



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

June 28, 2022

TRANSMITTED VIA EMAIL

Ryan Goble
American Environmental, Inc.
PO Box 2370
Claremore, OK 74019

Email: rgoble@americanenvinc.com

Re: Alternative Monitoring Plan (AMP) and Performance Testing Waiver – Hydrogen Sulfide (H₂S) Monitoring for Vapors Combusted in Portable Thermal Oxidizers (TOU) under New Source Performance Standards (NSPS) for Petroleum Refineries, Subparts J and Ja – American Environmental Inc. – Various Refineries Located in Region 6.

Dear Mr. Goble:

This letter is in response to your request, dated April 12, 2022, pertaining to the use of portable temporary thermal oxidizer units (TOUs), such as vapor combustors, for emissions control during tank degassing and similar vapor control projects at various petroleum refineries that are subject to NSPS Subparts J or Ja. Upon review of information provided, the United States Environmental Protection Agency (EPA) conditionally approves your AMP and grants a performance testing waiver for degassing activities that use portable temporary TOUs at refineries located within Region 6 states¹, as explained below and further delineated in the Enclosure to this letter.

Specifically, American Environmental performs degassing services for tanks, vessels, and pipes at petroleum refineries. The use of portable TOUs to combust vapors that are refinery fuel gas vent streams result in the TOUs being considered fuel gas combustion devices subject to either NSPS Subpart J or Subpart Ja, depending on the refinery-specific requirements. NSPS Subparts J and Ja prohibit the owner or operator of a fuel gas combustion device from burning vent gas generated at a petroleum refinery that contains H₂S in excess of the following limits:

- 1) 230 milligrams per dry standard cubic meter (mg/dscm), per 40 CFR § 60.104(a)(1).
- 2) 162 parts per million by volume (ppmv) determined hourly on a 3-hour rolling average basis, and 60 ppmv determined daily on a 365-day successive calendar day rolling average basis, per 40 CFR § 60.102a(g)(1)(ii).

NSPS Subparts J and Ja require the owner or operator of a fuel gas combustion device to install, calibrate, maintain, and operate a continuous emission monitoring system (CEMS) to monitor and

¹ The AMP conditional approval is limited to refineries located within Texas, Oklahoma, Louisiana, New Mexico, and Arkansas.

recrystallization of H₂S in the fuel gases before being burned in a combustion device, per 40 CFR §§ 0.105(a)(4) and 0.107a(a)(2). Since your portable TOUs are used on a temporary basis at each facility, you conclude that installation of a H₂S EMS would be economically feasible and technically impractical to implement.

Based on the information provided, EPA agrees that, for the specific portable and temporary combustion devices used, as described in your request, it is impractical to require monitoring via a H₂S EMS as specified by NSPS Subparts J and X. Therefore, in accordance with 40 CFR § 0.13(i), EPA conditionally approves American Environmental's AMP. In addition, based on American Environmental's proposed alternative testing protocol to be used during each bagasse event, EPA waives performance testing pursuant to 40 CFR § 0.8(b)(4). Our conditional approval is limited to the monitoring of H₂S for the parameters described in your AMP and eliminate the ECL surety this letter, and does not alter American Environmental's or a particular refinery's obligations to meet all other applicable NSPS requirements, including, but not limited to, the full weight NSPS general provisions:

- 1) the requirement that materials separate affected facilities and associated air pollution control equipment to maintain compliance with good air pollution control practices for minimization of emissions, per 40 CFR § 0.11(i); and
- 2) the prohibition against concealed emissions which would otherwise be controlled by applicable standards, including the use of gas dilution to achieve compliance with a standard which is based on the concentration of pollutants in the gases discharged to the atmosphere, per 40 CFR § 0.12.

This conditional approval is based upon preliminary consultations with your Office of Air Quality Planning and Standards and your Office of Enforcement and Compliance Assurance and is consistent with similar approvals issued by your office. This conditional approval will automatically expire at the effective date of any change to NSPS Subparts J and X that directly affects the requirements to monitor H₂S concentrations in fuel gases burned in portable combustion devices.

In addition, if American Environmental's use of portable TOUs during bagasse operations changes from the representations made in the AMP, this approval will become null and void. Furthermore, if an affected refinery's operations change such that the sulfur content of the off-gas vent streams increases beyond levels specified in the ECL surety this letter, the refinery must submit the change(s) that American Environmental may follow appropriate steps in either 40 CFR §§ 0.105(b)(3)(i)-(iii) or 0.107a(b)(3)(i)-(iii), based upon refinery-specific requirements.

EPA's conditional approval should be referenced and attached to each air permit authorization obtained by, claimed, or issued to American Environmental in each Regional state (e.g., State Minor Source Permit), to ensure federal enforceability, as specified in the ECL surety.

If you have any questions about this conditional approval, please contact Diana Luelius of my staff at (214) 5-7488 or by email at luelius.diana@epa.gov.

Sincerely,

STEVEN X
THOMPSON

Digitally signed by STEVEN
THOMPSON
Date: 2022.06.28 14:09:10 -05'00'

Steve Thompson
Chief
Air Enforcement Branch

Enclosure

cc: David Seymour, Louisiana Department of Environmental Quality, david.seymour@la.gov
Michael Delacruz, Texas Commission on Environmental Quality (TCEQ),
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ENCLOSURE

Alternative Monitoring Plan (AMP) and Testing Waiver Evaluation For Monitoring H₂S in Vapors Combusted in Portable Thermal Oxidizer Units During Degassing of Tanks, Vessels, and Piping at Various Petroleum Refineries

America's Environmental Protection Agency (EPA) proposes an alternative monitoring plan (AMP) on April 12, 2022, for monitoring hydrogen sulfide (H₂S) in vapors that are combusted in portable thermal oxidizer units (TOUs). Under the AMP, America's Environmental Protection Agency will perform degassing tanks, vessels, and piping at various refineries using portable temporary TOUs (e.g. vapor combustors) as emission control devices. Since America's Environmental Protection Agency's portable TOUs will combust vapors that may be considered refinery fuel gas, the TOUs are combustion devices subject to New Source Performance Standards (NSPS) for Petroleum Refineries, Title 40 of Federal Regulations (40 CFR) Part 60, Subpart J and K. While the TOUs are subject to NSPS J and K, the incoming fuel gas streams from degassing at various refineries may be subject to either NSPS J or K. Since the TOUs are portable units that are used on a temporary basis, and are temporary equipment we regulate by the petroleum refineries, EPA agrees that it is technically feasible and is technically impractical to install H₂S EMS as currently required under NSPS Subparts J and K. Additionally, in accordance with America's Environmental Protection Agency's alternate testing protocol, EPA waives the requirement to conduct performance testing for each degassing event, consistent with 40 CFR § 60.8(b)(4).

Based upon America's Environmental Protection Agency's representations of the degassing operations that will be covered by the AMP, the operation of the portable combustion devices, and other information submitted in the company's AMP request of April 12, 2022, the following conditions must be met as part of this AMP approval:

1. Each refinery where America's Environmental Protection Agency conducts degassing operations shall provide America's Environmental Protection Agency the following information:
 - (i) a list of the tanks, vessels and piping where degassing operations may occur;
 - (ii) a site plan diagram showing the location and orientation of the tanks, vessels, and piping where degassing operations will occur, and the locations where America's Environmental Protection Agency may locate the portable thermal oxidizers and other equipment necessary for the degassing operations;
 - (iii) the names and titles of responsible refinery individuals who will review and approve degassing grab sample records and log sheets for the refinery;
 - (iv) a list of the materials stored in each tank, vessel, or piping area, and Material Safety Data Sheets (MSDS) for each material;
 - (v) a list of operating restrictions, if any, to ensure that degassing operations conform to special conditions in the refinery's air permits; and,
 - (vi) if applicable, a copy of the refinery's AMP for degassing operations that includes the use of portable emission control devices.

2. America's Environmental Protection Agency shall use length of stay tubes (e.g. Draeger) with a minimum detection limit of 200 ppm H₂S to determine the concentration of H₂S in gases emitted from each America's Environmental Protection Agency portable TOU (i.e. a "grab sample"), as described in additional information submitted for the March 31, 2021, AMP petition. Each grab sample shall be taken at the inlet of the mobile TOU. If the concentration of the vent gas stream entering the TOU is less than 100 ppm H₂S, as measured by length of stay tubes, the America's Environmental Protection Agency shall hold portable H₂S monitoring

may be used to measure concentrations in subsequent grab samples. If America's Environmental Protection wishes to exercise the option of using handheld monitoring equipment for initial grab samples, the H₂S sensor in the monitor must be capable of detecting a minimum concentration of at least 1-5 ppm and a maximum concentration range up to at least 200 ppm.

3. For each discrete degassing event, America's Environmental Protection shall collect a grab sample for H₂S within 30 minutes of startup of each portable TOU (the "initial grab sample"). Monitoring is required during periods when the TOU uses combustion gases generated by degassing activities.
4. If the initial grab sample indicates a H₂S concentration equal to or less than 1.2 ppmv, the inlet gas stream is deemed to meet the H₂S limits of NSPS J and X, and no further monitoring is required for that discrete degassing event.
5. If the initial grab sample indicates a H₂S concentration more than 1.2 ppmv, the required discrete degassing event, the inlet gas stream is deemed to have exceeded the 230 mg/scm limit of 40 CFR § 0.104(a)(1) and the 1.2 ppmv limit of 40 CFR § 0.102a(g)(1)(ii). America's Environmental Protection has a scrubber which it may use to further reduce the H₂S concentration of such a vent gas stream. After scrubbing the concentration reductant measures, America's Environmental Protection will conduct additional testing to demonstrate compliance with the H₂S limits specified in 40 CFR §§ 0.104(a)(1) and 0.102a(g)(1)(ii), by collecting an average of three valid grab samples as follows³:
 - (i) the initial grab sample;
 - (ii) a grab sample taken between 1 and 120 minutes after startup of the mobile thermal oxidizer unit; and
 - (iii) a grab sample taken between 121 and 180 minutes after startup of the mobile thermal oxidizer unit.
6. America's Environmental Protection shall record the results of each grab sample, the key activities completed with each degassing period, and other relevant information, the forms furnished for approval to EPA Region . America's Environmental Protection shall keep the records of all grab samples and degassing events for at least five years.
7. Within 5 business days after each discrete degassing event, America's Environmental Protection shall provide the owner/operator of the petroleum refinery where the discrete degassing event is performed the results of each grab sample, as well as a list of all dates and times when a grab sample indicates a H₂S concentration exceeded 1.2 ppmv. The purpose of this reporting requirement is to provide the owner/operator of the petroleum refinery with the data necessary for inclusion in excess emissions reports and monitoring system performance reports required by 40 CFR § 0.7(c).
8. Vapors from degassing periods shall be vented to a TOU which is fully operated as described in the AMP petition, which has been issued as an air permit, for which the appropriate air emissions authorization is claimed, in the State where the refinery is located.

² For example, sampling would be required during time periods that commercially purchased propane is combusted for the purposes of heating up the TOU to operating temperature prior to treatment of degassing activities emissions, and during equipment cool down after the device is idled to reduce treatment emissions from degassing activities.

³ America's Environmental Protection can use this alternative averaging method of demonstrating compliance only if three valid grab samples are taken as specified above within the designated time period.

9. Refineries must comply with the other applicable requirements of NSPS Subpart J that apply to the refinery fuel gas when American Electric Power conducts degassing operations. The use of American Electric Power's portable TOUs for control of H₂S at other refinery fuel gas vent stream pollutants at processes other than the degassing operations represents a discrete authorization by this conditional AMP.
10. American Electric Power shall follow its internal Standard Operating Procedures (SOP) for operation of the TOUs, as furnished with the company's April 12, 2022, AMP petition. American Electric Power shall review and update the SOP at least once annually to ensure consistency with requirements of the AMP conditional approval, current air permits and authorizations, applicable federal/state air emission rules. American Electric Power shall also update the list of TOUs used for degassing operations annually to accurately remove units as appropriate.
11. In states where American Electric Power claims a Permit By Rule (PBR), a de minimis, or other air permit authorization under EPA-approved delegated state rules which do not require registration or notification to the state, American Electric Power is required to come to the basis for claiming such authorization, including emission calculations and estimates and other information necessary for demonstration of compliance. This AMP must be attached to the comments, and the comments must be made available upon request by a refinery, or by a regulatory authority with jurisdiction over a facility where American Electric Power will operate. If a state requires registration for an air permit, or if American Electric Power voluntarily registers or obtains an air permit from a state, a complete copy of this AMP must be attached to such authorization or permit for federal enforceability.
12. Since the approved air rules and permitting mechanisms under State Implementation Plans for states in which EPA Regions may vary, this AMP conditional approval applies only within EPA Region states where American Electric Power will operate (Texas, Louisiana, Arkansas, New Mexico, Oklahoma). For all other states and territories outside EPA Region, American Electric Power must seek approval of a separate AMP petition from each EPA Region, or approval of a global AMP from EPA's Office of Air Quality Planning and Standards.