40 C.F.R. § 98.443

Calculating CO2 geologic sequestration.

You must calculate the mass of CO_2 received using CO_2 received equations (Equations RR-1 to RR-3 of this section), unless you follow the procedures in § 98.444(a)(4). You must calculate CO_2 sequestered using injection equations (Equations RR-4 to RR-6 of this section), production/recycling equations (Equations RR-7 to RR-9 of this section), surface leakage equations (Equation RR-10 of this section), and sequestration equations (Equations RR-11 and RR-12 of this section). For your first year of reporting, you must calculate CO_2 sequestered starting from the date set forth in your approved MRV plan.

(a) You must calculate and report the annual mass of CO_2 received by pipeline using the procedures in paragraphs (a)(1) or (a)(2) of this section and the procedures in paragraph (a)(3) of this section, if applicable.

(1) For a mass flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the mass flow by the CO_2 concentration in the flow, according to Equation RR-1 of this section. You must collect these data quarterly. Mass flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2T,r} = \sum_{p=1}^{4} (Q_{r,p} - S_{r,p}) * C_{CO_2,p,r} \qquad \text{(Eq. RR-1)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons). $Q_{r,p}$ = Quarterly mass flow through a receiving flow meter r in quarter p (metric tons). $S_{r,p}$ = Quarterly mass flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (metric tons). $C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (wt. percent CO_2, expressed as a decimal fraction). p = Quarter of the year. r = Receiving flow meter.

(2) For a volumetric flow meter, you must calculate the total annual mass of CO_2 in a CO_2 stream received in metric tons by multiplying the volumetric flow at standard conditions by the CO_2 concentration in the flow and the density of CO_2 at standard conditions, according to Equation RR-2 of this section. You must collect these data quarterly. Volumetric flow and concentration data measurements must be made in accordance with § 98.444.

$$CO_{2T,r} = \sum_{p=1}^{4} (Q_{r,p} - S_{r,p}) * D * C_{CO_2,p,r} \qquad \text{(Eq. RR-2)}$$

where:

$CO_{2T,r}$ = Net annual mass of CO_2 received through flow meter r (metric tons). $Q_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r in quarter p at standard conditions (standard cubic meters). $S_{r,p}$ = Quarterly volumetric flow through a receiving flow meter r that is redelivered to another facility without being injected into your well in quarter p (standard cubic meters). D = Density of CO_2 at standard conditions (metric tons per standard cubic meter): 0.0018682. $C_{CO2,p,r}$ = Quarterly CO_2 concentration measurement in flow for flow meter r in quarter p (vol. percent CO_2, expressed as a decimal fraction). p = Quarter of the year. r = Receiving flow meter.