



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

January 13, 2023

Mary Claire Petit
Manager Environmental Engineering
Valero St. Charles Refinery
P. O. Box 518
Norco, Louisiana 70079-0518

Sent via email: maryclaire.petit@valero.com

Re: Alternative Monitoring Plan (AMP) Modification Request – Proposed Reduction of High-Level Calibration Audit Concentration Range. NSPS Ja Flare Total Reduced Sulfur Continuous Analyzers Valero St. Charles Refinery, Norco, Louisiana

Dear Ms. Petit:

This letter is in response to your request dated June 4, 2021, for a modification to the May 17, 2017, EPA approval letter regarding reduced concentration of span gas used to check daily calibration drift, and high range validation standards used during cylinder gas audits (CGAs) and relative accuracy test audits (RATAs) under NSPS Subpart Ja. The United States Environmental Protection Agency (EPA) approves your modification request, as specified in this letter.

Specifically, Valero St. Charles Refinery is requesting to eliminate the use of extremely high concentration hydrogen sulfide (H₂S) calibration gas as required by 40 C.F.R. 60.13(d)(1) and Performance Specification (PS) 5 for the monitoring requirements on Valero St. Charles's CEMS for total reduced sulfur (TRS) at Flare No. 2 (EQT 0007). Valero St. Charles Refinery is proposing to use reduced concentrations of calibration gas in order to eliminate significant safety concerns associated with the handling, transportation, and storage of materials containing extremely high concentrations of H₂S. The hazards associated with handling, transportation, and storage, as listed on the safety data sheet (SDS) for H₂S furnished for EPA's review, include "very toxic," "extremely flammable," "may be fatal if inhaled," and "requires special handling precautions and engineering controls."

The Valero St. Charles Refinery flares are subject to the compliance requirements of 40 C.F.R. § 60.107a(e), sulfur monitoring for assessing root cause analysis thresholds for affected flares, which is a provision of NSPS Subpart Ja. According to 40 C.F.R. § 60.13(d)(1), CEMS calibration drift checks must be conducted daily for the zero level (or a low value of 0-20 percent [%] of span value) and span range (50-100 % of span value). Valero St. Charles Refinery now estimates the maximum span as 100,000 parts per million (ppm) for Flare No. 2. The maximum span was previously estimated at 50,000 ppm.

ABB has re-certified the linearity of the PGC5007 Total Sulfur Oven installed on Flare No. 2 to continuously analyze and record the TRS concentration over the concentration range of up to 100,000 ppm. The relative error between calibration standards and measured values is below 1%. Valero St. Charles Refinery requests that EPA maintain the reduced calibration gas concentrations previously

Valero St. Charles Refinery - NSPS Ja Flare CEMS validation

approved for the daily span check and the validation standard for CGAs and RATAs, while following all other monitoring requirements of 40 C.F.R. 60.13(d)(1) and Performance Specification (PS) 5, in spite of the increased maximum sulfur content from 50,000 pm to 100,000 ppm.

Based on the process data and analyzer information submitted, EPA conditionally approves your request to reduce the concentrations of the calibration gas and validation standards on the CEMS for Flare No. 2 (EQT 0007), provided that all other requirements of the monitoring procedures of NSPS Subpart Ja for TRS are followed. The concentrations of calibration gas for daily drift checks, RATAs, and CGAs shall be the values indicated in Table 1 below.

The reduced H₂S calibration gas concentrations are approved as follows:

Daily Calibration	low range: 0 - 2000 ppm high range: 5000 - 10000 ppm
Quarterly CGAs and RATA	low range: 2000 - 3000 ppm high range: 5000- 6000 ppm

Additionally, Valero St. Charles Refinery shall conduct linearity analysis on the ABB PGC5007 Total Sulfur Ovens once every three years to determine the detector’s linearity across the entire range of expected concentrations of acid gas vent streams. The analysis shall demonstrate that linearity is maintained for Flare No. 2 (EQT 0007) for vent gas stream H₂S concentrations of 0-100,000 ppm. A report of the linearity analysis shall be submitted to EPA Region 6 and the Louisiana Department of Environmental Quality (LDEQ) Regional Office.

This conditional approval is site specific for Flare No. 2 located at Valero St. Charles refinery. If refinery operations change such that the sulfur content or H₂S concentration range of the fuel gas vent stream to Flare No. 2 changes from representations made for this AMP conditional approval, then Valero St. Charles Refinery must document the change(s) and submit a request to modify the AMP. The AMP should also be incorporated in the facility's new source review (NSR) and Title V permits for federal enforceability. If you have any questions or concerns about this conditional approval, please contact Prince Nfodzo of my staff at (214) 665-7491 or Nfodzo.prince@epa.gov.

Sincerely,

STEVEN THOMPSON

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Steve Thompson
Chief
Air Enforcement Branch

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