda Ash Manufacturing (§98.290)	If a CEMS is used to measure CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology plus: (1) Monthly production of soda ash (tons) (2) Monthly consumption of trona or liquid alkaline feedstock (tons) (3) Annual operating hours (hours).
	If a CEMS is not used to measure CO2 emissions: (1) Records of all analyses and calculations conducted for determining all reported data as listed in §98.296(b). (2) If using Equation CC-1 or CC-2 of this subpart, weekly inorganic carbon content factor of trona or soda ash, depending on method chosen, as measured by the applicable method in §98.294(b)(percent by weight expressed as a decimal fraction). (3) Annual operating hours for each manufacturing line used to produce soda ash (hours). (4) You must document the procedures used to ensure the accuracy of the monthly trona consumption or soda ash prodcution measurements including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided. (5) If you produce soda ash using the liquid alkaline feedstock process and use the site-specific emission factor method to estimate emissions (§98.293(b)(3)) then you must also retain the following relevant information: (i) Records of performance test results; and (ii) You must document the procedures used to ensure the accuracy of the annual average vent flow measurements including, but not limited to, calibration of flow rate meters and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.

Subpart	Recordkeeping Requirement
EE—Titanium Dioxide Production (§98.310)	If a CEMS is used to measure CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology plus: (1) Records of all calcined petroleum coke purchases. (2) Annual operating hours for each titanium dioxide process line. If a CEMS is not used to measure CO2 emissions: (1) Records of all calcined petroleum coke purchases (tons). (2) Records of all analyses and calculations conducted for all reported data as listed in §98.316(b). (3) Sampling analysis results for carbon content of consumed calcined petroleum coke (percent by weight expressed as a decimal fraction). (4) Sampling analysis results for the carbon content of carbon containing waste (percent by weight expressed as a decimal fraction), if applicable. (5) Monthly production of carbon-containing waste (tons). (6) You must document the procedures used to ensure the accuracy of the monthly petroleum coke consumption and quantity of carbon-containing waste measurement including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided. (7) Annual operating hours for each titanium dioxide process line (hours).
GG—Zinc Production (§98.330)	If a CEMS is used to measure CO2 emissions: All records required under §98.37 for the Tier 4 Calculation Methodology plus: (1) Monthly facility production quantity for each zinc product (tons). (2) Annual operating hours for all Waelz kilns and electrothermic furnaces used in zinc production. If a CEMS is not used to measure CO2 emissions: (1) Records of all analyses and calculations conducted for data reported as listed in §98.336(b). (2) Annual operating hours for Waelz kilns and electrothermic furnaces used in zinc production. (3) Monthly production quantity for each zinc product (tons). (4) Monthly mass of zinc bearing materials, flux materials (e.g., limestone, dolomite), and carbonaceous materials (e.g., coal, coke) charged to the kiln or furnace (tons). (5) Sampling and analysis records for carbon content of zinc bearing materials, flux materials (e.g., limestone, dolomite), carbonaceous materials (e.g., coal, coke), charged to the kiln or furnace (percent by weight, expressed as a decimal fraction). (6) Monthly mass of carbon electrode consumed in for each electrothermic furnace (tons). (7) Sampling and analysis records for carbon content of electrode materials. All: (1) You must keep records that include a detailed explanation of how company records of measurements are used to estimate the carbon input to each Waelz kiln or electrothermic furnace, as applicable to your facility, including documentation of any materials excluded from Equation GG-1 of this subpart that contribute less than 1 percent of the total carbon inputs to the process. You also must document the procedures used to ensure the accuracy of the measurements of materials fed, charged, or placed in an affected unit including, but not limited to, calibration of weighing equipment and other measurement devices. The estimated accuracy of measurements made with these devices must also be recorded, and the technical basis for these estimates must be provided.
HH—Landfills (§98.340)	(1) Retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration.
JJ—Manure Management (§98.360)	(1) Retain the calibration records for all monitoring equipment, including the method or manufacturer's specification used for calibration.
LL—Suppliers of Coal-based Liquid Fuels (§98.380)	(1) Retain records according to the requirements in §98.397 as if they applied to the appropriate coal-to-liquid product supplier (e.g., retaining copies of all reports submitted to EPA under §98.386 and records to support information contained in those reports). Any records for petroleum products that are required to be retained in §98.397 are also required for coal-to-liquid products.
MM—Suppliers of Petroleum Products (§98.390)	(1) All reporters shall retain copies of all reports submitted to EPA under §98.396. In addition, all reporters shall maintain sufficient records to support information contained in those reports, including but not limited to information on the characteristics of their feedstocks and products. (2) Reporters shall maintain records to support quantities that are reported under this subpart, including records documenting any estimations of missing data and the number of calendar days in the reporting year for which substitute data procedures were followed. For all quantities of petroleum products, natural gas liquids, biomass, and feedstocks, reporters shall maintain metering, guaging, and other records normally maintained in the course of business to document product and feedstock flows including the date of initial calibration and the frequency of recalibration for the measurement equipment used (3) Reporters shall retain laboratory reports, calculations and worksheets used to estimate the CO2 emissions of the quantities of petroleum products, natural gas liquids, biomass, and feedstocks reported under this subpart. (4) Reporters shall maintain laboratory reports, calculations and worksheets used in the measurement of density and carbon share for any petroleum product or natural gas liquid for which CO2 emissions were calculated using Calculation Methodology 2. (5) Reporters shall maintain laboratory reports, calculations and worksheets used in the measurement of API gravity and sulfur content for every crude oil batch reported under this subpart. (6) Estimates of missing data shall be documented and records maintained showing the calculations.

Subpart	Recordkeeping Requirement
NN—Suppliers of Natural Gas and Natural Gas Liquids (§98.400)	Each annual report must contain the following information: (1) Records of all daily meter readings and documentation to support volumes of natural gas and NGLs that are reported under this part. (2) Records documenting any estimates of missing metered data and showing the calculations of the values used for the missing data. (3) Calculations and worksheets used to estimate CO2 emissions for the volumes reported under this part. (4) Records related to the large end-users identified in §98.406(b)(6). (5) Records relating to measured Btu content or carbon content showing specific industry standards used to develop reporter-specific higher heating values and emission factors. (6) Records of such audits as required by Sarbanes Oxley regulations on the accuracy of measurements of volumes of natural gas and NGLs delivered to customers or on behalf of customers.
OO—Suppliers of Industrial Greenhouse Gases (§98.410)	Fluorinated GHG production facility: (1) Dated records of the data used to estimate the data reported under §98.416. (2) Records documenting the initial and periodic calibration of the gas chromatographs, weigh scales, flowmeters, and volumetric and density measures used to measure the quantities reported under this subpart, including the industry standards or manufacturer directions used for calibration pursuant to §98.414(j) and (k). Fluorinated GHG production facility that destroys fluorinated GHGs: Keep records of test reports and other information documenting the facility's one-time destruction efficiency report and annual destruction device outlet reports in §98.416(b) and (e). Bulk importer: For each of the imports that they report: (1) A copy of the bill of lading for the import. (2) The invoice for the import. (3) The U.S. Customs entry form. Bulk exporter For each of the exports that they report: (1) A copy of the bill of lading for the export and (2) The invoice for the import. Every person who imports a container with a heel that is not reported under §98.416(c) shall keep records of the amount brought into the United States that document that the residual amount in each shipment is less than 10 percent of the volume of the container and will: (i) Remain in the container and be included in a future shipment and (ii) Be recovered and transformed. Be recovered and destroyed. Be recovered and included in a future shipment.
PP—Suppliers of Carbon Dioxide (CO2) (§98.420)	(1) The owner or operator of a facility containing production process units must retain quarterly records of captured or transferred CO2 streams and composition. (2) The owner or operator of a CO2 production well facility must maintain quarterly records of the mass flow or volumetric flow of the extracted or transferred CO2 stream and concentration and density if volumetric flow meters are used. (3) Importers or exporters of CO2 must retain annual records of the mass flow, volumetric flow, and mass of CO2 imported or exported.

Note: Many facilities that would be affected by the rule emit GHGs from multiple sources. The facility must assess every source category that could potentially apply to each when determining if a threshold has been exceeded. If the threshold is exceed for any source category, the facility must report and keep records from emissions from all source categories, including those source categories that do not exceed the applicable threshold.