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A656. EPA has prepared a general table of reporting instructions for FCC units with CEMs as presented in the table below. In addition EPA has provided guidance on how to report regenerator and process gas and explained how to avoid double counting of emissions in the following common situations:

1. Should I report my "complete combustion regenerator" as a "process-only" configuration or as a "shared process/combustion stack" configuration?
2. Should I enter "petroleum coke" or "catalyst coke" into the "Types of fuel combusted in the unit(s) monitored by the CEMS" field?
3. Should I report my "CO boiler" as a "process-only" configuration or as a "shared process/combustion stack" configuration?
4. Should I enter "regenerator flue gas" or "FCCU process gas" in the "Types of fuel combusted in the unit(s) monitored by the CEMS" field since the CO boiler burns mostly these fuels?
5. Under the “process-only” configuration, should I leave “CO_2 emissions attributable to process CO_2 emissions” blank under the “CEMS Monitoring Location Process Units?
6. Under the "shared process/combustion stack" configuration, how do I report my process emissions given that there are both process and combustion emissions?
7. Under the "process-only" configuration, what do I report under "Equation C-10 Summary and Results"?
8. Under the “shared process/combustion stack” configuration, under “Equation C-10 Summary and Results”, do I report the total CH_4 and N_2O emissions at the CML or only the emissions from the combustion of auxiliary fuels used in the CO boiler?

General Reporting Instructions for FCCU CO_2 CEMS

This table goes through all fields on the Add/Edit CEMS Monitoring Location page in e-GGRT to assist in reporting emissions, depending on which configuration type below is present at your CML.

Data Element	Process-Only Configuration	Shared Process/Combustion Stack Configuration
CEMS Monitoring Location Name/ID	Required	
Description (optional)	Optional	
Configuration Type	Single process/process unit exhausts to dedicated stack, or Multiple processes/process units share common stack	Process/stationary combustion units share common stack
Types of fuel combusted in the unit(s) monitored by the CEMS	Leave blank (or enter none or N/A to remove validation message)	Required
Calculation Methodology Start Date	Required	
Calculation Methodology End Date	Required	
Quarterly CO_2 Emissions	Required for all 4 quarters (enter 0 for a quarter if your unit is shut down for that time)	
Total annual CO_2 mass emissions (biogenic and non-biogenic) measured by the CEMS	Should always equal the sum of the Quarterly CO_2 Emissions	
Slipstream checkbox	Required if applicable	
Total annual biogenic CO_2 mass emissions	Required (enter 0 if you do not have any)	
Total annual non-biogenic CO_2 mass emissions (includes fossil fuel, sorbent, and process CO_2 emissions)	Should equal the total annual CO_2 mass emissions measured by the CEMS <u>minus</u> the total annual biogenic CO_2 mass emissions.	
Total CH_4 emissions	Enter 0	Required for Table C-2 fuels only (otherwise enter 0)
Total N_2O emissions	Enter 0	Required for Table C-2 fuels only (otherwise enter 0)
CO_2 emissions from CEMS Monitoring Location (CML) attributable to combustion	Enter 0	Required (calculated in accordance with subpart C); this number <u>plus</u> the process CO_2 emissions below should equal the total annual CO_2 mass emissions measured by the CEMS.
CO_2 emissions attributable to process CO_2 emissions	Equals the total annual CO_2 mass emissions measured by the CEMS	Equals the total annual CO_2 mass emissions measured by the CEMS <u>minus</u> the CO_2 attributable to combustion above

1. I have a CEMS that monitors the CO_2 emissions from a catalytic cracking unit with a complete combustion regenerator (no CO boiler) that burns off petroleum coke which has deposited on the catalyst. Should I report this as a "process-only" configuration or as a "shared process /combustion stack" configuration?

You should report this as a “process-only” configuration. The emissions from the combustion of petroleum coke deposited on the catalyst are considered to be process emissions, not combustion emissions. The only time a complete combustion catalytic cracking unit would report as a “shared process /combustion stack” configuration is if the unit had auxiliary fuel fired by the catalytic cracking unit during start-up or idling of the unit and these emissions were measured by the CEMS.

2. Under the process-only configuration, should I enter “petroleum coke” or “catalyst coke” into the “Types of fuel combusted in the unit(s) monitored by the CEMS” field?

No. You should leave this field blank because no fuels are combusted in a process-only configuration. Emissions arising from catalyst petroleum coke burned within the regenerator are considered to be process emissions, not combustion emissions. Alternatively, to eliminate the e-GGRT validation messages, you may enter “none” or “not applicable” in this field.

3. I have a CEMS that monitors the CO_2 emissions from a CO boiler that receives process gas from a catalytic cracking unit. Should I report this as a “process-only” configuration or as a “shared process/combustion stack” configuration?

You should report this as a “shared process/combustion stack” configuration since the CO boiler will burn auxiliary fuel in addition to the CO-laden process gas from the regenerator.

4. Under the “shared process/combustion stack” configuration, should I enter “regenerator flue gas” or “FCCU process gas” in the “Types of fuel combusted in the unit(s) monitored by the CEMS” field since the CO boiler burns mostly these fuels?

No. The CO-laden regenerator exhaust gas is not considered a fuel because emissions arising from the combustion of these gases are considered to be process emissions and not combustion emissions. You should report only the auxiliary fuels fired by the CO boiler (typically fuel gas or natural gas).

5. Under the “process-only” configuration, should I leave “CO_2 emissions attributable to process CO2 emissions” blank under the “CEMS Monitoring Location Process Units” section because I’ve already reported all my CO_2 emissions under the “Annual CO2 Emissions” section? Wouldn’t it be double-counting to enter these emissions in both locations?

There should always be CO_2 emissions attributable to the process, since these emissions are a normal part of FCCU operation. Double-counting is not a concern because e-GGRT calculates subpart and facility total emissions using the only total annual CO_2 emissions measured by the CEMS.

6. Under the “shared process/combustion stack” configuration, how do I calculate my process emissions given that there are both process and combustion emissions?

The instructions in 98.253(c)(1)(ii) indicate that the process emissions should be the “Total annual CO2 mass emissions (biogenic and non-biogenic) measured by the CEMS” minus the *“CO_2 emissions from CEMS Monitoring Location (CML) attributable to combustion.”* The emissions attributable to combustion should be calculated using the applicable methods in subpart C.

7. Under the “process-only” configuration, what do I report under “Equation C-10 Summary and Results”?

For the “process-only” configuration, you should enter “0” in the CH4 and N2O emissions fields since equation C-10 relates to calculating combustion emissions, which are not included in a process-only configuration.

8. Under the “shared process/combustion stack” configuration, under “Equation C-10 Summary and Results”, do I report the total CH4 and N2O emissions at the CML or only the emissions from the combustion of auxiliary fuels used in the CO boiler?

You would typically report only the CH_4 and N_2O emissions due to combustion of fuel gas and other Table C-2 fuels used in the CO boiler. If you have a separate stationary combustion source that shares a common stack with the process emissions, also include and report the CH4 and N2O emissions due to combustion of fuels used in the stationary combustion unit following the requirements of subpart C. The CH_4 and N_2O emissions generated from the combustion of catalyst petroleum coke are reported under the subject process unit’s e-GGRT data entry forms and should not be included in the CML’s reporting section “CEMS Equation C-10 Summary and Results.”

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