OFFICE OF CIVIL ENFORCEMENT

WASHINGTON, D.C. 20460

March 20, 2024

VIA EMAIL

Tammy Little
General Manager
Shell Norco Manufacturing Complex
P.O. Box 10
Norco, LA 70079
tammy.little@shell.com

Re: Shell Norco Manufacturing Complex, Norco, LA
Finding of Violation

Dear Ms. Little:

The United States Environmental Protection Agency has identified Equilon Enterprises d/b/a/ Shell Oil Products US and Shell Chemical LP (collectively, "Shell") as having violated the Clean Air Act and the regulations promulgated thereunder. The attached Finding of Violation ("FOV") is issued to Shell for violations of the CAA, 42 U.S.C. § 7401 *et seq*., at the Shell Norco Manufacturing Complex in Norco, Louisiana. EPA is issuing this FOV under Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), for violations of applicable National Emissions Standards for Hazardous Air Pollutants ("NESHAP") and New Source Performance Standards ("NSPS").

Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), gives EPA several enforcement options to resolve these violations, including issuing an administrative compliance order, issuing an administrative penalty order, bringing a judicial civil action, or bringing a judicial criminal action.

Please note the opportunity for Shell to request a conference with EPA to present information on the identified violations in the FOV, efforts it has taken to comply, and the steps it will take to prevent future violations. A conference should be requested within ten (10) business days following receipt of this FOV.

As detailed in the FOV document, please direct any request to confer to Providence Spina, Attorney-Advisor, at spina.providence@epa.gov. Any technical questions may be directed to Patrick Foley, Environmental Engineer, at foley.patrick@epa.gov.

Sincerely,

SPARSH KHANDESHI

Digitally signed by SPARSH KHANDESHI
Date: 2024.03.20 13:06:59 -04'00'

Sparsh Khandeshi, Deputy Director
Acting for Mary E. Greene, Director
Air Enforcement Division
Office of Civil Enforcement

Enclosure: Finding of Violation

Cc (by e-mail): Pierre Espejo, Senior Legal Counsel, Shell USA, Inc.
Providence Spina, Air Enforcement Division, OECA
Patrick Foley, Air Enforcement Division, OECA
Steve Thompson, EPA Region 6
Cheryl Barnett, EPA Region 6
Sarah Frey, EPA Region 6
Constantinos Loukeris, EPA Region 5
Angela Marse, Louisiana Department of Environmental Quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	
Equilon Enterprises d/b/a/ Shell Oil Products US	)	
and Shell Chemical LP	)	
Norco, Louisiana	)	FINDING OF VIOLATION
	)	
Proceedings Pursuant to	)	
the Clean Air Act,	)	
42 U.S.C. § 7401 et seq	)	

FINDING OF VIOLATION

This Finding of Violation ("FOV") is issued to Equilon Enterprises d/b/a Shell Oil Products US and Shell Chemical LP (collectively, "Shell") for violations of the Clean Air Act ("CAA" or "the Act"), 42 U.S.C. § 7401 *et seq*., at its petroleum refinery (the "Refinery") and co-located petrochemical plant in Norco, Louisiana. Specifically, the United States Environmental Protection Agency ("EPA") believes that Shell has violated the National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries, codified at 40 C.F.R. Part 63, Subpart CC at the Refinery, and the National Emission Standard for Benzene Waste Operations, codified at 40 C.F.R. Part 61, Subpart FF, and New Source Performance Standards for Volatile Organic Compounds from Petroleum Refinery Wastewater Systems, codified at 40 C.F.R. Part 60, Subpart QQQ at the Refinery and co-located petrochemical plant.

Statutory and Regulatory Background

1. The purpose of the CAA is to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. 42 U.S.C. § 7401(b)(1).

A. Clean Air Act Section 112 and National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

2. Section 112 of the Act, 42 U.S.C. § 7412, requires EPA to identify categories and subcategories of major sources of hazardous air pollutants ("HAPs"), and to establish emission standards requiring the maximum degree of reduction in emissions of HAPs that EPA determines is achievable through the application of measures, processes, methods, systems or techniques including, but not limited to, the enclosure of systems or processes to eliminate emissions, and design, equipment, work practice, or other operational standards. 42 U.S.C. §§ 7412(c)(1)-(2), (d)(1)-(2).

3. Section 112(a)(1)of the Act, 42 U.S.C. § 7412(a)(1), defines a "major source" to mean "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." *See also* 40 C.F.R. § 63.2.

4. Section 112(q) of the CAA, 42 U.S.C. § 7412(q), provides, in pertinent part, that any standard under this section in effect before the date of enactment of the CAA Amendments of 1990 (November 15, 1990) shall remain in force and effect after such date.

B. NESHAP Subpart CC Fenceline Monitoring Requirements

5. Under Section 112 of the Act, 42 U.S.C. § 7412, EPA promulgated the National Emission Standards for Hazardous Air Pollutants ("NESHAP") Source Categories for Petroleum Refineries, located at 40 C.F.R. Part 63, Subpart CC ("NESHAP Subpart CC"), on August 18, 1995. *See* 60 Fed. Reg. 43,260. Following a residual risk and technology review, EPA promulgated a revised rule on December 2, 2015. *See* 80 Fed. Reg. 75,178.

6. NESHAP Subpart CC applies to certain petroleum refining process units and their related emission points located at a plant site that is a major source as defined in Section 112(a) of the CAA and that emit or have equipment containing or contacting one or more of the HAPs listed in Table 1 of NESHAP Subpart CC. 40 C.F.R. § 63.640(a).

7. NESHAP Subpart CC requires the owner or operator of a covered source to, by January 30, 2018, conduct air sampling along the facility property boundary ("fenceline monitoring") and analyze the samples for benzene concentrations. *See* 40 C.F.R. § 63.658(a)-(b); NESHAP Subpart CC Table 11. Passive air monitors must be located around the facility property boundary in accordance with Section 8.2 of Method 325A of Appendix A of Part 63. 40 C.F.R. § 63.658(c). Section 8.3 of Method 325A requires a minimum of twelve sampling locations. *See* Method 325A, Section 8.2.2.1.1, 8.2.2.2.1, and 8.2.3.1. A sample from each monitor must be collected every fourteen (14) days ("sampling period"). 40 C.F.R. § 63.658(e)(1). Owners or operators must begin reporting fenceline monitoring results after obtaining 12 months of data. 40 C.F.R. § 63.655(h)(8).

8. Within 45 days of the completion of each sampling period, the owner or operator must determine whether the sampling results are above or below the action level for benzene. 40 C.F.R. § 63.658(f). The first step in making this determination is to determine the facility impact on the fenceline benzene concentration, calculated as "Δc", in accordance with 40 C.F.R. § 63.658(f)(1). Next, the owner or operator calculates the annual average Δc based on the average of the 26 most recent 14-day sampling periods. 40 C.F.R. § 63.658(f)(2). Finally, the owner or operator compares the annual average Δc to the action level for benzene. 40 C.F.R. § 63.658(f)(3).

9. The NESHAP Subpart CC action level for benzene is 9 micrograms per cubic meter ($\mu g/m^3$) on an annual average basis. 40 C.F.R. § 63.658(f)(3). If the annual average Δc for benzene is less than or equal to 9 $\mu g/m^3$, the concentration is below the action level. *Id*. If the annual average Δc for benzene is greater than 9 $\mu g/m^3$, the concentration is above the action level, and the owner or operator must conduct a root cause analysis and corrective action in accordance with 40 C.F.R. § 63.658(g). 40 C.F.R. § 63.658(f)(3).

10. NESHAP Subpart CC requires that within 5 days of determining that the action level has been exceeded and no longer than 50 days after the completion of the 14-day sampling period, the owner or operator must initiate a root cause analysis to determine the cause of such exceedance and determine appropriate corrective action. 40 C.F.R. § 63.658(g). The root cause analysis and initial corrective action analysis must be completed, and initial corrective actions taken no later than 45 days after determining there is an exceedance. *Id*.

11. If, upon completion of the corrective action analysis and initial corrective actions described in 40 C.F.R. § 63.658(g), the Δc for the next 14-day sampling period for which the sampling start time begins after the completion of the corrective actions is greater than 9 $\mu g/m^3$ or if all corrective action measures identified require more than 45 days to implement, the owner or operator must develop a corrective action plan that describes the corrective action(s) completed to date, additional measures that the owner or operator proposes to employ to reduce fenceline concentrations below the action level, and a schedule for completion of these measures. 40 C.F.R § 63.658(h).

12. The owner or operator shall submit the corrective action plan to the Administrator within 60 days after receiving the analytical results indicating that the Δc value for the 14-day sampling period following the completion of the initial corrective action is greater than 9 $\mu g/m^3$, or if no initial corrective actions were identified, no later than 60 days following completion of the initial corrective action analysis. *Id.*

C. NESHAP Subpart FF for Benzene Waste Operations

13. Under Section 112(d) of the Act, 42 U.S.C. § 7412, EPA promulgated the NESHAP for Benzene Waste Operations ("Benzene Waste NESHAP") on March 7, 1990. *See* 55 Fed. Reg. 8,346.

14. The Benzene Waste NESHAP, as amended pursuant to Section 112(q) of the CAA, became effective on January 7, 1993, and is codified at 40 C.F.R. Part 61, Subpart FF.

15. The Benzene Waste NESHAP applies to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. 40 C.F.R. § 61.340(a).

16. Under the Benzene Waste NESHAP, each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Megagrams per year (Mg/yr) or 11 ton/yr as determined in 40 C.F.R. § 61.342(a) is required to comply with the requirements of 40 C.F.R. § 61.342(c), (d), or (e) no later than 90 days following the effective date, unless a waiver of compliance has been obtained under 40 C.F.R. § 61.11, or by the initial startup for a new source with an initial startup after the effective date. 40 C.F.R. § 61.342(b), (c), (d), and (e).

17. The Benzene Waste NESHAP establishes the following definitions at 40 C.F.R. § 61.341:

a. "Closed-vent system" means "a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission source to a control device."

b. "Cover" means "a device or system which is placed on or over a waste placed in a waste management unit so that the entire waste surface area is enclosed and sealed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed and sealed when not in use. Examples of covers include a fixed roof installed on a tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit."

c. "Fixed roof" means "a cover that is mounted on a waste management unit in a stationary manner and that does not move with fluctuations in liquid level."

d. "Individual drain system" means "the system used to convey waste from a process unit, product storage tank, or waste management unit to a waste management unit. The term includes all process drains and common junction boxes, together with their associated sewer lines and other junction boxes, down to the receiving waste management unit."

e. "No detectable emissions" means "less than 500 parts per million by volume (ppmv) above background levels, as measured by a detection instrument reading in accordance with the procedures specified in § 61.355(h) . . . ."

f. "Oil-water separator" means "a waste management unit, generally a tank or surface impoundment, used to separate oil from water. An oil-water separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to

additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples of an oil-water separator include an API separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment."

g. "Tank" means "a stationary waste management unit that is designed to contain an accumulation of waste and is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support."

h. "Waste management unit" means "a piece of equipment, structure, or transport mechanism used in handling, storage, treatment, or disposal of waste. Examples of a waste management unit include a tank, surface impoundment, container, oil-water separator, individual drain system, steam stripping unit, thin-film evaporation unit, waste incinerator, and landfill."

18. The Benzene Waste NESHAP requires that for each waste stream that contains benzene, including but not limited to, organic waste streams that contain less than 10 percent water and aqueous waste streams, even if the wastes are not discharged to an individual drain system, the owner or operator shall comply with the standards specified in 40 C.F.R. §§ 61.343 through 61.347 for each waste management unit that receives or manages the waste stream prior to and during treatment of the waste stream in accordance with 40 C.F.R. § 61.342(c)(1)(i). 40 C.F.R. § 61.342(c)(1)(ii).

19. The Benzene Waste NESHAP requires that for each waste management unit used to manage or treat waste streams that will be recycled to a process, the owner or operator shall comply with the standards specified in 40 C.F.R. §§ 61.343 through 61.347. Once the waste stream is recycled to a process, including to a tank used for the storage of production process feed, product, or product intermediates, unless this tank is used primarily for the storage of wastes, the material is no longer subject to 40 C.F.R. § 61.342(c). 40 C.F.R. § 61.342(c)(1)(iii).

20. The Benzene Waste NESHAP provides that as an alternative to the requirements specified in 40 C.F.R. § 61.342(c) and (d), an owner or operator of a facility at which the total annual benzene concentration from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), as determined in 40 C.F.R. § 61.342(a) of this section, may elect to manage and treat the facility waste as set forth in the subparagraphs of 40 C.F.R. § 61.342(e). 40 C.F.R. § 61.342(e).

a. 40 C.F.R. § 61.342(e)(1) states that the owner or operator shall manage and treat facility waste with a flow-weighted annual average water content of less than 10 percent in accordance with the requirements of paragraph (c)(1) of this section.

b. 40 C.F.R. § 61.342(e)(2)(i) states that the benzene quantity for the wastes described in 40 C.F.R. § 61.342(e)(2) (facility waste (including remediation and process unit turnaround waste) with a flow-weighted annual average water content of 10 percent or greater, on a volume basis as total water, and each waste stream that is mixed with water or wastes at any time such that the resulting mixture has an annual water content greater than 10 percent) must be equal to or less than 6.0 Mg/yr (6.6 ton/yr), as determined in 40 C.F.R. § 61.355(k). Wastes as described in 40 C.F.R. § 61.342(e)(2) that are transferred offsite shall be included in the determination of benzene quantity as provided in 40 C.F.R. § 61.355(k).

21. The Benzene Waste NESHAP requires that except as provided in 40 C.F.R. §§ 61.343(b) and 61.351, the owner or operator must meet the standards in 40 C.F.R. § 61.343(a)(1) or (2) for each tank in which the waste stream is placed in accordance with 40 C.F.R. § 61.342(c)(1)(ii). The standards in this section apply to the treatment and storage of the waste stream in a tank, including dewatering. 40 C.F.R. § 61.343(a).

a. 40 C.F.R. § 61.343(a)(1) states that the owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.

b. 40 C.F.R. § 61.343(a)(1)(i)(A) states that for fixed-roof tanks, the cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 parts per million by volume (ppmv) above background, as determined initially and thereafter at least once per year by the methods specified in 40 C.F.R. § 61.355(h).

22. The Benzene Waste NESHAP requires that for each tank complying with 40 C.F.R. § 61.343(b), one or more devices which vent directly to the atmosphere may be used on the tank provided each device remains in a closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the tank or cover resulting from filling or emptying the tank, diurnal temperature changes, atmospheric pressure changes or malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials. 40 C.F.R. § 61.343(b)(3).

23. The Benzene Waste NESHAP requires that each fixed-roof, seal, access door, and all other openings of a tank shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access doors and other openings are closed and gasketed properly. 40 C.F.R. § 61.343(c).

24. The Benzene Waste NESHAP provides that as an alternative to the standards for tanks specified in 40 C.F.R. § 61.343, an owner or operator may elect to comply with the fixed

roof and internal floating roof requirements in 40 C.F.R. § 60.112b(a)(1) or the external floating roof requirements of 40 C.F.R. § 60.112b(a)(2). 40 C.F.R. §§ 61.351(a)(1)-(2).

25. The Benzene Waste NESHAP requires that the owner or operator shall meet the following standard for each surface impoundment in which waste is placed in accordance with 40 C.F.R. § 61.342(c)(1)(ii): The owner or operator shall install, operate, and maintain on each surface impoundment a cover (e.g., air-supported structure or rigid cover) and closed-vent system that routes all organic vapors vented from the surface impoundment to a control device. 40 C.F.R. § 61.344(a)(1).

a. 40 C.F.R. § 61.344(a)(1)(i)(A) requires that the cover and all openings on each surface impoundment (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in 40 C.F.R. § 61.355(h).

b. 40 C.F.R. § 61.344(a)(1)(i)(B) requires that each opening shall be maintained in a closed, sealed position (*e.g.*, covered by a lid that is gasketed and latched) at all times that waste is in the surface impoundment except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

26. The Benzene Waste NESHAP requires that each cover seal, access hatch, and all other openings of a surface impoundment shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are gasketed properly. 40 C.F.R. § 61.344(b).

27. The Benzene Waste NESHAP requires that except as provided in 40 C.F.R. § 61.346(b), the owner or operator shall meet the following standards for each individual drain system in which waste is placed in accordance with 40 C.F.R. § 61.342(c)(1)(ii): The owner or operator shall install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device. 40 C.F.R. § 61.346(a)(1).

a. 40 C.F.R. § 61.346(a)(1)(i)(A) requires that the cover and all openings (*e.g.*, access hatches, sampling ports) of an individual drain system shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in 40 C.F.R. § 61.355(h).

b. 40 C.F.R. § 61.346(a)(1)(i)(B) requires that for each individual drain system each opening shall be maintained in a closed, sealed position (*e.g.*, covered by a lid that is gasketed and latched) at all times that waste is in the drain system

except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

28. The Benzene Waste NESHAP requires that except as provided in 40 C.F.R. § 61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable but not later than 15 calendar days after identification. 40 C.F.R. § 61.346(a)(3).

29. The Benzene Waste NESHAP provides that an owner or operator may comply with the requirements of subparagraph (b) as an alternative to complying with the 40 C.F.R. § 61.346(a).

a. Among other things, the alternative individual drain system requirements set forth in 40 C.F.R. § 61.346(b) require that each drain shall be equipped with water seal controls or a tightly sealed cap or plug, and that each sewer line shall not be opened to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps, cracks in joints, seals, or other emission interfaces. 40 C.F.R. §§ 61.346(b)(1), 61.346(b)(3).

b. 40 C.F.R. § 61.346(b)(5) requires that except as provided in 40 C.F.R. § 61.350, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

30. The Benzene Waste NESHAP requires that except as provided in 40 C.F.R. § 61.352, the owner or operator shall meet the following standards for each oil-water separator in which waste is placed in accordance with 40 C.F.R. § 61.342(c)(1)(ii): The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device. 40 C.F.R. § 61.347(a)(1). The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) of an oil-water separator must be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in 40 C.F.R. § 61.355(h). 40 C.F.R. § 61.347(a)(1)(i)(A).

31. The Benzene Waste NESHAP requires that for each closed-vent system and control device used to comply with standards in accordance with 40 C.F.R. §§ 61.343 through 61.348 of Subpart FF, the owner or operator shall properly design, install, operate, and maintain the closed-vent system and control device in accordance with the requirements set forth in 40 C.F.R. § 61.349(a). 40 C.F.R. § 61.349(a). Each closed vent system must be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in 40 C.F.R. § 61.355(h) of Subpart FF. 40 C.F.R. § 61.349(a)(1)(i).

32. The Benzene Waste NESHAP provides that "delay of repair of facilities or units that are subject to the provisions of this subpart will be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown." 40 C.F.R. § 61.350(a).

33. The Benzene Waste NESHAP requires an owner or operator to determine the total annual benzene quantity from facility waste using specified procedures. 40 C.F.R. § 61.355(a).

34. For each waste stream subject to the Benzene Waste NESHAP having a flow-weighted annual average water content greater than 10 percent water, on an a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in § 61.342(a), the owner or operator shall determine the annual waste quantity for each stream using the procedures specified in § 61.355(b). 40 C.F.R. § 61.355(a)(1)(i). For purposes of the calculation required by 40 C.F.R. § 61.355(a), 40 C.F.R. § 61.355(b) requires that an owner or operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in 40 C.F.R. § 61.355(b).

35. The Benzene Waste NESHAP requires that an owner or operator shall test equipment for compliance with no detectable emissions as required in §§ 61.343 through 61.347, and 40 C.F.R. § 61.349, in accordance with the following requirements: "Monitoring shall comply with Method 21 from appendix A of 40 C.F.R. part 60." 40 C.F.R. § 61.355(h)(1).

36. For compliance with standards under 40 C.F.R. § 61.342(e), the Benzene Waste NESHAP requires that the owner or operator shall determine the benzene quantity for each waste stream that is not controlled for air emissions in accordance with §§ 61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, as specified in 40 C.F.R. § 61.355(a), except that paragraph 40 C.F.R. § 61.355(b)(4) shall not apply, i.e., the waste quantity for process unit turnaround waste is not annualized but shall be included in the determination of benzene quantity for the year in which the waste is generated for the purposes of the calculation required by § 61.342(e)(2). 40 C.F.R. § 61.355(k). A separate procedure under 40 C.F.R. § 61.355(k)(1) provides for determining the annual waste quantity and flow-weighted annual average benzene concentration for waste streams that are controlled in accordance with §§ 61.343. 61.344, 61.345, 61.346, 61.347, or 61.348(a).

37. The Benzene Waste NESHAP requires that an owner or operator using control equipment in accordance with §§ 61.343 through 61.347 shall maintain engineering design documentation for all control equipment that is installed on the waste management unit. The documentation shall be retained for the life of the control equipment. If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section. 40 C.F.R. § 61.356(d).

38. The Benzene Waste NESHAP requires that an owner or operator shall maintain a record for each test of no detectable emissions required by §§ 61.343 through 61.347 and § 61.349 of this subpart. The record shall include the following information: date the test is performed, background level measured during test, and maximum concentration indicated by the instrument reading measured for each potential leak interface. If detectable emissions are measured at a leak interface, then the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed. 40 C.F.R. § 61.356(h).

39. The Benzene Waste NESHAP establishes reporting requirements for owners and operators at 40 C.F.R. § 61.357:

a. 40 C.F.R. § 61.357(a)(1) states "each owner or operator of a chemical plant, petroleum refinery, coke by-product recovery plant, and any facility managing wastes from these industries shall submit to the Administrator within 90 days after January 7, 1993, or by the initial startup for a new source with an initial startup after the effective date, a report that summarizes the regulatory status of each waste stream subject to § 61.342 and is determined by the procedures specified in § 61.355(c) to contain benzene. Each owner or operator subject to this subpart who has no benzene onsite in wastes, products, by-products, or intermediates shall submit an initial report that is a statement to this effect. For all other owners or operators subject to this subpart, the report shall include the following information: Total annual benzene quantity from facility waste determined in accordance with § 61.355(a) of this subpart."

b. 40 C.F.R. § 61.357(d)(8) states, "Beginning one year after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that summarizes all inspections required by §§ 61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken."

D. NSPS General Provisions

40. Section 111 of the Act, 42 U.S.C. § 7411, authorizes EPA to promulgate regulations establishing New Source Performance Standards ("NSPS").

41. Section 111(e) of the Act, 42 U.S.C. § 7411(e), states that after the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner

or operator of any new source to operate such source in violation of any standard of performance applicable to such source.

E. NSPS Subpart QQQ

42. Under Section 111 of the Act, 42 U.S.C. § 7411, EPA promulgated the New Source Performance Standards for Volatile Organic Compounds from Petroleum Refinery Wastewater Systems, codified at 40 C.F.R. Part 60, Subpart QQQ ("NSPS Subpart QQQ") on November 23, 1988. 53 Fed. Reg. 47,623.

43. NSPS Subpart QQQ applies to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987. 40 C.F.R. § 60.690(a).

44. NSPS Subpart QQQ establishes the following definitions at 40 C.F.R. § 60.691:

a. "Fixed roof" means "a cover that is mounted to a tank or chamber in a stationary manner and which does not move with fluctuations in wastewater levels."

b. "Individual drain system" means "all process drains connected to the first common downstream junction box. The term includes all such drains and common junction box, together with their associated sewer lines and other junction boxes, down to the receiving oil water separator."

c. "Junction box" means "a manhole or access point to a wastewater sewer system line."

d. "Oil-water separator" means "wastewater treatment equipment used to separate oil from water consisting of a separation tank, which also includes the forebay and other separator basins, skimmers, weirs, grit chambers, and sludge hoppers. Slop oil facilities, including tanks, are included in this term along with storage vessels and auxiliary equipment located between individual drain systems and the oil-water separator. This term does not include storage vessels or auxiliary equipment which do not come in contact with or store oily wastewater."

e. "Sewer line" means "a lateral, trunk line, branch line, ditch, channel, or other conduit used to convey refinery wastewater to downstream components of a refinery wastewater treatment system. This term does not include, buried, below-grade sewer lines."

45. NSPS Subpart QQQ establishes requirements for individual drain systems, including:

a. "Each drain shall be equipped with water seal controls." 40 C.F.R. § 60.692-2(a)(1).

b. "Each drain in active service shall be checked by visual or physical inspection initially and monthly thereafter for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls." 40 C.F.R. § 60.692-2(a)(2).

46. NSPS Subpart QQQ establishes requirements for junction boxes, including:

a. "Junction boxes shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter." 40 C.F.R. § 60.692-2(b)(1).

b. "Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance." 40 C.F.R. § 60.692-2(b)(2).

c. "Junction boxes shall be visually inspected initially and semiannually thereafter to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge." 40 C.F.R. § 60.692-2(b)(3).

47. NSPS Subpart QQQ establishes requirements for sewer lines, including:

a. "Sewer lines shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces." 40 C.F.R. § 60.692-2(c)(1).

b. "The portion of each unburied sewer line shall be visually inspected initially and semiannually thereafter for indication of cracks, gaps, or other problems that could result in VOC emissions." 40 C.F.R. § 60.692-2(c)(2).

c. "Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except as provided in 40 C.F.R. § 60.692-6." 40 C.F.R. § 60.692-2(c)(3).

48. NSPS Subpart QQQ establishes requirements for oil water separators, including:

a. Each oil-water separator tank, slop oil tank, storage vessel, or other auxiliary equipment subject to the requirements of NSPS Subpart QQQ shall be equipped and operated with a fixed roof, which meets the specifications set forth in 40 C.F.R. § 60.692-3(a)(1)-(5). 40 C.F.R. § 60.692-3(a).

b. Slop oil from an oil-water separator tank and oily wastewater from slop oil handling equipment shall be collected, stored, transported, recycled, reused, or disposed of in an enclosed system. Once slop oil is returned to the process unit or is disposed of, it is no longer within the scope of NSPS Subpart QQQ. Equipment used in handling slop oil shall be equipped with a fixed roof meeting the requirements of 40 C.F.R. § 60.692-3(a). 40 C.F.R. § 60.692-3(e).

49. NSPS Subpart QQQ establishes semi-annual reporting requirements. 40 C.F.R. § 60.698.

F. NSPS Subpart Kb

50. Under Section 111 of the Act, 42 U.S.C. § 7411, EPA promulgated Part 60, NSPS Subpart Kb ("NSPS Subpart Kb") on April 8, 1987. 52 Fed. Reg. 11,429.

51. NSPS Subpart Kb applies to each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984, except as provided at 40 C.F.R. § 60.110b(b). 40 C.F.R. § 60.110b(a).

52. NSPS Subpart Kb establishes requirements for storage vessels with internal floating roofs, including:

a. "[T]he internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible." 40 C.F.R. § 60.112b(a)(1)(i).

b. "Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each

access hatch and automatic gauge float well shall be bolted except when they are in use." 40 C.F.R. § 60.112b(a)(1)(iv).

c. "Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports." 40 C.F.R. § 60.112b(a)(1)(v).

53. NSPS Subpart Kb establishes requirements for storage vessels with external floating roofs, including:

a. "Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal." 40 C.F.R. § 60.112b(a)(2)(i).

b. "Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening." 40 C.F.R. § 60.112b(a)(2)(ii).

Findings of Fact

54. Shell owns and operates the Refinery and co-located petrochemical plant located at 15536 River Road in Norco, Louisiana.

55. The Refinery is engaged in producing gasoline, distillate fuel oils, residual fuel oils, and other products through distillation of petroleum and cracking and reforming of unfinished petroleum derivatives.

56. The petrochemical plant is engaged in producing olefins, including ethylene, propylene, and butadiene.

57. The Refinery is subject to a federal consent decree, *United States et al. v. Motiva*

Enterprises LLC, Civil Action No. 4:01cv0978 (effective August 20, 2001) (hereinafter, "the 2001 Consent Decree").

58. The petrochemical plant is subject to a federal consent decree, *United States v. Shell Chemical LP*., Civil Action No. 2:18-cv-1404-EEF-JVM (effective February 8, 2019) (hereinafter, "the 2018 Consent Decree").

59. The Refinery comprises two non-contiguous geographic areas – the "West Side" and "East Side." The Refinery's wastewater treatment plant, which includes a bio-treater T-T352 (the "T-Unit"), is located in the West Side. The T-Unit receives wastewater from both the Refinery and the petrochemical plant. The wastewater routed to the T-Unit includes material processed in Shell's sour water system.

a. At all times relevant to this FOV, the sour water system removed hydrocarbons from the sour water through gravity separation, sour water stripping, and flash vessels.

b. At all times relevant to this FOV, the sour water system has had two separate streams: the Bypass Stream and the Feed Stream, which are combined in the XC-429 tank and then routed to the T-Unit.

c. The Feed Stream is routed through sour water strippers before reaching XC-429.

d. Prior to April 2023, the Bypass Stream was routed to XC-429 with no intermediate strippers.

e. Thus, prior to April 2023, any benzene in the Bypass Stream would enter XC-429, and then the T-Unit, which was not and still is not covered.

f. Numerous sour water streams from the East Side of the Refinery and the petrochemical plant, including high-flow streams from the DU-5 Crude Unit and the OL-5 Olefins Unit, flow through the Bypass Stream to XC-429 and the T-Unit.

Shell's Wastewater Operations

60. Shell operates individual drain systems and associated junction boxes and oil-water separators at the Refinery that have been constructed, modified, or reconstructed after May 4, 1987.

61. The Refinery has reported a total annual benzene quantity of greater than 10 Mg/yr since at least 2001.

62. The 2001 Consent Decree requires Shell to comply with the Benzene Waste NESHAP compliance option listed in 40 C.F.R § 62.342(e), also known as the 6BQ compliance option. 2001 Consent Decree ¶ 58(b).

63. In reports required by 40 C.F.R. § 61.357, Shell reported the following Refinery total annual benzene quantities, controlled and uncontrolled, in Mg/yr, for the listed calendar years:

a. 2022: Controlled – 218.3, Uncontrolled – 1.91
b. 2021: Controlled – 332.9, Uncontrolled – 1.92
c. 2020: Controlled – 277.4, Uncontrolled – 1.48
d. 2019: Controlled – 364.5, Uncontrolled – 2.0141
e. 2018: Controlled – 364.3, Uncontrolled – 1.382

64. In each quarterly Benzene Waste NESHAP report submitted by Shell for the period of 2018 through 2022, Shell certified that all inspections required during that quarter were completed in accordance with the provisions of Subpart FF for the affected facilities.

65. In the annual Benzene Waste NESHAP report submitted by Shell for the period of 2018 through 2022, Shell certified that no discrepancies under 40 C.F.R. § 61.357(d)(8) were noted.

66. In the 3rd quarter 2020 Benzene Waste NESHAP visual checklist, Shell identified that pump, P-3314, which is part of an individual drain system "still" needed to be repaired on September 5, 2020.

67. In the 3rd quarter 2021 Benzene Waste NESHAP visual checklist, Shell identified PPI Sep/W-415 slop oil tank had a hole in the roof and that the hole had been known for years.

68. In the 3rd quarter 2021 Benzene Waste NESHAP visual checklist, Shell identified that open drain line in the GHT unit needed to be closed. In the next two subsequent quarters (4th quarter 2021 and 1st quarter 2022), the drain line remained open, with notes from Shell that a cap could not be installed.

69. EPA conducted an on-site Benzene Waste NESHAP and NSPS Subpart QQQ inspection on March 27-31, 2023 ("March 2023 Inspection") at the Refinery and petrochemical plant.

70. During the March 2023 Inspection, Shell indicated to EPA that Shell had not performed required annual testing for no detectable emissions under the Benzene Waste NESHAP for at least the previous two years as required by 40 C.F.R. §§ 61.343(a)(1)(i)(A), 61.344(a)(1)(i)(A), 61.346(a)(1)(i)(A), and 61.347(a)(1)(i)(A).

71. During the March 2023 Inspection, EPA requested engineering design documents for all waste management units as required by 40 C.F.R. § 61.356(d), but Shell did not provide any.

72. Shell stated that, prior to 2021, the three inlet pipes into the biotreater tanks were not submerged below the surface and were discharging at least two inches above the surface. In 2021, Shell modified the lines to submerge discharge from the three inlet pipes into the biotreater tank three feet below the surface of the biotreater tanks.

73. During the March 2023 Inspection, EPA observed at T-409 severe pitting across the entire fixed roof, as well as cracks/openings with detectable emissions above 500 ppm. Shell operators stated that the fixed roof of tank T-409 is not inspected visually.

74. During the March 2023 Inspection, at the Gasoline Blending area:

a. Shell personnel stated that there is not a water flush used after samples are drained into the waste sink for the area.

b. EPA observed cracks/gaps on the sump cover as well as on the concrete portion of the surface impoundment.

75. Shell operates an equipment cleaning operation that removes any residual material from process equipment brought to the operation and that has several washing stages. Shell calls this operation “the VAT.” Shell continuously runs firewater into the initial sump of the VAT unit and also uses vacuum trucks to skim off any oil that remains in the sump. Shell did not include the VAT as a point of generation or the waste stream from the VAT (which was an uncontrolled waste stream) in its TAB report.

76. During the March 2023 Inspection, EPA observed significant hydrocarbon emissions from the guidepole of the external floating roof of tank XC-7006 using optical gas imaging and detected a significant odor.

77. Shell operators stated that they drain the slop header, cold and hot service, 1-2 times per day from PV1620 and PV1621 using a pump. Shell did not include the slop header as a point of generation or the waste stream from the slop header in its TAB report.

78. Table 1 below summarizes the various leaks, including detectable emissions from equipment subject to the Benzene Waste NESHAP, that EPA discovered using Method 21 testing during EPA’s March 2023 Inspection:

Table 1

Component ID	Equipment Type	EPA's Reading (ppm)	Shell's Reading (ppm)	Additional Notes
VAT	Open grated walkway – about 3-4 feet above liquid surface	78	-	-
VAT – Vacuum truck (Plate# LAC380574)	Carbon canister outlet	265	421	-
DU-5 CPI	Open oil sump to W-415	2,961	170	-
DU-5 PP1	Drain Hub	7,600	6,542	Oil/debris present
DU-5 Trilines	Drain Hub	16,000	11,000	Oil present
DU-5	Cleanout Funnel	850	760	Liquid present
DU-5 Desalter	Sump	905	760	6-inch opening in sump, no seal
W-427 (Berth 1)	RM124688	11,000	6,068	Vent to atmosphere
Berth 1/1A	Manifold Drain	70,000		5 drains in total open to atmosphere
Berth 1/1A	Left of RM 124688	98,000	72,000	-
W-428	Cover	2,000	1,389	-
D419	Hatch	812	796	-
	Drain Hub	545	558	-
GO1 South (P3366)	Drain Hub	495	-	-
T-409 (BWN Tag 0039)	Fixed Roof	>10,000	5,763	Severe pitting, cracks/gaps
T-409 (BWN Tag 0035)	Fixed Roof	1,200		6-inch flare line
T-409 (near BWN 0033)	Fixed Roof	>50,000 (flameout)	>50,000 (flameout)	Severe pitting, cracks/gaps
XC7005	Fixed Roof portion of IFR tank	1,000	-	3 feet by 2-inch opening on fixed roof
XC7005	Hatches – 2 of them	750	-	Hatches not seated properly
W-415 (DU5)	Hatch	9,700	19,092	Left of ladder

Component ID	Equipment Type	EPA's Reading (ppm)	Shell's Reading (ppm)	Additional Notes
DU-5 Desalter Oil	Drain Hub	3,000		
DU-5 Naptha Funnel	Drain Hub	12,000	12,156	-
Gasoline Blending	Waste Sink	80,000 (flameout)	70,000 (flameout)	-
Gasoline Blending	Sump Cover	10,100	7,188	-
Gasoline Blending	Sump PV/VB	7,000	7,663 (flameout)	-
Gasoline Blending	Concrete portion of Sump	120	-	From cracks in the concrete
Residual Catalytic Cracking Unit (RCCU)	Sump cover	760	-	
P4255 in Hydrocracking Unit (HCU)	Sump cover	895	-	Not sealed

79. During the March 2023 Inspection, EPA made the following observations related to Shell's NSPS Subpart QQQ compliance:

a. The diethanolamine ("DEA") and Drip and Drab Sumps were not sealed;

b. At the spent sulfide sump, the cover was warped, caulk was missing, and there were cracks in the existing caulk;

c. The spent cresylic caustic sump had nine bolts missing as well as caulk missing on the sump cover;

d. In the RCCU process unit, the lab sump had caulk that was missing and the inner seal was worn and missing in some places;

e. In the HCU unit, EPA identified six drains with oil and no water seal, one dry drain, and seven drain hubs that were not capped or were without a water seal;

f. In the S3-sulfur unit, Shell has hard piped streams through tanks to manage the refinery wastewater. However, all the pump drain hubs in the S3 sulfur-unit, as well as all the pump drain hubs in the RCCU unit, which receive pump seal leaks and maintenance refinery wastewater, are not designed with a water seal, and are sent to an uncovered oil-water separator in the RCCU

process unit; and

g. The uncovered API Oil-Water Separator located in G01 South had water nozzles above the tank, and visible steam was evaporating from the liquid surface of the open API Oil-Water Separator.

80. In the NSPS Subpart QQQ reports for the 1st half of 2022, 2nd half of 2022, 1st half of 2021, and 2nd half of 2021, Shell identified zero deficiencies for the Refinery.

81. In the 2nd half of 2019 NSPS Subpart QQQ report, Shell identified three missing water seals in the HCU unit and a detectable emission from the closed-vent system associated with "NWSD PV-607 WSD Ladder SSD East SG" located in the Naphtha Hydrotreater ("NHT") unit.

82. In the 1st half of 2020 NSPS Subpart QQQ report, Shell identified eight missing water seals in the HCU unit.

83. In the 2nd half of 2020 NSPS Subpart QQQ report, Shell identified two missing water seals in the HCU unit.

84. Tank XC-7000 is open to atmosphere and receives oily-water from the oily-water sump in the RCCU. Drains DP7907 and DP7134 send waste to the oily-water sump in the RCCU and operate without a water seal.

85. During the March 2023 Inspection, EPA reviewed the inspection forms that Shell used for visual inspections of equipment in the Refinery's individual drain systems. The forms did not specifically identify which equipment was to be inspected and/or what they were to be inspected for.

Shell's Fenceline Monitoring

86. Shell commenced NESHAP Subpart CC-required benzene fenceline monitoring at the Refinery on January 23, 2018. On the West Side of the Refinery, Shell installed three monitors (SN-W-1, SN-W-2, and SN-W-3) near the biotreater tanks, including the T-Unit. SN-W-1 is located less than 320 feet from the property line of a neighboring elementary school that has playing fields and a playground.

87. Shell began submitting NESHAP Subpart CC fenceline monitoring reports that provided annual average Δc and 14-day Δc fenceline benzene concentrations starting from the 14-day sampling period ending on January 17, 2019. For the West Side, the reports provided benzene concentrations based on the monitoring results of monitors SN-W-1, SN-W-2, and SN-W-3.

88. In January 2020, Shell began monitoring at twelve (12) additional passive

monitors installed in the West Side to comply with the 2018 Consent Decree. This new network located several monitors (WB-01, WB-02, WB-03, WB-04, and WB-12) near the T-Unit. Monitor WB-01 was located about 50 feet from SN-W-1, and less than 300 feet from the property line of the neighboring elementary school. Monitor WB-02 was located less than 300 feet from the nearest residences, including one that has an outdoor pool.

89. From the two-week monitoring period starting December 30, 2020, Shell stopped submitting results for monitors SN-W-1, SN-W-2, and SN-W-3 in its NESHAP Subpart CC fenceline monitoring reports. Instead, Shell began submitting results from the additional West Side monitors installed in January 2020, including WB-01, WB-02, WB-03, WB-04, and WB-12, and used those monitoring results to calculate the 14-day Δc fenceline benzene concentrations. Prior to this, Shell had not included any of the additional West Side "WB" monitors in its NESHAP Subpart CC fenceline monitoring reports.

90. For the 14-day sampling period ending January 16, 2020, the annual average Δc for the Refinery was 11.11 $\mu g/m^3$, exceeding NESHAP Subpart CC's 9 $\mu g/m^3$ action level.

91. From the 14-day sampling period ending January 16, 2020 through the 14-day sampling period ending on March 12, 2020, the West Side passive samplers near the T-Unit recorded benzene concentrations above 9 $\mu g/m^3$, as set forth in the following table. The annual average Δc for the Refinery also remained above the 9 $\mu g/m^3$ action level the 14-day sampling periods listed in Table 2 below.

Table 2

Monitor Location	Monitoring Period End Date	Benzene ($\mu g/m^3$)	Refinery Annual Average Δc ($\mu g/m^3$)
SN-W-1	1/16/2020	65.5	11.1
SN-W-1	1/30/2020	19.9	10.9
SN-W-2	1/30/2020	24.5	10.9
SN-W-1	2/13/2020	37.8	11.7
SN-W-1	3/12/2020	79.3	13.7

92. On April 28, 2020, Shell submitted a Corrective Action Plan ("April 2020 CAP"), addressing the monitoring results from the 14-day sampling periods ending January 16, 2020, January 30, 2020, and February 13, 2020. The April 2020 CAP stated that Shell determined on January 24, 2020 that its annual average Δc for benzene for the sampling period ending on January 16, 2020 was greater than 9 $\mu g/m^3$. The April 2020 CAP further explained that the Refinery experienced a power dip on January 11, 2020, leading to several process upsets in units feeding sour water into the Bypass Stream. As a result, benzene-rich hydrocarbons were introduced into the T-Unit and benzene was emitted from the T-Unit into the atmosphere. The April 2020 CAP further identified the placement of the OL-5 Degasser was the key contributing factor to the elevated benzene in the sour water system and elevated benzene readings at the

West Side monitors.

93. Between January 15, 2020, and March 12, 2020, Shell took the following corrective actions:

a. Added tank level screens to the online operating parameter monitoring software to flag abnormal change in tank level;

b. Updated the online operating parameter monitoring software to show flash drum control valve;

c. Increased levels in tank XC-429 and XC-7005 (the sour water bypass feed tank) to ensure no hydrocarbons were being entrained from the sour water feed tanks to the T-Unit;

d. Added nitrogen sparging to sour water bypass flash vessel;

e. Implemented a site sour water source control procedure for elevated benzene monitor readings at West Side;

f. Deployed real time benzene trailer mounted monitors to West Side;

g. Eliminated feed to the T-Unit;

h. Decontaminated OL-5 Degasser and returned to service; and

i. Added enhanced bacteria to biotreater "superbugs" to reduce benzene.

94. For the 14-day sampling period ending August 26, 2020, the annual average Δc for the Refinery was 14 $\mu g/m^3$, exceeding NESHAP Subpart CC's 9 $\mu g/m^3$ action level. The 14-day sampling period Δc for that sampling period was 27.74 $\mu g/m^3$ and passive sampler SN-W-1 located near the T-Unit recorded benzene concentration of 28.5 $\mu g/m^3$. Shell did not submit a CAP addressing the benzene concentrations from this sampling period and did not identify the definitive source of benzene corresponding to the monitoring results for this period.

95. Around October 7, 2020, Shell initiated increased awareness and communications around sour water source control and procedures as a corrective action associated with exceedances of the NESHAP Subpart CC's 9 $\mu g/m^3$ action level.

96. From the 14-day sampling period ending December 3, 2020 through the 14-day sampling period ending on December 30, 2020, the West Side passive samplers near the T-Unit recorded benzene concentrations above 9 $\mu g/m^3$, as set forth in the following table. The annual average Δc for the Refinery also remained above the 9 $\mu g/m^3$ action level the 14-day sampling periods listed in Table 3 below.

Table 3

Monitor Location	Monitoring Period End Date	Monitor Result ($\mu g/m^3$)	Refinery Annual Average Δc ($\mu g/m^3$)
SN-W-1	12/3/2020	18.6	14.28
SN-W-1	12/17/2020	13.2	14.64
SN-W-1	12/30/2020	10.2	14.57

97. Shell did not submit a corrective action plan for the exceedances of the action level for the 14-day sampling periods ending December 3, 2020 through December 30, 2020. But Shell conveyed to EPA that that the exceedances were attributable to a power dip cause by Hurricane Zeta that caused grid failure and transformer damage, which led to oil entering the sour water system. Shell further conveyed that it took the following corrective actions: replaced transformer and electrical grids and added skimmer on XC-7005 (sour water bypass feed tank).

98. For the sampling period ending February 10, 2021, the 14-day Δc was 18.7 $\mu g/m^3$ and the benzene concentrations at passive sampler WB-01 near the T-Unit was 18.17 $\mu g/m^3$. Shell did not submit a corrective action plan for this 14-day sampling period but conveyed to EPA that a failure in the desalter level transmitter resulted in oil entering the sour water system. Shell further conveyed that it repaired the level transmitter as corrective action.

99. For the sampling periods ending March 11, 2021 and March 26, 2021 the annual average Δc for the Refinery was below 9 $\mu g/m^3$.

100. For the 14-day sampling period ending April 9, 2021, the annual average Δc for the Refinery rose again above 9 $\mu g/m^3$ to 11.32 $\mu g/m^3$ and the 14-day Δc was 99.13 $\mu g/m^3$. The monitoring results for passive sampler WB-01, located near the T-Unit, was 100.00 $\mu g/m^3$. The monitoring results for monitor WB-12, located northwest of the T-Unit, was 14.30 $\mu g/m^3$.

101. For the 14-day sampling period ending May 6, 2021, the annual average Δc for the Refinery was 12.13 $\mu g/m^3$ and the 14-day Δc was 20.52 $\mu g/m^3$. The monitoring results for passive sampler WB-01, located near to the T-Unit, was 21.00 $\mu g/m^3$. The monitoring results for monitor WB-12, located northwest of the T-Unit, was 13.00 $\mu g/m^3$.

102. On August 10, 2021, Shell submitted a Corrective Action Plan ("First August 2021 CAP") addressing the monitoring results for the sampling periods ending April 9 and May 6, 2021. In the First August 2021 CAP, Shell explained that the 16-inch span of the level probe of a desalter unit (PV-780) was not long enough to provide accurate readings, leading to benzene-rich oil entering the Bypass Stream and reaching the T Unit. Shell also stated that due to turnaround activities shutting down several units that normally route low-benzene concentration flow to the sour water system, a higher concentration of benzene was routed to the sour water system and to the T-Unit than during normal operations. Shell determined that

these two events caused the elevated benzene concentrations for both the sampling period ending April 9, 2021 and the sampling period ending May 6, 2021.

103. Between May 11 and May 12, 2021 Shell took the following corrective actions to address the benzene concentrations from the sampling periods ending April 9, 2021 and May 6, 2021:

a. Replace the level probe with one that has a larger span.

b. Install a new shield to sit around the new larger span level probe to reduce interference and allow more accurate readings.

c. Increase frequency of removing the oil from the weir in the sour water drum.

104. For the 14-day sampling period ending June 3, 2021, which was the first 14-day sampling period after the completion of the corrective actions that ended on May 12, 2021, the 14-day Δc was 24.62 $\mu g/m^3$ and the annual average Δc for the Refinery was 12.75 $\mu g/m^3$. The monitoring results for that period for monitor WB-01, located near the T-Unit, was 25.00 $\mu g/m^3$.

105. Shell addressed the monitoring results from the June 3 sampling period in the First August 2021 CAP. In that CAP, Shell explained that for the sampling period ending June 3, 2020, the incorrect calibration of an instrument in the OL-5 Unit resulted in gasoline being sent to the Degasser. A decrease in temperature in the Degasser resulted in the condensation of the injected steam such that there was no steam to strip out benzene from the Degasser water entering the sour water stream. The OL-5 Unit sour water stream enters the Bypass Stream where it is combined with other sour water streams before it is routed to the T-Unit.

106. On May 21, 2021, Shell took the corrective action of recalibrating new interface instrumentation at Unit OL-5. On July 25, 2021, Shell put in place a target alarm for stripping steam in the OL-5 Unit Degasser.

107. In the First August 2021 CAP, Shell stated that in addition to the corrective actions taken on May 21 and July 25, 2021, Shell had also begun additional sampling of the sour water system to gain a better understanding of the potential contributions of benzene and to establish a baseline benzene concentration. Shell also began investigating the installation of benzene analyzer on the sour water streams to provide real time data and accurately identify sources of high benzene. The proposed schedule for implementation of the additional measures was presented by Shell as set forth in Table 4:

Table 4

Task	Target Date
Begin increased sour water sampling	8/1/2021
Determine baseline benzene concentrations	10/1/2021

Task	Target Date
in the sour water system from the individual contributing streams	
Determine feasibility of installing online benzene analyzers	12/1/2021
Installation of benzene analyzers, if deemed feasible	12/1/2022

108. For the 14-day sampling period ending June 17, 2021, which was the first 14-day sampling period after the completion of the corrective actions that ended on May 21, 2021, the 14-day Δc was 15.00 µg/m^3 and the annual average Δc for the Refinery was 13.18 µg/m^3. The monitoring results for that period for monitor WB-01, located near to the T-Unit, was 25.00 µg/m^3. The monitoring results for that period for monitor B-11, which is located in the East Side of the Refinery, was 12.00 µg/m^3.

109. On August 24, 2021, Shell submitted a Corrective Action Plan ("Second August 2021 CAP"). The Second August 2021 CAP describes investigations of potential sources contributing to elevated benzene concentrations at both monitors WB-01 and B-11 during the 14-day sampling period ending on June 17, 2021. Shell did not identify any abnormalities or work activities that could have contributed to the high benzene results. The Second August 2021 CAP also restated the additional corrective measures concerning the sour water system that were described in the First August 2021 CAP and described in Paragraph 107 above.

110. For the 14-day sampling period ending August 12, 2021, the annual average Δc for the Refinery was 13.66 µg/m^3 and the 14-day Δc was 9.03 µg/m^3. The monitoring results for monitor WB-01, located near to the T-Unit biotreater, was 9.50 µg/m^3.

111. On October 19, 2021, Shell submitted a CAP that included a description of its root cause analysis and corrective actions for the 14-day sampling period ending August 12, 2021. During that sampling period, two eGC monitors deployed in the vicinity of monitor WB-01 detected high readings of benzene. Shell "attempted to trouble shoot the source and reduce sour water feed to the T-Unit" by taking steps including reducing sour water flow; skimming hydrocarbons off a unit contributing to the sour water stream; taking additional benzene check samples; verifying tank line ups were correct; verifying no abnormal odors detected around the west site fenceline; monitoring dissolved oxygen levels and adjusting air accordingly; and continuing to monitor eGC trailers for elevated benzene readings. Shell was not, however, able to "pinpoint" the source of the high benzene in the area of WB-01.

112. For the 14-day sampling period ending October 7, 2021, the annual average Δc for the Refinery was 12.97 µg/m^3 and the 14-day Δc was 9.69 µg/m^3. The monitoring result for monitor WB-01, located near to the T-Unit, was 10.00 µg/m^3. Shell did not submit a CAP for the sampling period ending October 7, 2021, but conveyed to EPA that Hurricane Ida-related power outages resulted in the transfer of sour water to the T-Unit. Shell further conveyed that the

transfer of sour water was stopped on October 3, 2021 when high benzene readings were received at an eGC.

113. For the 14-day sampling period ending November 4, 2021, the annual average Δc for the Refinery was 13.98 µg/m^3 and the 14-day Δc was 29.44 µg/m^3. The monitoring result for monitor WB-01, located near to the T-Unit, was 19.00 µg/m^3. The monitoring results for WB-02 was 30.00 µg/m^3 and for WB-12 was 13.00 µg/m^3. Both monitors WB-02 and WB-12 are on the West Side of the Refinery and in the vicinity of the wastewater treatment system and near the T-Unit.

114. On February 2, 2022, Shell submitted a Corrective Action Plan ("February 2022 CAP") that addressed the monitoring results for the sampling period ending November 4, 2021. Shell identified several activities that resulted in hydrocarbons being transferred to the T-Unit, including the transfer of sour water from Tank XC-429 via splash loading, and the release of a large amount of crude from Refinery distillation unit DU-5. The "Cause Tree" in the February 2022 CAP illustrates that these actions caused the T-Unit to contain benzene material, and because the T-Unit is an open tank and the residence time was less than needed for microbes to destroy the benzene, "[b]enzene material evaporated/emitted from the [T-Unit] in amounts greater than the action level." The February 2022 CAP identifies several corrective actions taken to mitigate the benzene emissions from the T-Unit, including stopping the transfer of sour water from Tank XC-429, stopping the feed from Unit DU-5, and making adjustments to separate and skim the oil that was being sent into the Bypass Stream and to the T-Unit.

115. For the 14-day sampling period ending January 5, 2022, the annual average Δc for the Refinery was 13.88 µg/m^3 and the 14-day Δc was 13.51 µg/m^3. The monitoring result for monitor WB-01, located near to the T-Unit biotreater, was 14.00 µg/m^3.

116. The February 2022 CAP addressed the monitoring results for the sampling period ending January 5, 2022. Shell identified several activities that resulted in hydrocarbons being transferred to the T-Unit during the sampling period, including the presence of elevated benzene in sour water transferred from DU-5 Unit during restart, and elevated benzene in sour water coming from the Olefins Production Unit 1 (OP-1). Both streams with elevated benzene fed into the Bypass Stream which routes to the T-Unit. The February 2022 CAP explains that the sour water samples indicated high benzene concentrations, and that Shell stopped feed going into the Bypass Stream and made adjustments to separate and skim the oil being sent into the Bypass Stream and to the T-Unit.

117. In the February 2022 CAP, submitted more than two years after the first sampling period during which passive samplers near the T-Unit had benzene concentrations greater than 9 µg/m^3, Shell for the first time identified the installation of dissolved nitrogen flotation and the air strippers on the Bypass Stream as a corrective measure. Specifically, the February 24, 2022 CAP identified as "Additional Measures" beyond the previously described corrective actions the installation of "[a]n interim system including dissolved nitrogen flotation

(DNF) and air strippers on the sour water bypass stream upstream of the bio-treater to remove benzene in the sour water. This system will strip out any residual hydrocarbons thus creating cleaner water at the open tank bio-treater and reducing benzene emissions at the West [Side]." Shell also described its plans to purchase a "VOC analyzer capable of detecting and providing real time benzene data. The analyzer will be installed on the bypass stream and allow for a quicker response time to identify and correct excursions in the sour water system." Shell estimated that the interim DNF and air stripping, as well as the online benzene analyzers, would be installed by the third calendar quarter of 2022.

118. The monitors located near the T-Unit measured benzene concentrations above 9 $\mu g/m^3$ for 16 out of 55 14-day sampling periods covering the span between January 2, 2020 through February 24, 2022 (Paragraphs 91, 96, 98, 100, 101, 104, 108, 110, 112, 113, 115). For 13 of those 16 sampling periods, Shell determined that the West Side sour water system and uncontrolled Bypass Stream were the cause of the elevated benzene concentrations at passive samplers (Paragraphs 92, 97, 98, 102, 105, 112, 114, 116). For the remaining 3 sampling periods during which monitors near the T-Unit measured benzene concentrations above 9 $\mu g/m^3$, Shell stated that it was not able to determine the cause of the elevated benzene concentrations (Paragraphs 94, 109, 111).

119. In late June 2022, Shell re-routed the sour water waste stream from OP-1 from the Bypass Stream to the sour water stripper system.

120. Between sampling period ending January 19, 2022 and the sampling period ending June 23, 2022, the 14-day Δc, and the monitoring results at monitors near the T-Unit were above 9 $\mu g/m^3$ during the ten (10) sampling periods set forth below. The annual average Δc for the Refinery also remained above the 9 $\mu g/m^3$ action level during the 14-day sampling periods listed in the Table 5 below.

Table 5

Sampling period end date:	Annual Average Δc ($\mu g/m^3$)	14-Day Δc ($\mu g/m^3$)	Monitor Results ($\mu g/m^3$)		
			WB-01	WB-02	WB-12
Feb. 3, 2022	14.1	8.9	9.5		
Feb. 16, 2022	13.7	8.9	9.3		
Mar. 3, 2022	14.3	19.4	20.0		
Mar. 17, 2022	14.7	16.5	17.0		
Apr. 14, 2022	11.2	8.8	9.3		

Apr. 28, 2022	11.5	14.6	15.0		12.0
May 12, 2022	13.1	62.4	63.0		13
May 26, 2022	14.9	51.6	52.0	12.0	
June 9, 2022	15.9	49.5	50.0		10.0
June 23, 2022	16.3	25.6			

121. Shell did not submit to EPA a corrective action plan for any exceedances of the NESHAP Subpart CC's 9 µg/m^3 action level for the monitoring periods ending January 19, 2022 through June 23, 2022. Shell conveyed to EPA that various upsets and elevated benzene levels in the sour water caused the elevated fenceline benzene concentrations.

122. On April 21, 2023, Shell began operating a new benzene stripping unit for the Bypass Stream.

123. From the sampling period ending July 7, 2022 through the sampling period ending September 27, 2023, no monitor located near the T-Unit has recorded a 2-week sample result greater than 9 µg/m^3.

124. For the sampling period ending on May 24, 2023, the annual average Δc dropped below 9 µg/m^3 for the first time since the sampling period ending March 26, 2021.

Conclusions of Law

Based on the findings set forth above, EPA has reached the following Conclusions of Law:

NESHAP Subpart CC

125. Shell's Refinery is a major source under CAA Section 112, 42 U.S.C. §7412, that has a petroleum refining process unit subject to NESHAP Subpart CC.

126. Because in January 2018, Shell installed only three passive samplers in the West Side (Paragraph 86); from January 2018 through January 2020, operated and conducted sampling at only three samplers in the West Side (Paragraphs 86-88); and through the monitoring period ending December 30, 2020, Shell analyzed and reported West Side monitoring data from only the three original passive samplers (Paragraphs 87-89), Shell failed from January 2018 through December 30, 2020 to conduct sampling and analysis and report sample results in accordance with Method 325A and 40 C.F.R. §§ 63.655(h)(8) and 63.658(a) and (c).

127. Because Shell did not complete its initial corrective actions for the sampling

period ending on January 24, 2020 until March 12, 2020 (Paragraph 90), Shell failed to complete the initial corrective actions within 45 days as required by 40 C.F.R. § 63.658(g).

128. Because, from as early as May 8, 2020 when Shell was required to submit a corrective action plan for the sampling period ending January 16, 2020, until the submission of the February 2022 CAP, Shell did not develop and submit a corrective action plan with appropriate measures to reduce benzene emissions from the T-Unit (Paragraph 117), Shell failed on multiple occasions to develop a corrective action plan with additional measures to reduce fenceline benzene concentrations below the action level as required by 40 C.F.R. § 63.658(h).

Subpart FF: Benzene Waste NESHAP

129. The Refinery is subject to requirements at the Benzene Waste NESHAP.

130. Based on the detectable emissions identified and other observations by EPA during EPA's March 2023 Inspection (Paragraphs 73, 78,84), and by Shell in its NESHAP Subpart FF reports for calendar years 2020 and 2021 (Paragraphs 66 through 68), Shell failed to operate all covers, openings, and closed-vent systems with no detectable emissions at waste management units, including tanks, surface impoundments, and oil-water separators, as required by 40 C.F.R. §§ 61.343(a)(1)(i)(A), 61.344(a)(1)(i)(A), 61.347(a)(1)(i)(A), and 61.349(a)(1)(i).

131. Based on the emissions identified and other observations by EPA during EPA's March 2023 Inspection (Paragraphs 73, 78, 84), and by Shell in its NESHAP Subpart FF report for calendar year 2021 (Paragraph 67) Shell failed to design all covers, openings, and closed vent systems to operate with no detectable emissions at waste management units, including tanks, surface impoundments, and oil-water separators as required by 40 C.F.R. §§ 61.343(a)(1)(i)(A), 61.344(a)(1)(i)(A), 61.347(a)(1)(i)(A), and 61.349(a)(1)(i).

132. Based on the emissions identified and other observations by EPA during EPA's March 2023 Inspection (Paragraphs 73, 78, 84), and by Shell in its NESHAP Subpart FF report for calendar year 2021 (Paragraph 67), Shell failed to operate a fixed-roof and closed-vent system that routes all organic vapors from the waste management units, including tanks, surface impoundments, and oil-water separators identified in this FOV to a control device, as required by 40 C.F.R. §§ 61.343(a)(1), 61.344(a)(1), and 61.347(a)(1).

133. Based on emissions identified and other observations by EPA during EPA's March 2023 Inspection (Paragraphs 72, 74, and 78), and by Shell in its NESHAP Subpart FF report for calendar years 2020 and 2021 (Paragraphs 66 and 68), Shell failed to meet the standards for individuals drain systems as set forth in 40 C.F.R. § 61.346. Specifically:

a. Shell did not install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device and that met the requirements of 40 C.F.R.

§ 61.346(a)(1), including that the cover and all openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions, as required by 40 C.F.R. § 61.346(a).

b. Shell did not, in the alternative, comply with the requirements of 40 C.F.R. § 61.346(b), including the requirement that each drain shall be equipped with water seal controls or a tightly sealed cap or plug, 40 C.F.R. § 61.346(b)(1), and that each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces, 40 C.F.R. § 61.346(b)(3).

134. Shell failed to conduct no detectable emissions testing for at least two years (Paragraph 70) as required by §§ 61.343(a)(1)(i)(A), 61.344(a)(1)(i)(A), 61.346(a)(1)(i)(A), 61.347(a)(1)(i)(A), and 61.349(a)(1)(i)(A).

135. By not identifying all points of generation (Paragraphs 75 and 77), and by failing to include all points of generation in the total annual benzene report, Shell failed to accurately account for all waste streams in its total annual benzene report as required by 40 C.F.R. §§ 61.342(e), 61.355(a)(3), and 61.357(a)(1).

136. Based on detectable emissions identified during EPA's March 2023 Inspection, Shell's failure to design and operate waste management units with no detectable emissions, Shell's failure to operate a fixed-roof and closed-vent system that routes all organic vapors from the waste management units, Shell's failure to conduct no detectable emission testing as required for each waste management unit, Shell's failure to account for all waste streams, and Shell's failure to meet standards for the control of emissions from individual drain systems, including the uncontrolled influent streams entering the biotreater tanks above the surface of the microorganisms, for at least the period of 2002 through 2022, Shell failed to control facility waste streams in accordance with §§ 61.343. 61.344, 61.345, 61.346, 61.347, or 61.349 but nevertheless did not calculate the benzene quantity for those waste streams as "not controlled" in accordance with and as required by 40 C.F.R. §§ 61.342(e)(2)(ii) and 61.355(k).

137. Based on detectable emissions identified during EPA's March 2023 Inspection, Shell's failure to design and operate waste management units with no detectable emissions, Shell's failure to operate a fixed-roof and closed-vent system that routes all organic vapors from the waste management units, Shell's failure to conduct no detectable emissions testing as required for each management unit, Shell's failure to account for all waste streams, and Shell's failure to meet standards for the control of emissions from individual drain systems, including the uncontrolled influent stream entering the biotreater tanks above the surface of the microorganisms, which demonstrate that the streams associated with that equipment were "not controlled" for purposes of 40 C.F.R. §§ 61.355(k), for at least the period of 2002 through 2022, the benzene quantity of the Facility's waste streams determined in accordance with 40 C.F.R. § 61.355(k) exceeded 6.0 Mg/yr for those years in violation of 40 C.F.R. § 61.342(e)(2)(i).

138. Based on Shell's failure to identify and report uncontrolled waste streams, including information about the waste stream characteristics of those streams, Shell failed to report the total annual benzene quantity from the facility and meet the reporting requirements of 40 C.F.R. § 61.357.

139. Based on EPA's observation made on the internal and external floating roof tanks during EPA's March 2023 Inspection (Paragraphs 76 and 78), Shell failed to comply with 40 C.F.R. §§ 60.112b(a)(1)(iv) and 60.112b(a)(2)(ii), in violation of 40 C.F.R. §§ 61.351(a)(1) and 61.351(a)(2).

140. Shell failed to create or maintain engineering design documentation for control equipment installed on waste management units (Paragraph 71), as required by 40 C.F.R. § 61.356(d).

141. Shell failed to keep records of no detectable emissions testing (Paragraph 70) as required by 40 C.F.R. § 61.356(h).

142. Based on Shell's acknowledgement during the March 2023 Inspection that it had not visually inspected the fixed roof on tank T-409 (Paragraph 73), and Shell's failure to identify cracks, gaps, and defects on tanks, surface impoundments, individual drain systems, and oil-water separators (Paragraphs 72 and 78), Shell failed to conduct a visual inspection as required by 40 C.F.R. §§ 61.343(c), 61.344(c), 61.346(a)(2), 61.346(b)(2), and 61.347(b).

143. By reporting from 2018 through 2022 that all inspections required during the reporting period were completed in accordance with the provisions of Subpart FF (Paragraph 64), even though Shell had failed to comply with no detectable emissions testing (Paragraph 70) and visual inspection requirements (Paragraphs 73, 72, and 78)) during that time period, Shell failed to comply with the reporting requirements of 40 C.F.R. § 61.357(d)(8).

144. Shell failed to make first efforts to repair problems with an individual drain system within 15 calendar days after identification (Paragraph 66 and 68) as required by 40 C.F.R. § 61.346(a)(3) or, in the alternative, 40 C.F.R. § 61.346(b)(5).

NSPS Subpart QQQ

145. The Refinery is subject to the requirements at NSPS Subpart QQQ.

146. Based on EPA's observations during EPA's March 2023 Inspection (Paragraph 79 and 84), Shell failed to install appropriate controls for each oil-water separator at the Refinery, as well as all individual drain systems subject to NSPS Subpart QQQ, as required by 40 C.F.R. §§ 60.692-2, 60.692-3, and 60.692-5.

147. As identified by Shell, and as observed by EPA during EPA's March 2023 Inspection (Paragraphs 79 and 81-83), Shell failed to maintain water seal controls on each drain

within the process units as required by 40 C.F.R. § 60.692-2(a)(1).

148. Based on observations during EPA's March 2013 Inspection (Paragraph 79), Shell failed to maintain the junction boxes (including the manhole covers to the junction box) with a cover and a seal as required by 40 C.F.R. § 60.692-2(b)(1) and (2).

149. Based on observation during EPA's March 2023 Inspection (Paragraph 79), Shell failed to maintain the sewer lines closed to the atmosphere and covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces as required by 40 C.F.R. § 60.692-2(c)(1).

150. Based on the number of visual inspection failures identified during EPA's March 2023 Inspection (Paragraph 79), and Shell's failure to report any deficiencies (Paragraph 80), along with Shell's failure to consistently complete all required NSPS Subpart QQQ inspections and use of inspection forms that did not identify the equipment to be inspected or what they were to be inspected for (Paragraph 85), Shell failed to properly conduct monthly visual inspections as required by 40 C.F.R. § 60.692-2(a)(2), (b)(3), and (c)(2).

151. Based on observations during EPA's March 2013 Inspection (Paragraphs 79 and 84), Shell failed to equip and operate each oil-water separator tank subject to Subpart QQQ with a fixed roof that meets the specifications of 40 C.F.R. § 60.692-3(a)(1)-(5), as required by 40 C.F.R. § 60.692-3(a).

152. Based on tank XC-7000 being open to the atmosphere and receiving oil-water (Paragraph 84), Shell failed to collect, store, transport, recycle, reuse or dispose of slop oil and/or oily wastewater in an enclosed system as required by 40 C.F.R. § 60.692-3(e).

Enforcement

The EPA's investigation into this matter is continuing. The above information identifies specific violations that EPA believes, at this point, are sufficiently supported by evidence to warrant the Conclusions of Law in this FOV. The EPA may find additional violations as the investigation continues.

Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), provides the Administrator with several enforcement options to resolve these violations, including issuing an administrative compliance order, issuing an administrative penalty order, bringing a judicial civil action, and bringing a judicial criminal action.

Opportunity to Confer

Shell may, upon request, confer with EPA. The conference will enable Shell to present evidence bearing on the finding of violations, on the nature of the violations, and on any efforts

it may have taken or proposes to take to achieve compliance. Shell has a right to be represented by counsel. A request for a conference must be made within ten (10) days of receipt of this FOV. Please contact Providence Spina, Attorney Advisor, at spina.providence@epa.gov, to request a conference. Any technical questions may be directed to Patrick Foley, Environmental Engineer, at foley.patrick@epa.gov.