§ 98.114 Monitoring and QA/QC requirements

(ii) Determine the combined annual process CO\textsubscript{2} emissions from the EAFs at your facility using Equation K-2 of this section.

\[
\text{CO}_2 = \sum_{k} E_{\text{CO}_2k} \quad \text{(Eq. K-2)}
\]

Where:
- \( E_{\text{CO}_2k} \) = Annual process CO\textsubscript{2} emissions from EAFs at facility used for the production of any ferroalloy listed in §98.110 (metric tons).
- \( k \) = Total number of EAFs at facility used for the production of any ferroalloy listed in §98.110.

(c) If GHG emissions from an EAF are vented through the same stack as any combustion unit or process equipment that reports CO\textsubscript{2} emissions using a CEMS that complies with the Tier 4 Calculation Methodology in subpart C of this part (General Stationary Fuel Combustion Sources), then the calculation methodology in paragraph (b) of this section shall not be used to calculate process emissions. The owner or operator shall report under this subpart the combined stack emissions according to the Tier 4 Calculation Methodology in §98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part.

(d) For the EAFs at your facility used for the production of any ferroalloy listed in Table K-1 of this subpart, you must calculate and report the annual CH\textsubscript{4} emissions using the procedure specified in paragraphs (d)(1) and (2) of this section.

(1) For each EAF, determine the annual CH\textsubscript{4} emissions using Equation K-3 of this section.

\[
E_{\text{CH}_4i} = \sum_{i} (M_{\text{product}i} \times \frac{2}{2205} \times EF_{\text{product}i})
\]

Where:
- \( E_{\text{CH}_4i} \) = Annual process CH\textsubscript{4} emissions from an individual EAF (metric tons).
- \( M_{\text{product}i} \) = Annual mass of alloy product \( i \) produced in the EAF (tons).
- \( 2/2205 \) = Conversion factor to convert kg CH\textsubscript{4} per metric ton of product to metric tons CH\textsubscript{4}.
- \( EF_{\text{product}i} \) = CH\textsubscript{4} emission factor for alloy product \( i \) from Table K-1 in this subpart (kg of CH\textsubscript{4} emissions per metric ton of alloy product \( i \)).

(2) Determine the combined process CH\textsubscript{4} emissions from the EAFs at your facility using Equation K-4 of this section:

\[
\text{CH}_4 = \sum_{i} E_{\text{CH}_4j} \quad \text{(Eq. K-4)}
\]

Where:
- \( E_{\text{CH}_4j} \) = Annual process CH\textsubscript{4} emissions from EAFs at facility used for the production of ferroalloys listed in Table K-1 of this subpart (metric tons).
- \( j \) = Total number of EAFs at facility used for the production of ferroalloys listed in Table K-1 of this subpart.

(b) For each material identified in paragraph (a) of this section, you must determine the average carbon content of the material consumed, used, or produced in the calendar year using the methods specified in either paragraph (b)(1) or (b)(2) of this section. If you document that a specific process input or output contributes less than one percent of the total mass of carbon into or out of the process, you do not have to determine the monthly mass or annual carbon content of that input or output.

(1) Information provided by your material supplier.

(2) Collecting and analyzing at least three representative samples of the material inputs and outputs each year. The carbon content of the material must be analyzed at least annually using the standard methods (and their QA/QC procedures) specified in paragraphs (b)(2)(i) through (b)(2)(iii) of this section, as applicable.

(i) ASTM E1941–04, Standard Test Method for Determination of Carbon in Refractory and Reactive Metals and Their Alloys (incorporated by reference, see §98.7) for analysis of metal ore and alloy product.

(ii) ASTM D5373–08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see §98.7), for analysis of carbonaceous reducing agents and carbon electrodes.

(iii) ASTM C25–06, Standard Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime (incorporated by reference, see §98.7) for analysis of flux materials such as limestone or dolomite.

§98.116 Data reporting requirements.

In addition to the information required by §98.3(c), each annual report must contain the information specified in paragraphs (a) through (e) of this section, as applicable:

(a) If you determine CO₂ emissions for the EAFs at your facility using the carbon mass balance procedure in §98.113(b), 100 percent data availability is required for the carbon content of the input and output materials. You must repeat the test for average carbon contents of inputs according to the procedures in §98.114(b) if data are missing.

(b) For missing records of the monthly mass of carbon-containing inputs and outputs, the substitute data value must be based on the best available estimate of the mass of the inputs and outputs from on all available process data or data used for accounting purposes, such as purchase records.

(c) If you are required to calculate CH₄ emissions for an EAF at your facility as specified in §98.113(d), the estimate is based an annual quantity of certain alloy products, so 100 percent data availability is required.

§98.115 Procedures for estimating missing data.

A complete record of all measured parameters used in the GHG emissions calculations in §98.113 is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in the paragraphs (a) and (b) of this section. You must document and keep records of the procedures used for all such estimates.