



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 5**  
**77 WEST JACKSON BOULEVARD**  
**CHICAGO, IL 60604-3590**

**ELECTRONIC MAIL**  
**DELIVERY RECEIPT REQUESTED**

Jack Mann  
Project Manager  
Diversified Vapor Technologies  
jmann@diversevapor.com

RE: Request for Alternative Monitoring Plan  
Standards of Performance for Petroleum Refineries, 40 C.F.R. Part 60, Subparts J and Ja

Dear Jack Mann:

The U.S. Environmental Protection Agency has received and reviewed a letter from Diversified Vapor Technologies, LTD (DVT), located in Galveston, Texas, dated June 16, 2023, requesting that the U.S. Environmental Protection Agency approve an alternative monitoring plan (AMP) to monitor hydrogen sulfide (H<sub>2</sub>S) during DVT's use of portable fuel gas combustion devices (FGCDs) when degassing storage tanks, process unit vessels and piping at petroleum refineries in Region 5 which are subject to the New Source Performance Standards for Petroleum Refineries, 40 C.F.R. Part 60, Subparts J and Ja (NSPS Subparts J and Ja). EPA approves DVT's request, as described further below, pursuant to 40 C.F.R. § 60.13(i), which allows EPA to approve alternatives to any monitoring procedures or requirements of 40 C.F.R. Part 60.

**NSPS Subpart J**

NSPS Subpart J requires the owner or operator of a FGCD to install, calibrate, maintain, and operate an instrument that continuously monitors and records the concentration of SO<sub>2</sub> emissions to the atmosphere, 40 C.F.R. § 60.105(a)(3).

Alternatively, NSPS Subpart J allows the owner or operator of a FGCD to install, calibrate, maintain, and operate an instrument that continuously monitors and records the concentration of H<sub>2</sub>S in the refinery fuel gases before being burned in a FGCD, 40 C.F.R. § 60.105(a)(4). In addition, NSPS Subparts J prohibits the owner or operator of a FGCD from burning any gas generated at a petroleum refinery that contains H<sub>2</sub>S in excess of 230 milligrams per dry standard cubic meter (mg/dscm) (40 CFR § 60.104(a)(1)).

**NSPS Subpart Ja**

NSPS Subpart Ja requires the owner or operator of a FGCD at petroleum refineries for which construction, reconstruction or modification was commenced after May 14, 2007 to install,

calibrate, maintain, and operate an instrument that continuously monitors and records the concentration of SO<sub>2</sub> emissions to the atmosphere, 40 C.F.R. § 60.107a(a)(1).

Alternatively, NSPS Subpart Ja allows the owner or operator of a FGCD at petroleum refineries for which construction, reconstruction or modification commenced after May 14, 2007 to install, calibrate, maintain, and operate an instrument that continuously monitors and records the concentration of H<sub>2</sub>S in the refinery fuel gases before being burned in a FGCD, 40 C.F.R. § 60.107a(a)(2). In addition, NSPS Subpart Ja prohibits the owner or operator of a FGCD from burning any gas generated at a petroleum refinery that contains H<sub>2</sub>S in excess of 162 ppmv determined hourly on a three-hour rolling average basis, and 60 ppmv determined daily on a 365-successive calendar day rolling average basis (40 C.F.R. § 60.102a(g)(1)(ii)).

#### DVT's AMP Request

Since the storage tank, process unit vessel and piping degassing operations are temporary, DVT states that it is infeasible to perform the continuous emission monitoring required by NSPS Subparts J and Ja when using portable FGCDs, and requests an AMP for monitoring requirements related to these operations. EPA agrees that it is impractical to require continuous H<sub>2</sub>S monitoring required under NSPS Subparts J and Ja during these events. Therefore, EPA conditionally approves your request, as described in this letter.

#### DVT's AMP

In accordance with 40 C.F.R. § 60.13(i) and after consideration of your written request, EPA approves as an alternative to the continuous monitoring requirements of 40 C.F.R. §§ 60.105(a)(4) and 60.107a(a)(2), the following AMP when DVT uses a portable FGCD to control emissions from storage tank, process unit vessel and piping degassing:

1. DVT shall use either H<sub>2</sub>S length of stain colorimetric tube testing or a hand-held portable H<sub>2</sub>S meter to determine the concentration of H<sub>2</sub>S in gases entering each portable FGCD (the Grab Sample). Each Grab Sample shall be taken at the inlet to each portable FGCD. If an H<sub>2</sub>S treatment system is utilized, the sample shall be taken at a location downstream of the H<sub>2</sub>S treatment system. DVT may elect to take additional samples upstream of the H<sub>2</sub>S treatment system when terminating use of the H<sub>2</sub>S treatment system as noted in step 10, below.
2. In the event that the measurement range of a hand-held portable analyzer or stain tube is exceeded, DVT shall re-sample with a hand-held portable analyzer or length of stain colorimetric tube with the appropriate measurement range to ensure that an accurate measurement is obtained.
3. For each discrete degassing event, DVT shall collect a Grab Sample for H<sub>2</sub>S within 30 minutes of commencing treatment of the degassing vapors in each portable FGCD utilized during the degassing event (the Initial Grab Sample). Monitoring is not required when the portable FGCD is not combusting fuel gas.

4. When no H<sub>2</sub>S treatment system is utilized prior to the FGCD and the Initial Grab Sample indicates an H<sub>2</sub>S concentration equal to or less than 162 ppmv, then the inlet gas stream is deemed to meet the applicable H<sub>2</sub>S limits of NSPS J or Ja and no further monitoring is required for that discrete degassing event.
5. When no H<sub>2</sub>S treatment system is utilized prior to the FGCD and the Initial Grab Sample indicates an H<sub>2</sub>S concentration more than 162 ppmv, then for that discrete degassing event, the inlet gas stream is deemed to have exceeded the 230 mg/dscm limit of 40 C.F.R. § 60.104(a)(1) or the 162 ppmv limit of 40 C.F.R. §§ 60.102a(g)(1)(ii), whichever is relevant to the applicable facility that was sampled. Alternatively, DVT may determine compliance with the H<sub>2</sub>S limits in 40 C.F.R. §§ 60.104(a)(1) or 60.102a(g)(1)(ii) by averaging three Grab Samples: (i) the Initial Grab Sample; (ii) a Grab Sample taken between 61 and 120 minutes after startup of the portable FGCD; and (iii) a Grab Sample taken between 121 and 180 minutes after startup of the portable FGCD. If the average of these three Grab Samples indicates an H<sub>2</sub>S concentration less than 162 ppmv, then for that discrete degassing event, the inlet gas stream is deemed to have complied with the 230 mg/dscm limit of 40 C.F.R. § 60.104(a)(1) or the 162 ppmv limit of 40 C.F.R. §§ 60.102a(g)(1)(ii), whichever is relevant to the applicable facility and was sampled. DVT can use this alternative method of demonstrating compliance only if it has three valid Grab Samples taken with the specified time periods.
6. When an H<sub>2</sub>S treatment system is utilized prior to the FGCD, DVT shall determine compliance with the applicable H<sub>2</sub>S limits in 40 C.F.R. §§ 60.104(a)(1) or 60.102a(g)(1)(ii) by averaging three Grab Samples: (i) the Initial Grab Sample; (ii) a Grab Sample taken between 61 and 120 minutes after startup of the portable FGCD; and (iii) a Grab Sample taken between 121 and 180 minutes after startup of the portable FGCD. The average of these three values shall be used to determine initial compliance with the relevant emission limits. If the H<sub>2</sub>S treatment system does not operate long enough to take all three samples, DVT will use the average of all the samples it was able to take in order to determine compliance with the relevant emission limits.
7. To demonstrate the continuing effectiveness of the H<sub>2</sub>S treatment system when a treatment system is being utilized prior to the portable FGCD, DVT will take one grab sample every eight-hour period while the H<sub>2</sub>S treatment system is operating. The first eight-hour period will commence at the time the third Grab Sample under step 6, above, is taken. Samples will be taken no less than four hours after the start of an eight-hour period.
8. If the periodic eight-hour Grab Sample taken pursuant to step 7, above, indicates an H<sub>2</sub>S concentration equal to or less than 162 ppmv, as applicable, then the inlet gas stream is deemed to meet the applicable H<sub>2</sub>S limit of NSPS J or Ja for that 8-hour period.
9. If the periodic eight-hour Grab Sample taken pursuant to step 7, above, indicates an H<sub>2</sub>S concentration greater than 162 ppmv, then the inlet gas stream is deemed to have exceeded the applicable H<sub>2</sub>S limit of NSPS J or Ja for that eight-hour period.

Alternatively, DVT may demonstrate compliance with the H<sub>2</sub>S limits of NSPS Subparts J or Ja by averaging three Grab Samples: (i) the first Grab Sample taken during that eight-hour period; (ii) a second Grab Sample for that eight-hour period taken between 61 and 120 minutes after the first Grab Sample for that eight-hour period; and (iii) a third Grab Sample for that eight-hour period taken between 121 and 180 minutes after the first Grab Sample for that eight-hour period. DVT can use this alternative method of demonstrating compliance only if it has three valid Grab Samples taken within the specified time periods.

10. When an H<sub>2</sub>S treatment system is utilized prior to the FGCD, DVT may discontinue sampling at eight -hour intervals if DVT takes a grab sample upstream of the H<sub>2</sub>S treatment system and the result of the Grab Sample is an H<sub>2</sub>S concentration equal to or less than 162 ppmv. After demonstrating pursuant to this procedure that an H<sub>2</sub>S treatment system is no longer needed, no further monitoring is required for that discrete degassing event.
11. DVT shall record the results of each Grab Sample and keep the records of all Grab Samples for at least five years.
12. Within five business days after each discrete degassing event, DVT shall provide the owner or operator of the petroleum refinery where the discrete degassing event is performed with:
  - a. The type of device used to control VOC emissions from the degassing event and the type of H<sub>2</sub>S treatment device used, if applicable.
  - b. The Subpart J/Ja compliance options under the AMP which were followed during the degassing event. This includes whether or not controls were used to capture H<sub>2</sub>S in the exhaust gas from the degassing prior to combustion.
  - c. The results of each grab sample, including specific identification of all dates and times when any Grab Sample indicated a H<sub>2</sub>S concentration more than 162 ppmv; key activities completed with each degassing operation, including dates and times of startup and shutdown of relevant equipment and commencement and conclusion of degassing, and other relevant information.

The purpose of this reporting requirement is to provide the owner or operator of the petroleum refinery with the data necessary for inclusion in its excess emissions and monitoring systems performance report or summary report form under 40 C.F.R. § 60.7(c).

13. This AMP is limited to the requirements to install an instrument that continuously monitors and records the concentration of H<sub>2</sub>S under NSPS J and Ja, and does not change the refinery owner or operator's obligations to meet all other applicable NSPS requirements.

14. If a refinery already has an approved AMP for control and monitoring of tanks, vessels and piping degassing emissions, then the refinery's AMP shall remain in effect in addition to non-overlapping provisions of this AMP specific to DVT's operation of mobile combustion devices. If overlapping provisions need to be addressed, either DVT or the refinery may submit a request to Region 5 for site-specific review and a revision to an approved AMP.

This AMP for DVT's operations is effective immediately, but shall automatically expire on the effective date of any change that EPA makes to NSPS Subparts J or Ja that directly addresses the requirement to monitor the H<sub>2</sub>S concentration in the fuel gases burned in portable FGCDs used to degas tanks, vessels or pipes at petroleum refineries.

If you have any questions regarding this determination, please contact Virginia Galinsky of my staff at [galinsky.virginia@epa.gov](mailto:galinsky.virginia@epa.gov).

Sincerely yours,

**MICHAEL  
HARRIS**  Digitally signed by  
MICHAEL HARRIS  
Date: 2023.07.27  
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Michael D. Harris  
Division Director  
Enforcement and Compliance Assurance Division

cc: Cheryl Seager, EPA Region VI