Petrochemical Production Monitoring Checklist

United States Environmental Protection Agency

Final Rule: Mandatory Reporting of Greenhouse Gases

What Must Be Monitored for Each Petrochemical Production Process Unit?

If using a CEMS…
In addition to the monitoring requirements under 40 CFR subpart C for the Tier 3 (for CH_4 and N_2O emissions) and Tier 4 Calculation Methodologies (for CO_2) and the requirements under 40 CFR subpart Y for flares, measure these parameters…

- ☐ Annual quantity of each type of petrochemical (as defined in rule) produced from each process unit (metric tons)

If NOT using a CEMS…
Measure the applicable parameters monthly (unless otherwise noted) from the list below…

- ☐ Volume of each gaseous feedstock (standard cubic feet [scf])
- ☐ Either of the following:
  - Carbon content of each gaseous feedstock (kilograms [kg] carbon [C] per kg of feedstock) and molecular weight of each gaseous feedstock (kg/kg-mole), or
  - Concentrations of each carbon-containing compound in each gaseous feedstock (kg-mole of component per kg-mole of feedstock)
- ☐ Volume or mass of each liquid feedstock (gallons or kg)
- ☐ Volume of each gaseous product (scf)
- ☐ Either of the following:
  - Carbon content of each gaseous product, including streams containing CO_2 recovered for sale or use in another process (kg C per kg of product) and molecular weight of gaseous product (kg/kg-mole), or
  - Concentrations of each carbon-containing compound in each gaseous product (kg-mole of component per kg-mole of product)
- ☐ Volume or mass of each liquid product (gallons or kg)

- ☐ Either of the following:
  - Carbon content of each liquid feedstock (kg C per gallon or kg of feedstock), or
  - Concentrations of each carbon-containing compound in each liquid feedstock (kg-mole/gallon)
- ☐ Mass of each solid feedstock (kg)
- ☐ Carbon content of each solid feedstock (kg C per kg of feedstock)
- ☐ Annual quantity of each type of petrochemical produced from each process unit (metric tons)
- ☐ Either of the following:
  - Carbon content of each liquid product, including organic liquid wastes (kg C per gallon or kg of product), or
  - Concentrations of each carbon-containing compound in each liquid product (kg-mole/gallon)
- ☐ Mass of each solid product (kg)
- ☐ Carbon content of each solid product (kg C per kg of product)

If you comply with the alternative to sampling and carbon content analysis for a feedstock or product that is greater than 99.5 percent by volume or mass of a single compound, monthly carbon content measurements are not necessary for that particular feedstock or product, but the following must be measured or determined:

- ☐ The amount of time, and start and end times, that off-specification product was produced
- ☐ Calculated carbon content of the off-specification product
- ☐ If applicable, the date of any process change that reduced the composition to less than 99.5 percent
- ☐ Monthly volume or mass of feedstock or product (scf, gallon, or kg)

If using the optional combustion methodology for ethylene production processes: In addition to the monitoring requirements under 40 CFR subpart C for the Tier 3 and 4 Calculation Methodologies and under 40 CFR subpart Y for flares, measure these parameters…

- ☐ Annual quantity of ethylene produced from each ethylene process unit (metric tons)
- ☐ Annual quantity of each feedstock used (metric tons)

See also the information sheet for Petrochemical Production (EPA-430-F-09-023R) at: www.epa.gov/climatechange/emissions/downloads/infosheets/petrochemproduction.pdf.

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