

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF LOUISIANA
NEW ORLEANS DIVISION

THE UNITED STATES OF AMERICA)	
and the LOUISIANA DEPARTMENT OF)	
ENVIRONMENTAL QUALITY,)	
)	
Plaintiffs,)	
)	Civil Action No.
v.)	
)	
THE DOW CHEMICAL COMPANY,)	
UNION CARBIDE CORPORATION, and)	
PERFORMANCE MATERIALS NA, INC.,)	
)	
Defendants.)	

COMPLAINT

Plaintiffs, the United States of America (United States), by the authority of the Attorney General, and through the undersigned attorneys, acting on behalf of the Administrator of the United States Environmental Protection Agency (EPA), and the Louisiana Department of Environmental Quality (LDEQ), file this Complaint and allege as follows:

I. NATURE OF THE ACTION

1. This civil action seeks injunctive relief and civil penalties from The Dow Chemical Company (Dow), and its wholly owned subsidiaries Union Carbide Corporation (Union Carbide) and Performance Materials NA, Inc. (PMNA) (*collectively*, Defendants) for violations of the Clean Air Act, 42 U.S.C. § 7401 *et seq.* (CAA), the Louisiana Environmental Quality Act, La. R.S. 30:2001 *et seq.* (LEQA), the regulations promulgated pursuant to those statutes, and the operating permits that incorporate those requirements.

2. The United States brings this case pursuant to Clean Air Act Sections 113(b) and 167, 42 U.S.C. §§ 7413(b) and 7477, based on the Defendants' alleged failures to adhere to good

air pollution control practices, including its failures to properly operate, maintain, monitor, and control steam-assisted flares at four of Defendants' petrochemical manufacturing facilities.

Defendant Dow owns and operates the facilities located in Freeport, Texas (Freeport Facility) and Plaquemine, Louisiana (Plaquemine Facility). Defendant Union Carbide owns and operates the facility located in Hahnville, Louisiana (Hahnville Facility). Defendant PMNA owns and operates the facility located in Orange, Texas (Orange Facility) (*collectively*, Defendants' Facilities). LDEQ brings this case pursuant to the LEQA based on these same failures with respect to Defendants' Plaquemine and Hahnville Facilities.

3. Defendants' alleged violations of the CAA and the LEQA resulted in thousands of tons of illegal emissions of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and other pollutants into the air in the states of Louisiana and Texas.

II. JURISDICTION AND VENUE

4. This Court has jurisdiction over the subject matter and the parties hereto, pursuant to Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1331, 1345, and 1355.

This Court has personal jurisdiction over the Defendants because they do business in the state of Louisiana and within the jurisdictional boundaries for the federal district court for the Eastern District of Louisiana, as established by Congress under 28 U.S.C. § 98(a).

5. This Court has supplemental jurisdiction over the state law claims asserted by the LDEQ pursuant to 28 U.S.C. § 1367 because those claims are so related to the claims alleged in the United States' action that they form part of the same case or controversy.

6. Venue is proper in this Judicial District, pursuant to CAA Section 113(b), 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b) and (c) and 1395(a), because the violations alleged in this Complaint occurred and are occurring at the Defendants' Facilities located in this District.

III. NOTICE

7. Notices of violations were given to Defendants, and the states of Louisiana and Texas as required by CAA Section 113(a)(1), 42 U.S.C. § 7413(a)(1). Notice of commencement of this action was given to the states of Louisiana and Texas as required by CAA Section 113(b), 42 U.S.C. § 7413(b).

8. The thirty-day period established in CAA Section 113(a), 42 U.S.C. § 7413(a), between the notices of violation provided by the United States and the commencement of this civil action has passed.

IV. AUTHORITY

9. The United States Department of Justice has the authority to bring this action on behalf of EPA under, *inter alia*, 28 U.S.C. §§ 516 & 519, and under Section 305(a) of the CAA, 42 U.S.C. § 7605(a).

V. DEFENDANTS

10. Defendant Dow Chemical Company is a Delaware corporation that does business in the states of Louisiana and Texas.

11. At all times relevant to the Complaint, Defendant Dow has owned and operated the following facilities: a) Plaquemine Petrochemical Plant, Plaquemine, Louisiana (Plaquemine Facility), and b) Freeport Petrochemical Plant, Freeport, Texas (Freeport Facility).

12. Defendant Union Carbide Corporation is a New York corporation authorized to do business in the state of Louisiana. Union Carbide is organized and operates as a wholly owned subsidiary of Defendant Dow.

13. At all times relevant to the Complaint, Defendant Dow, or a predecessor-in-interest, both directly or through Defendant Union Carbide has owned and operated a

petrochemical manufacturing plant located in Hahnville, Louisiana (Hahnville Facility).

14. Defendant Performance Materials NA, Inc., is a Delaware corporation authorized to do business in the state of Texas. PMNA operates and is organized as a wholly owned subsidiary of Defendant Dow.

15. At all times relevant to the Complaint, Defendant Dow, or a predecessor-in-interest, both directly, or through Defendant PMNA has owned and operated the Sabine River Works plant located in Orange, Texas (Orange Facility).

16. The Plaquemine, Freeport, Hahnville, and Orange Facilities are collectively referred to as the “Defendants’ Facilities.”

17. At all times relevant to the Complaint, each of the Defendants has been a “person” within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e) and the applicable federal and state regulations alleged herein.

VI. CLEAN AIR ACT STATUTORY AND REGULATORY BACKGROUND

A. National Ambient Air Quality Standards (NAAQS) and New Source Review (NSR)

1. General

18. CAA Section 108(a), 42 U.S.C. § 7408(a), requires EPA to identify and prepare a list of each air pollutant that results from numerous or diverse mobile or stationary sources and that may endanger public health or welfare through its emissions. EPA must then issue air quality criteria for each such “criteria” air pollutant.

19. CAA Section 109, 42 U.S.C. § 7409, requires EPA to promulgate regulations establishing primary and secondary NAAQS for air pollutants for which air quality criteria have been issued pursuant to Section 108 of the CAA. Under Section 109(b) of the CAA, 42 U.S.C. § 7409(b), the primary NAAQS must be adequate to protect the public health with an adequate margin of safety. The secondary NAAQS must be adequate to protect the public welfare from

known or anticipated adverse effects associated with the presence of the air pollutant in the ambient air.

20. Pursuant to CAA Sections 108 and 109, 42 U.S.C. §§ 7408 and 7409, EPA has identified and listed air quality criteria and NAAQS for the following criteria air pollutants: ground level ozone, particulate matter (PM), nitrogen dioxide, carbon monoxide (CO), lead, sulfur dioxide (SO₂) (*collectively*, the Criteria Pollutants). *See* 40 C.F.R. §§ 50.8-50.11 (primary NAAQS); *see also* 40 C.F.R. §§ 50.15 and 50.19 (secondary NAAQS).

21. VOCs readily react in sunlight with NO_x – forming the criteria pollutant ozone.

22. Pursuant to CAA Section 107(d), 42 U.S.C. § 7407(d), each state is required to designate those areas within its boundaries (known as “air quality control regions”) where the air quality is better or worse than the NAAQS for each criteria pollutant, or where the air quality cannot be classified due to insufficient data. An area that meets the NAAQS for a particular pollutant is deemed an “attainment” area, while an area that does not meet the NAAQS for a particular pollutant is deemed a “non-attainment” area. The states’ air quality designations are identified at 40 C.F.R. Part 81.

23. At all times relevant to this Complaint, St. Charles Parrish, Louisiana, where the Hahnville Facility is located has been classified as “in attainment” for all Criteria Pollutants.

24. At all times relevant to this Complaint, Iberville Parrish, Louisiana, where the Plaquemine Facility is located has been classified as “in attainment” for all Criteria Pollutants.

25. At all times relevant to this Complaint, Orange County, Texas, where the Orange Facility is located has been classified as “in attainment” for all Criteria Pollutants.

26. At all times relevant to this Complaint, Brazoria County, Texas, where the Freeport Facility is located has been classified as “non-attainment” for ozone.

2. State Implementation Plans

27. CAA Section 110, 42 U.S.C. § 7410, requires each state to adopt and submit to the EPA for approval a plan that provides for the attainment and maintenance of the NAAQS in each air quality control region within each state. This plan is known as a state implementation plan (SIP). SIPs are enforceable by the respective states in which they are adopted, and pursuant to CAA Section 113(b), 42 U.S.C. § 7413(b), by the United States.

28. Of relevance to this Complaint, Section 110(a)(2)(C) of the CAA, 42 U.S.C. § 7410(a)(2)(C), requires each SIP to include, *inter alia*, “regulation of the modification and construction of any stationary source . . . as necessary to assure that [NAAQS] are achieved, including a[n NSR] permit program,” which includes the prevention of significant deterioration (PSD) program required by part C of Subchapter I of the CAA.

3. Prevention of Significant Deterioration (PSD) Requirements

29. Part C of Subchapter I of the CAA, 42 U.S.C. §§ 7470-7492, sets forth requirements for the prevention of significant deterioration of air quality in those areas designated as attainment areas for purposes of complying with the NAAQS. *See* 42 U.S.C. § 7470 (Purpose of PSD requirements). EPA’s regulations that implement the PSD program are found at 40 C.F.R. § 52.21 (the PSD Regulations). Together, these provisions are referred to as the “PSD program.”

30. The core of the PSD program is the prohibition that “[n]o major emitting facility...may be constructed in any [attainment] area” unless various requirements are met. *See* 42 U.S.C. § 7475(a). These requirements include, *inter alia*, obtaining a “PSD permit” with emissions limitations based on the “best available control technology” (BACT) to control air emissions. *Id.*; *see also* 40 C.F.R. § 52.21(j)-(r). The PSD regulations also require a

demonstration that emissions from a newly constructed or modified facility will not contribute to a violation of a NAAQS. *See* 42 U.S.C. § 7475(a); 40 C.F.R. § 52.21(k).

31. CAA Section 169(1), 42 U.S.C. § 7479(1), defines “major emitting facility” to include any chemical process plant that emits or has the potential to emit 100 tons per year (TPY) or more of any air pollutant. Major emitting facilities also include any other source with the potential to emit 250 TPY or more of any air pollutant.

32. The PSD regulations define *construction* as “any physical change in or change in the method of operation (including fabrication, erection, installation, demolition, or modification) which would result in a change in actual emissions.” 40 C.F.R. § 52.21(b)(8). *Construction* is also defined to include the *modification* (as defined in CAA Section 111(a), 42 U.S.C. § 7411(a)) of any source or facility. 42 U.S.C. § 7479(2)(C).

33. *Modification* is defined as “any change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.” 42 U.S.C. § 7411(a).

34. The PSD regulations define *major modification* as “any physical change in or change in the method of operation of a major stationary source that would result in a significant new emission increase of any pollutant subject to regulation under the Act.” 40 C.F.R. § 52.21(b)(2)(i).

35. The PSD regulations set individual thresholds for each criteria pollutant that define whether a net emissions increase of a pollutant is *significant*. *See* 40 C.F.R. § 52.21(b)(23)(i). For ozone, *significant* means a net emissions increase of, or the potential of a source to emit 40 TPY or more of VOCs or NO_x. *Id.* For NO_x, the significance threshold is 40 TPY. *Id.* For CO, the significance threshold is 100 TPY. *Id.*

36. The PSD regulations define *net emissions increase* as “the amount by which the sum of the following exceeds zero: a) any increase in actual emissions from a particular physical change or change in method of operation at a stationary source and b) any other increases or decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.” 40 C.F.R. § 52.21(b)(3).

37. In an attainment area, a newly constructed stationary source or a major modification to an existing stationary source must install and operate BACT, as defined in 40 C.F.R. § 52.21(b)(12), for each pollutant subject to regulation under the CAA that it would have the potential to emit in significant amounts or for which the modification would result in a significant net emissions increase. 40 C.F.R. § 52.21(j)(2)-(j)(3).

4. Non-attainment NSR Requirements

38. Part D of Subchapter I of the CAA, 42 U.S.C. §§ 7501-7515, sets forth requirements that are intended, *inter alia*, to reduce emissions of air pollutants in areas that have not attained the NAAQS.

39. CAA Sections 110(a)(2)(C) and (I) and 172(c), 42 U.S.C. §§ 7410(a)(2)(C) and (I) and 7502(c), require that each SIP contain requirements to review and permit newly constructed or modified sources of criteria air pollutants in non-attainment areas (Non-attainment NSR). Permits for these actions must be issued in accordance with CAA Section 173, 42 U.S.C. § 7503, and contain requirements that will facilitate “reasonable further progress” towards attainment of NAAQS. 42 U.S.C. §§ 7502(c)(2) and (c)(5).

40. CAA Section 173, 42 U.S.C. § 7503, requires that, in order to obtain a permit for the construction or major modification of a major stationary source in a non-attainment area, the owner and operator of the source must, *inter alia*: a) comply with the lowest achievable emission

rate (LAER), as defined in CAA Section 171(3), 42 U.S.C. § 7501(3); b) obtain federally enforceable emission offsets at least as great as the new or modified source's emissions; c) conduct an air quality impact analysis; and d) analyze alternative sites, sizes, production processes, and environmental control techniques for the proposed source, and then demonstrate that the benefits of the proposed source significantly outweigh the environmental and social costs imposed due to its location, construction, or modification. 42 U.S.C. §§ 7503(a)-(c); 40 C.F.R. Part 51, Appendix S, Part IV, Conditions 1-4.

41. *Major stationary source* generally means any stationary source with the potential to emit 100 TPY or more of any regulated NSR pollutant. 40 C.F.R. § 51.165(a)(1)(iv)(A). However, in areas that are in non-attainment for ozone, lower thresholds may qualify a stationary source of VOCs as a major stationary source. *Id.*

42. *Significant* has the same meaning as under the PSD regulations, except that under the Non-attainment NSR program, lower TPY thresholds may qualify as being significant. 40 C.F.R. § 51.165(a)(1)(x)(B).

5. PSD and Non-attainment NSR in Louisiana and Texas

43. In addition to the requirements found in Section 110(a)(2)(c) of the CAA, 42 U.S.C. § 7410(a)(2)(c), Section 161 of the CAA, 42 U.S.C. § 7471, also requires that each SIP contain a PSD program. A state may comply with Section 161 by having EPA delegate authority to enforce federal PSD regulations set forth at 40 C.F.R. § 52.21, or by having its own PSD regulations approved by EPA as part of its SIP. In order for EPA to approve a state PSD program, the state requirements must be at least as stringent as the requirements set forth at 40 C.F.R. § 51.166.

44. CAA Sections 110(a)(2)(C) and (I) and 172(c), 42 U.S.C. §§ 7410(a)(2)(C) and

(I) and 7502(c), require that each SIP contain requirements to attain the primary NAAQS in non-attainment areas.

45. A state may comply with CAA Sections 172 and 173 if EPA delegates authority to enforce the federal Non-attainment NSR regulations to the state. A state may also comply by promulgating its own Non-attainment NSR regulations that then must be approved by EPA as part of the SIP. In order to be approved, a state's Non-attainment NSR regulations must be at least as stringent as those in 40 C.F.R. § 51.165.

46. The EPA has approved Louisiana's PSD and Non-attainment NSR permit programs. *See* LAC 33:III.501 and 509 (PSD program) (approved Mar. 8, 1989, 54 Fed. Reg. 9795) and La. Admin. Code (LAC), Title 33, Part III, § 504 (Non-attainment NSR program) (approved Sept. 30, 2002, 67 Fed. Reg. 61,260). *See also* 40 C.F.R. §§ 52.970 and 52.999(c) (EPA approvals of subsequent revisions to Louisiana PSD and Non-attainment NSR program requirements).

47. The EPA has approved Texas' PSD and Non-attainment NSR permit programs. *See* 30 Texas Administrative Code (hereafter, TAC) §§ 116.160-116.163 (PSD program) (approved Sept. 27, 1995, 60 Fed. Reg. 49,781) and 30 TAC §§ 116.150-116.151 (Non-attainment NSR program) (approved Sept. 27, 1995, 60 Fed. Reg. 49,781). *See also* 40 C.F.R. §§ 52.2273 and 52.2303 (EPA approvals of subsequent revisions to Texas PSD and Non-attainment NSR program requirements).

48. At all times relevant to this Complaint, Louisiana and Texas have been authorized to issue and enforce PSD and Non-attainment NSR permits. In all respects relevant to this Complaint, the Louisiana and Texas PSD and Non-attainment NSR regulations applicable to this action closely, if not exactly, mirror the federal PSD regulations and Non-attainment NSR

requirements at 40 C.F.R. §§ 51.165 and 51.166, and 40 C.F.R. Part 51, Subpart S, Part IV.

49. Pursuant to CAA Section 113(b), 42 U.S.C. § 7413(b), and 40 C.F.R. § 52.23, EPA may enforce violations of Louisiana's and Texas' federally approved PSD program and Non-attainment NSR program, as well as violations of permits issued pursuant to those programs.

B. New Source Performance Standards

1. General

50. CAA Section 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A), requires EPA to publish and periodically revise a list of categories of stationary sources that, in EPA's judgment, cause or contribute significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. These categories correspond to distinct manufacturing processes or equipment within a given industry.

51. Once a category is included on the list, CAA Section 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B), requires EPA to promulgate a federal standard of performance for new sources within the category, also known as the New Source Performance Standards (NSPS) for these listed categories.

52. *Standard of Performance* is defined as a "standard for emissions of air pollutants which reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction, any non-air quality health and environmental impact, and energy requirements) the Administrator determines has been adequately demonstrated." 42 U.S.C. § 7411(a)(1).

53. *New Source* is defined in the CAA as "any stationary source, the construction or modification of which is commenced after the publication of the NSPS regulations or proposed

NSPS regulations applicable to such sources.” 42 U.S.C. § 7411(a)(2).

54. *Stationary Source* is defined in the CAA as “a building, structure, facility, or installation which emits or may emit any air pollutant.” 42 U.S.C. § 7411(a)(3).

55. The NSPS are located at 40 C.F.R. Part 60.

56. Clean Air Act Section 111(e), 42 U.S.C. § 7411(e), prohibits an owner or operator of a new source from operating that source in violation of an NSPS after the effective date of the NSPS applicable to such source.

2. NSPS Part 60, Subpart A: General Standards

57. Pursuant to CAA Section 111(b)(1)(B), 42 U.S.C. § 7411(b)(1)(B), EPA promulgated regulations that contain general provisions applicable to all NSPS source categories. *See* 40 C.F.R. Part 60, Subpart A, §§ 60.1- 60.19 (NSPS Subpart A).

58. Under NSPS Subpart A, the provisions of Part 60 “apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the publication [in Part 60] of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility.” 40 C.F.R. § 60.1.

59. *Affected facility* is defined in the CAA as “any apparatus to which a standard is applicable.” 40 C.F.R. § 60.2.

3. NSPS Part 60, Subpart A: Good Air Pollution Control Practices

60. Within NSPS Subpart A, EPA promulgated a regulation that applies at all times to all affected facilities, including associated air pollution control equipment. Specifically, “at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for

minimizing emissions.” 40 C.F.R. § 60.11(d).

4. NSPS Subpart A: Requirements for Flares Used as Control Devices

61. NSPS Subpart A contains specific regulations that apply to flares that are used as control devices for facilities subject to an NSPS. 40 C.F.R. §§ 60.18(b)-(f).

62. Among other things, NSPS Subpart A requires that flares must be: a) designed and operated with no visible emissions (40 C.F.R. § 60.18(c)(1)), b) operated with a flame present at all times (40 C.F.R. § 60.18(c)(2)), c) monitored to ensure that they are operated and maintained in conformance with their design (40 C.F.R. § 60.18(d)), and d) operated at all times when emissions are vented to them (40 C.F.R. § 60.18(e)).

63. Of relevance to this Complaint are the following requirements: for steam-assisted flares, the net heating value (NHV) of the gas being combusted in the flare must be 300 British Thermal Units (BTU) per standard cubic foot (scf) or greater (40 C.F.R. § 60.18(c)(3)(ii)); for steam-assisted flares, certain exit velocity requirements must be met, 40 C.F.R. § 60.18(c)(4); and for all flares, the owner or operator must monitor the flare to ensure that it is operated and maintained in conformance with its design, 40 C.F.R. § 60.18(d).

5. Specific NSPS Categorical Standards

64. Pursuant to CAA Section 111(b)(1)(A) of the CAA, 42 U.S.C. § 7411(b)(1)(A), EPA has promulgated NSPS for the following categories of stationary sources, among others:

SOURCE CATEGORY	NSPS REGULATION (40 C.F.R. Part 60)
Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	Subpart Kb - 40 C.F.R. §§ 60.110b-60.117b

Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (between Jan. 5, 1981 and Nov. 7, 2006).	Subpart VV - 40 C.F.R. §§ 60.480-60.489
Standards of Performance for VOC Emissions from the Polymer Manufacturing Industry	Subpart DDD - 40 C.F.R. §§ 60.560-60.566
Standards of Performance for VOC Emissions from Synthetic Organic Chemicals Manufacturing Industry Distillation Operations.	Subpart NNN - 40 C.F.R. §§ 60.660-60.668
Standards of Performance for VOC Emissions from Synthetic Organic Manufacturing Industry (SOCMI) Reactor Processes.	Subpart RRR - 40 C.F.R. §§ 60.700-60.708

65. Flares used as a control device for affected facilities subject to 40 C.F.R. Part 60, Subparts Kb, VV, DDD, NNN, or RRR must comply with the requirements of NSPS Subpart A, including 40 C.F.R. §§ 60.11(d) and 60.18.

66. Part 60, Subparts Kb, VV, DDD, NNN, and RRR explicitly require that flares used as a control device for affected facilities subject to those subparts must comply with the requirements of 40 C.F.R. 60.18. *See* 40 C.F.R. § 60.112b(3)(i); 40 C.F.R. 60.482-10a(d); 40 C.F.R. §§ 60.562-1(a)(1)(i)(C) and (ii) and 60.562-2; 40 C.F.R. § 60.662(b), and 40 C.F.R. § 60.702(b).

67. Part 60, Subparts VV and DDD explicitly require that flares used as a control devices for affected facilities subject to this subpart must be monitored to ensure that they are operated and maintained in conformance with their design. *See* 40 C.F.R. 60.482-10(e) and 40 C.F.R. § 60.563(c).

C. National Emissions Standards for HAPs

1. General: Section 112 prior to the 1990 CAA Amendments

68. CAA Section 112 sets forth a national program for the control of hazardous air

pollutants (HAPs). *See* 42 U.S.C. § 7412 and 40 C.F.R. § 61.01(a). These requirements are known as “national emissions standards for hazardous air pollutants” (NESHAPs). NESHAPs established before the Clean Air Act was amended in 1990 are promulgated at 40 C.F.R. Part 61.

2. Part 61, Subpart A: NESHAP General Standards

69. Pursuant to CAA Section 112, 42 U.S.C. § 7412, before it was amended on November 15, 1990 (the 1990 Amendments), EPA promulgated general regulations that apply to all stationary sources of HAPs that are subject to the NESHAPs, regardless of their source category. *See* 40 C.F.R. § 61.01(c). These general NESHAP standards are found at 40 C.F.R. Part 61, Subpart A, §§ 61.01-61.19 (NESHAP Subpart A).

70. Like NSPS Subpart A, NESHAP Subpart A requires that “the owner and operator of each stationary source [of HAPs] shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practices for minimizing emissions.” 40 C.F.R. § 61.12(c).

3. Specific Categorical NESHAPs

71. Pursuant to CAA Section 112, as it existed before the 1990 Amendments, EPA promulgated NESHAPs for the following categories of stationary sources of HAPs:

SOURCE CATEGORY	NESHAP (40 C.F.R. Part 61)
National Emission Standard for Benzene Waste Operations	Subpart FF - 40 C.F.R. §§ 61.340-61.358

72. Flares used as a control device for sources subject to 40 C.F.R. Part 61, Subpart FF must comply with the requirements of 40 C.F.R. § 60.18. 40 C.F.R. § 61.349(a)(2)(iii) and (d).

73. Flares used as a control device for sources subject to Part 61, Subpart FF must

comply with the requirement that each flare be maintained and operated “in a manner consistent with good air pollution control practice for minimizing emissions.” 40 C.F.R. § 61.12(c).

4. General: Section 112 after the 1990 CAA Amendments

74. In 1990, Congress amended the then-existing Section 112 and established a new program for the control of HAPs. *See* H.R. Rep. No. 101-490, 101st Cong., 2d Sess., part 1 at 324 (1990). The 1990 CAA Amendments did not alter the pre-1990 NESHAPs, and those regulations remain in effect unless specifically amended by a later regulation. *See* 40 C.F.R. § 63.1(a)(2).

75. With the 1990 Amendments, Congress itself established a list of 188 HAPs believed to cause adverse health or environmental effects. *See* 42 U.S.C. § 7412(b)(1).

76. Congress directed EPA to publish a list of all categories and subcategories of, *inter alia*, major sources of HAPs. 42 U.S.C. § 7412(c).

77. *Major source* is defined as any stationary source or group of stationary sources located within a contiguous area and under common control that, in the aggregate, emits or has the potential to emit, considering controls, in the aggregate, 10 TPY or more of any HAP or 25 TPY or more of any combination of HAPs. 42 U.S.C. § 7412(a)(1).

78. *Stationary source* is defined in the same way as the term is defined under the NSPS. 42 U.S.C. §§ 7412(a)(3) and 7411(a)(3).

79. A *category* of sources is a group of sources having some common features signifying that they should be regulated in the same way and on the same schedule. 57 Fed. Reg. 31,576-578 (July 16, 1992). A single stationary source can include multiple source categories. *Id.*

80. Congress directed EPA to promulgate regulations establishing emission standards for each category of, *inter alia*, major sources of HAPs. 42 U.S.C. § 7412(d)(1). These emission

standards must require the maximum degree of reduction in emissions of HAPs that EPA, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for the new or existing sources in the category or subcategory to which the emission standard applies. *See* 42 U.S.C. § 7412(d)(2).

81. To the extent that it is not feasible to prescribe or enforce an emission standard for the control of a HAP, Congress authorized EPA to promulgate “design, equipment, work practice, or operational” standards, which are to be treated as emission standards. 42 U.S.C. § 7412(h).

82. The emission standards promulgated under CAA Section 112, 42 U.S.C. § 7412, as amended, are known as the NESHAPs for Source Categories. They are commonly referred to as maximum achievable control technology (MACT) standards. The MACT regulations are found at 40 C.F.R. Part 63.

83. After the effective date of any emission standard, limitation, or regulation promulgated pursuant to CAA Section 112, as amended, no person may operate a source in violation of such standard, limitation, or regulation. 42 U.S.C. § 7412(i)(3).

5. Part 63, Subpart A: General Standards

84. Pursuant to CAA Section 112, 42 U.S.C. § 7412, as amended, EPA promulgated regulations that apply to stationary sources of HAPs that are subject to the MACT standards, regardless of their source category. *See* 40 C.F.R. §§ 63.1(b) and (c). These general standards are found at 40 C.F.R. §§ 63.1-63.16 (MACT Subpart A).

85. Under MACT Subpart A, the provisions of 40 C.F.R. Part 63 “apply to the owner or operator of any stationary source that (i) emits or has the potential to emit any HAP listed in

or pursuant to section 112(b) of the CAA; and (ii) is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.” 40 C.F.R. § 63.1(b).

86. Under MACT Subpart A, each relevant standard in Part 63 must identify explicitly whether each provision in MACT Subpart A is or is not applicable to sources subject to the specific relevant standard. *See* 40 C.F.R. § 63.1(a)(4)(i).

a. MACT Subpart A: Good Air Pollution Control Practices

87. Within MACT Subpart A, EPA promulgated a requirement that is similar to the “good air pollution control practices” requirement of NSPS Subpart A (*i.e.*, 40 C.F.R. § 60.11(d)). Specifically, “[a]t all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.” 40 C.F.R. § 63.1(e)(1)(i).

b. MACT Subpart A: Requirements for Flares Used as Control Devices

88. Within MACT Subpart A, EPA promulgated specific regulations that apply to flares used as a control device for affected sources subject to a MACT standard. *See* 40 C.F.R. § 63.11(b).

89. Of relevance to this Complaint are the following requirements:

- i. Flares must be monitored to ensure that they are operated and maintained in conformance with their design. *See* 40 C.F.R. § 63.11(b)(1).
- ii. Flares must be operated at all times when emissions are vented to them. *See* 40 C.F.R. § 63.11(b)(3).
- iii. Flares must be designed and operated with no visible emissions. *See* 40 C.F.R. § 63.11(b)(4).
- iv. Flares must be operated with a flame present at all times. *See* 40 C.F.R.

§ 63.11(b)(5).

v. Flares must be operated so that the gas being combusted in it has a net heating value of 300 BTU per scf or greater. *See* 40 C.F.R. § 63.11(b)(6)(ii).

vi. Flares must be operated in accordance with exit velocity requirements. *See* 40 C.F.R. § 63.11(b)(7) (for steam-assisted flares).

c. Specific Categorical MACT Standards

90. Pursuant to CAA Section 112(c), 42 U.S.C. § 7412(c), as amended, EPA promulgated MACT regulations for the following categories of stationary sources of HAPs:

SOURCE CATEGORY	MACT (40 C.F.R. Part 63)
National Emission Standard for Organic HAPs from the Synthetic Organic Chemical Manufacturing Industry	Subpart F - 40 C.F.R. §§ 63.100-63.107
National Emission Standards for Organic HAPs from the Synthetic Organic Chemical Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater	Subpart G - 40 C.F.R. §§ 63.110-63.123
National Emission Standards for Organic HAPs for Equipment Leaks	Subpart H - 40 C.F.R. §§ 63.160-63.183
National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process	Subpart SS - 40 C.F.R. §§ 63.980-63.999
National Emission Standards for HAPs for Source Categories: Generic Maximum Achievable Control Technology Standards	Subpart YY - 40 C.F.R. §§ 63.1100-63.1114
National Emission Standards for HAPs: Miscellaneous Organic Chemical Manufacturing	Subpart FFFF - 40 C.F.R. §§ 63.2430-63.2550

91. Flares used as control devices for sources subject to 40 C.F.R. Part 63, Subparts F, G, H, SS, YY, and FFFF must comply with the requirements of 40 C.F.R. § 63.11(b). *See* 40 C.F.R. Part 63, Subpart F, Table 3 (applicability for Subparts F, G, and H); 40 C.F.R.

§ 63.113(a)(1)(i) (Subpart G); 40 C.F.R. §§ 63.172(d) and (e) (Subpart H); 40 C.F.R.

§ 63.987(a) (Subpart SS); 40 C.F.R. § 63.1103(e), Table 7 (applicability for Subpart YY ethylene production sources) (cross-referencing 40 C.F.R. §§ 63.982(b) and, in turn, 63.987(a)); and 40 C.F.R. Part 63, Subpart FFFF, Table 12.

92. Under Part 63, Subpart YY owners and operators of an ethylene process vent must reduce emissions of organic HAPs by 98 weight-percent, or reduce organic HAPs or total organic compounds (TOC) to a concentration of 20 ppmv, whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices, including flares, and meeting the requirements specified in 40 C.F.R. § 63.982(b) and (c)(2). 40 C.F.R. § 63.1103(e)(3) and Table 7 at (d).

93. 40 C.F.R. § 63.982(b) is found within Subpart SS of 40 C.F.R. Part 63. Subpart SS provides National Emissions Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or Process. The provisions of Subpart SS apply only when another Subpart (such as Subpart YY) references them. 40 C.F.R. § 63.980.

94. Under 40 C.F.R. § 63.982(b), owners and operators that use a flare as a control device on a closed vent system must meet the requirements of 40 C.F.R. § 63.987. Under 40 C.F.R. § 63.987, flares must meet the requirements of 40 C.F.R. § 63.11(b).

95. Flares used as a control device for sources subject to Part 63, Subpart FFFF must comply with the requirement in 40 C.F.R. § 63.6(e)(1)(i) that each flare be maintained and operated “in a manner consistent with good air pollution control practice for minimizing emissions.” See 40 C.F.R. Part 63, Subpart FFFF, Table 12.

D. Title V Operating Permits

96. Title V of the CAA, 42 U.S.C. § 7661-7661f, establishes a permit program for

certain stationary sources of air pollution, including major sources subject to CAA Section 111 (NSPS regulations), or Section 112 (NESHAP/MACT program) of the CAA, or any source required to have an NSR permit. *See* 42 U.S.C. § 7661a(a). The purpose of Title V is to ensure that all “applicable requirements” governing a facility’s compliance with the CAA, including SIP requirements, are consolidated and expressed in one document – an “operating” permit (*a/k/a* a “Title V permit”). *See* 42 U.S.C. § 7661c(a).

97. Pursuant to CAA Section 502(b), 42 U.S.C. § 7661a(b), EPA promulgated regulations implementing the requirements of Title V and establishing the minimum elements of a Title V permit program to be administered by any state or local air pollution control agency. 57 Fed. Reg. 32250 (July 21, 1992). These regulations are codified at 40 C.F.R. Part 70.

98. Louisiana has an approved Title V program. *See* LAC 33:III.507 (approved at 60 Fed. Reg. 47,296-97 (Sept. 12, 1995)). LDEQ is therefore authorized to issue and enforce Title V permits in the state of Louisiana. The regulations governing Louisiana’s Title V air operating permit program are set forth at LAC Title 33, Part III, Chapter 5 (Permit Procedures).

99. Texas has an EPA approved Title V program. *See* 30 TAC, Chapter 122 (approved at 66 Fed. Reg. 63,318 (Dec. 6, 2001)). Texas is therefore authorized to issue and enforce Title V permits in the state of Texas. The regulations governing Texas’ Title V air operating permit program are set forth at 30 TAC, Chapter 122 (Federal Operating Permits Program).

100. In all respects relevant to this Complaint, the Title V regulations of Louisiana and Texas closely mirror the federal Title V regulations codified at 40 C.F.R. Part 70.

101. CAA Section 504(a), 42 U.S.C. § 7661c(a), the implementing regulations at 40 C.F.R. § 70.6(a) and (c), and the Title V permit programs of Louisiana and Texas require that

each Title V permit include, among other things, enforceable emission limitations, compliance schedules, and such other conditions as are necessary to assure compliance with “applicable requirements” of the CAA and the requirements of the relevant SIP. *See* LAC 33:III.501.C and 507.A.3; 30 TAC § 122.142.

102. *Applicable requirements* are defined to include any relevant NSPS, NESHAP/MACT, and NSR requirements. *See* 40 C.F.R. § 70.2; *see also* LAC 33:III.502 (*defining* Federally Applicable Requirement); 30 TAC § 122.10(I).

103. CAA Section 502(a), 42 U.S.C. § 7661a(a), and the Title V permit programs of Louisiana and Texas prohibit violations of any requirement of a Title V permit. *See* LAC 33:501.C and 507.B; TAC § 122.143(4).

104. CAA Section 502(a), 42 U.S.C. § 7661a(a), the implementing regulations at 40 C.F.R. §§ 70.1(b) and 70.7(b), and the Title V permit programs of Louisiana and Texas provide that no source subject to Title V may operate except in compliance with a Title V permit. *See* LAC 33:III.501.C and 507.B; 30 TAC § 122.121.

105. Under Louisiana’s operating permit program, no construction, modification, or operation of a facility that ultimately may result in an initiation or increase in emissions may begin until a Title V permit has been approved and issued by the LDEQ. LAC 33:III.501.C, 507.B.2, and 517.A. Any permit issued must incorporate all federally applicable requirements. *See* LAC 33:III.501.C, 507.A.3, and 507.B.2.

106. CAA Section 503(c), 42 U.S.C. § 7661b(c), the implementing regulations at 40 C.F.R. § 70.5(a), and the Title V programs of Louisiana and Texas provide that each owner and operator of a source subject to Title V permitting requirements must submit a permit application.

107. CAA Section 503(b), 42 U.S.C. § 7661b(b), and 40 C.F.R. §§ 70.5(a)(2) and (c),

provide that any person required to have a Title V permit must submit, *inter alia*, as part of its permit application, a compliance plan to the permitting authority that describes how the source will comply or come into compliance with each applicable requirement of the CAA. *See also* LAC 33:III.501.C, 507.H, and 517.D and E; 30 TAC 122.130-122.134 and 122.142-122.148.

108. Also, the Title V permit application must contain information sufficient to evaluate the relevant characteristics of the source and its permit application, and to determine all applicable requirements (including any requirement to meet the applicable control technology requirements under the PSD and Non-attainment NSR programs, and requirements to comply with the relevant NSPS and/or NESHAP/MACT standards). *See* 40 C.F.R. 70.5(a) and (c); LAC 33:III.501.C, 507.H, and 517.B, D, and E; 30 TAC §§ 122.132-122.134 and 122.142-122.148.

109. The permit application must also contain a compliance plan for all applicable requirements for which the source is not in compliance and a certification of compliance with all applicable requirements. *See* U.S.C. § 7661b(b) and 40 C.F.R. § 70.5(a) and (c)(8)-(9).

110. Under 40 C.F.R. § 70.5(b) and the Title V permit programs of Louisiana and Texas, any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or correct information. *See* LAC 33:III.501.C and 517(C); 30 TAC 122.136.

111. All terms and conditions of a Title V permit are enforceable by EPA. 42 U.S.C. § 7413(b); 40 C.F.R. § 70.6(b).

F. Enforcement of the Clean Air Act

112. CAA Sections 113(a)(1) and (a)(3), 42 U.S.C. §§ 7413(a)(1) and (a)(3), authorize EPA to bring a civil action under Section 113(b), if EPA finds that any person has violated or is

in violation of, *inter alia*, any requirement or prohibition of a SIP, the NSPS program, the NESHAP/MACT program, a PSD or Non-attainment NSR permit, the Title V permit program, or a Title V permit.

113. CAA Section 113(b), 42 U.S.C. § 7413(b), authorizes EPA to initiate a judicial enforcement action for a permanent or temporary injunction to address CAA violations, as well as to seek civil penalties of up to \$25,000 per day for each violation of the CAA.

114. The Civil Penalties Inflation Act of 1990, 28 U.S.C. § 2461 *et seq.*, as amended by the Debt Collection Improvements Act of 1996, 31 U.S.C. § 3701, *et seq.*, requires EPA to periodically adjust its civil penalties for inflation. For each violation that occurred between January 13, 2009 and November 2, 2015, inclusive, penalties of up to \$37,500 per day may be assessed; and for each violation that occurred after November 2, 2015, penalties of up to \$101,439 per day may be assessed for each violation. *Id.*; 40 C.F.R. § 19.4.

115. La. R.S. 30:2025(E)(1)(a) authorizes civil penalties “of not more than the cost to the state of any response action made necessary by such violation which is not voluntarily paid by the violator, and a penalty of not more than [\$32,500] for each day of violation. However, when any such violation is done intentionally, willfully, or knowingly, or results in a discharge or disposal which causes irreparable or severe damage to the environment or if the substance discharged is one which endangers human life or health, such person may be liable for an additional penalty of not more than [\$1,000,000].” Further, LDEQ is entitled to injunctive relief without the requisite showing of irreparable injury when the conduct sought to be restrained is unconstitutional or unlawful, *i.e.*, when the conduct sought to be enjoined constitutes a direct violation of a prohibitory law and/or a violation of a constitutional right. *Jurisich v. Jenkins*, 749 So. 2d 597 (La. 1999).

GENERAL ALLEGATIONS

116. A flare is a combustion device that uses an uncontrolled volume of ambient air to burn and dispose of gases generated by industrial manufacturing processes. Flares are used at chemical manufacturing processes like the Defendants' Facilities, petroleum refineries, and other types of industrial facilities.

117. Gas generated by facility operations that is directed to a flare for combustion is known as "vent gas."

118. Flares are classified by their position (ground-level or elevated) and by the method used to enhance mixing at the flare tip, *e.g.*, steam-assisted, air-assisted, or non-assisted.

119. *Steam-assisted* flares inject steam (assist-steam) that is piped to the flare tip to assist in combustion by promoting turbulence within a flare's flame.

120. Flares constitute "air pollution control equipment" within the meaning of 40 C.F.R. § 60.11(d), 61.12(c), and 63.6(e)(1)(i).

121. Flares constitute a "combustion device" and "control equipment" within the meaning of LAC Title 33, Part III, Chapter 1.

122. Flares are designed, in part, to achieve high combustion efficiency of VOCs and HAPs. A flare's actual destruction efficiency depends on, *inter alia*, the heat value of the gas going to the flare, the heat value of the gas in the flare combustion zone, and the proportion of steam or air added to the flare tip. The heat value of the gas going to the flare indicates the combustibility of the gas, affecting flame stability, emissions, and flame structure. When the combustion zone gas has a higher heat value, it will generally be combusted more efficiently.

123. The steam-to-vent gas ratio (generally referred to as S:VG) is one operational parameter used to monitor flare operation and combustion efficiency. The NHV of the gases in

the combustion zone of a flare (combustion zone gas) is another operational parameter that is an indicator of flare combustion efficiency.

124. As part of its design, a steam-assisted flare must be operated within a range of steam-to-vent gas ratios that, at one end of the range, avoids smoking through an insufficient S:VG, and at the other end of the range, avoids incomplete combustion due to excessive steaming caused by an excessive S:VG ratio. Both insufficient and excessive S:VG ratios reduce VOC and HAP combustion efficiency below a flare's designed efficiency.

125. Excessive levels of assist-steam will therefore reduce combustion efficiency and may effectively quench or snuff the flame.

126. In order to monitor an "assisted" flare to ensure that it is operated and maintained in conformance with its design: i) the amount of vent gas and assist-steam flowing to the flare must be monitored, ii) the ratio of the flows of vent gas to assist-steam must be calculated, and iii) the flow of assist-steam must be sufficient and sufficiently controlled in order to maintain a design-appropriate S:VG ratio and a high VOC combustion efficiency.

127. Good air pollution control practices to minimize emissions from flares include, *inter alia*, combusting essentially all molecules of hydrocarbons (which include VOCs) and HAPs in the vent gas sent to a flare. In order to allow for complete combustion of these substances, vent gas must have sufficient NHV and oxygen.

128. For assisted flares, good air pollution control practices to minimize emissions from flares requires, *inter alia*, injecting assist-steam at a rate that maximizes flame stability and flare combustion efficiency.

129. In order to inject assist-steam at a rate that maximizes flame stability and flare combustion efficiency: i) the amount of vent gas and assist-steam flowing to the flare must be

monitored; ii) the ratio of the flows of vent gas to assist-steam must be calculated, and iii) the flow of assist-steam must be subject to sufficient control to enable increasing or decreasing it in order to optimize the S:VG ratio, maintain a sufficient NHV of the combustion zone gas, and maintain a high VOC and HAP combustion efficiency.

130. Defendants' Facilities manufacture olefins, including ethylene. Defendants' Facilities also produce other chemicals.

131. At all times relevant to this Complaint, Defendant Dow has owned and operated six steam-assisted flares located at the Plaquemine Facility (LHC-2, LHC-3, LHC Tank Farm, Poly A, Poly B, and Poly C). These six flares are collectively referred to as the *Plaquemine Flares*.

132. At all times relevant to this Complaint, Defendant Dow has owned and operated ten steam-assisted flares at the Freeport Facility (LHC-7 Large FS 1, LHC-8 Elevated FS-1, LHC-8 Ground GF-500, LHC-8 Small FS-1018, Marine Large FS-1, Marine Octene FS-100, PDC, Poly 3, Poly 4, and Poly Pilot Plant). These ten flares are collectively referred to as the *Freeport Flares*.

133. At all times relevant to this Complaint, Defendant Union Carbide, either directly or as a wholly owned subsidiary of Defendant Dow, has owned or operated eight steam-assisted flares located at the Hahnville Facility (Acrylics, Butanol 1, Butanol 2, EO Site Logistics, Olefins 1, Olefins 2, Oxide Emergency, and SPU). These eight flares are collectively referred to as the *Hahnville Flares*.

134. At all times relevant to this Complaint, Defendant PMNA, or a predecessor-in-interest has owned or operated two steam-assisted flares located at the Orange Facility (GDC and Ethylene). PMNA is, and has been since at least April 1, 2019, a wholly owned subsidiary of

Defendant Dow. These two flares are collectively referred to as the *Orange Flares*.

135. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, each of the Defendants' Facilities is a chemical process plant that has emitted or had the potential to emit at least 100 TPY of NO_x and/or VOCs.

136. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, each of the Defendants' Facilities is a chemical process plant that has emitted or had the potential to emit at least 10 TPY or more of any individual HAP or 25 TPY or more of any combination of HAPs.

137. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, each of the Defendants' Facilities has met the definition of:

- a. *Major emitting facility*, as defined by CAA Section 169(1), 42 U.S.C. § 7479(1), and the implementing NSR regulations;
- b. *Major stationary source*, as defined by 40 C.F.R. § 52.21(b)(1)(i)(a);
- c. *Stationary source* as defined by 42 U.S.C. § 7411(a)(3) and the implementing NSPS regulations;
- d. *Major source* of HAPs, as defined by 42 U.S.C. § 7412(a)(1) and the implementing NESHAP and MACT regulations; and
- e. *Major source* as defined by 42 U.S.C. § 7661(a)(2) and the implementing Clean Air Act Title V regulations.

138. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, both the Hahnville and Plaquemine Facilities have met the definitions in the federally approved Louisiana SIP that adopt, incorporate, and/or implement the programs and regulations listed in ¶ 137.

139. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, the Freeport and Orange Facilities have met the definitions

in the federally approved Texas SIP that adopt, incorporate, and/or implement the programs and regulations listed in ¶ 137.

140. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, the Hahnville and Plaquemine Facilities have been subject to the Title V permitting requirements found in 40 C.F.R. Part 70 and the federally approved Louisiana SIP.

141. At all times relevant to this Complaint, subject to a reasonable opportunity for further investigation and discovery, the Freeport and Orange Facilities have been subject to the Title V permitting requirements in 40 C.F.R. Part 70 and the federally approved Texas SIP.

142. At all times relevant to this Complaint, one or more of the Hahnville Flares and/or Plaquemine Flares has been subject to the requirements of NSPS Subpart Kb, 40 C.F.R. § 60.112b.

143. At all times relevant to this Complaint, Defendant Dow has used one or more of the Hahnville Flares and Plaquemine Flares as a control device to comply with the provisions of NSPS Subpart Kb, 40 C.F.R. § 60.112b.

144. At all times relevant to this Complaint, one or more Hahnville Flares has been subject to the requirements of NSPS Subpart VV, 40 C.F.R. § 60.482-10.

145. At all times relevant to this Complaint, Defendant Dow has used one or more closed vent systems and Hahnville Flares as a control device to comply with the provisions of NSPS Subpart VV, 40 C.F.R. § 60.482-10.

146. At all times relevant to this Complaint, one or more of the Hahnville Flares and Plaquemine Flares has been subject to the requirements of NSPS Subpart DDD, 40 C.F.R. § 60.560-1(a)(1).

147. At all times relevant to this Complaint, Defendants Dow and Union Carbide have used one or more of the Hahnville Flares and Plaquemine Flares as control devices to control continuous emission streams from affected facilities subject to NSPS Subpart DDD, 40 C.F.R. §§ 60.560-1(a)(1)(i)(C) and (ii) and 60.563(c).

148. At all times relevant to this Complaint, one or more of the Hahnville Flares and Plaquemine Flares has been subject to the requirements of NSPS Subpart NNN, 40 C.F.R. § 60.662(b).

149. At all times relevant to this Complaint, the Defendants have owned and operated distillation units, which are affected facilities within the meaning of NSPS Subpart NNN, that produce one or more of the chemicals listed in 40 C.F.R. § 60.667 at the Hahnville and Plaquemine Facilities, 40 C.F.R. § 60.660(a) and (b).

150. At all times relevant to this Complaint, Defendants have used one or more of the Hahnville Flares and Plaquemine Flares to combust vent streams and emissions from affected facilities subject to NSPS Subpart NNN, 40 C.F.R. § 60.662(b).

151. At all times relevant to this Complaint, one or more Hahnville Flares has been subject to the requirements of NSPS Subpart RRR, 40 C.F.R. § 60.702(b).

152. At all times relevant to this Complaint, Defendant Union Carbide has owned and operated SOCFMI process units at the Hahnville Facility, within the meaning of NSPS Subpart RRR, 40 C.F.R. § 60.702(b).

153. At all times relevant to this Complaint, Defendant Dow has used one or more of Hahnville Flares to combust vent streams and emissions from affected facilities subject to NSPS Subpart RRR. 40 C.F.R. § 60.662(b).

154. At all times relevant to this Complaint, one or more of the Orange Flares has been

subject to requirements of 40 C.F.R. Part 61, Subpart FF. 40 C.F.R. § 61.349(a)(2)(iii) and (d).

155. At all times relevant to this Complaint, the Orange Facility has been a chemical manufacturing plant within the meaning of 40 C.F.R. Part 61, Subpart FF. 40 C.F.R. § 61.341. Chemical manufacturing plants as defined by 40 C.F.R. § 61.341, including the Orange Facility, are affected sources within the meaning of 40 C.F.R. Part 61, Subpart FF. 40 C.F.R. § 61.340(a).

156. At all times relevant to this Complaint, Defendant PMNA owned and operated at the Orange Facility one or more process units that generate benzene-containing waste streams subject to the NESHAP for Benzene Operations. 40 C.F.R. § 61.342(c).

157. At all times relevant to this Complaint, Defendant PMNA has used one or more of the Orange Flares as a control device for the benzene-containing waste streams and process units subject to the NESHAP for Benzene Waste Operations.

158. 40 C.F.R. Part 63, Subpart F, G and H set forth a group of related CAA requirements for stationary sources involved in synthetic organic chemical manufacturing (SOCMI Sources). This set of regulations is sometimes referred to as *hazardous organic NESHAP* (HON) standards.

159. 40 C.F.R. Part 63 Subpart F provides general applicability criteria for SOCMI Sources, including whether certain SOCMI Sources are, in turn, subject to 40 C.F.R. Part 63 Subpart G (for process vents, storage vessels, transfer operations, and wastewater at SOCMI Sources) and Subpart H (for equipment leaks from SOCMI Sources). 40 C.F.R. § 63.110(a).

160. Owners and operators of SOCMI Sources that are subject to 40 C.F.R. Part 63, Subpart F are required to comply with applicable parts of 40 C.F.R. Part 63, Subpart G and H. 40 C.F.R. § 63.102(a).

161. The affected sources under the HON standards also includes equipment required

by or used as a method of compliance with 40 C.F.R. Part 63, Subparts F, G or H, including control devices such as flares. 40 C.F.R. § 63.100(e).

162. At all times relevant to this Complaint, one or more of the Hahnville Flares, Plaquemine Flares, and Freeport Flares has been subject to the requirements of 40 C.F.R. Part 63, Subparts F, G and/or H.

163. At all times relevant to this Complaint, Defendants have owned and operated “chemical manufacturing process units” within the meaning of 40 C.F.R. § 63.101(b) at the Hahnville, Plaquemine, and Freeport Facilities.

164. At all times relevant to this Complaint, Defendants have used one or more of the Hahnville Flares, Plaquemine Flares, and Freeport Flares as a control device for sources, process vents, and equipment subject to 40 C.F.R. Part 63, Subparts F, G and/or H.

165. At all times relevant to this Complaint, one or more of the Plaquemine Flares and Hahnville Flares has been subject to the requirements of 40 C.F.R. Part 63, Subpart YY.

166. At all times relevant to this Complaint, Defendants have owned and operated ethylene process vents from continuous ethylene production unit operations, within the meaning of 40 C.F.R. § 63.1103(e)(2) at the Plaquemine and Hahnville Facilities. These process vents are affected sources within the ethylene production category regulated by 40 CFR Part 63, Subpart YY. 40 C.F.R. §§ 63.1100(a), Table 1 and 63.1103(e)(1)(i)(B).

167. At all times relevant to this Complaint, Defendants have owned and operated equipment that contains or contacts organic HAPs, within the meaning of 40 C.F.R. § 63.1101, and is subject to 40 C.F.R. Part 63, Subpart YY. This equipment includes pumps, compressors, agitators, pressure relief devices, sampling collection systems, open-ended valves or lines, valves, connectors, and/or instrumentation systems in organic HAP service, as defined

in 40 C.F.R. § 63.1103, for the ethylene production process unit(s) at the Plaquemine and Hahnville Facilities. This equipment is an affected source regulated by 40 C.F.R. Part 63, Subpart YY. 40 C.F.R. § 63.1103(e)(1)(i)(D).

168. At all times relevant to this Complaint, Defendants have used one or more of the Plaquemine Flares and Hahnville Flares as a control device for process vents and equipment that is subject to 40 C.F.R. Part 63, Subpart YY. 40 C.F.R. § 63.1103(e), Table 7 (for process vents, cross-referencing to: 40 C.F.R. § 63.1034(b)(2)(iii) and, in turn, 40 C.F.R. § 63.987(a)).

169. At all times relevant to this Complaint, each of the Defendants' Facilities have been subject to a federally enforceable Title V operating permit requiring, *inter alia*, that the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares comply with the requirements of 40 C.F.R. §§ 60.11(d) and/or 61.12(c).

170. At all times relevant to this Complaint, each of the Defendants' Facilities have been subject to a federally enforceable Title V operating permit requiring, *inter alia*, that the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares comply with the requirements of one or more of the following: 40 C.F.R. § 60.18; 40 C.F.R. Part 63, Subparts A, G, SS, XX, YY, FFFF, and 40 C.F.R. § 63.11.

171. At all times relevant to this Complaint, the Defendants' Plaquemine and Hahnville Facilities have each been subject to a federally enforceable Title V permit that has been issued pursuant to the Louisiana SIP.

172. At all times relevant to this Complaint, the Defendants' Freeport and Orange Facilities have each been subject to a federally enforceable Title V permit that has been issued pursuant to the Texas SIP.

FIRST CLAIM FOR RELIEF

Violation of New Source Review Requirements

173. Paragraphs 1 through 172 are re-alleged and incorporated by reference.

174. Subject to a reasonable opportunity for investigation and discovery, at various times from 2009 to present, Defendants “commenced construction” of one or more “major modification[s],” as defined in the CAA, the Louisiana SIP, and the Texas SIP, at the Defendants’ Facilities.

175. Subject to a reasonable opportunity for investigation and discovery, Defendants made physical changes and/or changes in the methods of operation to one or more of the Flares identified in ¶¶s 131-134, and/or the closed vent systems (*a/k/a* flare headers) that transport gases from manufacturing process units to those Flares. Subject to a reasonable opportunity for investigation and discovery, these modifications include changes to the flare stacks, flare tips, main flare headers, and/or process unit sub-headers.

176. Subject to a reasonable opportunity for investigation and discovery, one or more of these modifications resulted in a significant net emissions increase of VOCs, NO_x, and/or CO from one or more of the Flares identified in ¶¶s 131-134.

177. Defendants did not apply for, obtain, or operate pursuant to a PSD permit or a Non-attainment NSR permit, as applicable, for any of these modifications.

178. Subject to a reasonable opportunity for investigation and discovery, Defendants failed to comply with various requirements of the PSD regulations for VOCs, NO_x, and/or CO applicable to one or more of the Flares identified in ¶¶s 131-134, including, *inter alia*, failing to i) install and operate BACT on the flare system of one or more flares; ii) demonstrate that the emissions increases from the modifications would not cause or contribute to violations of air

quality standards; and iii) otherwise comply with the requirements of the PSD program, the Louisiana SIP, and the Texas SIP.

179. Subject to a reasonable opportunity for investigation and discovery, Defendants failed to comply with the various requirements of the Non-attainment NSR regulations for VOCs applicable to one or more of the Flares identified in ¶ 132 at the Freeport, Texas Facility. Subject to a reasonable opportunity for investigation and discovery, Defendants have failed to, *inter alia*, i) install and operate LAER on the flare systems for the Freeport Flares; ii) secure emissions reductions (offsets) from existing sources in the same air quality region where the facility is located such that there would be a reasonable progress toward attainment of the applicable NAAQS; and iii) otherwise comply with the requirements of the Non-attainment NSR regulations and the corresponding implementing provisions of the Texas SIP.

180. Subject to a reasonable opportunity for investigation and discovery, since the time the Defendants commenced construction of the major modifications alleged herein, Defendants have violated:

- (a) 42 U.S.C. § 7475;
- (b) 40 C.F.R. §§ 52.21(a)(2)(iii) and 52.21(j)-52.21(r)(5);
- (c) 40 C.F.R. Part 51, Appendix S, Part IV, Conditions (i)(a) 1-4; and
- (d) The federally enforceable Louisiana and Texas SIPs to the extent that each adopts, incorporates, and/or implements any of the federal provisions cited in sub-paragraphs 180(a)-(c).

181. Unless restrained by an order of this Court, the violations alleged in this First Claim for Relief will continue.

182. As provided in CAA Section 113(b), 42 U.S.C. § 7413(b), the violations set forth above subject Defendants to injunctive relief and civil penalties. *See also* 40 C.F.R. § 19.4.

Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for violations set forth above that occurred at the Defendants' Plaquemine and Hahnville Facilities.

SECOND CLAIM FOR RELIEF

Violation of Title V Requirements for New Source Review Violations

183. Paragraphs 1 through 177 are re-alleged and incorporated by reference.

184. Subject to a reasonable opportunity for investigation and discovery, as alleged in the First Claim for Relief, Defendants commenced construction of one or more major modifications at Defendants' Facilities. These activities triggered requirements, *inter alia*, to: i) obtain PSD and/or Non-attainment NSR permits establishing emissions limitations that meet BACT or LAER, as applicable, for one or more of the flares identified in ¶¶s 131-134, at Defendants' Facilities, ii) operate in compliance with BACT or LAER, as applicable, at one or more of these flares, and iii) other-wise comply with the requirements of the PSD or Non-attainment NSR programs, as applicable.

185. Subject to a reasonable opportunity for investigation and discovery, Defendants failed to submit complete and timely applications for Title V operating permits for one or more of the flares identified in ¶¶s 131-134 at Defendants' Facilities that, *inter alia*, included enforceable BACT and LAER limits, identified all applicable requirements, accurately certified compliance with such requirements, and contained a compliance plan for all applicable requirements for which those Flares were not in compliance.

186. In the alternative, Defendants failed to supplement or correct previously submitted incorrect or incomplete Title V permit applications in order to: i) seek enforceable BACT or LAER limits, as applicable, for one or more of the flares identified in ¶¶s 131-134, at

Defendants' Facilities, ii) identify all applicable requirements, iii) accurately certify compliance with such requirements, and iv) include a compliance plan for requirements for which these flares were not in compliance.

187. Subject to a reasonable opportunity for investigation and discovery, Defendants have operated, and continue to operate, Defendants' Facilities without having valid Title V operating permits that require, *inter alia*, compliance with BACT or LAER, as applicable, for one or more of the flares identified in ¶¶ 131-134 at Defendants' Facilities, failed to identify all applicable requirements and/or failed to contain a compliance plan for coming into compliance BACT or LAER, as applicable, at these flares.

188. Subject to a reasonable opportunity for investigation and discovery, Defendants' acts and/or omissions constitute violations of:

(a) 42 U.S.C. §§ 7661(a)-(c);

(b) 40 C.F.R. §§ 70.1(b), 70.5(a)-(c), 70.6(a) and (c), and 70.7(b); and

(c) The federally enforceable corollary provisions of the Louisiana and Texas Title V programs that adopt, incorporate, and/or implement any of the federal provisions cited in sub-paragraphs 188(a) and (b).

189. Unless restrained by an order of this Court, the violations alleged in this Second Claim for Relief will continue.

190. As provided in CAA Section 113(b), 42 U.S.C. § 7413(b), the violations set forth above subject Defendants to injunctive relief and civil penalties. See also 40 C.F.R. § 19.4. Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for the violations set forth above that occurred at the Plaquemine and Hahnville Facilities.

THIRD CLAIM FOR RELIEF

Violations of NSPS, NESHAP, and MACT Requirements;
Title V Permits that Incorporate these Requirements

(Failure to Monitor to Ensure Flares are
Operated and Maintained in Conformance with their Design)

191. Paragraphs 1 through 172 are re-alleged and incorporated by reference.

192. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to one or more of the following CAA regulations: 40 C.F.R. Part 60, Subparts Kb, VV, DDD, NNN, and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 C.F.R. Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF.

193. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to a federally enforceable Title V permit that compels compliance with one or more of the following CAA regulations: 40 C.F.R. Part 60, Subparts Kb, VV, DDD, NNN, and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 C.F.R. Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF.

194. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to the requirements of 40 C.F.R. §§ 60.18(d) and/or 63.11(b)(1).

195. At various times since the first calendar quarter of 2009, Defendants have failed to perform the following at one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares: i) install and/or properly operate vent gas flow monitors and assist-steam flow monitors; ii) calculate steam-to-vent gas ratios; or iii) have sufficient controls on steam flow to maintain steam-to-vent gas within design parameters.

196. The acts and omissions identified in this Claim for Relief constitute violations of:

- a. CAA Sections 111 and 112, 42 U.S.C. §§ 7411, 7412;
- b. 40 C.F.R. §§ 60.18(d), 63.11(b)(1);
- c. The provisions of 40 C.F.R. Part 60, Subparts Kb, VV, DDD, NNN and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 C.F.R. Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF that require flares to comply with the requirements identified in sub-paragraphs 196(a) and (b);
- d. The federally enforceable corollary provisions of the Louisiana SIP and Texas SIP that adopt, incorporate, and/or implement the federal provisions cited in sub-paragraphs 196(a)-(c);
- e. The terms of the CAA Title V permits for the Defendants' Facilities that require compliance with the requirements identified in sub-paragraphs 196(a)-(d); and
- f. The prohibition against violating a CAA Title V permit found at 42 U.S.C. § 7661a(a) and 40 C.F.R. § 70.7(b).

197. Unless restrained by an order of this Court, the violations alleged in this Third Claim for Relief will continue.

198. As provided in CAA Section 113(b), 42 U.S.C. §§ 7411(b), the violations set forth above subject Defendants to injunctive relief and civil penalties. *See also* 40 C.F.R. § 19.4. Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for the violations set forth above that occurred at the Plaquemine and Hahnville Facilities.

FOURTH CLAIM FOR RELIEF

Violations of NSPS, NESHAP, and MACT Requirements; Title V Permits that Incorporate these Requirements

(Failure to Operate Flares Consistent with Good Air Pollution Control Practices)

199. Paragraphs 1 through 172 are re-alleged and incorporated by reference.

200. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to the requirements of 40 C.F.R. §§ 60.11(d), 61.12(c), and/or

63.6(e)(1)(i).

201. At various times since at least the first calendar quarter of 2009, Defendants operated one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares without sufficient NHV in the combustion zone gas.

202. Operating the flares at an insufficient NHV reduced combustion efficiency and resulted in excessive emissions to the atmosphere from the flares of un-combusted and partially-combusted HAPs and hydrocarbons (including VOCs), CO, and other pollutants.

203. At various times since at least the first quarter of 2009, Defendants operated one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares with excessively high S:VG ratios.

204. Operating the flares with excessively high S:VG ratios increased the likelihood of flame quenching or snuffing, reduced flare combustion efficiency, and resulted in excessive emissions from the flares to the atmosphere of un-combusted and partially-combusted HAPs and hydrocarbons (including VOCs), and other pollutants.

205. Since at least the first calendar quarter of 2009, Defendants failed to install, or failed to use, sufficient equipment and/or monitoring systems at one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares to enable Defendants to monitor, measure, and/or calculate the NHV in the combustion zone gas of the flares. Moreover, Defendants failed to add supplemental gas quickly enough or in sufficient amounts to maintain sufficient NHV in the combustion zone gas.

206. Since at least the first calendar quarter of 2009, at one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares, Defendants failed to: i) install or use adequate monitoring to measure the flow of vent gas and/or assist-steam to the flares, ii)

calculate and monitor the ratio of the flows of vent gas to assist-steam, and/or iii) install sufficient controls on, or sufficiently control the flow of, assist-steam to enable increasing or decreasing it in order to optimize the S:VG, maintain a sufficient NHV of the combustion zone gas, maximize flame stability, and maintain a high VOC combustion efficiency.

207. Defendants violated good air pollution control practices by, *inter alia*: i) operating the flares with an insufficient NHV in the combustion zone gas, ii) failing to monitor the NHV in the combustion zone gas of the Flares, iii) operating the flares with excessively high S:VG ratios, iv) failing to install monitors sufficient to measure and calculate S:VG ratios at the flares, and/or v) operating the flares without sufficient controls to optimize the assist-steam injection rate.

208. The Defendants acts and omissions constitute violations of:

a. CAA Sections 111(e) and 112, 42 U.S.C. §§ 7411(e), 7412;

b. 40 C.F.R. §§ 60.11(d), 61.12(c), and 63.6(e)(1)(i);

c. The provisions of 40 C.F.R. Part 60, Subparts Kb, VV, DDD, NNN, and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 CFR Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF that require flares to comply with the requirements identified in sub-paragraphs 208(a) and (b);

d. The federally enforceable corollary provisions of the Louisiana SIP and Texas SIP that adopt, incorporate, and/or implement the federal provisions cited in sub-paragraphs 208 (a)-(c);

e. The terms of the CAA Title V permits for the Defendants' Facilities that require compliance with the requirements identified in sub-paragraphs 208 (a)-(d); and

f. The prohibition against violating a CAA Title V permit found at 42 U.S.C. § 7661a(a) and 40 C.F.R. § 70.7(b).

209. Unless restrained by an order of this Court, the violations alleged in this Fourth Claim for Relief will continue.

210. As provided in CAA Section 113(b), 42 U.S.C. §§ 7411(b), the violations set

forth above subject Defendants to injunctive relief and civil penalties. *See also* 40 C.F.R. § 19.4. Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for the violations set forth above that occurred at the Plaquemine and Hahnville Facilities.

FIFTH CLAIM FOR RELIEF

Violations of NSPS, NESHAP, and MACT Requirements;
Title V Permits that Incorporate these Requirements

(Combusting Gas in Flares with a NHV of Less than 300 BTU/scf)

211. Paragraphs 1 through 172 are re-alleged and incorporated by reference.
212. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to the requirements of 40 C.F.R. § 60.18(c)(3) and/or 63.11(b)(6).
213. At various times since the first calendar quarter of 2009, Defendants combusted gas that had a NHV less than 300 BTU/scf in one of more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares.
214. The acts and omissions identified in this Fifth Claim constitute violations of:
- a. CAA Sections 111(e) and 112, 42 U.S.C. §§ 7411(e), 7412;
 - b. 40 C.F.R. §§ 60.11(c)(3)(ii) and 63.11(b)(6)(ii);
 - c. The provisions of 40 C.F.R. Part 60, Subparts Ka, VV, DDD, NNN and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 CFR Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF that require flares to comply with the requirements identified in sub-paragraphs 214(a) and (b);
 - d. The federally enforceable corollary provisions of the Louisiana SIP and Texas SIP that adopt, incorporate, and/or implement the federal provisions cited in sub-paragraphs 214 (a)-(c);
 - e. The terms of the CAA Title V permits for the Defendants' Facilities that require compliance with the requirements identified in sub-paragraphs

214 (a)-(d); and

f. The prohibition against violating a CAA Title V permit found at 42 U.S.C. § 7661a(a) and 40 C.F.R. § 70.7(b).

215. Unless restrained by an order of this Court, the violations alleged in this Fifth Claim for Relief will continue.

216. As provided in CAA Section 113(b), 42 U.S.C. §§ 7411(b), the violations set forth above subject Defendants to injunctive relief and civil penalties. *See also* 40 C.F.R. § 19.4. Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for the violations set forth above that occurred at the Plaquemine and Hahnville Facilities.

SIXTH CLAIM FOR RELIEF

Violations of NSPS, NESHAP, and MACT Requirements; Title V Permits that Incorporate these Requirements

(Failure to Comply with Additional Flare Operation Requirements)

217. Paragraphs 1 through 172 are re-alleged and incorporated by reference

218. Since at least 2009, the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares have been subject to the requirements of 40 C.F.R. § 60.18(b) and/or 63.11(b).

219. At various times since at least 2009, Defendants failed to operate one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares at all times when emissions were vented to the flare(s), and/or operated one or more of the Hahnville Flares, Plaquemine Flares, Orange Flares, and Freeport Flares: i) with visible emissions, ii) at times when no flame was present, or iii) without complying with the maximum exit velocity requirements.

220. The acts and omissions identified in this Sixth Claim constitute violations of:

- a. CAA Sections 111(e) and 112, 42 U.S.C. §§ 7411(e), 7412;
- b. 40 C.F.R. §§ 60.18(c)(1) and 63.11(b)(4);
- c. 40 C.F.R. §§ 60.18(c)(2) and 63.11(b)(5);
- d. 40 C.F.R. §§ 60.18(c)(4) and 63.11(b)(7);
- e. 40 C.F.R. §§ 60.18(e) and 63.11(b)(3);
- f. The provisions of 40 C.F.R. Part 60, Subparts Ka, VV, DDD, NNN, and/or RRR; 40 C.F.R. Part 61, Subpart FF; and/or 40 CFR Part 63, Subparts F, G, H, SS, XX, YY, and/or FFFF that require flares to comply with the requirements identified in sub-paragraphs 220(a) and (e);
- g. The federally enforceable corollary provisions of the Louisiana SIP and Texas SIP that adopt, incorporate, and/or implement the federal provisions cited in sub-paragraphs 220(a)-(f);
- h. The terms of the CAA Title V permits for the Defendants' Facilities that require compliance with the requirements identified in sub-paragraphs 220(a)-(g); and
- f. The prohibition against violating a CAA Title V permit found at 42 U.S.C. § 7661a(a) and 40 C.F.R. § 70.7(b).

221. Unless restrained by an order of this Court, the violations alleged in this Sixth Claim for Relief will continue.

222. As provided in CAA Section 113(b), 42 U.S.C. §§ 7411(b), the violations set forth above subject Defendants to injunctive relief and civil penalties. *See also* 40 C.F.R. § 19.4. Defendants Dow and Union Carbide are also liable for injunctive relief and civil penalties pursuant to La. R.S. 30:2025(E)(1)(a) for the violations set forth above that occurred at the Plaquemine and Hahnville Facilities.

IX. PRAYER FOR RELIEF

WHEREFORE, the United States and LDEQ respectfully request that this Court:

1. Enter judgment in favor of the United States and the LDEQ and against Defendants,

The Dow Chemical Co., Union Carbide Corp., and Performance Materials, NA, Inc.;

2. Order Defendants to take all actions necessary to operate the flares at Defendants' Facilities in compliance with the Clean Air Act requirements that this Complaint alleges the Defendants violated, including the applicable requirements of the Louisiana and Texas SIPs;

3. Permanently enjoin Defendants from operating the flares at Defendants' Facilities except in accordance with the Clean Air Act and applicable regulatory requirements, including the Louisiana and Texas SIPs;

4. Order Defendants to take other appropriate actions to remedy, mitigate, and offset the harm caused by the alleged Clean Air Act violations, by among other things, requiring Defendants to address or offset their unlawful emissions;

5. Assess civil penalties of up to \$37,500 per day for each violation occurring between January 13, 2009 and November 2, 2015; and up to \$101,439 per day for each violation occurring after November 2, 2015;

6. Assess civil penalties, pursuant to La. R.S. 30:2025(E)(1)(a), of up to the cost to the LDEQ of any response action made necessary by the violations alleged in the Complaint not voluntarily paid by Defendants Dow and Union Carbide, and a penalty of up to \$32,500 for each day of violation; and, if any violation alleged in the Complaint has been done intentionally, willfully, or knowingly, or has resulted in a discharge or disposal which caused or causes irreparable or severe damage to the environment or if the substance discharged is one which endangers human life or health, assess an additional penalty of up to \$1,000,000;

7. Award Plaintiffs their costs of this action; and

8. Grant such other and further relief as the Court deems just and proper.

Respectfully submitted,

Jonathan D. Brightbill
Principal Deputy Assistant Attorney General
Environment and Natural Resources Division
United States Department of Justice

/s/ Kirk W. Koester
Kirk W. Koester
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, DC 20044-7611
202.514.9009 (office)
202.532.3272 (mobile)
kirk.koester@usdoj.gov

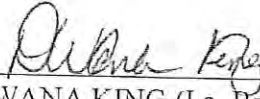
Peter G. Strasser
United States Attorney
Eastern District of Louisiana
650 Poydras Street, Suite 1600
New Orleans, Louisiana 70130

OF COUNSEL:

Robert Parrish, Attorney-Advisor
Air Enforcement Division, Office of Civil Enforcement
United States Environmental Protection Agency, HQ
Room 2109B
Mail Code 2242A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

ATTORNEYS FOR THE UNITED STATES

FOR THE LOUISIANA DEPARTMENT OF
ENVIRONMENTAL QUALITY



DWANA KING (La. Bar # 20590)

Deputy General Counsel

OSCAR MAGEE (La. Bar# 32302)

Trial Attorney

Office of the Secretary, Legal Affairs Division

Louisiana Department of Environmental Quality

P.O. Box 4302

Baton Rouge, Louisiana 70821-4302

Phone: 225.219.3985

Fax: 225.219.4068

dwana.king@la.gov

oscar.magee@la.gov

ATTORNEYS FOR THE LOUISIANA
DEPARTMENT OF ENVIRONMENTAL
QUALITY

CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)

I. (a) PLAINTIFFS

THE UNITED STATES OF AMERICA & the LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

(b) County of Residence of First Listed Plaintiff (EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys (Firm Name, Address, and Telephone Number) Kirk W. Koester, U.S. DOJ, P.O. Box 7611, Wash, D.C. 20044, Ph: 202-514-9009; Dwana King, LDEQ, P.O. Box 4302, Baton Rouge, Louisiana 70821 Ph: 225-219-3985

DEFENDANTS

THE DOW CHEMICAL COMPANY, UNION CARBIDE CORPORATION, PERFORMANCE MATERIALS NA, INC.

County of Residence of First Listed Defendant Plaquemine Parish (IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys (If Known) Carlos J. Moreno, Counsel, U.S. Operations, Regulatory & NA, The Dow Chemical Company, 332 SH 332 E (4A016) Lake Jackson, TX 77566

II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

- 1 U.S. Government Plaintiff, 2 U.S. Government Defendant, 3 Federal Question (U.S. Government Not a Party), 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)

- PTF DEF Citizen of This State, Citizen of Another State, Citizen or Subject of a Foreign Country, Incorporated or Principal Place of Business In This State, Incorporated and Principal Place of Business In Another State, Foreign Nation

IV. NATURE OF SUIT (Place an "X" in One Box Only)

Click here for: Nature of Suit Code Descriptions.

Table with columns: CONTRACT, REAL PROPERTY, TORTS, CIVIL RIGHTS, PRISONER PETITIONS, FORFEITURE/PENALTY, LABOR, IMMIGRATION, BANKRUPTCY, SOCIAL SECURITY, FEDERAL TAX SUITS, OTHER STATUTES. Includes various case codes like 110 Insurance, 210 Land Condemnation, 310 Airplane, etc.

V. ORIGIN (Place an "X" in One Box Only)

- 1 Original Proceeding, 2 Removed from State Court, 3 Remanded from Appellate Court, 4 Reinstated or Reopened, 5 Transferred from Another District (specify), 6 Multidistrict Litigation - Transfer, 8 Multidistrict Litigation - Direct File

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity): The Clean Air Act (CAA), 42 U.S.C. §§ 7413(b) and 7477; the Louisiana Environmental Quality Act (LEQA), La. R.S. 30:2001 et seq. Brief description of cause: Civil action for injunctive relief and civil penalties for failure to adhere to good air pollution control practices under the CAA and LEQA

VII. REQUESTED IN COMPLAINT:

CHECK IF THIS IS A CLASS ACTION UNDER RULE 23, F.R.Cv.P. DEMAND \$ CHECK YES only if demanded in complaint: JURY DEMAND: Yes No

VIII. RELATED CASE(S) IF ANY

(See instructions): JUDGE DOCKET NUMBER

DATE 01/19/2021 SIGNATURE OF ATTORNEY OF RECORD s/ Kirk W. Koester

FOR OFFICE USE ONLY

RECEIPT # AMOUNT APPLYING IFP JUDGE MAG. JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF LOUISIANA
NEW ORLEANS DIVISION

THE UNITED STATES OF AMERICA)
and the LOUISIANA DEPARTMENT OF)
ENVIRONMENTAL QUALITY,)

Plaintiffs,)

v.)

THE DOW CHEMICAL COMPANY,)
UNION CARBIDE CORPORATION, and)
PERFORMANCE MATERIALS NA, INC.,)

Defendants.)

Civil Action No. 2:21-cv-114

NOTICE OF LODGING OF CONSENT DECREE PENDING SOLICITATION
OF PUBLIC COMMENT

Plaintiffs the United States of America (United States), by the authority of the Attorney General, and through the undersigned attorneys, acting on behalf of the Administrator of the United States Environmental Protection Agency (EPA), and the Louisiana Department of Environmental Quality (LDEQ), provides notice that the attached, proposed Consent Decree (Exhibit A) is hereby lodged with the Court pending solicitation of public comment by Plaintiffs. The proposed Consent Decree would, if entered by the Court, resolve the Plaintiffs' claims in this case. **As explained below, at this time Plaintiffs respectfully request that the Court not sign the proposed Consent Decree unless and until Plaintiffs file a Motion for Entry.**

Before the proposed Consent Decree can be finalized, the United States must satisfy requirements regarding public comment. Paragraph 127 of the proposed Consent Decree provides that the United States reserves the right to withdraw or withhold its consent if the

comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. The United States Department of Justice will publish in the Federal Register a notice that the proposed Consent Decree has been lodged with the Court and soliciting public comment for a period of thirty days. After the close of the comment period, the United States will evaluate any comments received, determine whether any comments disclose facts or considerations which indicate that the proposed Consent Decree is inappropriate, inadequate, or improper, and, subject to the provisions of Paragraph 128 of the Consent Decree, advise the Court whether the proposed Consent Decree should be entered.

Paragraph 128 of the proposed Consent Decree provides that the LDEQ reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that this Consent Decree is inappropriate, improper, or inadequate. The LDEQ will publish notice of this Consent Decree in the newspaper of general circulation and the official journal of the parish in which the Hahnville and Plaquemine Facilities are located, in order to provide for public comment for a period of not less than forty-five days. After the close of the comment period, the LDEQ will evaluate any comments received, determine whether any comments disclose facts or considerations which indicate that the proposed Consent Decree is inappropriate, inadequate, or improper, and in concurrence with the United States, advise the Court whether the proposed Consent Decree should be entered.

Until such time that the two public comment periods have lapsed, and any comments received addressed, the Plaintiffs respectfully request that the Court not sign the proposed Consent Decree.

Respectfully submitted,

Jonathan D. Brightbill
Principal Deputy Assistant Attorney General

Environment and Natural Resources Division
United States Department of Justice

/s/ Kirk W. Koester

Kirk W. Koester
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, DC 20044-7611
202.514.9009 (office)
202.532.3272 (mobile)
kirk.koester@usdoj.gov

Peter G. Strasser
United States Attorney
Eastern District of Louisiana
650 Poydras Street, Suite 1600
New Orleans, Louisiana 70130

OF COUNSEL:

Robert Parrish, Attorney-Advisor
Air Enforcement Division, Office of Civil Enforcement
United States Environmental Protection Agency, HQ
Room 2109B
Mail Code 2242A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

ATTORNEYS FOR THE UNITED STATES

FOR THE LOUISIANA DEPARTMENT OF
ENVIRONMENTAL QUALITY

/s/ Dwana King

DWANA KING (La. Bar # 20590)

Deputy General Counsel

Office of the Secretary, Legal Affairs Division

Louisiana Department of Environmental Quality

P.O. Box 4302

Baton Rouge, Louisiana 70821-4302

Phone: 225.219.3985

Fax: 225.219.4068

dwana.king@la.gov

ATTORNEYS FOR THE LOUISIANA
DEPARTMENT OF ENVIRONMENTAL
QUALITY

EXHIBIT A
PART 1 OF 6

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF LOUISIANA
NEW ORLEANS DIVISION

UNITED STATES OF AMERICA and the)	
LOUISIANA DEPARTMENT OF)	
ENVIRONMENTAL QUALITY,)	
)	CIVIL ACTION NO. 2:21-cv-114
Plaintiffs,)	
)	Section
v.)	
)	Mag.
THE DOW CHEMICAL COMPANY,)	
PERFORMANCE MATERIALS NA, INC., and)	
the UNION CARBIDE CORPORATION)	
)	
Defendants.)	
)	

CONSENT DECREE

TABLE OF CONTENTS

TABLES OF APPENDICES	iii
I. JURISDICTION AND VENUE	- 4 -
II. APPLICABILITY	- 5 -
III. DEFINITIONS.....	- 8 -
IV. CIVIL PENALTY.....	- 19 -
V. COMPLIANCE REQUIREMENTS.....	- 20 -
A. Instrumentation and Monitoring Systems	- 20 -
B. Determining Whether a Covered Flare that has a Water Seal is Not Receiving Potentially Recoverable Gas Flow	- 28 -
C. Waste Gas Minimization.....	- 28 -
D. Flare Gas Recovery Systems for Covered Facilities with Compressors.....	- 35 -
E. Flare Combustion Efficiency	- 41 -
F. Fenceline Monitoring Requirements.....	- 48 -
VI. LOUISIANA BENEFICIAL ENVIRONMENTAL PROJECTS.....	- 49 -
VII. PERMITS.....	- 51 -
VIII. EMISSION CREDIT GENERATION	- 53 -
IX. REPORTING REQUIREMENTS	- 54 -
X. STIPULATED PENALTIES	- 58 -
XI. FORCE MAJEURE	- 65 -
XII. DISPUTE RESOLUTION	- 68 -
XIII. INFORMATION COLLECTION AND RETENTION	- 71 -

XIV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS.....	- 72 -
XV. COSTS.....	- 77 -
XVI. 26 U.S.C. § 162(f)(2)(A)(ii) IDENTIFICATION.....	- 78 -
XVII. NOTICES.....	- 78 -
XVIII. EFFECTIVE DATE.....	- 80 -
XIX. RETENTION OF JURISDICTION.....	- 80 -
XX. MODIFICATION.....	- 81 -
XXI. TERMINATION.....	- 81 -
XXII. PUBLIC PARTICIPATION.....	- 83 -
XXIII. SIGNATORIES/SERVICE.....	- 83 -
XXIV. INTEGRATION.....	- 84 -
XXV. FINAL JUDGMENT.....	- 84 -
XXVI. APPENDICES.....	- 84 -

TABLES OF APPENDICESTable 1:

NUMBER	ABBREVIATION	DESCRIPTION
1.1		RESERVED
1.2	NHV _{cz} , NHV _{dil} , and V _{tip}	Calculating NHV _{cz} , NHV _{dil} , and V _{tip} for Flares
1.3	Tip-Area-Eq	Calculating the Unobstructed Cross Sectional Area of Various Types of Flare Tips
1.4	G-Drwg	Depiction of Gases Associated with Steam-Assisted Flares
1.5	Flr-Data-Rpt	Outline of Requirements for the Flare Data and Initial Monitoring Systems Report
1.6	Interim Provisions	Interim Compliance Provisions and Schedule for Instrumentation Upgrades at the Freeport FS-1, Freeport GF-500, Hahnville EO Site Logistics, Orange CDG, Plaquemine LHC-2, Plaquemine Poly A, and Plaquemine Poly C Flares
1.7	WG-Map	Waste Gas Mapping: Level of Detail Needed to Show Main Headers and Process Unit Headers
1.8	Hahnville C ₂ H ₂	Acetylene Streams at the Hahnville Olefins 1 and 2 FGRS
1.9	Hahnville H ₂ /CH ₄ Route-Around	Hahnville Olefins 2 Hydrogen/Methane Vent Gas Stream Route-Around of FGRS Olefins 2 FGRS
1.10	Orange H ₂ Route-Around	Orange Ethylene Plant Hydrogen Rich Gas Mixture Route-Around of the Ethylene FGRS

Table 2:

NUMBER	ABBREVIATION	DESCRIPTION
2.1	BEP	Louisiana Beneficial Environmental Project Protocol
2.2	Fenceline Monitoring	Fenceline Monitoring Requirements

Concurrently with the lodging of this Consent Decree, Plaintiffs, the United States of America (United States), on behalf of the United States Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ), have filed a complaint in this action seeking injunctive relief and civil penalties from the Defendants, The Dow Chemical Company, Performance Materials NA, Inc., and the Union Carbide Corporation. (Defendants *or* Applicable Defendant(s)), for alleged violations of the Clean Air Act (CAA), 42 U.S.C. §§ 7401 *et seq.*, with respect to emissions of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and other pollutants at the chemical manufacturing facilities located in or near Freeport, Texas (Freeport Facility), Hahnville, Louisiana (Hahnville Facility), Plaquemine, Louisiana (Plaquemine Facility), and Orange, Texas (Orange Facility);

Co-plaintiff LDEQ also seeks injunctive relief and civil penalties from the Applicable Defendants at the Hahnville and Plaquemine Facilities for alleged violations of the Louisiana Environmental Quality Act (LEQA), La.R.S. 30:2001 *et seq.*;

The Dow Chemical Company owns and operates the Freeport and Plaquemine Facilities, including the Steam-Assisted Flares used at those facilities as safety devices and to control emissions of air pollutants generated by the manufacturing processes;

The Union Carbide Corporation owns and operates the Hahnville Facility, including the Steam-Assisted Flares used at that facility as safety devices and to control emissions of air pollutants generated by the manufacturing processes;

The Union Carbide Corporation is a wholly owned subsidiary of The Dow Chemical Company;

Performance Materials NA, Inc. owns and operates the Orange Facility, including the Steam-Assisted Flares used at that facility as safety devices and to control emissions of air pollutants generated by the manufacturing processes;

Performance Materials NA, Inc. became a wholly owned subsidiary of The Dow Chemical Company on April 1, 2019;

The Complaint alleges that the Defendants violated one or more of the following CAA or Louisiana or Texas state air pollution requirements:

- a. The Prevention of Significant Deterioration (PSD) requirements found in 42 U.S.C. § 7475 and 40 C.F.R. §§ 52.21(a)(2)(iii) and 52.21(j)-52.21(r)(5);
- b. The Non-Attainment New Source Review (NNSR) requirements found in 42 U.S.C. §§ 7502(c)(5), 7503(a)-(c) and 40 C.F.R. Part 51, Appendix S, Part IV, Conditions 1-4;
- c. The New Source Performance Standards (NSPS) promulgated at 40 C.F.R. Part 60, Subparts A, Kb, DDD and NNN pursuant to Section 111 of the CAA, 42 U.S.C. § 7411;
- d. The National Emission Standards for Hazardous Air Pollutants (NESHAPs) promulgated at: 40 C.F.R. Part 61, Subparts A and FF; and 40 C.F.R. Part 63, Subparts A, F, G, H, Y, SS, XX, YY, and FFFF pursuant to Section 112 of the CAA, 42 U.S.C. § 7412;
- e. The Title V requirements of the CAA found at 42 U.S.C. §§ 7661a(a), 7661b(c), 7661c(a); and 40 C.F.R. §§ 70.1(b), 70.5(a) and (b), 70.6(a) and (c), and 70.7(b);
- f. The portions of the Title V permits for the Freeport, Hahnville, Orange, and Plaquemine Facilities that adopt, incorporate, or implement the provisions cited in c-d and g; and
- g. The federally enforceable Louisiana and Texas state implementation plan (SIP) provisions that incorporate, adopt, and/or implement the federal requirements listed in c-e.

By entering into this Consent Decree, the Defendants commit to undertake projects at the Covered Facilities intended to reduce emissions of air pollutants from the Covered Facilities;

As more specifically described in Section V (Compliance Requirements), the Defendants have agreed to operate monitoring equipment and control technology, as well as undertake additional measures, at the Covered Facilities that will recover and minimize Waste Gas flows to the twenty-six Flares covered by this Consent Decree (Covered Flares) and ensure proper Combustion Efficiency at the Covered Flares;

Implementing the Consent Decree's compliance requirements is estimated to cost approximately \$294 million;

Between January 1, 2015 and full implementation of the Consent Decree's compliance requirements, EPA estimates that emissions from the Covered Flares will be reduced by approximately the following amounts (in tons per year or TPY):

<u>Pollutant</u>	<u>Amount in TPY (2015 – through implementation)</u>
VOCs	5,689
Carbon Dioxide Equivalents (CO ₂ e)	517,423
HAPs	480
Nitrogen Oxides (NO _x)	127

Implementing the Consent Decree's compliance requirements will also reduce carbon monoxide (CO) from the Covered Flares;

LDEQ estimates that the Louisiana beneficial environmental projects (BEPs) required to be implemented pursuant to Section VI of this Consent Decree will cost \$424,786;

The United States and LDEQ anticipate that the specific and comprehensive compliance measures set forth in this Consent Decree, which are subject to a reasonable timetable for implementation, will result in the cessation of the violations alleged in the Complaint and those resolved through Section XIV (Effect of Settlement);

The Defendants deny any past and continuing violations of the statutory and regulatory requirements set forth in the preceding clauses and deny any liability to the United States and LDEQ arising out of the occurrences alleged in the Complaint; and

The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, and with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the Clean Air Act, 42 U.S.C. § 7413(b). This Court has personal jurisdiction over The Dow Chemical Company and the Union Carbide Corporation because they are located and do business within the jurisdictional boundaries for the United States District Court for the Eastern District of Louisiana, as established under 28 U.S.C. § 98. This Court has supplemental jurisdiction over the state law claims asserted by LDEQ pursuant to 28 U.S.C. § 1367. Venue is proper in this District pursuant to Section 113(b) of the Clean Air Act, 42 U.S.C. § 7413(b), and 28 U.S.C. §§ 1391(b)

and (c) and 1395(a), because it is the judicial district in which The Dow Chemical Company and the Union Carbide Corporation are located, are doing business, and in which a substantial part of the alleged violations occurred. For purposes of this Consent Decree, Defendants, including Performance Materials NA, Inc., consent to: i) this Court's jurisdiction over them; and ii) venue in this judicial district.

2. For purposes of this Consent Decree, Defendants agree that the Complaint states claims upon which relief may be granted.

3. Notice of the commencement of this action has been given to LDEQ and the Texas Commission on Environmental Quality (TCEQ) in accordance with Section 113(b) of the Clean Air Act, 42 U.S.C. § 7413(b).

II. APPLICABILITY

4. The obligations of this Consent Decree are binding upon the United States and LDEQ, and apply to and are binding upon Defendants and any successors, assigns, or other entities or persons otherwise bound by law.

5. At least sixty Days before a transfer of the ownership or operation of any of the Covered Facilities or Covered Flares, the Applicable Defendant(s) must provide a copy of this Consent Decree to the proposed transferee. At least thirty Days before any such transfer, the Applicable Defendant(s) must provide written notice of the prospective transfer to EPA and the United States, in accordance with Section XVII (Notices). For transfers of the Hahnville or Plaquemine Facilities or of the Covered Flares located at those two facilities, at least thirty Days before such transfer, the Applicable Defendant(s) must also provide written notice of the prospective transfer to LDEQ in accordance with Section XVII (Notices). Any attempt to

transfer ownership or operation of any of the Covered Facilities or Covered Flares without complying with this Paragraph constitutes a violation of this Decree.

6. If the Applicable Defendant(s) intend(s) to request that the United States or LDEQ agree to a transferee's assumption of any obligations of the Consent Decree, the Applicable Defendant(s) must condition the transfer of the Covered Facility or Covered Flare upon the transferee's written agreement to execute a modification to the Consent Decree that makes the terms and conditions of the Consent Decree applicable to, binding upon, and enforceable against the transferee.

7. As soon as possible before the transfer, the Applicable Defendant(s) must:

- (i) notify the United States and, if applicable, LDEQ of the proposed transfer and of the specific Consent Decree provisions that the Applicable Defendant(s) propose(s) the transferee assume;
- (ii) certify that the transferee is contractually bound to assume the ongoing compliance requirements and obligations of this Consent Decree; and (iii) require the transferee to submit to the United States and, if applicable, LDEQ both a certification that the transferee has the financial and technical ability to assume the ongoing compliance requirements and obligations of this Consent Decree and a certification that the transferee is contractually bound to assume the ongoing compliance requirements and obligations of this Consent Decree.

8. After submitting to the United States and, if applicable, LDEQ the notice and certification required by the previous Paragraph, either: (i) the United States, after consultation with LDEQ, if applicable, will notify the Applicable Defendant(s) that the United States does not agree to modify the Consent Decree to make the transferee responsible for complying with the terms and conditions of the Consent Decree; or (ii) the United States, the Applicable Defendant(s), the transferee, and, if applicable, LDEQ must file with the Court a joint motion

requesting the Court approve a modification substituting the transferee for the Applicable Defendant(s) as the defendant responsible for complying with the terms and conditions of the Consent Decree that the Applicable Defendant(s) intend(s) the transferee to assume.

9. If the Applicable Defendant(s) does(do) not secure the agreement of the United States to a joint motion to modify the Consent Decree within a reasonable period of time, then the Applicable Defendant(s) and the transferee may file, without the agreement of the United States, a motion requesting the Court to approve a modification substituting the transferee for the Applicable Defendant(s) as the defendant(s) responsible for complying with the terms and conditions of the Consent Decree that the transferee intends to assume. The United States and, if applicable, LDEQ may file an opposition to the motion. The motion to modify will be granted unless the Applicable Defendant(s) and the transferee: (i) fail to show that the transferee has the financial and technical ability to assume the ongoing compliance requirements and obligations of the Consent Decree; (ii) fail to show that the modification language effectively transfers the ongoing compliance requirements and obligations to the transferee; or (iii) the Court finds other good cause for denying the motion.

10. The Applicable Defendant(s) must provide a copy of this Consent Decree to all officers whose duties might reasonably include compliance with any provision of this Decree. For all employees whose duties might reasonably include compliance with any provision of this Decree, as well as for any contractor retained to perform work required under this Consent Decree, the Applicable Defendant(s) must provide a copy of the portions of this Consent Decree that are applicable to the employee's duties or to the contractor's work. These copies may be provided by hard copy, electronic copy or by providing online access with a notice to the affected people. The Applicable Defendant(s) must condition any such contract upon

performance of the work in conformity with the applicable terms of this Consent Decree.

Copies of the applicable provisions of the Consent Decree do not need to be supplied to contractors or vendors that are retained to supply materials or equipment to satisfy the requirements of this Consent Decree.

11. In any action to enforce this Consent Decree, the Applicable Defendant(s) will not raise as a defense the failure by any of its(their) officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

12. Terms used in this Consent Decree that are defined in the Clean Air Act or in federal or state regulations promulgated pursuant to the CAA will have the meanings assigned to them in the CAA or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions apply:

- a. *Applicable Defendant(s)* means: (i) with respect to all four Covered Facilities, The Dow Chemical, Company; (ii) with respect to the Hahnville Facility, The Dow Chemical Company and the Union Carbide Corporation; and (iii) with respect to the Orange Facility, The Dow Chemical Company and Performance Materials NA, Inc.
- b. *Assist Air* means all air that is intentionally introduced before or at a Flare tip through nozzles or other hardware conveyance for the purposes of, including, but not limited to, protecting the design of the Flare tip, promoting turbulence for mixing, or inducing air into the flame. Assist Air includes premix Assist Air and Perimeter Assist Air. Assist Air does not include surrounding ambient air.
- c. *Assist Steam* means all steam that is intentionally introduced before or at a Flare tip through nozzles or other hardware conveyance for the purposes of, including, but not limited to, protecting the design of the Flare tip, promoting turbulence for mixing, or inducing air into the flame. Assist Steam includes, but is not necessarily limited to, Center Steam, lower steam, and upper steam. Assist Steam does not include water vapor that exists in the header prior to the flare and is accounted for in the measurement of the Net Heating Value of the Vent Gas.

- d. *Available for Operation* means, with respect to a Compressor within a FGRS, that the Compressor is capable of commencing the recovery of Potentially Recoverable Gas as soon as practicable but not more than one hour after the Need for a Compressor to Operate arises. The period of time, not to exceed one hour, allowed by this definition for the startup of a Compressor will be included in the amount of time that a Compressor is Available for Operation. The periods provided for in sub-Paragraphs 38.f (Maintenance of FGRS) and 38.g (FGRS Shut Down) may be included in the amount of time that the Compressors are Available for Operation.
- e. *Baseload Waste Gas Flow Rate* means, for a Covered Flare, the daily average flow rate, in scfd, to that Flare, excluding all flows during periods of startup, shutdown, and Malfunction. The flow rate data period that must be used to determine Baseload Waste Gas Flow Rate is set forth in sub-Paragraph 29.a(2).
- f. *BTU/scf* means British Thermal Unit per standard cubic foot.
- g. *Calendar Quarter* means a three-month period ending on March 31, June 30, September 30, or December 31.
- h. *Capable of Receiving Sweep, Supplemental, and/or Waste Gas* means, for a Flare, that the flow of Sweep Gas, Supplemental Gas, and/or Waste Gas is not prevented from being directed to the Flare by means of an isolation device such as closed valves, blinds, and/or stopples.
- i. *Center Steam* means the portion of Assist Steam introduced into the stack of a Flare to reduce burnback.
- j. *Combustion Efficiency* or *CE* means a Flare's efficiency in converting the organic carbon compounds found in Combustion Zone Gas to carbon dioxide. Combustion Efficiency must be determined in accordance with Appendix 1.2.
- k. *Combustion Zone* means the area of the Flare flame where the Combustion Zone Gas combines for combustion.
- l. *Combustion Zone Gas* means all gases and vapors found after the Flare tip. This gas includes all Vent Gas, Pilot Gas, Total Steam, and Assist Air. Assist air does not include the surrounding ambient air.
- m. *Complaint* means the complaint filed by the United States and LDEQ in this action.

- n. *Compressor* means, with respect to a FGRS, a mechanical device designed and installed to recover gas from a flare header. Types of FGRS compressors include reciprocating compressors, centrifugal compressors, liquid ring compressors, screw compressors, and liquid jet ejectors.
- o. *Consent Decree* or *Decree* means this Consent Decree, including any and all tables and attached appendices.
- p. *Covered Facility* or *Covered Facilities* means the Freeport, Hahnville, Orange, and Plaquemine Facilities.
- q. *Covered Flare* or *Covered Flares* means each of the following Flares, as well as any Newly Installed Covered Flare or Portable Flare in use at a Covered Facility:
- the Freeport Flares,
 - the Hahnville Flares,
 - the Orange Flares, and
 - the Plaquemine Flares.
- r. *Date of Lodging* means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Eastern District of Louisiana.
- s. *Day* means a calendar day unless expressly stated to be a business day. In computing any period of time for a compliance deadline under this Consent Decree (*e.g.*, a deadline for installing a FGRS or submitting a WGMP), where the last day would fall on a Saturday, Sunday, or federal or Louisiana state holiday, the period will run until the close of business of the next business day.
- t. *Defendants* means The Dow Chemical Company, the Union Carbide Corporation, and Performance Materials NA, Inc.
- u. *Design Capacity* means, with respect to a FGRS, the sum of the capacities, in mscf per Day, of the installed flare gas recovery Compressors.
- v. *Effective Date* has the meaning ascribed to it in Section XVIII.
- w. *EPA* means the United States Environmental Protection Agency and any of its successor departments or agencies.
- x. *External Utility Loss* means a loss in the supply of electrical power or other third-party utility to a Covered Facility that is caused by actions

occurring outside the boundaries of a Covered Facility, excluding utility losses due to an interruptible utility service agreement.

- y. *Flare* means a combustion device lacking an enclosed combustion chamber that uses an uncontrolled volume of ambient air to burn gases.
- z. *Flare Gas Recovery System* or *FGRS* means a system of one or more Compressors, piping, and associated water seal, rupture disk, or other equipment used to divert gas from a Flare and direct the gas to a fuel gas system, to a combustion device other than the Flare, or to a product, co-product, by-product, or raw material recovery system.
- aa. *Flare Tip Velocity* or *V_{tip}* means the velocity of gases exiting the Flare tip as defined in Paragraph 40.
- bb. *Freeport Facility* means the petrochemical manufacturing facility owned and operated by The Dow Chemical Company, located at 2301 Brazosport Boulevard, Freeport, Texas.
- cc. *Freeport Flares* means the following 10 Steam-Assisted Flares located at the Freeport Facility:
 - LHC-7 Large FS-1
 - LHC-8 Elevated FS-1
 - LHC-8 Ground GF-500
 - LHC-8 Small FS-1018
 - Marine Large FS-1
 - Marine Octene FS-100
 - PDC
 - Poly 3
 - Poly 4
 - Poly Pilot Plant
- dd. *Hahnville Facility* means the petrochemical manufacturing facility owned and operated by the Union Carbide Corporation, located at Louisiana Highway 3142 Hahnville, Louisiana.
- ee. *Hahnville Flares* means the following 8 Steam-Assisted Flares located at the Hahnville Facility:
 - Acrylics
 - Butanol 1

- Butanol 2
 - EO Site Logistics
 - Olefins 1
 - Olefins 2
 - Oxide Emergency
 - SPU
- ff. *In Operation*, with respect to a Flare, means all times that Sweep, Supplemental, or Waste Gas is or may be vented to a Flare. A Flare that is In Operation is Capable of Receiving Sweep, Supplemental, or Waste Gas unless all Sweep, Supplemental, and Waste Gas flow is prevented by means of an isolation device such as closed valves, blinds, and/or stopples.
- gg. *KSCFH* or *kscfh* means thousand standard cubic feet per hour.
- hh. *LDEQ* means the Louisiana Department of Environmental Quality and any of its successor departments or agencies.
- ii. *Lower Heating Value* or *LHV* means the theoretical total quantity of heat liberated by the complete combustion of a unit volume or weight of a fuel initially at 25 degrees Centigrade and 760 mmHg, assuming that the produced water is vaporized and all combustion products remain at, or are returned to, 25 degrees Centigrade; however, the standard for determining the volume corresponding to one mole is 20 degrees Centigrade.
- jj. *Malfunction* means, as specified in 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions. In any dispute under this Consent Decree involving this definition, the Applicable Defendant(s) has(have) the burden of proving:
- (1) The excess emissions were caused by a sudden, unavoidable breakdown of technology, beyond the control of the owner or operator;
 - (2) The excess emissions: (a) did not stem from any activity or event that could have been foreseen and avoided, or planned for, and (b) could not have been avoided by better operation and maintenance practices;
 - (3) To the maximum extent practicable the air pollution control equipment or processes were maintained and operated in a

manner consistent with good practice for minimizing emissions;

- (4) Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been used, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- (5) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (6) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (7) All emission monitoring systems were kept in operation if at all possible;
- (8) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs, or other relevant evidence;
- (9) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- (10) The owner or operator properly and promptly notified the appropriate regulatory authority if required.

kk. *Monitoring System Malfunction* means any sudden, infrequent, and not reasonably preventable failure of instrumentation or a monitoring system to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Monitoring System Malfunctions. In any dispute under this Consent Decree involving this definition, the Applicable Defendant(s) has(have) the burden of proving:

- (1) The instrument or monitoring system downtime was caused by a sudden, unavoidable breakdown of technology, beyond the control of the owner or operator;
- (2) The instrument or monitoring system downtime: (a) did not stem from any activity or event that could have been

foreseen and avoided, or planned for, and (b) could not have been avoided by better operation and maintenance practices;

- (3) To the maximum extent practicable, the instrument or monitoring system was maintained and operated in a manner consistent with good practice for minimizing emissions;
- (4) Repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been used, to the extent practicable, to ensure that such repairs were made as expeditiously as practicable;
- (5) The amount and duration of the instrument or monitoring system downtime was minimized to the maximum extent practicable;
- (6) The owner or operator's actions during the period of instrument or monitoring system downtime were documented by properly signed, contemporaneous operating logs, or other relevant evidence; and
- (7) The instrument or monitoring system downtime was not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

ll. *MSCF* or *mscf* means million standard cubic feet.

mm. *Need for a Compressor to Operate* means:

- (1) For a situation in which no Compressor within the FGRS is recovering gas: When a Potentially Recoverable Gas flow rate (determined on a fifteen-minute block average) to the Covered Flare(s) serviced by the FGRS exists; or
- (2) For a situation in which one or more Compressors within the FGRS already are recovering gas: When the Potentially Recoverable Gas flow rate (determined on a fifteen-minute block average) exceeds the capacity of the operating Compressor(s).

nn. *Net Heating Value* means Lower Heating Value.

- oo. *Net Heating Value Analyzer* or *NHV Analyzer* means an instrument capable of measuring the Net Heating Value of Vent Gas in BTU/scf. The sample extraction point of a Net Heating Value Analyzer may be located upstream of the introduction of Supplemental Gas and/or Sweep Gas and/or Purge Gas if the composition and flow rate of any such Supplemental Gas and/or Sweep Gas and/or Purge Gas is known and if this known value then is used in the calculation of the Net Heating Value of the Vent Gas.
- pp. *Net Heating Value of Combustion Zone Gas* or *NHV_{cz}* means the Lower Heating Value, in BTU/scf, of the Combustion Zone Gas in a Flare. *NHV_{cz}* must be calculated in accordance with Step 3 of Appendix 1.2.
- qq. *Net Heating Value of Vent Gas* or *NHV_{vg}* means the Lower Heating Value, in BTU/scf, of the Vent Gas directed to a Flare. *NHV_{vg}* must be calculated in accordance with Step 1 of Appendix 1.2.
- rr. *New Source Review* or *NSR* means the PSD and NNSR provisions in Part C and D of Subchapter I of the Clean Air Act, 42 U.S.C. §§ 7470-7492, 7501-7515, the Minor NSR provisions in § 7410(a), applicable federal regulations implementing such provisions of the CAA, and the corresponding provisions of the federally enforceable SIPs for the state of Louisiana and the state of Texas.
- ss. *Newly Installed Covered Flare(s)* means any Flare that is permanently installed, receives Waste Gas that has been redirected to it from an existing Covered Flare (existing as of the Effective Date), and commences operation at a Covered Facility after the Effective Date.
- tt. *Orange Facility* means the petrochemical manufacturing facility owned and operated by Performance Materials NA, Inc., located at 2739 Farm-to-Market Road 1006, Orange, Texas.
- uu. *Orange Flares* means the following 2 Steam-Assisted Flares located at the Orange Facility:
 - CDG; and
 - Ethylene
- vv. *Paragraph* means a portion of this Decree identified by an Arabic numeral.
- ww. *Parties* means the United States, LDEQ, and the Defendants.

- xx. *Pilot Gas* means gas introduced into a Flare tip that provides a flame to ignite the Vent Gas.
- yy. *Plaquemine Facility* means the petrochemical manufacturing facility owned and operated by The Dow Chemical Company, located at 21255 Louisiana Highway 1, Plaquemine, Louisiana.
- zz. *Plaquemine Flares* means the following six Steam-Assisted Flares located at the Plaquemine Facility:
- LHC-2
 - LHC-3
 - LHC Tank Farm
 - Poly A
 - Poly B
 - Poly C
- aaa. *Portable Flare* means a Flare that is not permanently installed and that receives Waste Gas that has been redirected to it from a Covered Flare during an outage.
- bbb. *Potentially Recoverable Gas* means the Sweep Gas, Supplemental Gas, and/or Waste Gas (including hydrogen, nitrogen, oxygen, carbon dioxide, carbon monoxide, and/or water) directed to a Covered Flare's or group of Covered Flares' FGRS, except that Regeneration Waste Gas Streams are not included in the definition of Potentially Recoverable Gas.
- ccc. *Prevention Measure* means an instrument, device, piece of equipment, system, process change, physical change to process equipment, procedure, or program to minimize or eliminate flaring.
- ddd. *Purge Gas* means the gas introduced between a Flare header's water seal and the Flare tip to prevent oxygen infiltration (backflow) into the Flare tip. For a Flare with no water seal, the function of Purge Gas is performed by Sweep Gas, and therefore, by definition, such a Flare has no Purge Gas.
- eee. *Regeneration Waste Gas Streams* means Waste Gas streams produced during the regeneration of the dryers, reactors, and other vessels at the Covered Facilities. Regeneration Waste Gas Streams are high in nitrogen (typically approximately 90%) and have very low heating value (typically approximately 100 btu/scf), thus they are not a useful fuel.
- fff. *Reportable Flaring Incident* means when Waste Gas equal to or greater than 500,000 scf is flared within a 24-hour period at any Covered Facility

from its Covered Flare(s). For purposes of calculating whether the triggering level of Waste Gas flow has been met, the following flows may be excluded: i) the pro-rated Baseload Waste Gas Flow Rate (pro-rated on the basis of the duration of the Reportable Flaring Incident); and ii) if a Covered Facility has instrumentation capable of measuring the concentrations of hydrogen, nitrogen, oxygen, carbon monoxide, carbon dioxide, and/or water (steam) in the Waste Gas, the contribution of the calculated flow of the above compounds for which a concentration is measured may be excluded. A flaring event or events that have the same root cause(s) and that last(s) more than 24 hours will be considered a single Reportable Flaring Incident. When flaring occurs at more than one Covered Flare, the volume of non-excluded Waste Gas flow at each Covered Flare must be added together unless the root cause(s) of the flaring at each Covered Flare is(are) not related to each other.

- ggg. *SCFD* or *scfd* means standard cubic feet per Day.
- hhh. *SCFH* or *scfh* means standard cubic feet per hour.
- iii. *SCFM* or *scfm* means standard cubic feet per minute.
- jjj. *Section* means a portion of this Decree identified by a roman numeral.
- kkk. *Smoke Emissions* has the meaning set forth in Section 3.5 of Method 22 of 40 C.F.R. Part 60, Appendix A. For purposes of this Decree, Smoke Emissions may be either documented by a video camera or determined by an observer knowledgeable with respect to the general procedures for determining the presence of Smoke Emissions per Method 22.
- lll. *Standard Conditions* means a temperature of 68 degrees Fahrenheit and a pressure of 1 atmosphere. Unless otherwise expressly set forth in this Consent Decree or an Appendix, Standard Conditions apply.
- mmm. *Steam-Assisted Flare* means a Flare that uses Assist Steam piped to a Flare tip to assist in combustion.
- nnn. *Supplemental Gas* means all gas introduced to a Flare in order to improve the combustible characteristics of the Combustion Zone Gas.
- ooo. *Sweep Gas* means gas intentionally introduced into a Flare header system to prevent oxygen buildup in the Flare header.
- ppp. *Total Steam* means the total of all Assist Steam that is supplied to a Flare and includes, but is not limited to, lower steam, Center Steam, and upper steam.

- qqq. *United States* means the United States of America, acting on behalf of EPA.
- rrr. *Unobstructed Cross Sectional Area of the Flare Tip* or $A_{tip-unob}$ means the open, unobstructed area of a Flare tip through which Vent Gas and Center Steam pass. Diagrams of four common Flare types are set forth in Appendix 1.3 together with the equations for calculating the $A_{tip-unob}$ of these four types.
- sss. *Vent Gas* means all gas found just before the Flare tip. This gas includes all Waste Gas, that portion of Sweep Gas that is not recovered, Purge Gas, and Supplemental Gas, but does not include Pilot Gas, Total Steam, or Assist Air.
- ttt. *Visible Emissions* means five minutes or more of Smoke Emissions during any two consecutive hours.
- uuu. *VOC or Volatile Organic Compounds* has the meaning ascribed to it in 40 C.F.R. § 51.100(s).
- vvv. *Waste Gas* means the mixture of all gases from facility operations that is directed to a Flare for the purpose of disposing of the gas. Waste Gas does not include gas introduced to a Flare exclusively to make it operate safely and as intended; therefore, Waste Gas does not include Pilot Gas, Total Steam, Assist Air, or the minimum amount of Sweep Gas and Purge Gas that is necessary to perform the functions of Sweep Gas and Purge Gas. Waste Gas also does not include the minimum amount of gas introduced to a Flare to comply with regulatory or enforceable permit requirements regarding the combustible characteristics of Combustion Zone Gas; therefore, Waste Gas does not include Supplemental Gas. Depending upon the instrumentation that monitors Waste Gas, certain compounds (hydrogen, nitrogen, oxygen, carbon dioxide, carbon monoxide, and/or water (steam)) that are directed to a Flare for the purpose of disposing of these compounds may be excluded from calculations relating to Waste Gas flow. The circumstances in which such exclusions are permitted are specifically identified in Section V (Compliance Requirements). Appendix 1.4 to this Consent Decree depicts the meaning of Waste Gas, together with its relation to other gases associated with Flares.

IV. CIVIL PENALTY

13. Within thirty Days after the Effective Date of this Consent Decree, Defendants must pay the following amounts as a civil penalty:

- a. \$2,325,000 to the United States, and
- b. \$675,000 to LDEQ.

14. Defendants must pay the civil penalty due to the United States by FedWire Electronic Funds Transfer (EFT) to the United States Department of Justice in accordance with written instructions to be provided to Defendants, following entry of the Consent Decree, by the Financial Litigation Unit (FLU) of the United States Attorney's Office for the Eastern District of Louisiana. The payment instructions provided by the FLU will include a Consolidated Debt Collection System (CDCS) number, which Defendants must use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to:

Ms. Karen Williams
The Dow Chemical Company
P.O. Box 150 (E-105)
Plaquemine, LA 70764
(225) 353-1675
KBWilliams@dow.com

Ms. Fran Falcon
The Dow Chemical Company
332 SH 332 E (APB-1B022)
Lake Jackson, TX 77566
(979) 238-9764
FQFalcon@dow.com

Defendants may change the individual to receive payment instructions on its behalf by providing written notice of such change to the United States and EPA in accordance with Section XVII (Notices).

15. At the time of payment, Defendants must send a copy of the EFT authorization form and the EFT transaction record, together with a cover letter, stating that the payment is for the civil penalty owed in accordance with the Consent Decree in *United States, et al. v. The Dow Chemical Company, et al.*, [insert civil action number], and DOJ No. 90-5-2-1-11114, to the United States pursuant to Section XVII (Notices) of this Consent Decree; and by first class mail to: United States Attorney's Office, Eastern District of Louisiana, 650 Poydras Street, Suite 1600, New Orleans, Louisiana 70130, and to EPA at cinwd_acctsreceivable@epa.gov and first class mail at: EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268.

16. The Defendants must not deduct any penalties paid under this Consent Decree in accordance with this Section or Section X (Stipulated Penalties) in calculating their federal, state, or local income tax.

17. The Defendants must pay the civil penalty due to LDEQ by bank check made payable to the Louisiana Department of Environmental Quality and sent to: Accountant Administrator, Financial Services Division, LDEQ, P.O. Box 4303, Baton Rouge, Louisiana 70821-4303 or by EFT in accordance with written instructions provided to Defendants upon request. Any bank check must reference this Consent Decree and the civil action number.

V. COMPLIANCE REQUIREMENTS

A. Instrumentation and Monitoring Systems

18. Flare Data and Monitoring Systems and Protocol Report. For each Covered Flare, by no later than 365 Days after the Effective Date, the Applicable Defendant(s) must submit a report, conforming to the requirements in Appendix 1.5, to EPA that includes the following:

- a. The information, diagrams, and drawings specified in Paragraphs 1-7 of Appendix 1.5;
- b. A detailed description of each instrument and piece of monitoring equipment, including the specific model and manufacturer, that the Applicable Defendant(s) has(have) installed or will install in compliance with Paragraphs 20-24 of this Consent Decree (Paragraphs 8-9 of Appendix 1.5); and
- c. A narrative description of the monitoring methods and calculations that the Applicable Defendant(s) will use to comply with the requirements of Paragraph 43 (Paragraph 10 of Appendix 1.5).

19. Installation and Operation of Monitoring and Control Systems on Covered Flares.

a. By no later than the Effective Date, the Applicable Defendant(s) must install and commence operation of the instrumentation, controls, and monitoring systems set forth in Paragraphs 20-23 at each Covered Flare (except for: Newly Installed Covered Flares; Portable Flares; and particular monitoring systems at the Hahnville EO Site Logistics, Orange CDG, Plaquemine LHC-2, Plaquemine Poly A, and Plaquemine Poly C Flares that must comply with this Paragraph or with the portions of Paragraphs 20, 21, and 23 and additional procedures specified in Appendix 1.6).

b. By no later than the date that any Newly Installed Covered Flare or Portable Flare is In Operation and Capable of Receiving Waste, Supplemental, and/or Sweep Gas at a Covered Facility, the Applicable Defendant(s) must complete installation and commence operation of the instrumentation, controls, and monitoring systems set forth in Paragraphs 20-23. The Applicable Defendant(s) must operate the instrumentation, controls, and monitoring systems for each Newly Installed Covered Flare and Portable Flare in accordance with Paragraphs 20-23.

20. Vent Gas and Assist Steam Monitoring Systems.

a. For each Covered Flare (except for the Hahnville EO Site Logistics, Orange CDG, Plaquemine Poly A, and Plaquemine Poly C Flares, which must comply with this Paragraph pursuant to the terms and schedule set forth in Appendix 1.6), the Applicable Defendant(s) must install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of Vent Gas in the header or headers feeding that Covered Flare. This system must also be able to continuously analyze pressure and temperature at each point of Vent Gas flow measurement. Different flow monitoring methods may be used to measure different gaseous streams that make up the Vent Gas provided that the flow rates of all gas streams that contribute to the Vent Gas are determined. Flow must be calculated in scfm.

b. For each Covered Flare, the Applicable Defendant(s) must install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of Assist Steam used with each Covered Flare. This system must also be able to continuously analyze the pressure and temperature of Assist Steam at a representative point of steam flow measurement. Flow must be calculated in scfm.

c. Each flow rate monitoring system must be able to correct for the temperature and pressure of the system and output parameters in Standard Conditions.

d. In lieu of a monitoring system that directly measures volumetric flow rate, the Applicable Defendant(s) may choose from the following additional options for monitoring any gas stream:

- (1) Mass flow monitors may be used for determining the volumetric flow rate of Assist Steam provided that the Applicable Defendant(s) convert(s) the mass flow rates to