process using Equation CC-4 of this section:

\[
EF_{CO_2} = \frac{ER_{CO_2}}{V_t \times 4.53 \times 10^{-4}} \quad \text{(Eq. CC-4)}
\]

Where:

- \( EF_{CO_2} \) = \( \text{CO}_2 \) emission factor (metric tons \( \text{CO}_2 \)/metric ton of process vent flow from mine water stripper/evaporator).
- \( ER_{CO_2} \) = \( \text{CO}_2 \) mass emission rate (metric tons/hour).
- \( V_t \) = Process vent flow rate from mine water stripper/evaporator during annual performance test (pounds/hour).
- \( 4.53 \times 10^{-4} \) = Conversion factor (metric tons/pound).

(iv) You must calculate annual \( \text{CO}_2 \) process emissions from each manufacturing line using Equation CC-5 of this section:

\[
E_k = EF_{CO_2} \times (V_a \times 0.453) \times H \quad \text{(Eq. CC-5)}
\]

Where:

- \( E_k \) = Annual \( \text{CO}_2 \) process emissions for each manufacturing line, \( k \) (metric tons).
- \( EF_{CO_2} \) = \( \text{CO}_2 \) emission factor (metric tons \( \text{CO}_2 \)/metric ton of process vent flow from mine water stripper/evaporator).
- \( V_a \) = Annual process vent flow rate from mine water stripper/evaporator (thousand pounds/hour).
- \( H \) = Annual operating hours for each manufacturing line.
- \( 0.453 \) = Conversion factor (metric tons/thousand pounds).

(4) Calculate and report under subpart C of this part (General Stationary Fuel Combustion Sources) the combustion \( \text{CO}_2 \), \( \text{CH}_4 \), and \( \text{N}_2\text{O} \) emissions in the soda ash manufacturing line according to the applicable requirements in subpart C.

§ 98.294 Monitoring and QA/QC requirements.

Section 98.293 provides three different procedures for emission calculations. The appropriate paragraphs (a) through (c) of this section should be used for the procedure chosen.

(a) If you determine your emissions using § 98.293(b)(2) (Equation CC-1 of this subpart) you must:

(1) Determine the monthly inorganic carbon content of the trona from a weekly composite analysis for each soda ash manufacturing line, using a modified version of ASTM E359–00 (Re-approved 2005) e1 Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate) (incorporated by reference, see § 98.7). Although ASTM E359–00 (Re-approved 2005) e1 uses manual titration, suitable autotittrators may also be used for this determination.

(2) Measure the mass of trona input produced by each soda ash manufacturing line on a monthly basis using belt scales or methods used for accounting purposes.

(3) Document the procedures used to ensure the accuracy of the monthly measurements of trona consumed.

(b) If you calculate \( \text{CO}_2 \) process emissions based on soda ash production (§ 98.293(b)(2) Equation CC-2 of this subpart), you must:

(1) Determine the inorganic carbon content of the soda ash (i.e., soda ash purity) using ASTM E359–00 (Re-approved 2005) e1 Standard Test Methods for Analysis of Soda Ash (Sodium Carbonate) (incorporated by reference, see § 98.7). Although ASTM E359–00 (Re-approved 2005) e1 uses manual titration, suitable autotittrators may also be used for this determination.

(2) Measure the mass of soda ash produced by each soda ash manufacturing line on a monthly basis using belt scales, by weighing the soda ash at the truck or rail loadout points of your facility, or methods used for accounting purposes.

(3) Document the procedures used to ensure the accuracy of the monthly measurements of soda ash produced.

(c) If you calculate \( \text{CO}_2 \) emissions using the site-specific emission factor method in § 98.293(b)(3), you must:
(1) Conduct an annual performance test that is based on representative performance (i.e., performance based on normal operating conditions) of the affected process.

(2) Sample the stack gas and conduct three emissions test runs of 1 hour each.

(3) Conduct the stack test using EPA Method 3A at 40 CFR part 60, appendix A–2 to measure the CO$_2$ concentration, Method 2, 2A, 2C, 2D, or 2F at 40 CFR part 60, appendix A–1 or Method 26 at 40 CFR part 60, appendix A–2 to determine the stack gas volumetric flow rate. All QA/QC procedures specified in the reference test methods and any associated performance specifications apply. For each test, the facility must prepare an emission factor determination report that must include the items in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.

(i) Analysis of samples, determination of emissions, and raw data.

(ii) All information and data used to derive the emissions factor(s).

(iii) You must determine the average process vent flow rate from the mine water stripper/evaporator during each test and document how it was determined.

(4) You must also determine the annual vent flow rate from the mine water stripper/evaporator from monthly information using the same plant instruments or procedures used for accounting purposes (i.e., volumetric flow meter).


§ 98.296 Data reporting requirements.

In addition to the information required by §98.3(c), each annual report must contain the information specified in paragraphs (a) or (b) of this section, as appropriate for each soda ash manufacturing facility.

(a) If a CEMS is used to measure CO$_2$ emissions, then you must report under this subpart the relevant information required under §98.36 and the following information in this paragraph (a):

(1) Annual consumption of trona or liquid alkaline feedstock for each manufacturing line (tons).

(b) For each missing value of either the monthly soda ash production or the trona consumption, the substitute data value shall be the best available estimate(s) of the parameter(s), based on all available process data or data used for accounting purposes.

(c) For each missing value collected during the performance test (hourly CO$_2$ concentration, stack gas volumetric flow rate, or average process vent flow from mine water stripper/evaporator during performance test), you must repeat the annual performance test following the calculation and monitoring and QA/QC requirements under §§98.293(b)(3) and 98.294(c).

(d) For each missing value of the monthly process vent flow rate from mine water stripper/evaporator, the substitute data value shall be the best available estimate(s) of the parameter(s), based on all available process data or the lesser of the maximum capacity of the system or the maximum rate the meter can measure.

§ 98.295 Procedures for estimating missing data.

For the emission calculation methodologies in §98.293(b)(2) and (b)(3), a complete record of all measured parameters used in the GHG emissions calculations is required (e.g., inorganic carbon content values, etc.). 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) through (d) of this section. You must document and keep records of the procedures used for all such missing value estimates.