

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF TEXAS  
HOUSTON DIVISION

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ENVIRONMENT TEXAS CITIZEN LOBBY,		)	
INC., and SIERRA CLUB,		)	
		)	
Plaintiffs,		)	
		)	
v.		)	Civil Action No.
		)	
SHELL OIL COMPANY, DEER PARK		)	
REFINING LIMITED PARTNERSHIP, SHELL		)	
CHEMICAL LIMITED PARTNERSHIP, and		)	
SHELL DEER PARK REFINING COMPANY,		)	
		)	
Defendants.		)	
		)	
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**COMPLAINT**

**STATEMENT OF THE CASE**

1. This is a citizen suit to enforce the Clean Air Act, brought pursuant to section 304(a) of the Clean Air Act (“CAA” or “the Act”), 42 U.S.C. § 7604(a), for defendants' violations of air pollution emission limits designed to protect human health and the environment. Plaintiffs are citizen groups with members who live near the oil refinery and chemical plant owned and operated by the defendants in Deer Park, Texas (“Shell Deer Park”).

2. Shell Deer Park is a 1,500-acre industrial complex located on the Houston Ship Channel, about 20 miles east of downtown Houston. The Shell Deer Park refinery is the eighth largest in the country, with the capacity to produce 333,700 barrels of oil per day. The Shell Deer Park chemical plant is the world’s largest producer of phenol acetone, bisphenol acetone, and epoxy resins, and also produces olefins, ethylene, butadiene, toluene, and other

petrochemical products. Shell Deer Park operates 24 hours a day. According to the U.S. Environmental Protection Agency, nearly 21,000 people live within three miles of the Shell Deer Park complex.

3. Defendants are in violation of the Act because they emit hundreds of thousands of pounds of pollutants into the atmosphere each year from Shell Deer Park over and above the amounts they are legally allowed to emit under federal and state regulations, and under Clean Air Act permits issued by the State of Texas. These pollutants, and some of their harmful effects, include: benzene and 1,3-butadiene, which are carcinogens; volatile organic compounds (“VOCs”) and nitrogen oxides, which contribute to the formation of ground-level ozone, a major constituent of smog; and sulfur dioxide, an odorous gas that can aggravate breathing disorders and is a major contributor to acid rain.

4. Defendants’ violations of the Act pose a threat to public health and the environment. The U.S. Environmental Protection Agency, the State of Texas, and Harris County have failed to take enforcement actions that have been sufficient to stop Shell Deer Park’s violations of the Act.

#### **JURISDICTION, VENUE AND NOTICE**

5. This Court has jurisdiction over the subject matter of this action pursuant to section 304(a) of the Act, 33 U.S.C. § 7604(a), and pursuant to 28 U.S.C. § 1331.

6. Venue lies in this District pursuant to section 304(c)(1) of the CAA, 42 U.S.C. § 7604(c)(1), because Shell Deer Park is a stationary source, or a collection of stationary sources, located within this District.

7. Plaintiffs gave notice of the violations alleged in this Complaint more than 60 days prior to commencement of this lawsuit to: (a) Shell Oil Company, Deer Park Refining Limited

Partnership, Shell Deer Park Refining Company, and Shell Chemical Limited Partnership; (b) the United States Environmental Protection Agency (“EPA”); (c) the Texas Commission on Environmental Quality (“TCEQ”), and (d) the Governor of Texas. Notice was provided by a letter addressed to John D. Hofmeister, President of Shell Oil Company, Lowell Tanner, General Manager of Deer Park Refining Limited Partnership, Stacy Methvin, President and CEO of Shell Chemical Limited Partnership, and Mary Mujica, Plant Manager of Shell Deer Park Refining Company, dated October 10, 2007 (the “Notice Letter”), with copies sent to EPA, TCEQ, the Governor, and the registered agents for each of the defendants. A copy of the Notice Letter is attached to this complaint as Exhibit A and incorporated by reference herein. The Notice Letter satisfied the pre-suit notice requirement of Section 304(b) of the CAA, 42 U.S.C. § 7604(b).

## **PARTIES**

### **Plaintiffs**

8. Plaintiffs are "persons" within the meaning of section 302(e) of the Act, 42 U.S.C. § 7602(e). They sue on behalf of their individual members who are adversely affected by Shell Deer Park's excess emissions of sulfur dioxide, nitrogen oxides, volatile organic compounds (including, but not limited to, benzene and 1,3-butadiene), hydrogen sulfide, carbon monoxide, and other air pollutants in violation of the Act. These violations have deleterious impacts on public health and the environment in the areas where Plaintiffs' members live, work, and recreate.

9. Plaintiff Environment Texas Citizen Lobby, Inc. (“Environment Texas”) is a Texas corporation. It is a statewide, non-profit, non-partisan, environmental organization that advocates for clean air, clean water, and preservation of Texas's natural areas, among other issues, on behalf of approximately 8,000 citizen members from across the state of Texas.

Among other things, Environment Texas researches and distributes analytical reports on environmental issues, advocates before legislative and administrative bodies, conducts public education, and pursues public interest litigation on behalf of its members.

10. Plaintiff Sierra Club, a California non-profit corporation with an office in Austin, is the nation's oldest and largest conservation organization, with approximately 700,000 members nationwide. The Lone Star chapter of Sierra Club has approximately 24,000 Texas members, including nearly 5,000 members in Harris County, who are dedicated to exploring, enjoying, and protecting Texas's natural resources and wild places. Sierra Club promotes the responsible use of the earth's ecosystem and resources, and educates and works to restore the quality of the natural and human environment. In addition to organizing nature outings and public education campaigns, Sierra Club and its Texas members pursue advocacy and litigation on issues including clean air and clean water, solid waste reduction, and sustainable energy and land use policies.

11. Environment Texas and Sierra Club each have individual members who live, work, and recreate near Shell Deer Park, and who breathe and are otherwise exposed to more harmful air pollutants than they otherwise would be, as a direct result of defendants' excess air emissions that violate the Act. These excess emissions of pollutants have adverse impacts on these individuals' health, recreational, aesthetic, and other interests, as set forth more fully in paragraphs 43 through 60, below.

### **Defendants**

12. Defendant Shell Oil Company is a Delaware corporation that owns and is an operator of the Shell Deer Park oil refinery and the Shell Deer Park chemical plant. At all times

pertinent to this citizen suit, defendant Shell Oil Company was an owner and operator of each unit of each facility that is the subject of the claims for relief in this complaint.

13. Defendant Deer Park Refining Limited Partnership (“Deer Park Refining”) is a Delaware corporation that owns and is an operator of the Shell Deer Park oil refinery. Shell Oil Company is a general partner of Deer Park Refining. At all times pertinent to this citizen suit, defendant Deer Park Refining was an owner and operator of each unit of the oil refinery that is the subject of the claims for relief in this complaint.

14. Defendant Shell Deer Park Refining Company is a Delaware corporation and is an operator of the Shell Deer Park oil refinery. At all times pertinent to this citizen suit, defendant Shell Deer Park Refining Company was an operator of each unit of the oil refinery that is the subject of the claims for relief in this complaint.

15. Defendant Shell Chemical Limited Partnership (“Shell Chemical”) is a Delaware corporation that owns and is an operator of the Shell Deer Park chemical plant. Shell Oil Company is a general partner of Shell Chemical. At all times pertinent to this citizen suit, defendant Shell Chemical was an owner and operator of each unit of the chemical plant that is the subject of the claims for relief in this complaint.

16. Each defendant is a "person" within the meaning of section 302(e) of the Act, 42 U.S.C. § 7602(e).

## **STATUTORY AND REGULATORY BACKGROUND**

### **Overview**

17. Shell Deer Park is subject to two independent types of air emission standards and limitations under the Clean Air Act. One set of standards is designed to achieve and maintain compliance with National Ambient Air Quality Standards, which are established to protect

human health and the environment. These standards produce emission limitations that can vary based on local air quality. The second set of standards are industry-specific, technology-based emission standards and limitations developed and promulgated by EPA, and include the New Source Performance Standards (“NSPS”) program. The NSPS are national standards that do not take into account varying local air quality conditions.

18. Both of these types of emission standards and limitations are incorporated into Shell Deer Park’s state air emission permits issued pursuant to the Texas State Implementation Plan (“the Texas SIP”), and into Shell Deer Park’s federal operating permits, issued pursuant to Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f.

19. Under the citizen suit provision of the Clean Air Act, 42 U.S.C. § 7604, citizens are authorized to bring suit in federal court to enforce emission standards and limitations contained in, *inter alia*: permits issued pursuant to the Texas SIP; federal NSPS regulations; and Title V permits.

20. The citizen suit provision grants jurisdiction to United States District Courts to issue an injunction remedying violations of the Act, to impose appropriate civil penalties for violations of the Act, and to award costs of litigation (including reasonable attorney and expert witness fees).

**Shell Deer Park’s SIP-Based Emission Limits**

21. Pursuant to section 109 of the Act, 42 U.S.C. § 7409, EPA has established National Ambient Air Quality Standards (“NAAQS”) to protect human health and the environment for six “criteria pollutants,” including sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and ozone. 40 C.F.R. Part 50.

22. Under section 110(a) of the Act, 42 U.S.C. § 7410(a), states implement many of the regulatory requirements of the Act through State Implementation Plans. SIP provisions must satisfy the requirements of the Act before they are approved by EPA. 42 U.S.C. § 7410(k).

23. In general, SIPs consist of state laws, regulations, and permits, and must provide for attainment and maintenance of the NAAQS in each region of the state. Once approved by EPA, SIPs become federal law and are enforceable by the state, EPA, and citizens. All periods of air emissions in excess of applicable SIP limitations, including emission limitations contained in permits issued pursuant to the SIP to stationary sources of air pollution, are violations of the Act.

24. EPA has approved the Texas SIP. Pursuant to the Texas SIP, the TCEQ has issued numerous permits to defendants that, among other things, (i) set forth the pollutants that may legally be emitted from stationary sources of air pollution at Shell Deer Park, and (ii) impose both hourly (pounds per hour) and annual (tons per year) limits on the emission of such pollutants. See 30 Tex. Admin. Code § 116.

25. Most of the emission limitations at issue in this action are set forth in New Source Review (“NSR”) permits, which are authorized by Part D of subchapter I of the Act, 42 U.S.C. §§ 7501-7515 (the NSR program), and by 30 Tex. Admin. Code Chapter 116. Shell Deer Park is also subject to Prevention of Significant Deterioration (“PSD”) requirements, which are authorized by Part C of subchapter I of the Act, 42 U.S.C. §§ 7470-7492 (the PSD program); to permits by rule, which are authorized by 30 Tex. Admin. Code Chapter 106; and to other emission limitations contained in the Texas SIP.

26. Shell Deer Park’s SIP-based permits contain, among other provisions, numerical emission limits for permitted pollutants. These numerical limits are typically set forth in Maximum Allowable Emission Rate Tables (“MAERTs”) in each permit. Compliance with the

numerical emission limits in the MAERTs is mandatory. Texas Health & Safety Code § 382.085(b); 30 Tex. Admin. Code §116.115(b)(2)(F).

27. The Texas SIP provides that when more than one state or federal rule or regulation or permit condition is applicable to a holder of an NSR permit, the most stringent of these limits or conditions governs and is the standard by which compliance is determined. 30 Tex. Admin. Code §116.115(b)(2)(H)(ii).

### **Shell Deer Park's NSPS-Based Emission Limits**

28. Shell Deer Park contains stationary sources of air pollution that are “new sources” within the meaning of Section 111(a)(2) of the Clean Air Act, 42 U.S.C. § 7411(a)(2), and are “affected facilities” within the meaning of 40 C.F.R. § 60.2. Accordingly, these sources are also subject to New Source Performance Standards (“NSPS”). The NSPS consist of industry-specific, technology-based emission standards and limitations developed and promulgated by EPA pursuant to Section 111 of the Act, 42 U.S.C. § 7411.

29. Pursuant to Section 111(b), 42 U.S.C. § 7411(b), EPA has promulgated general NSPS provisions, codified at 40 C.F.R. Part 60, Subpart A, §§ 60.1 – 60.19, that apply to owners or operators of any stationary source that contains an “affected facility” subject to regulation under 40 C.F.R. Part 60. 40 C.F.R. § 60.11(d) requires that 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. § 60.18(c) requires flares to be operated with no visible emissions except for periods not to exceed five minutes during any two consecutive hours.

30. Section 111(e), 42 U.S.C. § 7411(e), prohibits the operation of any new source in violation of an NSPS applicable to such source. Thus, a violation of an NSPS is a violation of Section 111(e) of the Clean Air Act.

**Shell Deer Park's Title V Permits**

31. Shell Deer Park's SIP-based permits and the emission standards and limitations contained therein, as well as any other air emission standards and limitations in the Texas SIP that are applicable to Shell Deer Park, have been incorporated into federal operating permits issued to defendants pursuant to Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f.

32. The NSPS requirements applicable to Shell Deer Park have also been incorporated into defendants' Title V federal operating permits.

33. Any release of air pollutants into the atmosphere in excess of an hourly or annual emission limit contained in any of Shell Deer Park's SIP-based permits, or in violation of NSPS requirements, or in excess of any other air emission standard or limitation applicable to Shell Deer Park, is a violation of the Title V permit issued to the unit or facility from which the pollutants were released.

**EMISSION EVENTS AT SHELL DEER PARK**

34. The Texas SIP requires defendants to report certain unauthorized emissions of air pollutants from Shell Deer Park to the TCEQ within 24 hours of their discovery. 30 Tex. Admin. Code § 101.201(a). Thereafter, defendants have two weeks to issue a "final" report concerning such "emission events"; if no final report is submitted, the initial report is considered final. 30 Tex. Admin. Code § 101.201(b) and (c). These emission event reports submitted by defendants to TCEQ must include, among other information: the date, time, and duration of the event; the nature and cause of the event; any corrective action taken; the unit and the specific

emission point from which pollutants were emitted to the atmosphere; the permit or regulation applicable to the unit and emission point; the emission standard or limitation that has been exceeded; and the type and estimated quantities of air pollutants emitted.

35. Repeatedly and frequently, over a period of years, defendants have reported to TCEQ, pursuant to the procedure described in the preceding paragraph, that air pollutants have been released to the atmosphere from the Shell Deer Park refinery and from the Shell Deer Park chemical plant during “emission events,” as defined at 30 Tex. Admin. Code § 101.1. Emission events include such incidents as equipment breakdowns or malfunctions, unscheduled maintenance, startup and shutdown activities, and other non-routine air emissions.

36. At a frequency averaging more than once per week since the beginning of 2003, defendants have released air pollutants during emission events at Shell Deer Park in amounts that exceeded one or more applicable hourly and annual emission limits in defendants’ SIP-based permits and/or that exceeded applicable emission limitations in regulations that are a part of the Texas SIP.

37. A list of more than a thousand instances, during the period from February 2003 through September 2007, in which defendants emitted pollutants from Shell Deer Park in excess of an applicable hourly emission limitation, is contained in Tables 1, 2 and 3 of the Notice Letter, Exhibit A to this Complaint, which is incorporated herein by reference. Defendants reported each of these emission events to TCEQ.

38. In addition, pollutants have been released during emission events at Shell Deer Park in amounts that exceeded annual emission limitations contained in defendants’ SIP-based permits. Annual emission limits, expressed in tons per year, are calculated on a rolling 12-month

basis. On at least the following occasions, defendants violated the following annual emission limits in NSR Permit Nos. 3219 and 9334:

<b>Permit #</b>	<b>Emission Point Number</b>	<b>Pollutant</b>	<b>Date*</b>	<b>Amount</b>	<b>Limit</b>
3219	OP2DECOK	VOCs	1/24/06	0.21 tons	0.2 tons per year (TPY)
3219	OP2ELFLA/OP3ELFLA	VOCs	2004	62 tons	39 TPY
3219	OP2ELFLA/OP3ELFLA	VOCs	2005	75 tons	39 TPY
3219	OP2ELFLA/OP3ELFLA	CO	2005	44.5 tons	38 TPY
3219	OP2ELFLA/OP3ELFLA	CO	2006	72.6 tons	38 TPY
3219	OP2ELFLA/OP3ELFLA	NO <sub>x</sub>	2005	11.7 tons	7 TPY
3219	OP2	VOCs	3/6/05	18.7 tons	11.9 TPY
9334	D371	Benzene	4/28/03	14 tons	1.01 TPY

\* A specific date indicates that the annual tons per year limit was exceeded on a single day or by a single emission event.

39. Defendants reported to TCEQ that they released more than 300,000 pounds of volatile organic compounds (“VOCs”) and more than 120,000 pounds of nitrogen oxides (“NO<sub>x</sub>”) during emission events at the Shell Deer Park chemical plant during 2007. These are the largest VOC and NO<sub>x</sub> totals reported by defendants for the chemical plant for any year since at least 2003. The total reported amount of sulfur dioxide (“SO<sub>2</sub>”), NO<sub>x</sub>, VOCs, carbon monoxide (“CO”), and hydrogen sulfide (“H<sub>2</sub>S”) released during emission events at the Shell Deer Park chemical plant in 2007 was more than 530,000 pounds. For the years 2003 through 2007, this amount is second only to the approximately 550,000 pounds of these pollutants reported to have been released during emission events at the chemical plant in 2005.

40. Defendants reported to TCEQ that they released more than 500,000 pounds of SO<sub>2</sub> during emission events at the Shell Deer Park refinery during 2007. This is more than six times the amount of SO<sub>2</sub> reported to have been released from the refinery during emission events in

2006, and the highest reported annual total since 2004, when more than 650,000 pounds were reported to have been released during emission events. The amount of carbon monoxide reported to have been released from the Shell Deer Park refinery during emission events in 2007 is greater than the total of all reported carbon monoxide releases from the refinery during emission events in the previous four years combined. The total amount of SO<sub>2</sub>, NO<sub>x</sub>, VOCs, CO, and H<sub>2</sub>S reported to have been released during emission events at the Shell Deer Park refinery in 2007 is over 750,000 pounds, which is the largest annual total since at least 2003.

41. Overall, defendants reported to TCEQ that the Shell Deer Park chemical plant and refinery collectively emitted more than one-and-one-quarter million pounds of SO<sub>2</sub>, NO<sub>x</sub>, VOCs, CO, and H<sub>2</sub>S during emission events in 2007. This total is nearly five times the amount reported to have been emitted from these facilities in 2006, and is approximately 25% more than the average annual amount of these air pollutants reported to have been released during emission events at Shell Deer Park over the four years from 2003 through 2006.

42. After the Notice Letter was sent, defendants have continued to release air pollutants during emission events at Shell Deer Park in amounts that exceed applicable emission limitations. The plaintiffs are unaware of changes made to the operation or design of Shell Deer Park that would prevent violations of this nature from continuing in the future.

#### **AIR POLLUTION FROM SHELL DEER PARK IS HARMFUL**

43. Exposure to air pollution is associated with numerous effects on human health, including pulmonary, cardiac, vascular, and neurological impairments. Acute effects are usually immediate and often reversible when exposure to the pollutant ends. Some acute health effects include eye irritation, headaches, and nausea. Chronic effects are usually not immediate and tend not to be reversible when exposure to the pollutant ends. Some chronic health effects

include decreased lung capacity and lung cancer resulting from long-term exposure to toxic air pollutants.

44. Since the beginning of 2003, defendants have emitted more than four million pounds of air pollutants during emission events at Shell Deer Park: approximately 1.8 million pounds from the chemical plant and 2.6 million pounds from the refinery. According to defendants' emission event reports to TCEQ, average annual air emissions during emission events at Shell Deer Park from 2003 through 2007 include: over 400,000 pounds of sulfur dioxide; approximately 50,000 pounds of nitrogen oxides; approximately 250,000 pounds of volatile organic compounds; approximately 18,000 pounds of benzene; approximately 12,000 pounds of 1,3-butadiene; approximately 135,000 pounds of carbon monoxide; and approximately 5,000 pounds of hydrogen sulfide, among other pollutants. Defendants' emission event reports to TCEQ also show that pollutants classified as "hazardous air pollutants" under Section 112 of the CAA, 42 U.S.C. § 7412 – including 1,3-butadiene, benzene, hexane, and toluene – are emitted from Shell Deer Park during emission events.

45. As a result of the Clean Air Act violations alleged herein, Shell Deer Park has emitted and continues to emit significant excess quantities of sulfur dioxide, nitrogen oxides, VOCs (including benzene and 1,3-butadiene), carbon monoxide, hydrogen sulfide, and particulate matter. These pollutants, alone and in combination, can cause public health and environmental problems.

46. Under section 107(d) of the Act, 42 U.S.C. § 7407(d), each state must designate those areas within its boundaries where the air quality is better or worse than the NAAQS for each criteria pollutant, or where the air quality cannot be classified because of insufficient data. An area that meets the NAAQS for a particular criteria pollutant is an "attainment" area for that

pollutant. An area that does not meet the NAAQS for a particular criteria pollutant is a "nonattainment" area for that pollutant.

47. At all times relevant to this citizen suit, the State of Texas has designated Harris County, in which Shell Deer Park is located, as a nonattainment area for ozone. Since before 2003, the Houston area has consistently ranked among the very worst in the United States for non-compliance with EPA's ambient ozone standards.

48. Some of the pollutants illegally emitted by Shell Deer Park, such as VOCs and NO<sub>x</sub>, contribute to the formation of ground-level ozone, a primary component of smog. High levels of ground-level ozone can be created many miles away when winds carry industrial emissions far from their original source. Ozone can cause several types of short-term health effects, including: (a) irritation of the respiratory system, which can lead to coughing, irritation of the throat, and an uncomfortable sensation in the chest; and (b) reduced lung function, which means that it is more difficult to breathe as deeply and vigorously as normal. Ozone can aggravate asthma and inflame and damage the lining of the lungs.

49. Some of the pollutants illegally emitted by Shell, such as SO<sub>2</sub> and NO<sub>x</sub>, contribute to the formation of acid rain. Acid rain damages forests and crops, changes the makeup of soil, and makes lakes and streams acidic and unsuitable for fish. Continued exposure to acid rain over a long time changes the natural variety of plants and animals in an ecosystem.

50. Sulfur dioxide reacts with other chemicals in the air to form tiny sulfate particles. When these are breathed, they gather in the lungs and are associated with increased respiratory symptoms and disease, difficulty in breathing, and premature death. Peak levels of SO<sub>2</sub> in the air can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposure to high levels of SO<sub>2</sub> gas and particles cause respiratory illness and

aggravate existing heart disease. SO<sub>2</sub> and sulfate particles can be transported over long distances and can be deposited far from the point of origin. SO<sub>2</sub> contributes to the formation of atmospheric particles that cause visibility impairment. SO<sub>2</sub> accelerates the decay of building materials and paints. SO<sub>2</sub> contributes to the formation of acid rain.

51. Nitrogen oxides react with ammonia, moisture and other compounds to form nitric acid and related particles. Human health concerns from these particles include effects on breathing and the respiratory system, damage to lung tissue, and premature death. Small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease such as emphysema and bronchitis, and aggravate existing heart disease. In the air, NO<sub>x</sub> reacts readily with common organic chemicals and even ozone, to form a wide variety of toxic products, some of which may cause biological mutations. NO<sub>x</sub> is one of the main ingredients in the formation of ground-level ozone. NO<sub>x</sub> contributes to the formation of acid rain.

52. Volatile organic compounds contribute to the production of ground-level ozone. Two types of VOCs emitted by Shell Deer Park, benzene and 1,3-butadiene, are carcinogens. A recent study by researchers at the University of Texas School of Public Health found elevated rates of leukemia among children living within two miles of the Houston Ship Channel and among children living in areas with elevated ambient levels of 1,3-butadiene.

53. Carbon monoxide is an odorless, colorless gas that is formed when carbon in fuels is not burned completely. Carbon monoxide contributes to the formation of smog. For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. Low concentrations of CO can cause fatigue in healthy people.

54. Hydrogen sulfide is a flammable, colorless gas with a powerful odor of rotten eggs that people can smell even at low concentrations. H<sub>2</sub>S occurs naturally in crude petroleum. Exposure to low concentrations of H<sub>2</sub>S in the air can cause irritation to the eyes, nose, throat, or respiratory system.

55. Particulate matter ("PM") is the term for solid or liquid particles found in the air. Exposure to particle pollution is linked to a number of problems, including: increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. "Opacity" is an indirect measurement of the concentration of particulate matter in air emissions. The higher the opacity level of a plume of air emissions – that is, the more visible light that is blocked – the more particulate matter is being emitted. Opacity levels are recorded on a scale ranging from 0% (no obstruction of light at all) to 100% (smoke that completely blocks the passage of light). Stationary sources of air pollution, including numerous sources at Shell Deer Park, are subject to opacity limitations as a way of limiting emissions of PM.

56. As a direct result of defendants' violations of the Act associated with emissions of air pollutants in excess of applicable emission limitations, individual members of each plaintiff organization who live in the vicinity of and downwind of Shell Deer Park are exposed to excess emissions of a variety of pollutants, including SO<sub>2</sub>, NO<sub>x</sub>, VOCs (including benzene and 1,3-butadiene), carbon monoxide, and hydrogen sulfide. As a result, they are subject to the adverse health and environmental impacts described in paragraphs 48 through 55, above.

57. Shell Deer Park's illegal emissions contribute to bad air quality near the plant and elsewhere in Harris County. Air quality is so poor that Plaintiffs' members experience

headaches, sinus pain, congestion, and burning eyes. Even the physical condition of their houses is adversely affected by poor air quality. Plaintiffs' members do not want the air quality where they live to be as bad as it is.

58. Plaintiffs' members are aware of the location of Shell Deer Park relative to where they live, work and recreate, and are aware of Shell Deer Park emissions blowing in their direction. They smell, see and breathe Shell Deer Park's emissions, though they do not want to. Plaintiffs' members experience difficulty breathing as a result of Shell Deer Park's air emissions. There are occasions when Shell Deer Park's flares, which burn pollutants and release them to the atmosphere, light up the sky at night.

59. Plaintiffs' members breathe air pollutants emitted both legally and illegally from Shell Deer Park. Plaintiffs' members want to breathe as little air pollution from Shell Deer Park as possible, and certainly do not want to breathe pollutants that are emitted illegally.

60. Health, environmental, recreational, aesthetic, and other interests of these individuals are impaired by defendants' illegal actions and will continue to be impaired without an appropriate order of this Court

**FIRST CLAIM FOR RELIEF: Violations of SIP-Based Permits and the Texas SIP**

61. Paragraphs 1 through 60 are realleged and incorporated by reference herein.

62. Defendants must comply with emission limitations in permits and regulations issued pursuant to the Texas SIP and which are applicable to stationary sources of air pollution at Shell Deer Park.

63. SIP-based emission limitations applicable to Shell Deer Park are contained in various permits issued to defendants by the TCEQ. These permits include Permit No. 21262 (which governs emissions from the Shell Deer Park refinery) and Permit Nos. 266, 1119, 1120,

1968, 3173, 3178, 3179, 3214, 3215, 3216, 3217, 3219, 9334, 18576, 19849, 46535, 48912, 52088, and 55312 (which govern emissions from the Shell Deer Park chemical plant). Each of these permits contains numerical emission limitations set forth in a Maximum Allowable Emission Rate Table (“MAERT”).

64. In addition, emissions of particulate matter and limitations on opacity from gas flares, stationary vents, and certain other sources at Shell Deer Park are governed by 30 Tex. Admin. Code § 111.111, which is part of the Texas SIP.

65. Repeatedly and frequently since October 10, 2002, emissions from Shell Deer Park of sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, hydrogen sulfide, and particulate matter, among other pollutants, have exceeded the hourly and annual emission limits contained in defendants’ SIP-based permits and in the Texas SIP. Exceedances of emission limits, based on Shell Deer Park’s emission event reports submitted to TCEQ from February 2003 through September 2007, are listed in Tables 1, 2 and 3 of the Notice Letter and in paragraph 38, above. Shell Deer Park has continued to emit pollutants in violation of SIP-based emission limits after September 2007.

66. Each emission of a pollutant from Shell Deer Park in violation of an emission limit contained in a SIP-based permit or in regulations that are a part of the Texas SIP is a separate violation of the Texas SIP. Each violation of the Texas SIP is a violation of the Act.

67. Absent an appropriate order of this Court, defendants will continue to emit sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, hydrogen sulfide, and particulate matter, among other pollutants, in amounts that violate their SIP-based permits and the Texas SIP at Shell Deer Park.

68. As provided by sections 113(e) and 304(a) of the Act, 42 U.S.C. §§ 7413(e) and 7604(a), the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, and 40 C.F.R. § 19.4, the violations described above subject defendants to injunctive relief and civil penalties of up to \$32,500 per day for each violation of the Act.

**SECOND CLAIM FOR RELIEF: Violations of New Source Performance Standards**

69. Paragraphs 1 through 68 are realleged and incorporated by reference herein.

70. Repeatedly and frequently since October 10, 2002, defendants have released excessive amounts of sulfur dioxide, nitrogen oxides, volatile organic compounds, carbon monoxide, hydrogen sulfide, and particulate matter, among other pollutants, from Shell Deer Park during emission events. Each such incident constitutes a violation of the NSPS general requirement regarding good air pollution control practices, 40 C.F.R. § 60.11(d).

71. Repeatedly and frequently since October 10, 2002, defendants have allowed flares to be operated with excessive visible emissions. Each such incident constitutes a violation of the NSPS general requirement regarding proper operation of flares, 40 C.F.R. § 60.18(c).

72. Each violation of an NSPS is a violation of the Act.

73. Absent an appropriate order of this Court, defendants will continue to violate the NSPS at Shell Deer Park.

74. As provided by sections 113(e) and 304(a) of the Act, 42 U.S.C. §§ 7413(e) and 7604(a), the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, and 40 C.F.R. § 19.4, the violations described above subject defendants to injunctive relief and civil penalties of up to \$32,500 per day for each violation of the Act.

**THIRD CLAIM FOR RELIEF: Violations of Title V Operating Permits**

75. Paragraphs 1 through 74 are realleged and incorporated by reference herein.

76. Defendants must comply with the terms and conditions of federal operating permits issued pursuant to Title V of the Act. Title V permits incorporate all emission standards and limitations applicable to a source, including both SIP-based emission limits and NSPS regulations.

77. Each violation of defendants' SIP-based permits, the Texas SIP, and the NSPS regulations described in the First and Second Claims for Relief, above, is a violation of the corresponding Title V permit into which the applicable emission standard or limitation has been incorporated.

78. Each violation of a Title V permit is a violation of the Act.

79. Absent an appropriate order of this Court, defendants will continue to violate their Title V permits at Shell Deer Park.

80. As provided by sections 113(e) and 304(a) of the Act, 42 U.S.C. §§ 7413(e) and 7604(a), the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, and 40 C.F.R. § 19.4, the violations described above subject defendants to injunctive relief and civil penalties of up to \$32,500 per day for each violation of the Act.

**PRAYER FOR RELIEF**

WHEREFORE, based upon all the allegations contained in paragraphs 1 through 80, above, plaintiffs request that this Court:

1. Declare defendants to have violated and to be in continuing violation of the Act;
2. Permanently enjoin each of the defendants from operating all stationary sources of air pollutants at Shell Deer Park except in accordance with the Clean Air Act and any applicable regulatory requirements;

3. Order the defendants to take appropriate actions to remedy, mitigate, or offset the harm to public health and the environment caused by the violations of the Act alleged above;
4. Assess a civil penalty against each defendant of up to \$32,500 per day for each violation of the Act and applicable regulations occurring on and after October 10, 2002, as provided by 42 U.S.C. §§ 7413(e) and 7604(a) and (g);
5. Order defendants to pay reasonable attorneys fees and costs (including expert witness fees), as provided by 42 U.S.C. § 7604(d);
6. Grant such other relief as the Court deems just and proper.

Dated: January 7, 2008

Respectfully submitted,

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