§ 98.64 Monitoring and QA/QC requirements.

(f) Use the following procedures to calculate CO\(_2\) emissions from anode baking of prebake cells:

\[ E_{\text{CO}_2\text{PV}} = (GA - H_w - BA - WT) \times \frac{44}{12} \quad (\text{Eq. F-7}) \]

Where:
- \( E_{\text{CO}_2\text{PV}} \) = Annual CO\(_2\) emissions from pitch volatiles combustion (metric tons CO\(_2\)).
- \( GA \) = Initial weight of green anodes (metric tons).
- \( H_w \) = Annual hydrogen content in green anodes (metric tons).
- \( BA \) = Annual baked anode production (metric tons).
- \( WT \) = Annual waste tar collected (metric tons).
- \( \frac{44}{12} \) = Ratio of molecular weights, CO\(_2\) to carbon.

(1) Use Equation F-7 of this section to calculate emissions from pitch volatiles combustion.

\[ E_{\text{CO}_2\text{PC}} = \frac{PCC \times BA}{100} \times \left( 100 - \frac{S_{pc}}{100} - \frac{\text{Ash}_{pc}}{100} \right) \times \frac{44}{12} \quad (\text{Eq. F-8}) \]

Where:
- \( E_{\text{CO}_2\text{PC}} \) = Annual CO\(_2\) emissions from bake furnace packing material (metric tons CO\(_2\)).
- \( PCC \) = Annual packing coke consumption (metric tons/metric ton baked anode).
- \( BA \) = Annual baked anode production (metric tons).
- \( S_{pc} \) = Sulfur content in packing coke (percent weight).
- \( \text{Ash}_{pc} \) = Ash content in packing coke (percent weight).
- \( \frac{44}{12} \) = Ratio of molecular weights, CO\(_2\) to carbon.

(g) If process CO\(_2\) emissions from anode consumption during electrolysis or anode baking of prebake cells are vented through the same stack as any combustion unit or process equipment that reports CO\(_2\) 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 paragraphs (d) and (e) of this section shall not be used to calculate those process emissions. The owner or operation 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 (General Stationary Fuel Combustion Sources).

§ 98.66 Data reporting requirements.

In addition to the information required by § 98.3(c), you must report the following information at the facility level:

(a) Annual aluminum production in metric tons.

(b) Type of smelter technology used.

(c) The following PFC-specific information on an annual basis:

(1) Perfluoromethane emissions and perfluoroethane emissions from anode effects in all prebake and all Söderberg electrolysis cells combined.

(2) 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 CF$_4$/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%).)

(3) Smelter-specific slope coefficients (or overvoltage emission factors) and the last date when the smelter-specific-slope coefficients (or overvoltage emission factors) were measured.

(d) Method used to measure the frequency and duration of anode effects (or overvoltage).

(e) The following CO$_2$-specific information for prebake cells:

(1) Annual anode consumption.

(2) Annual CO$_2$ emissions from the smelter.

(f) The following CO$_2$-specific information for Söderberg cells:

(1) Annual paste consumption.

(2) Annual CO$_2$ emissions from the smelter.

\[
\text{ECO}_2 = \text{EF}_p \times \text{MP}_p + \text{EF}_s \times \text{MP}_s \tag{Eq. F-8}
\]

Where:

\( \text{ECO}_2 \) = CO$_2$ emissions from anode and/or paste consumption, metric tons CO$_2$.

\( \text{EF}_p \) = Prebake technology specific emission factor (1.6 metric tons CO$_2$/metric ton aluminum produced).

\( \text{MP}_p \) = Metal production from prebake process (metric tons Al).

\( \text{EF}_s \) = Söderberg technology specific emission factor (1.7 metric tons CO$_2$/metric ton Al produced).

\( \text{MP}_s \) = Metal production from Söderberg process (metric tons Al).

(1) Perfluoromethane emissions and perfluoroethane emissions from anode effects in all prebake and all Söderberg electrolysis cells combined.

(2) 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 CF$_4$/metric ton Al)/(mV/cell day)), potline overvoltage (mV/cell day), current efficiency (%).)

(3) Smelter-specific slope coefficients (or overvoltage emission factors) and the last date when the smelter-specific-slope coefficients (or overvoltage emission factors) were measured.

(4) Method used to measure the frequency and duration of anode effects (or overvoltage).

(5) The following CO$_2$-specific information for prebake cells:

(1) Annual anode consumption.

(2) Annual CO$_2$ emissions from the smelter.