

US EPA ARCHIVE DOCUMENT

From: [Knowles, Daren](#)
To: [Aisling, Kathleen](#)
Subject: Flint Hills Resources WDCP EPA GHG Permit Statement of Basis and Draft Permit - Merox Offgas Stream
Date: Tuesday, April 08, 2014 1:16:43 PM

Kathleen,

On behalf of Flint Hills Resources Corpus Christi, LLC (FHR), I am submitting the information you requested related to the infeasibility of monitoring the Merox off-gas stream from the Sat Gas No. 3 Unit, which, as explained in the greenhouse gas (GHG) PSD permit application for FHR's West Refinery Domestic Crude Project, is combusted in the Sat Gas No. 3 Hot Oil Heater. Compared to the natural gas stream fired in the Sat Gas No. 3 Hot Oil Heater, the Merox off-gas stream has a low flow rate (<60 scfm) and operating pressure (<30 psig). Additionally, the Merox off-gas is highly corrosive due to contact with caustic prior to exiting the Merox system. Not only would the stream's low flow and pressure affect the overall accuracy of a flow measurement device, but the corrosive nature of the stream also would decrease its long term reliability.

As a result, FHR is proposing to use Equation Y-19 in 40 CFR 98.253(j) to calculate GHG emissions resulting from the combustion of the Merox off-gas stream in the Sat Gas No. 3 Hot Oil Heater. This equation is for process vents at a petroleum refinery, such as the Merox off-gas stream from the Sat Gas No.3 Unit, that are not specifically listed in 40 CFR Part 98, Subpart Y. Per Equation Y-19, the inputs (i.e. volumetric flow rate, mole fraction of GHG) into the equation can be based on process knowledge or engineering estimates. Process knowledge and engineering estimates are adequate bases for estimating GHG emissions from the Merox off-gas stream because neither the flow rate nor the composition of the stream is highly variable and also because the stream is estimated to contribute less than 0.5% of the total GHG emissions from the Sat Gas No. 3 Hot Oil Heater. Accordingly, Equation Y-19 is an appropriate method for calculating GHG emissions from the combustion of the Merox off-gas stream in the Sat Gas No. 3 Hot Oil Heater and demonstrating compliance with the annual emission limits in the GHG permit.

Thanks, Daren