



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

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AIR & RADIATION
DIVISION

June 7, 2021

Mr. Ryan O'Larey
Environmental Engineer
BP Cherry Point Refinery
4519 Grandview Road
Blaine, Washington 98230

Re: Regulatory Interpretation of Leak Monitoring for Pressure Relief Devices

Dear Mr. O'Larey:

This is a response to your letter dated February 21, 2021, in which you request clarity related to the leak detection and repair requirements for pressure relief devices. In your letter, you identify several standards in 40 CFR parts 60 and 63 that could apply to PRD. However, your specific questions relate to 40 CFR part 60, subpart VVa: *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, and Modification Commenced After November 7, 2006* (NSPS VVa), 40 CFR part 63, subpart CC: *National Emission Standards for Hazardous Air Pollutants From Petroleum Refineries* (NESHAP CC). Furthermore, your questions apply to PRD in gas/vapor service that are not exempt from emission standards (i.e., not equipped with a rupture disk and not ducted to a control device).

In particular, you ask:

1. Excluding pressure release events, is any PRD reading greater than 500 ppm above background a deviation from the standard (NSPS VVa or NESHAP CC) and reportable in title V deviation reports?
2. Following a pressure release event, is any PRD reading greater than 500 ppm above background a deviation from the standard (NSPS VVa) and reportable in title V deviation reports?
3. Following a pressure release event, is any PRD reading greater than 500 ppm above background a deviation from the standard (NESHAP CC) and reportable in title V deviation reports?

Regulatory Background

NSPS VVa

NSPS VVa defines *pressure release* as “the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.” See 40 CFR 60.481a. PRD in gas/vapor service (and not otherwise exempt) shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485a(c), except during pressure releases. See 40 CFR 60.482-4a(a).

After each pressure release, NSPS VVa requires the PRD to be returned to a condition of no detectable emissions (< 500 ppm above background) as soon as practicable, but no later than five calendar days after the pressure release except as provided in 40 CFR 60.482-9a. See 40 CFR 60.482-4a(b)(1).

According to 40 CFR 60.482-1a(b), compliance with the standard “will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485a.”

NESHAP CC

NESHAP CC defines a *pressure relief device* as “a valve, rupture disk, or similar device used only to release an unplanned, nonroutine discharge of gas from process equipment in order to avoid safety hazards or equipment damage. A pressure relief device discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause. Such devices include conventional, spring-actuated relief valves, balanced bellows relief valves, pilot-operated relief valves, rupture disks, and breaking, buckling, or shearing pin devices.” See 40 CFR 63.641.

Each PRD in organic HAP gas or vapor service must be operated with an instrument reading of less than 500 ppm above background as detected by Method 21 of 40 CFR part 60, appendix A-7 except during a pressure release. See 40 CFR 63.648(j)(1). No later than five calendar days after the PRD returns to organic HAP gas or vapor service following a pressure release, the owner or operator must conduct instrument monitoring as specified in 40 CFR 60.485(c), 40 CFR 60.485a(c) or 40 CFR 63.180(c), as applicable, to verify that the PRD is operating with an instrument reading of less than 500 ppm above background. See 40 CFR 63.648(j)(2)(i).

According to 40 CFR 63.642(n), “Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.”

Title V Reporting

According to 40 CFR 70.6(a)(3)(iii)(A), operating permits must require reporting of all required monitoring at least every six months, with all instances of deviations from permit requirements clearly identified. According to 40 CFR 70.6(a)(3)(iii)(B), operating permits must require prompt reporting of deviations from permit requirements. Northwest Clean Air Agency, the title V permitting authority for the Facility, has adopted provisions consistent with these requirements. Under these provisions, the title V permitting authority, defines what “prompt” means depending on the degree and type of the deviation. The reporting requirements of part 70 are in addition to any reporting required by applicable requirements, such as those in 40 CFR parts 60 and 63.

Regulatory Interpretation

Question #1

Excluding pressure release events, is any PRD reading greater than 500 ppm above background a deviation from the standard (NSPS VVa or NESHAP CC) and reportable in title V deviation reports?

Yes. Both NSPS VVa and NESHAP CC require PRDs to be operated with an instrument reading below 500 ppm above background except during a pressure release and until a timely repair, as described in each subpart. A PRD must be operated in this manner at all times with the exception of pressure release events. Note that readings of greater than or equal to 500 ppm above background are deviations (not just above 500 ppm, as stated in the question).

Question #2

Following a pressure release event, is any PRD reading greater than 500 ppm above background a deviation from the standard (NSPS VVa) and reportable in title V deviation reports?

No. According to NSPS VVa, after each pressure release, the PRD “shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release” unless a delay of repair is allowed as provided in 40 CFR 60.482-9a. See 40 CFR 60.482-4a(b)(1). Provided the PRD is returned to a condition of no detectable emissions as soon as practicable, any instrument reading 500 ppm above background or greater between the time of the pressure release and the repair is not a deviation. Again, note that the standard is less than 500 ppm above background.

Question #3

Following a pressure release event, is any PRD reading greater than 500 ppm above background a deviation from the standard (NESHAP CC) and reportable in title V deviation reports?

No. NESHAP CC requires owners and operators of subject PRD to “conduct instrument monitoring ... no later than 5 calendar days after the pressure relief device returns to organic HAP gas or vapor service following a pressure release to verify that the pressure relief device is operating with an instrument reading of less than 500 ppm.” See 40 CFR 63.648(j)(2)(i). Provided that within five days of returning to HAP gas or vapor service instrument monitoring is verified to be operating with an instrument reading of less than 500 ppm, any intervening instrument readings 500 ppm above background or greater is not a deviation. Such readings must be included, however, in the periodic reports required by NESHAP CC. See 40 CFR 63.655(g)(10)(i). Again, note that the standard is less than 500 ppm below background.

Because the EPA is not reviewing or taking action on a specific request for a determination of applicability, this letter is not binding and is not a final agency action. Instead, this letter represents the EPA's view on how to interpret certain regulatory language in NSPS VVa and NESHAP CC. Region 10 consulted with staff from the EPA's Office of Air Quality Planning and Standards and Office of Enforcement and Compliance Assurance in writing this letter.

If you have any questions about this matter, please contact Mr. Geoffrey Glass, of my staff, at (206) 553-1847 or glass.geoffrey@epa.gov.

Sincerely,

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Douglas E. Hardesty, Acting Chief
Air Permits and Toxics Branch

cc: Mr. Mark Buford
NWCAA

Ms. Robyn Jones
NWCAA