

Any finding of fact that should be construed as a conclusion of law is hereby adopted as such. Any conclusion of law that should be construed as a finding of fact is hereby adopted as such.

I. BACKGROUND

On December 13, 2010, Plaintiffs Environment Texas Citizen Lobby, Inc. (“Environment Texas”) and Sierra Club (“Sierra Club”) (collectively, “Plaintiffs”) brought suit under the citizen suit provision of the federal Clean Air Act (the “CAA”), 42 U.S.C. § 7604, against Defendants ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company (collectively, “Exxon”). The case concerns Exxon’s operation of a refinery, olefins plant, and chemical plant located in Baytown, Texas (the “Complex”), which is a suburb of Houston and within Harris County. Plaintiffs seek a declaratory judgment, penalties,³ injunctive relief, and appointment of a special master for events at the Complex involving unauthorized air emissions or deviations from one of the Complex’s air permits, during a period spanning from October 14, 2005, to September 3, 2013.

³ Plaintiffs originally requested \$1,023,845,000 in penalties, but they later reduced their request to \$642,697,500 to account for overlapping violations alleged in the various counts of the complaint.

II. FINDINGS OF FACT

The following facts have been established by a preponderance of the evidence:

A. Exxon and the Complex

1. ExxonMobil Chemical Company and ExxonMobil Refining and Supply Company are wholly owned subsidiaries of ExxonMobil Corporation.⁴ ExxonMobil Corporation is the largest publicly traded oil company in the world as measured by market evaluation.⁵ In addition, it is one of the largest publicly traded companies in the world measured by both revenue and market capitalization.⁶ Total after-tax profits of ExxonMobil Corporation were \$41 billion in 2011 and \$44 billion in 2012.⁷

2. Exxon owns and operates the Complex, which consists of a refinery, olefins plant, and chemical plant.⁸ The Complex is one of the largest and most

⁴ *Defendant ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company's Original Answer*, ¶¶ 12–13.

⁵ *Trial Transcript* at 5-61:6–9.

⁶ *Trial Transcript* at 5-60:5–21.

⁷ *Trial Transcript* at 5-61:11–13.

⁸ *Defendant ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company's Original Answer*, ¶¶ 11–13.

complex industrial sites in the United States.⁹ Specifically, it is the largest petroleum and petrochemical complex in the United States.¹⁰ It sits on approximately 3,400 acres, with a circumference of approximately 13.6 miles.¹¹ It has the capacity to process more than 550,000 barrels of crude oil per day and to produce about 13 billion pounds of petrochemical products each year.¹² These products range from jet fuel to plastic.¹³ The Complex has a vast array of equipment, including roughly 10 thousand miles of pipe, 1 million valves, 2,500 pumps, 146 compressors, and 26 flares.¹⁴ It employs over 5,000 people.¹⁵

3. The Complex is located in Baytown, Texas, which is a suburb of Houston. The nearby area in which the Complex operates is populated with numerous other refineries, petrochemical plants, and industrial facilities.¹⁶

⁹ *Trial Transcript* at 3-74:21–25, 4-171:21 to 4-172:6, 4-173:3–5.

¹⁰ *Plaintiffs' Exhibit 556* at 25.

¹¹ *Trial Transcript* at 3-71:14 to 3-72:6–9, 8-50:20–22.

¹² *Trial Transcript* at 3-77:5 to 3-80:1.

¹³ *Trial Transcript* at 3-56:2–18, 3-60:16–18.

¹⁴ *Trial Transcript* at 3-24:19–21, 3-25:4–5, 3-250:5–11, 7-238:23 to 7-239:10, 3-72:20 to 3-73:24.

¹⁵ *Trial Transcript* at 3-75:15–18.

¹⁶ *Trial Transcript* at 11-33:19 to 11-39:16.

B. Title V Permits

4. The Complex is governed, in part, by operating permits issued by the Texas Commission on Environmental Quality (the “TCEQ”) pursuant to Title V of the CAA.¹⁷ The Title V permits incorporate—typically by reference—numerous regulatory requirements, such as United States Environmental Protection Agency (“EPA”) air pollution regulations and State of Texas air pollution regulations, as well as other permits, such as New Source Review permits and Prevention of Significant Deterioration permits.¹⁸ Taking all permit conditions together, the Complex is regulated by over 120,000 permit conditions related to air quality, each of which is tracked by the Complex for compliance purposes.¹⁹

C. Reportable Events, Recordable Events, and Deviations

5. Exxon documents noncompliance and indications of noncompliance with its Title V permits in three ways.²⁰ First, the TCEQ requires Exxon to document and submit to the TCEQ—via a State of Texas Environmental Electronic Reporting System (“STEERS”) report—information about “emissions events” that release greater than a certain threshold quantity of pollutants, called “reportable

¹⁷ *Trial Transcript* at 2-207:18 to 2-208:9, 2-212:1–3; *see* 30 TEX. ADMIN. CODE § 122.142(b).

¹⁸ *Trial Transcript* at 1-245:9–17, 2-208:13 to 2-209:13.

¹⁹ *Trial Transcript* at 3-81:9 to 3-82:1.

²⁰ *Trial Transcript* at 2-205:13 to 2-206:14, 2-216:3–20.

emissions events.”²¹ Second, the TCEQ requires Exxon to document information about “emissions events” that release less than the aforementioned threshold quantity of pollutants, called “recordable emissions events;” documentation of recordable emissions events are kept on-site at the Complex and are not submitted to the TCEQ via a STEERS report.²² Third, the TCEQ requires Exxon to document and submit to the TCEQ information about Title V “deviations” in semi-annual Title V “deviation reports.”²³ It is undisputed Exxon complied with the TCEQ’s aforementioned reporting and recording requirements. Plaintiffs and Exxon stipulated to the contents of Exxon’s STEERS reports of reportable emissions events, records of recordable emissions events, and Title V deviation reports covering the time period at issue in this case, which is October 14, 2005, to September 3, 2013.²⁴ These stipulations are contained in Excel spreadsheets spanning hundreds of pages, admitted at trial as Plaintiffs’ Exhibits 1A through 7E. Specifically, at issue are 241 reportable emissions events (the “Reportable

²¹ 30 TEX. ADMIN. CODE §§ 101.1(88), 101.201; *Trial Transcript* at 2-232:13–20, 2-236:3–24, 12-164:11–23.

²² 30 TEX. ADMIN. CODE §§ 101.1(71), 101.201(b); *Trial Transcript* at 2-232:21 to 2-233:16, 12-164:11–23. The terms “non-reportable emissions event” and “recordable emissions event” are interchangeable.

²³ 30 TEX. ADMIN. CODE §§ 122.10(6), 122.145(2); *Trial Transcript* at 2-217:4 to 2-218:19.

²⁴ *Trial Transcript* at 1-246:3–15.

Events”), 3,735 recordable emissions events (the “Recordable Events”), and 901 Title V deviations (the “Deviations”) (collectively, the “Events and Deviations” or the “Events or Deviations”).²⁵

D. Investigation, Enforcement, and Corrective Actions

6. The TCEQ investigates each reportable emissions event.²⁶ Following an investigation, the TCEQ determines whether it will initiate enforcement based, in part, on whether the event was “excessive” and whether the applicable statutory affirmative defense criteria were met.²⁷ Similarly, the TCEQ reviews the records of recordable emissions events and takes enforcement action should it determine the records reflect an inappropriate trend.²⁸

7. In addition to the TCEQ’s investigation, for each of the Reportable Events, Exxon conducted an extensive internal investigation, evaluated the root cause of the event, and implemented corrective actions to try to prevent recurrence.²⁹ Similarly, for the Recordable Events and Deviations, Exxon

²⁵ *Plaintiffs’ Exhibits* 1A–7E.

²⁶ *Defendants’ Exhibit* 546 at 8, ¶ 24; *Trial Transcript* at 2-241:14–21, 2-244:10–18, 4-5:21–23, 8-85:11–16.

²⁷ 30 TEX. ADMIN. CODE § 101.222; *Defendants’ Exhibit* 546 at 3–4, ¶ 10, 4–5, ¶ 12; *Trial Transcript* at 2-242:19–25, 12-160:2 to 12-162:8; *see Trial Transcript* at 12-161:10 to 12-162:8.

²⁸ *Defendants’ Exhibit* 546 at 5–7, ¶¶ 13–18.

²⁹ *Trial Transcript* at 3-114:25 to 3-117:4, 4-26:4–16.

analyzed the records for trends and ways to improve, identified root causes, and implemented corrective actions.³⁰ A root cause analysis requires consideration of a number of factors, including the type of equipment involved, the component of the equipment that may have failed, and human interaction with the equipment.³¹ A root cause analysis is necessary—as a factual matter in this case—to determine whether the Events and Deviations resulted from a recurring pattern, and to determine whether improvements could have been made to prevent recurrence.³² The number of events involving a certain type of equipment, a certain unit, or a certain type of issue (such as leaks) does not alone mean that any of the Events or Deviations resulted from a recurring pattern or were preventable.³³

8. After investigating, the TCEQ assessed \$1,146,132 in penalties against Exxon for some of the Events and Deviations.³⁴ In addition, Harris County assessed \$277,500 in penalties for some of the Events and Deviations.³⁵ Thus, in total, Exxon has paid \$1,423,632 in monetary penalties for Events and Deviations

³⁰ *Trial Transcript* at 3-117:5–22, 10-39:24 to 10-40:8, 10-219:11 to 10-220:13.

³¹ *Trial Transcript* at 10-231:15 to 10-232:14.

³² *Defendants' Exhibit* 546 at 6, ¶¶ 16–17.

³³ *Defendants' Exhibit* 546 at 6, ¶ 17; *Trial Transcript* at 10-232:15 to 10-233:10, 10-234:25 to 10-277:15, 11-5:17 to 11-21:18.

³⁴ *Plaintiffs' Exhibit* 337.

³⁵ *Defendants' Exhibit* 502 at 1–10.

at issue in this case.³⁶ Along with those penalties, the TCEQ required Exxon to take certain corrective actions or document the corrective actions already taken.³⁷

9. Moreover, after investigating, the TCEQ elected not to pursue enforcement on 97 Reportable Events because the TCEQ determined the applicable affirmative defense criteria were met.³⁸ Such applicable affirmative defense criteria include finding that the unauthorized emissions could not have been prevented, were not part of a recurring pattern, and did not contribute to a condition of air pollution.³⁹ Also, after investigating, the TCEQ elected to pursue enforcement but not impose penalties or require further action on 55 Reportable Events because Exxon either agreed to take certain corrective actions or had already taken corrective actions.⁴⁰ An example of one such Reportable Event occurred on August 30, 2006, at the Butadiene Unit due to operator error.⁴¹ Exxon's root cause analysis determined the event occurred because a technician

³⁶ Exxon claims it has paid \$2,022,288 in penalties, while Plaintiffs claim Exxon has paid \$1,423,632 in penalties. After thoroughly reviewing all of the evidence submitted to support each amount, the Court finds Plaintiffs' claim (\$1,423,632) to be better supported by the evidence.

³⁷ *E.g.*, *Defendants' Exhibits* 472 at 3–4, 475 at 2, 486 at 2, 488 at 2.

³⁸ *Defendants' Exhibits* 18–20; *Trial Transcript* at 3-202:14 to 3-206:3.

³⁹ 30 TEX. ADMIN. CODE § 101.222.

⁴⁰ *Defendants' Exhibits* 24–29; *Trial Transcript* at 3-200:9 to 3-202:13.

⁴¹ *Defendants' Exhibits* 26, 26E.

misunderstood a request via radio from a computer console operator and opened the wrong valve.⁴² The incorrect action was corrected within 12 minutes, and Exxon used the event as an example to its employees to reinforce the importance of effectively communicating via radio and repeating field expectations before performing action.⁴³ Another example of one such Reportable Event occurred on April 11, 2007, at the BOP-X Expansion Flare when the methanator shut down resulting in flaring.⁴⁴ Exxon's root cause analysis determined the methanator shut down because of a high temperature swing in the furnace crossover temperature during the feed-in of steam shortly after the furnace completed a routine decoke cycle.⁴⁵ That event was the first time in the 10 years the methanator had been in service that such an incident had occurred, which was 1 out of approximately 1,000 feed-ins.⁴⁶ To prevent similar events from occurring, Exxon increased the methanator trip point from 700 to 800 degrees and modified its operating procedures in three ways: operating windows for crossover temperatures, dimethyl

⁴² *Defendants' Exhibit 26E.*

⁴³ *Defendants' Exhibit 26E.*

⁴⁴ *Defendants' Exhibits 26, 26I.*

⁴⁵ *Defendants' Exhibit 26I.*

⁴⁶ *Defendants' Exhibit 26I.*

sulphide injection prior to feed-in, and removal of 225 pounds of steam prior to feed-in.⁴⁷

10. The distinction the TCEQ makes between reportable emissions events and recordable emissions events demonstrates the agency's belief that emissions from recordable emissions events are less serious and less potentially harmful to human health than emissions from reportable emissions events.⁴⁸ Of the 3,735 Recordable Events, 43% were 1/2 an hour or less in duration, 55% were 1 hour or less in duration, 62% were 2 hours or less in duration, 73% were 5 hours or less in duration, 82% were 12 hours or less in duration, and 89% were 24 hours or less in duration.⁴⁹ Further, 58% had total emissions of 20 pounds or less, 80% had total emissions of 100 pounds or less, 87% had total emissions of 200 pounds or less, and 93% had total emissions of 500 pounds or less.⁵⁰ For example, Exxon tracked, as a Recordable Event, smoke that emanated from a power receptacle due to an electrical issue when an extension cord was plugged in, which lasted such a short time that the duration was recorded as 0 hours and which emitted a total of 0.02

⁴⁷ *Defendants' Exhibit 26I.*

⁴⁸ *Trial Transcript* at 12-164:11-23.

⁴⁹ *Defendants' Exhibit 1007A* at 1; *see Plaintiffs' Exhibits 1B, 2B, 2D, 2F.*

⁵⁰ *Defendants' Exhibit 1007A* at 2; *see Plaintiffs' Exhibits 1B, 2B, 2D, 2F.*

pounds of emissions.⁵¹ As another example, Exxon tracked, as a Recordable Event, a fire in a cigarette butt can that lasted less than one minute and emitted a total of 0.02 pounds of emissions, the corrective action for which was to pour water in the cigarette butt can.⁵²

11. Of the 901 Deviations, 45% involved no emissions whatsoever.⁵³ The Deviations not involving emissions typically relate to late reports or incomplete reports.⁵⁴ For example, Exxon recorded, as Deviations, failure to maintain a record of a drain inspection; late submission of a report of an engine's hours of operation; and failure to perform a quarterly engine test due to engine malfunction, the corrective action for which was testing the engine upon repair and startup.⁵⁵ Of the 493 Deviations that involved emissions, 78 involved emissions occurring in the normal course of operations, and thus those emissions are not at issue in this case.⁵⁶ The emissions from the remaining 415 Deviations are categorized as either a Reportable Event or Recordable Event depending on the amount of emissions, and

⁵¹ *Plaintiffs' Exhibit 1B* at row 800; *Trial Transcript* at 10-216:17 to 10-218:6, 12-234:3-12.

⁵² *Plaintiffs' Exhibit 2D* at row 2432.

⁵³ *Trial Transcript* at 3-118:9-13, 10-204:11-13, 10-208:1-8.

⁵⁴ *Trial Transcript* at 10-208:9 to 10-209:17; see *Plaintiffs' Exhibits 7A-E*.

⁵⁵ *Plaintiffs' Exhibit 7C* at row 36, 142; *Trial Transcript* at 10-207:1-7.

⁵⁶ *Trial Transcript* at 10-209:18 to 10-210:1.

thus those emissions are addressed in the Court's findings related to Reportable Events or Recordable Events.⁵⁷

E. Agreed Enforcement Order

12. On February 22, 2012, Exxon and the TCEQ agreed on an enforcement order regarding the Complex (the "Agreed Order").⁵⁸ The Agreed Order, inter alia: (1) resolved enforcement for certain past reportable emissions events; (2) established stipulated penalties for future reportable emissions events, while precluding Exxon from asserting the applicable affirmative defense; (3) required specified emissions reductions; and (4) mandated implementation of 4 environmental improvement projects.⁵⁹ The environmental improvement projects are as follows:

a. Plant Automation Venture. Install computer applications to improve real-time monitoring, identification, diagnostics and online guidance/management of operations. The project is intended to provide early identification of potential events and/or instrumentation abnormalities, allowing proactive response.

* * *

b. Fuels North Flare System Monitoring/Minimization. . . . Additional instrumentation, including monitoring probes and on-line analyzers are intended to improve the identification and characterization of flaring events. The development of flare

⁵⁷ *Trial Transcript* at 10-203:11 to 10-204:10, 10-210:7–12.

⁵⁸ *Defendants' Exhibit 222*.

⁵⁹ *Defendants' Exhibit 222* at ¶¶ I.13, III.3, III.4, III.10, III.12; *Trial Transcript* at 3-32:25 to 3-40:5, 12-205:15 to 12-207:8.

minimization practices . . . are intended to reduce loads on the flare system.

* * *

c. BOP/BOPX Recovery Unit Simulators. Develop, implement and use high-fidelity process training simulators . . . intended to improve operator training and competency, resulting in reduced frequency and severity of emissions events.

* * *

d. Enhanced Fugitive Emissions Monitoring. . . . The program will use infrared imaging technology to locate potential VOC and HRVOC leaks. . . .⁶⁰

The Agreed Order states these projects “will reduce emissions at the Baytown Complex, including emissions from emissions events”⁶¹ Indeed, the Agreed Order requires certain amounts of emissions reductions.⁶² Exxon could not have been required to undertake these projects under existing laws and regulations.⁶³ Implementation of these projects will cost approximately \$20,000,000.⁶⁴ They must be implemented within 5 years of the date of the Agreed Order, and Exxon must submit semi-annual reports to the TCEQ that provide information on the progress of these projects.⁶⁵ In addition, Exxon must submit annual reports to the

⁶⁰ *Defendants’ Exhibit 222* at ¶ III.12.

⁶¹ *Defendants’ Exhibit 222* at ¶ III.12.

⁶² *Defendants’ Exhibit 222* at ¶ III.10.

⁶³ *Defendants’ Exhibit 222* at ¶ III.12; *Trial Transcript* at 3-190:6–24, 12-177:12 to 12-178:6.

⁶⁴ *Trial Transcript* at 3-32:25 to 3-40:5.

⁶⁵ *Defendants’ Exhibit 222* at ¶¶ III.12, 13.

TCEQ that identify emissions reductions, including “an explanation of how recent air emissions performance continues the overall emissions reduction trends at the Baytown Complex,” and provide information on activities undertaken to improve environmental performance.⁶⁶

F. Efforts to Improve Environmental Performance and Compliance

13. The Complex has a governing philosophy that all employees work toward plant reliability and environmental compliance.⁶⁷ It has a Safety Security Health and Environmental (“SSHE”) group comprised of approximately 75 employees, including approximately 30 dedicated to environmental compliance, with an annual budget of \$25 million in 2014.⁶⁸ Over the past several years Exxon has spent more than \$1 billion on regulatory compliance and environmental improvement projects at the Complex.⁶⁹ Specifically, for the years at issue in this case, Exxon spent the following on maintenance and maintenance-related capital projects at the Complex: \$464 million in 2005, \$539 million in 2006, \$519 million

⁶⁶ *Defendants’ Exhibit 222* at ¶ III.14.

⁶⁷ *Trial Transcript* at 3-82:2 to 3:83:20, 3-273:20 to 3-274:20.

⁶⁸ *Trial Transcript* at 2-195:1–2, 2-203:8–12, 3-89:22 to 3-90:9, 12-214:19 to 12-215:5, 12-226:4–13.

⁶⁹ *Trial Transcript* at 12-239:22 to 12-240:6.

in 2007, \$599 million in 2008, \$642 million in 2009, \$598 million in 2010, \$583 million in 2011, \$607 million in 2012, and \$685 million in 2013.⁷⁰

14. The Complex employs a wide variety of emissions-reduction equipment such as wet gas scrubbers, selective catalytic reduction, amine treating towers, flares, flare gas recovery systems, external floating roof tanks, sulfur recovery units, a regenerative thermal oxidizer, and more than one hundred low nitrogen oxide (“NO_x”) burners; the Complex also employs emissions-detection equipment such as continuous emissions monitoring systems and forward-looking infrared cameras.⁷¹ Approximately half of the flares at the Complex are connected to flare gas recovery compressors.⁷² All of the flares have flow rate velocity meters and are monitored for vent gas heat content, and Exxon takes steps to ensure each flare operates in compliance with applicable regulatory requirements.⁷³ Exxon has also generated and implemented a flare minimization plan to reduce

⁷⁰ *Defendants’ Exhibit* 413.

⁷¹ *Trial Transcript* at 10-47:5 to 10-78:19.

⁷² *Trial Transcript* at 10-56:13–16.

⁷³ *Trial Transcript* at 10-61:5–17.

flaring at the Complex.⁷⁴ Further, Exxon's maintenance policies and procedures conform or exceed industry standards and codes.⁷⁵

15. Both the TCEQ and the EPA recognize it is not possible to operate any facility—especially one as complex as the Complex—in a manner that eliminates all emissions events and deviations.⁷⁶ Despite good practices, at any industrial facility there will always be mechanical failure and human imperfection leading to noncompliance with Title V permit conditions.⁷⁷

G. Improvement

16. In the Agreed Order, the TCEQ recognized the Complex's historical reductions in emissions when making the following finding of fact:

The annual emissions inventory reports that ExxonMobil has submitted for the Baytown Complex under 30 TEX. ADMIN. CODE § 101.10 reflect a positive trend of reductions in actual emissions, including unauthorized emissions associated with emissions events and scheduled MSS activities, from Baytown Complex. From 2000 to 2010, ExxonMobil has reported a 60 percent reduction in aggregate emissions of VOC, HRVOC, CO, SO₂ and NO_x from the Baytown Complex. Over that same time period, reported emissions of VOC from the Baytown Complex have dropped by 44 percent, reported

⁷⁴ *Trial Transcript* at 12-231:16 to 12-232:1.

⁷⁵ *Trial Transcript* at 7-225:3–14, 11-274:25 to 11-275:7, 12-15:4 to 12-16:9, 12-20:15–20, 12-25:14–25, 12-26:16–23.

⁷⁶ *Defendants' Exhibit* 190 at 7–8, 14–15; *Defendants' Exhibit* 546 at 11, ¶¶ 32–34; *Trial Transcript* at 3-112:2–8.

⁷⁷ *Defendants' Exhibit* 190 at 7–8, 14–15; *Defendants' Exhibit* 546 at 11, ¶¶ 32–34; *Trial Transcript* at 3-112:2–8.

emissions of CO have dropped by 76, and reported emissions of NO_x have dropped by 63 percent.⁷⁸

Likewise, evidence in this case shows the total amount of emissions at the Complex generally declined year-to-year over the years at issue in the case.⁷⁹ In addition, the annual amount of unauthorized emissions of criteria pollutants at the Complex decreased by 95% from 2006 to 2013.⁸⁰ Similarly, the annual number of Reportable Events that occurred at the Complex decreased by 81% percent from 2005 to 2013.⁸¹ Flaring at the Complex has been reduced by 73% since 2000.⁸²

17. In addition, each year at issue, total emissions were far below the annual emissions limits.⁸³ For example, in 2012, the annual emissions limit of volatile organic compounds (“VOCs”) was 7,778.4 tons, but the Complex only emitted 2,958.1 tons of VOCs in that year.⁸⁴ Also, each year at issue, unauthorized

⁷⁸ *Defendants’ Exhibit 22* at ¶ I.12.

⁷⁹ *Defendants’ Exhibits 1004, 1008.*

⁸⁰ *Defendants’ Exhibit 1002.* Under the CAA, the EPA establishes minimum air quality levels in the form of “national ambient air quality standards” for six pollutants (known as “criteria pollutants”) to protect public health. 42 U.S.C. § 7409. The six criteria pollutants are sulfur dioxide, particulate matter, carbon monoxide, ozone, oxides of nitrogen/nitrogen dioxide, and lead. 40 C.F.R. §§ 50.4–17.

⁸¹ *Defendants’ Exhibit 1000* at 1.

⁸² *Defendants’ Exhibit 547* at 12:11–12.

⁸³ *Defendants’ Exhibits 1004, 1008.* Emissions from “event emissions” are at issue in this case, not “permitted emissions.”

⁸⁴ *Defendants’ Exhibit 1004* at 1.

emissions were a very small percentage of total emissions and an even smaller percentage of the annual emissions limits.⁸⁵ For example, in 2012, of the total VOCs emitted, only 54.9 tons were unauthorized, which is only 1.9% of the Complex's total VOC emissions that year and only 0.7% of the annual VOC emissions limit.⁸⁶

H. Plaintiffs and Plaintiffs' Members

18. Environment Texas is a non-profit corporation with a purpose “to engage in activities, including public education, research, lobbying, litigation, issue advocacy, and other communications and activities to promote pro-environment political ideas, policies and leaders.”⁸⁷ It has approximately 2,900 dues-paying members in Texas.⁸⁸ Similarly, Sierra Club is a non-profit corporation with a purpose to protect humanity, the environment, and the ability to enjoy the outdoors.⁸⁹ The Lone Star (Texas) Chapter of the Sierra Club has approximately

⁸⁵ *Defendants' Exhibits* 1004, 1008.

⁸⁶ *Defendants' Exhibit* 1004 at 1.

⁸⁷ *Plaintiffs' Exhibit* 338 at ¶ II(2); *Trial Transcript* at 1-227:16–25.

⁸⁸ *Trial Transcript* at 1-234:24 to 1-235:4.

⁸⁹ *Trial Transcript* at 2-125:11–22.

25,000 members.⁹⁰ Plaintiffs called four members of either Environment Texas or Sierra Club to testify.

19. First, Diane Aguirre Dominguez is a member of Environment Texas and Sierra Club.⁹¹ She grew up in Baytown at her parents' home, which is about a mile and a half from the Complex.⁹² The Complex is the closest industrial facility to her parents' home.⁹³ She lived in Houston from 2006 through 2013 while attending college and working, during which time she regularly visited her parents' home in Baytown.⁹⁴ In March 2013, she moved to Oakland, California.⁹⁵ She has returned to Baytown to visit her family at her parent's home, and she has plans to visit Baytown again for the holidays in 2014.⁹⁶ While growing up in Baytown, she often smelled odors at her parents' home and other places in Baytown, and she had allergies characterized by running nose, watery eyes, and chest constriction, for which she took medication.⁹⁷ These symptoms improved when she moved away

⁹⁰ *Trial Transcript* at 2-125:23 to 2-126:4.

⁹¹ *Trial Transcript* at 1-192:2–22.

⁹² *Trial Transcript* at 1-193:8 to 1-194:16.

⁹³ *Trial Transcript* at 1-194:17–20.

⁹⁴ *Trial Transcript* at 1-196:6 to 1-199:9.

⁹⁵ *Trial Transcript* at 1-199:8–9.

⁹⁶ *Trial Transcript* at 1-199:10–25.

⁹⁷ *Trial Transcript* at 1-200:1 to 1-201:15, 1-205:6–25, 1-219:1–14.

from Baytown and she was able to stop taking medication, but the symptoms return whenever she visits her family in Baytown.⁹⁸ However, she cannot correlate any of these symptoms to specific Events or Deviations at issue in this case.⁹⁹ Further, she has seen flares, smoke, and a brownish haze over the Complex.¹⁰⁰ She finds these sights and smells worrisome because she thinks they indicate Exxon is emitting harmful chemicals; she is also concerned about the risk of explosion from an emergency condition at the Complex.¹⁰¹ However, she understands some flaring is a normal, permitted part of the operation of the Complex, and she does not know of a time when she observed unpermitted flaring.¹⁰² Lastly, she enjoys running outdoors, but when she is visiting Baytown, she refrains from doing so because she experiences labored breathing and an abrasive feeling in her throat and lungs.¹⁰³

20. Second, Marilyn Kingman is a member of Sierra Club.¹⁰⁴ She lives in a town that neighbors Baytown, but she shops, banks, attends church, and conducts

⁹⁸ *Trial Transcript* at 1-205:19 to 1-206:11.

⁹⁹ *Trial Transcript* at 1-207:25 to 1-209:23, 1-220:1 to 1-222:4.

¹⁰⁰ *Trial Transcript* at 1-202:2 to 1-203:8, 1-218:6–17.

¹⁰¹ *Trial Transcript* at 1-203:9 to 1-204:9.

¹⁰² *Trial Transcript* at 1-218:3–24.

¹⁰³ *Trial Transcript* at 1-204:10 to 1-205:5.

¹⁰⁴ *Trial Transcript* at 6-69:11–14.

other activities several times a week in Baytown, including nearby the Complex.¹⁰⁵ She has smelled a chemical smell around the Complex, seen flares at the Complex, and seen a gray or brown haze over the Complex.¹⁰⁶ The odors she has smelled, which she attributes to the Complex, cause her to be concerned for her health.¹⁰⁷ She limits her outdoor activities in Baytown when she smells odors or sees haze.¹⁰⁸ Also, flaring at the Complex concerns her because she is afraid of explosion and because she believes flaring indicates something is wrong.¹⁰⁹ However, she does not claim to have any physical ailments or health conditions that she attributes to anything happening at the Complex.¹¹⁰ Also, she was not able to correlate any of her experiences or concerns to specific Events or Deviations at issue in this case.¹¹¹

21. Third, Richard Shae Cottar is a member of Sierra Club.¹¹² From April 2010 through September 2012, he lived a quarter of a mile from the Complex.¹¹³

¹⁰⁵ *Trial Transcript* at 6-71:3 to 6-75:6.

¹⁰⁶ *Trial Transcript* at 6-75:2 to 6-76:15.

¹⁰⁷ *Trial Transcript* at 6-76:16–23, 6-83:6–12.

¹⁰⁸ *Trial Transcript* at 6-76:24 to 6-77:24.

¹⁰⁹ *Trial Transcript* at 6-78:13 to 6-80:5.

¹¹⁰ *Trial Transcript* at 6-95:14–20.

¹¹¹ *Trial Transcript* at 6-91:23 to 6-95:9. On February 13, 2014, Kingman smelled an odor she attributed as emanating from the Complex, and a Recordable Event occurred that day; however, February 13, 2014, is outside the time frame of this case.

¹¹² *Trial Transcript* at 1-98:18 to 1-99:13.

Since September 2012, he has lived approximately two miles from the Complex.¹¹⁴ While living at the closer address, he saw or heard flaring events at the Complex from his home that were audibly disruptive, woke him up, rattled the windows of his house, involved plumes of black smoke, involved large flames, and lasted for several hours in duration.¹¹⁵ He also smelled strong, pungent odors that, on occasion, caused him headaches and awoke him in the night.¹¹⁶ He attributed odors at his home to being caused by the Complex because when the wind was blowing from the Complex towards him during flaring events, he smelled the odors, but when the wind was blowing towards the Complex away from him during flaring events, he did not smell the odors.¹¹⁷ He has also smelled odors that became more intense the closer he got to the Complex while driving.¹¹⁸ His asthmatic symptoms were exacerbated when living at the closer address, and since moving further from the Complex, his asthmatic symptoms have decreased.¹¹⁹ He

¹¹³ *Trial Transcript* at 1-102:7 to 1-103:6.

¹¹⁴ *Trial Transcript* at 1-102:3-4, 1-106:5-11.

¹¹⁵ *Trial Transcript* at 1-108:5-24, 1-109:12-20, 1-118:13-24, 1-121:7 to 1-123:18, 1-128:2-3.

¹¹⁶ *Trial Transcript* at 1-109:21 to 1-112:3, 1-131:5 to 1-132:4, 1-176:6-9.

¹¹⁷ *Trial Transcript* at 1-119:5-18.

¹¹⁸ *Trial Transcript* at 1-111:10-20.

¹¹⁹ *Trial Transcript* at 1-148:3 to 1-149:19, 1-187:12 to 1-188:1.

moved further away from the Complex out of concern for his health and safety.¹²⁰ When visiting the nature center next to the Complex, he does not stay if he sees emissions.¹²¹ He does not want to breathe unauthorized emissions, and his concerns about air quality would be lessened if Exxon were to reduce its unauthorized emissions.¹²² However, he understands that certain emissions and flaring are allowed by permits.¹²³ In total, he was able to credibly correlate three flaring events he observed to specific Events or Deviations, one of which woke him up from noise and involved a “sweet odor” outside his home.¹²⁴

22. Fourth, Sharon Sprayberry is a member of Sierra Club.¹²⁵ She lived in Baytown from 2004 until June 2012, about one mile from the Complex.¹²⁶ While living in Baytown, she heard flares at the Complex from inside her home, saw smoke coming from the flares, saw haze over the Complex, and smelled a chemical odor outdoors when the wind was blowing from the Complex towards her or when

¹²⁰ *Trial Transcript* at 1-144:21 to 1-145:17.

¹²¹ *Trial Transcript* at 1-152:11–21.

¹²² *Trial Transcript* at 1-153:9–20.

¹²³ *Trial Transcript* at 1-153:9–13, 1-169:3–18.

¹²⁴ *Trial Transcript* at 1-123:19 to 1-131:1, 1-168:17 to 1-181:12.

¹²⁵ *Trial Transcript* at 6-5:19–23.

¹²⁶ *Trial Transcript* at 6-11:23 to 6-13:13, 6-37:2–5, 6-40:3–10.

she saw flares.¹²⁷ These smells concerned her because she was afraid they were toxic or harmful.¹²⁸ While living in Baytown, she also experienced respiratory issues.¹²⁹ Her respiratory problems went away within a few weeks of moving to a different city—McGregor, Texas.¹³⁰ She would like to return to Baytown to visit friends and attend events, but she is unlikely to return because during her last visit the air quality affected her breathing.¹³¹ She would have retired in Baytown if the air quality were better.¹³² She understands not all flares involve unauthorized emissions because some flares and emissions are authorized by permit.¹³³ In total, she was able to credibly correlate two events she observed to Events or Deviations.¹³⁴

I. Baytown Residents Called by Exxon

23. Exxon called three residents of the Baytown community to testify. First was Fred Aguilar, who has lived approximately eight blocks from the

¹²⁷ *Trial Transcript* at 6-15:18 to 6-16:19, 6-33:12 to 6-36:13.

¹²⁸ *Trial Transcript* at 6-36:16 to 6-37:1.

¹²⁹ *Trial Transcript* at 6-15:7–17.

¹³⁰ *Trial Transcript* at 6-37:9–24.

¹³¹ *Trial Transcript* at 6-38:2–19.

¹³² *Trial Transcript* at 6-38:20–22.

¹³³ *Trial Transcript* at 6-50:12–20.

¹³⁴ *Trial Transcript* at 6-17:7 to 6-23:8, 6-45:20 to 6-49:16, 6-65:20 to 6-67:24.

Complex for **35 years**.¹³⁵ He has no health issues or concerns that he attributes to the Complex, does not worry about living near the Complex, and has never had any concerns about any emissions events or flares that have occurred at the Complex.¹³⁶ He has only rarely heard very loud noise from flaring, the last time being six or seven years ago, and such noise never affected his ability to enjoy his property.¹³⁷

24. Second was Billy Barnett, who has lived across the street from the Complex for 17 years and in close proximity to the Complex for a total of **37 years**.¹³⁸ He does not “feel impacted or influenced” by his close proximity to the Complex.¹³⁹ Specifically, he has had no health issues that he attributes to living across the street from the Complex, flaring at the Complex has not disturbed his enjoyment of his property, and he has not had problems with loud noises coming from the Complex.¹⁴⁰ He has smelled substantial odors a couple of times in 37 years but does not characterize the odors as overpowering.¹⁴¹

¹³⁵ *Trial Transcript* at 10-130:11 to 10-131:9.

¹³⁶ *Trial Transcript* at 10-140:8–24, 10-142:1–6, 10-155:4–12.

¹³⁷ *Trial Transcript* at 10-142:7–18.

¹³⁸ *Trial Transcript* at 11-101:8 to 11-102:3, 11-104:10–19.

¹³⁹ *Trial Transcript* at 11-114:13–18.

¹⁴⁰ *Trial Transcript* at 11-113:7–11, 11-114:19 to 11-115:1, 11-115:10–14.

¹⁴¹ *Trial Transcript* at 11-115:5–9.

25. Third, Gordon Miles has lived very close to the Complex for **28 years**.¹⁴² He has never experienced any problems with flaring, odors, or noises coming from the Complex; has no health problems that he attributes to anything happening at the Complex; and has no complaints about Exxon as a neighbor.¹⁴³

III. CONCLUSIONS OF LAW

A. Standing

1. An organization “has standing to bring suit on behalf of its members when: (1) its members would otherwise have standing to sue in their own right; (2) the interests it seeks to protect are germane to the organization’s purpose; and (3) neither the claim asserted nor the relief requested requires the participation of individual members.” *Texans United for a Safe Econ. Educ. Fund v. Crown Cent. Petroleum Corp.*, 207 F.3d 789, 792 (5th Cir. 2000). Exxon does not contest the second and third requirements, and the Court finds these requirements are met. At issue is the first requirement.

2. In order for a member to have standing to sue in his or her own right, (1) he or she must have suffered an actual or threatened injury, (2) that is fairly traceable to the defendant’s action, and (3) the injury must likely be redressed if the plaintiff prevails in the lawsuit. *Id.* The plaintiff has the burden to prove these

¹⁴² *Defendants’ Exhibit 545; Trial Transcript* at 12-82:11 to 12-86:5.

¹⁴³ *Trial Transcript* at 12-89:22 to 12-90:14, 12-96:13–22.

requirements by the preponderance of the evidence. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992); *Envtl. Conservation Org. v. City of Dallas*, No. 3-03-CV-2951-BD, 2005 WL 1771289, at *4 n.2 (N.D. Tex. July 26, 2005). Each requirement is addressed in turn.

a. *Injury-in-Fact*

3. To satisfy the injury-in-fact requirement, the plaintiff must prove injury to himself or herself, not injury to the environment. *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 181 (2000). There is a “low threshold for sufficiency of injury” to confer standing. *Save Our Cmty. v. EPA*, 971 F.2d 1155, 1161 (5th Cir. 1992). For an environmental plaintiff, effect to his or her recreational or aesthetic interests constitutes injury-in-fact. *Laidlaw*, 528 U.S. at 183. Also, “breathing and smelling polluted air is sufficient to demonstrate injury-in-fact and thus confer standing under the CAA.” *Texans United*, 207 F.3d at 792; *Concerned Citizens Around Murphy v. Murphy Oil USA, Inc.*, 686 F. Supp. 2d 663, 670–71 (E.D. La. 2010).

4. In this case, four members of either Environment Texas or Sierra Club testified. As detailed supra in paragraphs II.19–22, while living or visiting near the Complex during the time period at issue in this case, at least one of these members experienced the following, inter alia: allergies; respiratory problems; the smell of pungent odors, which occasionally caused headaches; audibly disruptive noise; and

visions of flares, smoke, and haze. In addition, at least one of these members was worried about the risk of explosion after seeing flares and worried about his or her health after seeing flares, smoke, and haze.¹⁴⁴ Because of at least one of the aforementioned experiences or worries, at least one of these members made the following changes in his or her life, inter alia: refrained from running outdoors, limited outdoor activities when odors were smelt or haze seen, left the nature center next to Complex early, and moved away from Complex.¹⁴⁵ Collectively, these experiences, worries, and changes satisfy the injury-in-fact requirement.

b. Traceability

5. So long as there is a fairly traceable connection between a plaintiff's injury and the defendant's violation, the traceability requirement of standing is satisfied. *Comer v. Murphy Oil USA*, 585 F.3d 855, 864 (5th Cir. 2009). To confer standing, the plaintiff's injury does not have to be linked to exact dates that the defendant's violations occurred, and the plaintiff does not have to "show to a scientific certainty that defendant's [emissions], and defendant's [emissions] alone, caused the precise harm suffered by the plaintiffs." *Texans United*, 207 F.3d at 793; *Save Our Cmty.*, 971 F.2d at 1161 (internal quotation marks omitted); see *Tex. Campaign for the Env't v. Lower Colo. River Auth.*, No. H-11-791, 2012 WL

¹⁴⁴ *Supra* ¶¶ II.19–22.

¹⁴⁵ *Supra* ¶¶ II.19–22.

1067211, at *4–5 (S.D. Tex. Mar. 28, 2012) (Miller, J.). Rather, circumstantial evidence of traceability suffices, such as observation of smoke coming from the defendant’s plant while at the same time smelling odors, and expert evidence that on certain days when the defendant’s violations occurred, excess emissions were detectable in the plaintiff’s neighborhood. *Texans United*, 207 F.3d at 793.

6. Even though Plaintiffs’ members’ injuries do not have to be linked to exact dates that the Events and Deviations occurred, Plaintiffs’ members correlated some of the experiences described supra, such as odor and noise, to five Events or Deviations.¹⁴⁶ Also, Plaintiffs’ members have seen flares, smoke, and haze over the Complex.¹⁴⁷ Some of the members smelled odors at their homes while living very close to the Complex, particularly when the wind was blowing towards their homes from the Complex, and the Complex was the closest industrial facility to their homes.¹⁴⁸ One member who lived a quarter of a mile from the Complex saw or heard flaring events at the Complex from his home, and he smelled odors that became more intense the closer he got to the Complex while driving.¹⁴⁹ Some of the members’ allergies and respiratory problems decreased when they moved away

¹⁴⁶ *Supra* ¶¶ II.19–22 (Dominguez-0, Kingman-0, Cottar-3, and Sprayberry-2).

¹⁴⁷ *Supra* ¶¶ II.19–22.

¹⁴⁸ *Supra* ¶¶ II.19, 21–22.

¹⁴⁹ *Supra* ¶ II.21.

from the Complex.¹⁵⁰ Additionally, Plaintiffs submitted evidence of the potential health effects caused by the types of pollutants emitted during the Events and Deviations, and some of these potential health effects match some of the experiences of Plaintiffs' members.¹⁵¹ All the aforementioned evidence suffices to establish a fairly traceable connection between Plaintiffs' members' injuries and the Events and Deviations at the Complex. Accordingly, the traceability requirement is satisfied.

c. Redressability

7. A plaintiff must prove redressability “for each form of relief sought.” *Laidlaw*, 528 U.S. at 185. Relief that prevents or deters violations from reoccurring satisfies the redressability requirement. *Id.* at 185–86. Here, Plaintiffs request penalties for the Events and Deviations, an injunction enjoining Exxon from violating the CAA, a special master to monitor compliance with the injunctive relief, and a declaratory judgment that Exxon violated its Title V permits. Civil penalties in a CAA citizen suit satisfy the redressability requirement of standing because they deter future violations. *Texans United*, 207 F.3d at 794;

¹⁵⁰ *Supra* ¶¶ II.19, 21–22.

¹⁵¹ For example, hydrogen sulfide can smell badly and cause headaches, and one of Plaintiffs' members smelled strong, pungent odors that, on occasion, caused him headaches. *Plaintiffs' Exhibit* 476 at 38–39; *Plaintiffs' Exhibit* 540 at 1, 4, 10; *Trial Transcript* at 7-89:25 to 7-91:9, 9-161:24 to 9-162:8; *supra* ¶ II.21.

Laidlaw, 528 U.S. at 185–86.¹⁵² An injunction requiring the defendant to cease its violations also satisfies the redressability requirement of standing. *Texans United*, 207 F.3d at 794; *Env'tl. Conservation Org.*, 2005 WL 1771289, at *4. Because the purpose of the special master in this case would be to ensure violations do not recur, the request for a special master in this particular case also satisfies the redressability requirement. Lastly, because a public, court-ordered declaratory judgment that Exxon has violated its Title V permits would help deter Exxon from violating in the future, the request for a declaratory judgment in this particular case satisfies the redressability requirement. Accordingly, the redressability requirement is satisfied as to all relief sought.

8. Because the injury-in-fact, traceability, and redressability requirements are satisfied, Plaintiffs' members have standing to sue in their own right, and Plaintiffs have standing.

¹⁵² To the extent the redressability requirement in a CAA case is only satisfied as to penalties for ongoing violations, not wholly past violations, the Court notes Exxon has some ongoing violations. *See infra* ¶¶ III.9–30 (finding that because Exxon violated some of the same emission standards or limitations both before and after the complaint was filed, those violations are considered ongoing under the CAA and are thus actionable in a citizen suit).

B. Actionability

9. It is undisputed Exxon violated some emission standards or limitations under the CAA.¹⁵³ The issue is whether such violations are actionable under the CAA as a citizen suit. The CAA provides citizens may bring a civil action “against any person . . . who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation of . . . an emission standard or limitation under [the CAA].” 42 U.S.C. § 7604(a)(1). The plaintiff must prove these requirements by a preponderance of the evidence. *Carr v. Alta Verde Indus., Inc.*, 931 F.2d 1055, 1061, 1063–64 (5th Cir. 1991).¹⁵⁴ The plaintiff can prove a person is “in violation,” otherwise known as proving ongoing violation, in one of two ways: first, “by proving violations that continue on or after the date the complaint is filed, or [second] by adducing evidence from which a reasonable trier of fact could find a continuing likelihood of recurrence in intermittent or sporadic violations.” *Id.* at 1062. Proof of one post-complaint violation is conclusive that the corresponding pre-complaint violation is actionable.

¹⁵³ Specifically, Exxon does not dispute that the alleged violations under Counts II, III, IV, and V of Plaintiffs’ complaint constitute violations of an emission standard or limitation. However, Exxon does dispute that the alleged violations under Counts I, VI, and VII constitute violations of an emission standard or limitation.

¹⁵⁴ *Carr* is a Clean Water Act (“CWA”) case. The “to be in violation” provision in the CAA is identical to the “to be in violation” provision in the CWA. *Compare* 42 U.S.C. § 7604(a) (CAA), *with* 33 U.S.C. § 1365(a)(1) (CWA). Interpretations of the CWA provision are instructive when analyzing the CAA provision. *See United States v. Anthony Dell’Aquila, Enters. & Subsidiaries*, 150 F.3d 329, 338 n.9 (3d Cir. 1998).

Id. at 1065 n.12; *Natural Res. Def. Council, Inc. v. Texaco Ref. & Mktg., Inc.*, 2 F.3d 493, 502 (3d Cir. 1993). The plaintiff can prove “a continuing likelihood of recurrence” in one of two ways: “[f]irst, by proving a likelihood of recurring violations of the same parameter; or second, by proving a likelihood that the same inadequately corrected source of trouble will cause recurring violations of one or more different parameters.” *Texaco Ref.*, 2 F.3d at 499. In summary, the plaintiff must prove by the preponderance of the evidence one of the following in a CAA citizen suit:

(1) “to have violated”: repeated violation of the same emission standard or limitation before the complaint was filed; or

(2) “to be in violation”:

(a) violation of the same emission standard or limitation both before and after the complaint was filed; or

(b) continuing likelihood of recurrence:

(i) likelihood of recurring violations of the same parameter; or

(ii) likelihood that the same inadequately corrected source of trouble will cause recurring violations of one or more different parameters.

See 42 U.S.C. § 7604(a)(1); *Carr*, 931 F.2d at 1062; *Texaco Ref.*, 2 F.3d at 499; *see also Env’t Tex. Citizen Lobby, Inc. v. ExxonMobil Corp.*, No. H-10-4969, ECF

No. 126 at 10–13 (S.D. Tex. Apr. 3, 2013) (Smith, Mag.) (memorandum and recommendation on motion for summary judgment in this case), *adopted by* ECF No. 135 (S.D. Tex. May 2, 2013) (Hittner, J.) (order adopting the memorandum and recommendation). The definition of “emission standard or limitation” includes any “standard,” “limitation,” “schedule,” “term,” or “condition” in a Title V permit. 42 U.S.C. § 7604(f)(4).

10. Here, Plaintiffs claim Exxon either (1) repeatedly violated the same emission standards or limitations in its Title V permits before the complaint was filed, or (2)(a) violated the same emission standards or limitations in its Title V permits both before and after the complaint was filed. Plaintiffs do not claim satisfaction of the third method of proving actionability: method (2)(b) continuing likelihood of recurrence.¹⁵⁵

¹⁵⁵ Because Plaintiffs do not claim a continuing likelihood of recurrence for purposes of actionability, the Court declines to address in detail this method of proving actionability. However, the Court does find that the preponderance of the credible evidence does not support such a finding. The number of Events and Deviations does not alone prove a likelihood of recurring violations. *See supra* ¶ II.7; *infra* ¶¶ III.36–37, 42. The testimony of Keith Bowers, particularly his opinion that the Events and Deviations had “common causes,” is not persuasive to prove the same inadequately corrected source of trouble will cause recurring violations of different parameters. *See infra* ¶ III.37 n.224. There is no credible evidence that any of the Events or Deviations resulted from the same root cause. *Infra* ¶ III.37. Accordingly, none of the Events or Deviations are actionable due to a continuing likelihood of recurrence.

Exxon contends that to be actionable, the law requires the violations to have involved the same equipment, the same emissions point, and the same root cause. Such considerations may be applicable to one way to prove actionability: method (2)(b) continuing likelihood of recurrence, particularly method (2)(b)(ii) likelihood that the

11. Title V permits incorporate numerous, different regulatory requirements, and the Complex is regulated by over 120,000 permit conditions.¹⁵⁶ Plaintiffs must prove Exxon repeatedly violated *an* emission standard or limitation, which includes a standard, limitation, schedule, term, or condition *in* one of Exxon's Title V permits. *See* 42 U.S.C. § 7604(a)(1), (f)(4). Thus, it is insufficient to prove violation of one standard or limitation followed by violation of a different standard or limitation. *ExxonMobil Corp.*, ECF No. 126 at 13 (holding that the CAA allows citizen suits for a wholly past violation so long as there is a second violation of the *same* emission standard or limitation) (citing *Patton v. Gen. Signal Corp.*, 984 F. Supp. 666, 672 (W.D.N.Y. 1997)) (citing *Satterfield v. J.M. Huber Corp.*, 888 F. Supp. 1561, 1564–65 (N.D. Ga. 1994)). Similarly, it is insufficient to prove repeated violation a Title V permit, without showing which specific standard, limitation, schedule, term, or condition in the Title V permit was repeatedly violated.

same inadequately corrected source of trouble will cause recurring violations of one or more different parameters. However, such considerations are not required to prove actionability the other two ways: method (1) repeated violation of the same emission standard or limitation pre-complaint, or method (2)(a) violation of the same emission standard or limitation both before and after the complaint. For additional background on why violations are not required to have involved the same equipment, the same emissions point, and the same root cause to be actionable, see *ExxonMobil Corp.*, ECF No. 126 at 11–13.

¹⁵⁶ *Supra* ¶ II.4.

12. As evidentiary support for the actionability of the alleged violations in each count of their complaint, Plaintiffs cite to the stipulated spreadsheets of Events and Deviations;¹⁵⁷ spreadsheets created by Plaintiffs that correspond to the stipulated spreadsheets, the only difference being a column added containing Plaintiffs’ “number of days of violation” calculations;¹⁵⁸ and tables that tally the alleged number of days of pre-complaint and post-complaint violations from the aforementioned spreadsheets.¹⁵⁹ Each count of Plaintiffs’ complaint is addressed in turn.

a. Count I

13. Count I alleges Exxon violated the provision of the Complex’s Title V permit that prohibits emissions from upset events. Exxon disputes that these events constitute violations of an emissions standard or limitation. As to specific standards or limitations violated, Plaintiffs’ contentions have been inconsistent. In Plaintiffs’ original post-trial submission to the Court, they contend “violations of general conditions 8 and 15, and special conditions 38 and 39 (formerly 60 and 61)

¹⁵⁷ *Plaintiffs’ Exhibits* 1A–7E; *see supra* ¶ II.5. These stipulated spreadsheets span hundreds of pages and contain thousands of rows of alleged violations. The Court has reviewed the details of all these spreadsheets.

¹⁵⁸ *Plaintiffs’ Exhibits* 587–603. Exxon contends Plaintiffs’ method of calculating the number of days of violation is legally incorrect. Reference in this Order to Plaintiffs’ calculation of the number of days of violation does not indicate the Court agrees on the accuracy of Plaintiffs’ calculations.

¹⁵⁹ *Plaintiffs’ Exhibits* 9–15.

in permit 18287/PSD-TX-730M4 for emissions of” various air contaminants.¹⁶⁰ However, in Plaintiffs’ revised post-trial submission to the Court, they added a contention of violation of “Title V permit O1229” and removed contention of violation of conditions 8 and 15.¹⁶¹ In further conflict, Plaintiffs’ Exhibit 9 contends violation of “general condition 8” (not 15), “special condition 1” (not 38 or 39), and “MAERT limits.”¹⁶² Thus, it is unclear exactly which standards or limitations Plaintiffs contend were violated under Count I.¹⁶³

14. The evidentiary support cited to by Plaintiffs for Count I is Plaintiffs’ Exhibits 1A and IB (stipulated spreadsheets), 587 and 588 (Plaintiffs’ corresponding spreadsheets), and 9 (tallied table). Violation of the aforementioned conditions is not corroborated by these spreadsheets. These spreadsheets reference permit 18287, but the spreadsheets do not appear to reference any specific *conditions* of permit 18287 or any other permit, such as general conditions 8 or 15,

¹⁶⁰ *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 117 (capitalization omitted).

¹⁶¹ *Plaintiffs’ Revised Proposed Findings of Fact and Conclusions of Law* at 58 (capitalization omitted).

¹⁶² *Plaintiffs’ Exhibit 9* at 1 (capitalization omitted).

¹⁶³ Although unclear, Plaintiffs appear to be combining a condition incorporated into a flexible permit that does not authorize upset emissions with conditions incorporated into the same flexible permit that limit separate air contaminants. Plaintiffs have not met their burden to prove how any such combination is actionable.

or special conditions 38 and 39.¹⁶⁴ Thus, although the spreadsheets corroborate certain emissions were “not specifically authorized” or perhaps were not authorized by permit 18287, the spreadsheets do not corroborate violation of the specific conditions enumerated under Count I. Repeated violation of permit 18287 does not suffice without showing which conditions of permit 18287 were violated. Further, Plaintiffs have not provided any other persuasive evidence that the emissions listed in the spreadsheets violate the Title V permit conditions enumerated under Count I.

15. Plaintiffs do not contend every upset event is actionable because the condition that does not authorize upset emissions was repeatedly violated. Therefore, the Court need not address whether the sole fact that there are allegedly multiple upset events makes those upset events actionable under the CAA or whether the condition referencing upset emissions constitutes a standard or limitation under the CAA. Rather, Plaintiffs base the actionability of upset events under Count I on alleged repetition of violations of conditions or limitations that apply to separate air contaminants.¹⁶⁵ Specifically, under Count I, Plaintiffs claim “each regulated air contaminant is counted separately for purposes of repeated

¹⁶⁴ See *Plaintiffs’ Exhibits* 1A–1B, 587–88.

¹⁶⁵ See *Plaintiffs’ Exhibit* 9.

violations,” and their tallied table is divided by air contaminant.¹⁶⁶ Therefore, the Court will address whether violations of conditions that apply to separate air contaminants, particularly hourly limits, are actionable under Count I.¹⁶⁷

16. As explained *supra*, Plaintiffs must prove repetition of the *same, specific* limitation. The spreadsheets have a column labeled “reported emission limit/permit limit” in pounds per hour.¹⁶⁸ Plaintiffs separate each air contaminant in their analysis. For example, Plaintiffs claim carbon monoxide limits were violated 1,286 days pre-complaint and 454 days post-complaint and thus such violations are actionable.¹⁶⁹ However, different releases of carbon monoxide counted by Plaintiffs as at least one day of violation have different limits listed on the spreadsheets.¹⁷⁰ For example, the carbon monoxide limit for the Reportable Event starting on October 20, 2006, was 4,199.43 pounds per hour; but the carbon monoxide limit for the Reportable Event starting on November 3, 2006, was

¹⁶⁶ *Plaintiffs’ Exhibit 9*.

¹⁶⁷ Under Count I, when computing days of violations, Plaintiffs considered every hourly emission limit to be zero because they claim no emissions from upset events are authorized. Nevertheless, the Court considers the hourly emissions limits of each contaminant due to Plaintiffs’ approach to proving repeated violations under Count I contaminant-by-contaminant. The Court also notes that Plaintiffs recognize violations under Count I overlap to an extent with hourly emission limit violations under Count II.

¹⁶⁸ *Plaintiffs’ Exhibits 1A–1B, 587–88* (capitalization omitted).

¹⁶⁹ *Plaintiffs’ Exhibit 9* at 2.

¹⁷⁰ *See Plaintiffs’ Exhibits 1A–1B, 587–88*.

3,804.09 pounds per hour; while the carbon monoxide limit for the Reportable Event starting on June 25, 2009, was 3,736.48 pounds per hour.¹⁷¹ Therefore, although the spreadsheets corroborate carbon monoxide limits were repeatedly violated, the spreadsheets show *different* carbon monoxide limits were violated. Because Plaintiffs categorized different limits together, they have not met their burden to prove repetition of any of the *same, specific* limitations.

17. For all of these reasons, Plaintiffs have not met their burden to prove either repeated violation pre-complaint or violation both before and after the complaint of the same emission standard or limitation under Count I.

b. Count II

18. Count II alleges Exxon violated hourly emission limits. Count II is similar to Count I, except Count II is divided by different permits. The Court will consider each permit in turn.

¹⁷¹ Compare Plaintiffs' Exhibits 1A at row 133, and 587 at row 133; with 1A at row 158, and 587 at row 158; with 1A at row 544, and 587 at row 544. Plaintiffs counted each of these events as at least one day of violation.

As another example, Plaintiffs claim hydrogen sulfide limits were violated 1,068 days pre-complaint and 313 days post-complaint and thus such violations are actionable. Plaintiffs' Exhibit 9 at 2. However, the hydrogen sulfide limit for the Recordable Event starting on October 23, 2005, was 15.78 pounds per hour; but the hydrogen sulfide limit for the Recordable Event starting on November 3, 2006, was 0 pounds per hour. Compare Plaintiffs' Exhibits 1B at row 69, and 588 at row 69; with 1B at row 154, and 588 at row 154. Plaintiffs counted each of these events as at least one day of violation.

i. Refinery Flexible Permit 18287

19. Under Count II/Refinery Flexible Permit 18287, Plaintiffs allege “violations of general conditions 8 and 15, special condition 1, and MAERT limits in permit 18287/PSD-TX-730M4 for emissions of” various air contaminants.¹⁷² The evidentiary support cited to is Plaintiffs’ Exhibits 2A and 2B (stipulated spreadsheets), 589 and 590 (Plaintiffs’ corresponding spreadsheets), and 10 (tallied table). As in Count I, violation of the aforementioned conditions is not corroborated by these spreadsheets. These spreadsheets reference permit 18287, but the spreadsheets do not appear to reference any specific *conditions* of permit 18287.¹⁷³ Thus, although the spreadsheets corroborate certain emissions were “not specifically authorized” or perhaps were not authorized by permit 18287, the spreadsheets do not corroborate violation of the specific conditions enumerated under this Count. Further, Plaintiffs have not provided any other persuasive evidence that the emissions listed in the spreadsheets violate the Title V permit conditions enumerated under this Count.

20. Also as in Count I, Plaintiffs claim “each regulated air contaminant . . . is counted separately for purposes of repeated violations,” and

¹⁷² *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 124 (capitalization omitted); *see also Plaintiffs’ Exhibit 10* at 2.

¹⁷³ *Plaintiffs’ Exhibits 2A–2B, 589–90.*

their tallied table is divided by air contaminant.¹⁷⁴ For example, Plaintiffs claim opacity limits were violated 28 days pre-complaint and 7 days post-complaint and thus such violations are actionable.¹⁷⁵ However, different releases of opacity counted by Plaintiffs as at least one day of violation have different limits listed on the spreadsheets.¹⁷⁶ For example, the opacity limit for the Reportable Event starting on September 28, 2008, was 0%; but the opacity limit for the Reportable Event starting on October 3, 2011, was 30%.¹⁷⁷ Therefore, although the spreadsheets corroborate opacity limits were repeatedly violated, the spreadsheets show *different* opacity limits were violated. Because Plaintiffs categorized

¹⁷⁴ *Plaintiffs' Exhibit 10* at 2–3.

¹⁷⁵ *Plaintiffs' Exhibit 10* at 2.

¹⁷⁶ *See Plaintiffs' Exhibits 2A–2B*, 589–90.

¹⁷⁷ *Compare Plaintiffs' Exhibits 2A* at row 405, *and 589* at row 405; *with 2A* at row 697, *and 589* at row 697. Plaintiffs counted each of these events as at least one day of violation.

As another example, Plaintiffs claim carbon monoxide limits were violated 677 days pre-complaint and 256 days post-complaint and thus such violations are actionable. *Plaintiffs' Exhibit 10* at 2. However, the carbon monoxide limit for the Recordable Event starting on June 9, 2011, was 3,736.48 pounds per hour; but the carbon monoxide limit for the Recordable Event starting on June 29, 2011, was 0 pounds per hour. *Compare Plaintiffs' Exhibits 2B* at row 8712, *and 590* at row 8714; *with 2B* at row 8817, *and 590* at row 8819. Plaintiffs counted each of these events as at least one day of violation.

different limits together under this Count, they have not met their burden to prove repetition of any of the *same, specific* limitations under this Count.¹⁷⁸

21. For these reasons, Plaintiffs have not met their burden to prove either repeated violation pre-complaint or violation both before and after the complaint of the same emission standard or limitation under Count II/Refinery Flexible Permit 18287.

ii. Olefins Plant Flexible Permit 3452

22. Under Count II/Olefins Plant Flexible Permit 3452, Plaintiffs allege “violations of general conditions 8, special condition 1, and MAERT limits in permit 3452/PSD-TX-302M2 for emissions of” various air contaminants.¹⁷⁹ The evidentiary support cited to is Plaintiffs’ Exhibits 2C and 2D (stipulated spreadsheets), 591 and 592 (Plaintiffs’ corresponding spreadsheets), and 10 (tallied table). As in the previous counts, violation of the aforementioned conditions is not corroborated by these spreadsheets. These spreadsheets reference permit 3452, but the spreadsheets do not appear to reference any specific *conditions* of permit 3452.¹⁸⁰ Repeated violation of permit 3452 does not suffice without showing

¹⁷⁸ The fact that the permit is a flexible permit does not change the Court’s analysis because Plaintiffs must prove repeated violation of a specific condition or limitation of a Title V permit, not repeated violation of a Title V permit.

¹⁷⁹ *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 127 (capitalization omitted); *see also Plaintiffs’ Exhibit 10* at 3.

¹⁸⁰ *Plaintiffs’ Exhibits 2C–2D, 591–92.*

which conditions of permit 3452 were violated. Further, Plaintiffs have not provided any other persuasive evidence that the emissions listed in the spreadsheets violate the Title V permit conditions enumerated under this Count.

23. Also as in the previous counts, Plaintiffs claim “each regulated air contaminant . . . is counted separately for purposes of repeated violations,” and their tallied table is divided by air contaminant.¹⁸¹ For example, Plaintiffs claim NO_x limits were violated 297 days pre-complaint and 59 days post-complaint and thus such violations are actionable.¹⁸² However, different releases of NO_x counted by Plaintiffs as at least one day of violation have different limits listed on the spreadsheets.¹⁸³ For example, the NO_x limit for the Reportable Event starting on July 28, 2006, was 10 pounds per hour; but the NO_x limit for the Reportable Event starting on June 3, 2007, was 0 pounds per hour.¹⁸⁴ Therefore, although the

¹⁸¹ *Plaintiffs’ Exhibit 10* at 2–3.

¹⁸² *Plaintiffs’ Exhibit 10* at 2.

¹⁸³ *See Plaintiffs’ Exhibits 2C–2D*, 591–92.

¹⁸⁴ *Compare Plaintiffs’ Exhibits 2C* at row 51, *and 591* at row 51; *with 2C* at row 81, *and 591* at row 81. Plaintiffs counted each of these events as at least one day of violation.

As another example, Plaintiffs claim carbon monoxide limits were violated 538 days pre-complaint and 260 days post-complaint and thus such violations are actionable. *Plaintiffs’ Exhibit 10* at 2. However, the carbon monoxide limit for the Recordable Event starting on October 31, 2005, was 6627.58 pounds per hour; but the carbon monoxide limit for the Recordable Event starting on January 6, 2006, was 0 pounds per hour. *Compare Plaintiffs’ Exhibits 2D* at row 13, *and 592* at row 13; *with 2D* at row 22, *and 592* at row 22. Plaintiffs counted each of these events as at least one day of violation.

spreadsheets corroborate NO_x limits were repeatedly violated, the spreadsheets show *different* NO_x limits were violated. Because Plaintiffs categorized different limits together under this Count, they have not met their burden to prove repetition of any of the *same, specific* limitations under this Count.¹⁸⁵

24. For these reasons, Plaintiffs have not met their burden to prove either repeated violation pre-complaint or violation both before and after the complaint of the same emission standard or limitation under Count II/Olefins Plant Flexible Permit 3452.

iii. Chemical Plant Permits: 4600 (Flare Stack 23), 5259 (Furnaces), 20211 (Flare Stack 12, Butyl Units, Aromatics Units), 36476 (Flare 28, Syngas Fugitives), and No Permit Authorization

25. Under Count II/Chemical Plant Permits, Plaintiffs allege violations of different chemical plant permits for various emissions sources, as well as violations with no permit authorization. The evidentiary support cited to is Plaintiffs' Exhibits 2E and 2F (stipulated spreadsheets), 593 and 594 (Plaintiffs' corresponding spreadsheets), and 10 (tallied tables). As in the previous counts, Plaintiffs claim "each regulated air contaminant . . . is counted separately for purposes of repeated violations," and their tallied table is divided by air

¹⁸⁵ The fact that the permit is a flexible permit does not change the Court's analysis because Plaintiffs must prove repeated violation of a specific condition or limitation of a Title V permit, not repeated violation of a Title V permit.

contaminant.¹⁸⁶ Unlike in the previous counts, repeated violation of some of the same, specific hourly emission limitations is corroborated by the spreadsheets. The corroborated violations are the ones for which the spreadsheets contain the same emission limits for events in a category and contain other information identifying the specific limitation referenced by Plaintiffs. These corroborated violations are listed in the appendix of this Order. For example, under chemical plant permit 20211 (flare stack 12), Plaintiffs claim NO_x limits were violated 1 day pre-complaint and 2 days post-complaint and thus such violations are actionable.¹⁸⁷ These 3 different releases of NO_x each have the same limit listed on the spreadsheets: the NO_x limit for the Reportable Events starting on August 10, 2010, March 24, 2011, and April 1, 2011, were each 13.15 pounds per hour.¹⁸⁸ In addition, the spreadsheets corroborate the involvement of permit 20211 and the emission point flare stack 12 for all 3 Reportable Events.¹⁸⁹ Because there are at least one corroborated violation of the 13.15 pounds per hour NO_x limit for flare stack 12 under permit 20211 both before and after the complaint was filed, those

¹⁸⁶ *Plaintiffs' Exhibit 10* at 2–6.

¹⁸⁷ *Plaintiffs' Exhibit 10* at 4.

¹⁸⁸ *Compare Plaintiffs' Exhibits 2E* at row 181, *and 593* at row 181; *with 2E* at row 189, *and 593* at row 189; *with 2E* at row 194, *and 593* at row 194. Plaintiffs counted each of these events as at least one day of violation.

¹⁸⁹ *Compare Plaintiffs' Exhibits 2E* at row 181, *and 593* at row 181; *with 2E* at row 189, *and 593* at row 189; *with 2E* at row 194, *and 593* at row 194.

NO_x violations are actionable. For each similar corroborated violation in the various categories, there are either (1) at least two corroborated violations of the same, specific emissions limitation that occurred before the complaint was filed, or (2)(a) at least one corroborated violation of a specific emissions limitation both before and after the complaint was filed. Therefore, the corroborated violations are actionable. The uncorroborated Events and Deviations are the ones for which the spreadsheets do not contain the same emission limit for each event in a category or do not contain other information identifying the specific limitation referenced by Plaintiffs, and thus Plaintiffs have not met their burden to prove the uncorroborated Events and Deviations are actionable.¹⁹⁰ Accordingly, Plaintiffs have met their burden to prove some—but not all—of the alleged hourly emission limitation violations under Count II/Chemical Plant Permits are actionable.¹⁹¹

¹⁹⁰ For example, under chemical plant permit 36476 (flare stack 28), Plaintiffs claim hydrogen cyanide limits were violated 3 days and thus such violations are actionable. *Plaintiffs' Exhibit* 10 at 5. However, the hydrogen cyanide limit for the Recordable Event starting on December 23, 2009, was 3.31 pounds per hour; but the hydrogen cyanide limit for the Recordable Event starting on September 1, 2012, was 0.10 pounds per hour, even though the spreadsheets corroborate that both events involved permit 36476 and flare stack 28. *Compare Plaintiffs' Exhibits* 2E at row 159, and 593 at row 159; with 2E at row 205, and 593 at row 205. Plaintiffs counted each of these events as at least one day of violation.

¹⁹¹ The actionable violations are listed in the appendix to this Order.

c. Count III

26. Under Count III, Plaintiffs allege violations of the rule that limits plant-wide emissions of highly reactive volatile organic compounds to no more than 1,200 pounds per hour (the “HRVOC Rule”).¹⁹² The evidentiary support cited to is Plaintiffs’ Exhibits 3 (stipulated spreadsheet), 595 (Plaintiffs’ corresponding spreadsheet), and 11 (tallied table). Plaintiffs divided this count by plant for the purpose of proving repeated violations.¹⁹³ Violation of this rule is corroborated by these spreadsheets for some of the Events and Deviations counted by Plaintiffs as at least one day of violation. The corroborated violations are the ones for which the spreadsheets contain explicit verbiage that the HRVOC rule was violated, and they are listed in the appendix of this Order. For example, for the Event or Deviation starting June 25, 2007, the spreadsheets report, “[e]xceeded . . . HRVOC hourly limit for 2 hours.”¹⁹⁴ For each plant, there are either (1) at least two corroborated violations of the HRVOC rule that occurred before the complaint was filed, or (2)(a) at least one corroborated violation of the HRVOC rule both before and after the complaint was filed. Therefore, the corroborated violations are actionable. The uncorroborated violations are the ones for which the spreadsheets

¹⁹² *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 100.

¹⁹³ *Plaintiffs’ Exhibit 11*. Only violations at the olefins and chemical plant are listed; no violations at the refinery are listed.

¹⁹⁴ *Plaintiffs’ Exhibits 3* at row 5, 595 at row 5.

do not contain reference to violation of the HRVOC Rule, and Plaintiffs have not met their burden to prove the uncorroborated violations are actionable.¹⁹⁵ Accordingly, Plaintiffs have met their burden to prove some—but not all—of the alleged violations of the HRVOC Rule under Count III are actionable.¹⁹⁶

d. Count IV

27. Under Count IV, Plaintiffs allege violations of the rule that prohibits visible emission from flares except for periods not to exceed five minutes in two consecutive hours (the “Smoking Flares Rule”).¹⁹⁷ The evidentiary support cited to is Plaintiffs’ Exhibits 4 (stipulated spreadsheet), 596 (Plaintiffs’ corresponding spreadsheet), and 12 (tallied table). Plaintiffs divided this count by plant for the purpose of proving repeated violations.¹⁹⁸ As in Count III, violation of this rule is corroborated by these spreadsheets for some of the Events and Deviations counted by Plaintiffs as at least one day of violation. The corroborated violations are the ones for which the spreadsheets contain an opacity percentage and opacity limit so that opacity exceedance can be verified; and a start time, end time, and duration so that exceedance of five minutes in two hours can be verified. The corroborated

¹⁹⁵ *E.g.*, Plaintiffs’ Exhibits 3 at row 4, 595 at row 4.

¹⁹⁶ The actionable violations are listed in the appendix to this Order.

¹⁹⁷ Plaintiffs’ Proposed Findings of Fact and Conclusions of Law at 101.

¹⁹⁸ Plaintiffs’ Exhibit 12.

violations are listed in the appendix of this Order. For example, the Event or Deviation starting December 10, 2005, lasted 2 hours and 41 minutes, with an opacity of 100% when the limit was 30%.¹⁹⁹ For each plant, there are either (1) at least two corroborated violations of the Smoking Flare Rule that occurred before the complaint was filed, or (2)(a) at least one corroborated violation of the Smoking Flare Rule both before and after the complaint was filed. Therefore, the corroborated violations are actionable. The uncorroborated violations are the ones for which the spreadsheets do not contain an opacity percentage or opacity limit, and Plaintiffs have not met their burden to prove the uncorroborated violations are actionable.²⁰⁰ Accordingly, Plaintiffs have met their burden to prove some—but not all—of the alleged violations of the Smoking Flare Rule under Count IV are actionable.²⁰¹

e. Count V

28. Under Count V, Plaintiffs allege violations of the rule that requires flares to operate with a pilot flame present at all times (the “Pilot Flame Rule”).²⁰² The evidentiary support cited to is Plaintiffs’ Exhibits 5 (stipulated spreadsheet),

¹⁹⁹ *Plaintiffs’ Exhibits 4* at row 21, 596 at row 21.

²⁰⁰ *E.g.*, *Plaintiffs’ Exhibits 4* at row 6, 596 at row 6. An opacity limit of 0% cannot be assumed because varying opacity limits are listed on the spreadsheets.

²⁰¹ The actionable violations are listed in the appendix to this Order.

²⁰² *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 101.

597 (Plaintiffs' corresponding spreadsheet), and 13 (tallied table). Plaintiffs divided this count by plant for the purpose of proving repeated violations.²⁰³ Violation of this rule is corroborated by these spreadsheets for all of the Events and Deviations counted by Plaintiffs as at least one day of violation. The violations are corroborated because the spreadsheets contain verbiage that pilot outages occurred under one of two "cause reported" columns. For example, for the Event or Deviation starting March 25, 2010, the spreadsheets report, "[h]igh winds extinguished flare pilots."²⁰⁴ For each plant, there are either (1) at least two corroborated violations of the Pilot Flame Rule that occurred before the complaint was filed, or (2)(a) at least one corroborated violation of the Pilot Flame Rule both before and after the complaint was filed. Therefore, Plaintiffs have met their burden to prove all of the alleged violations of the Flame Pilot Rule under Count V are actionable.²⁰⁵

f. Count VI

29. Under Count VI, Plaintiffs allege fugitive emissions are actionable. Specifically, Plaintiffs contend violations of permits 18287, 3452, 20211, 28441, 36476, and 9571; general conditions 8 and 14/15; special condition 1; and MAERT

²⁰³ *Plaintiffs' Exhibit 13.*

²⁰⁴ *Plaintiffs' Exhibits 5 at row 17, 597 at row 17.*

²⁰⁵ All the violations listed in Plaintiffs' Exhibit 5 are actionable.

limits for emissions of various air contaminants.²⁰⁶ Exxon disputes that the events under Count VI constitute violations of an emissions standard or limitation. The evidentiary support cited to by Plaintiffs is Plaintiffs' Exhibits 6 (stipulated spreadsheet), 598 (Plaintiffs' corresponding spreadsheet), and 14 (tallied table). As in Count I and parts of Count II, violation of the aforementioned conditions cannot be corroborated by these spreadsheets. The spreadsheets reference the aforementioned permit numbers, such as 18287, in a column entitled "plant (refinery/olefins/chemical);"²⁰⁷ however, listing a permit number associated with plant does not mean that permit was violated. Regardless, the spreadsheets do not appear to reference any specific *conditions* of the permits.²⁰⁸ The spreadsheets list emissions limits, but Plaintiffs claim all emissions limits should be considered zero under this Count, which conflicts with the limits listed on the spreadsheets.²⁰⁹ At most, the spreadsheets corroborate that fugitive emissions of various contaminants occurred; however, the spreadsheets do not corroborate violations of any specific standards or limits of a Title V permit. Further, Plaintiffs have not provided any

²⁰⁶ *Plaintiffs' Proposed Findings of Fact and Conclusions of Law* at 102; *Plaintiffs' Revised Proposed Findings of Fact and Conclusions of Law* at 58–59; *Plaintiffs' Exhibit 14* at 1.

²⁰⁷ *Plaintiffs' Exhibits 6* (capitalization omitted), 598 (capitalization omitted).

²⁰⁸ *See Plaintiffs' Exhibits 6, 598.*

²⁰⁹ *Plaintiffs' Exhibit 598.*

other persuasive evidence that the emissions listed in the spreadsheets violate the Title V permit conditions or limits referenced under this Count. For these reasons, Plaintiffs have not met their burden to prove either repeated violation pre-complaint or violation both before and after the complaint of the same emission standard or limitation under Count VI.²¹⁰

g. Count VII

30. Under Count VII, Plaintiffs allege Exxon’s Deviations are actionable.²¹¹ Exxon disputes that the Deviations under Count VII constitute violations of an emissions standard or limitation. The CAA citizen suit provision requires Exxon “to have violated . . . or to be in violation of . . . an emission standard or limitation.” 42 U.S.C. § 7604(a)(1). However, a deviation is defined as “[a]ny *indication* of noncompliance with a term or condition of the permit” 30 TEX. ADMIN. CODE § 122.10(6) (emphasis added).²¹² “A deviation is not always a violation. . . . Included in the meaning of deviation [is] . . . [a] situation where process or emissions control device parameter values *indicate* that an emission limitation or standard has not been met” 40 C.F.R. § 71.6(a)(3)(iii)(C)

²¹⁰ The Court notes that Plaintiffs recognize violations under Count VI overlap with violations under other counts.

²¹¹ The evidentiary support cited to is Plaintiffs’ Exhibits 7A–7E (stipulated spreadsheets), 599–603 (Plaintiffs’ corresponding spreadsheets), and 15 (tallied tables).

²¹² *See also Trial Transcript* at 10-203:3–13, 10-209:7–14 (discussing how deviations are indications of noncompliance with a permit condition).

(emphasis added). Plaintiffs have not met their burden to show how, in light of these provisions, the Deviations at issue in this case are actual violations and not merely *indications* of noncompliance. Accordingly, Plaintiffs have not met their burden to prove any of the Deviations under Count VII are actionable.

C. Declaratory Judgment

31. Plaintiffs request a “declaratory judgment that Exxon violated its Title V permits and thus the CAA.”²¹³ The Court declines to issue such declaratory judgment because the issue in a citizen suit is not *solely* whether the defendant violated the CAA. Indeed, it is undisputed Exxon violated some emission standards or limitations. Rather, the issue is whether any such violations are actionable under the CAA as a citizen suit. As such, the issue is whether there was repeated violation pre-complaint, violation both before and after the complaint, or a continuing likelihood of recurrence.²¹⁴ The Court has already made these findings.²¹⁵

D. Penalties

32. Having found only a few—but not the vast majority—of the Events and Deviations are actionable under the CAA’s citizen suit provision, the Court

²¹³ *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law* at 405; *Plaintiffs’ Revised Proposed Findings of Fact and Conclusions of Law* at 58.

²¹⁴ *Supra* ¶¶ III.9–12.

²¹⁵ *Supra* ¶¶ III.13–30.

need only address whether Exxon should be penalized for those actionable events. After reviewing the details of those actionable events, the Court finds Exxon should not be penalized for the actionable events. However, even if the Court had found every Event and Deviation in this case is actionable, the Court would still find Exxon should not be penalized. Therefore, the Court will now explain why Exxon should not be penalized even if every Event and Deviation is actionable.

33. “In determining the amount of any penalty to be assessed under” the CAA in a citizen suit, the Court “shall take into consideration (in addition to such other factors as justice may require)” the following penalty assessment factors:

the size of the business,
the economic impact of the penalty on the business,
the violator’s full compliance history and good faith efforts to comply,
the duration of the violation as established by any credible evidence . . . ,
payment by the violator of penalties previously assessed for the same
violation,
the economic benefit of noncompliance, and
the seriousness of the violation.

42 U.S.C. § 7413(e)(1).

34. The Court is not required to assess a penalty for violations. 42 U.S.C. § 7413(e)(2) (“A penalty *may* be assessed for each day of violation.” (emphasis added)); *Luminant Generation Co. v. EPA*, 714 F.3d 841, 852 (5th Cir. 2013) (“[T]he penalty assessment criteria . . . are considered by the courts . . . in determining *whether or not* to assess a civil penalty for violations and, if so, the

amount.” (emphasis added)); *see also* 42 U.S.C. § 7413(e)(1) (“In determining the amount of *any* penalty to be assessed” (emphasis added)); *Envtl. Conservation Org. v. City of Dallas*, 529 F.3d 519, 530 (“[E]ven in the event of a successful citizen suit, the district court is not bound to impose the maximum penalty afforded under the statute.”).²¹⁶ Rather, the amount of any penalty, the analysis of the factors, and the process of weighing the factors are “‘highly discretionary’ with the trial court.” *Sierra Club, Lone Star Chapter v. Cedar Point Oil Co.*, 73 F.3d 546, 576 (5th Cir. 1996) (quoting *Tull v. United States*, 481 U.S. 412, 427 (1987)); *United States ex rel. Adm’r of EPA v. CITGO Petroleum Corp.*, 723 F.3d 547, 551 (5th Cir. 2013). Each of the penalty assessment factors are considered in turn.

a. Size of the Business and Economic Impact of the Penalty on the Business

35. Plaintiffs contend the large size and profitability of Exxon weigh towards imposing a penalty. Specifically, Plaintiffs contend Exxon will only be impacted by a large penalty and has the ability to pay the alleged maximum penalty. Exxon does not dispute these contentions, and the Court agrees given the

²¹⁶ Because the penalty provisions in the CAA are similar to the penalty provisions in the CWA, “CWA cases are instructive in analyzing [penalty] issues arising under the CAA.” *Pound v. Airosol Co.*, 498 F.3d 1089, 1094 n.2 (10th Cir. 2007) (citing *United States v. Anthony Dell’Aquila, Enters. & Subsidiaries*, 150 F.3d 329, 338 n.9 (3d Cir. 1998)).

facts found *supra* in paragraph II.1. Accordingly, both the size and economic impact factors weigh towards assessing a penalty.

b. Violator's Full Compliance History and Good Faith Efforts to Comply

36. Quantitatively, the number of Events and Deviations at issue in this case is high: 241 Reportable Events, 3,735 Recordable Events, and 901 Title V Deviations.²¹⁷ Thus, based on the total number of Events and Deviations alone, Exxon's compliance history appears to be arguably inadequate. However, the Complex is one of the largest and most complex industrial sites in the United States.²¹⁸ Therefore, there are numerous opportunities for noncompliance, and the number of Events and Deviations alone is not the best evidence of compliance history.²¹⁹ In other words, the number of Events and Deviations must be considered with respect to the size of the Complex. For example, in 2012 the refinery averaged one pin hole leak for every 167 linear miles of pipe.²²⁰

37. Moreover, the number of Events and Deviations does not alone mean Exxon did not make a good faith effort to comply. Despite good practices, it is not possible to operate any facility—especially one as complex as the Complex—in a

²¹⁷ *See supra* ¶ II.5.

²¹⁸ *Supra* ¶ II.2.

²¹⁹ *See Trial Transcript* at 10-220:14 to 10-223:16.

²²⁰ *Trial Transcript* at 10-221:24 to 10-222:10.

manner that eliminates all Events and Deviations.²²¹ Based on the facts expounded supra in paragraphs II.12–14, the Court finds Exxon made substantial efforts to improve environmental performance and compliance, including implementing four environmental improvement projects to reduce emissions and employing a vast array of emissions-reduction and emissions-detection equipment. Likely due to Exxon’s substantial efforts, the Complex achieved significant reduction in the number of Reportable Events, the amount of unauthorized emissions of criteria pollutants, and the total amount of emissions over the years at issue in this case.²²² For reasons explained infra in paragraphs III.41–42, the Court is not persuaded by Keith Bowers’s opinion that certain capital improvements or additional spending on maintenance would have prevented the Emissions and Deviations. In addition, the Court does not accept Plaintiffs’ view that the number of events involving a certain type of equipment, a certain unit, or a certain type of issue is alone adequate to support a conclusion that any of the Events or Deviations were preventable.²²³ Rather, as expounded supra in paragraph II.7, a root cause analysis is necessary to

²²¹ *Supra* ¶ II.15. The Court understands impossibility is not a defense to penalties, except as it might apply to the applicable affirmative defense criteria. The Court does not consider the fact that it is not possible to operate the Complex in a manner that eliminates all Events and Deviations as a reason to not impose penalties. Rather, the Court notes this fact only to explain that the number of Events and Deviations does not alone mean Exxon did not make a good faith effort to comply.

²²² *Supra* ¶ II.16.

²²³ *Supra* ¶ II.7.

determine whether the Events and Deviations resulted from a recurring pattern and to determine whether improvements could have been made to prevent recurrence. Plaintiffs did not put forth any credible evidence that any of the Events or Deviations resulted from the same root cause.²²⁴ Therefore, there is no credible evidence that any of the Events or Deviations resulted from a recurring pattern or that improvements could have been made to prevent recurrence. For each of the Reportable Events, Exxon conducted an extensive internal investigation, evaluated the root cause of the event, and implemented appropriate corrective actions to try to prevent recurrence.²²⁵ Similarly, for the Recordable Events and Deviations, Exxon analyzed the records for trends and ways to improve, identified root causes, and implemented corrective actions.²²⁶ Additionally, Exxon's maintenance policies and procedures conform or exceed industry standards and codes.²²⁷ The

²²⁴ In particular, the Court finds Bowers's testimony regarding the Events and Deviations having "common causes" is neither credible nor persuasive. For example, the Events and Deviations that Bowers categorizes as having the same common cause of "power supply failures" include the following: moisture got into the connections of improperly installed lightening arresters, causing them to short out; a squirrel bypassed animal traps, causing some electrical equipment to short circuit; and a hawk dropped a snake on top of Substation One, causing an electrical power disruption. *Defendants' Exhibits* 1020C, 1020I–O; *Trial Transcript* at 10-244:17 to 10-253:17. Categorizing such varied events together does not prove the events had a common cause, resulted from a recurring pattern, or were preventable.

²²⁵ *Supra* ¶¶ II.7–9.

²²⁶ *Supra* ¶ II.7.

²²⁷ *Supra* ¶ II.14.

Court finds the opinion of Dr. Christopher S. Buehler, a chemical engineer, that the Complex ranks at or near the top of petrochemical facility “leaders in maintenance and operation practices” is persuasive and credible.²²⁸ Lastly, the Court finds the opinions of John Sadlier, the former Deputy Director of the Office of Compliance and Enforcement at the TCEQ who dealt with Exxon for 20 years while working at the TCEQ, persuasive and credible when he opined that he “always felt and continue[s] to feel today that Exxon had always made a concerted effort to comply[,] that their dealings with [the TCEQ] were straightforward frank discussions,” that Exxon is “[a]bsolutely not” a “bad actor,” and that he has no reason to not believe Exxon “will earnestly try to achieve the goals” in the Agreed Order of reducing emissions.²²⁹ After evaluating all the evidence, the Court finds the preponderance of the credible evidence shows Exxon made good faith efforts to comply with the CAA.²³⁰ Accordingly, Exxon’s full compliance history and good faith efforts to comply weigh against assessing a penalty.

²²⁸ *Trial Transcript* at 12-16:10–20.

²²⁹ *Defendants’ Exhibit* 546 at 14–15, ¶¶ 40–44.

²³⁰ In addition to the aforementioned issues, Plaintiffs contend Exxon’s policy of always asserting the affirmative defense to penalties to the TCEQ is, in itself, bad faith. Based on the greater weight of the credible evidence, the Court disagrees such policy is in bad faith. Although Exxon initially asserts the affirmative defense when reporting an event to the TCEQ, the TCEQ, after investigation, determines whether the affirmative defense actually does apply.

c. Duration of the Violation

38. Plaintiffs claim the duration of the violations warrants the total maximum penalty because—in total—the number of hours and days of violation are high. In so claiming, Plaintiffs made no effort to differentiate the duration of each of the different Events and Deviations. The total maximum penalty requested by Plaintiffs is the sum of the maximum penalty for *each* day of violation.²³¹ **Thus, Plaintiffs ask the Court to assess the maximum penalty allowed by law for each Event and Deviation, regardless of duration.** Such an approach is inappropriate in this case because the duration of each of the Events and Deviations differs tremendously.²³² For example, of the 3,735 Recordable Events, 43% were 1/2 an hour or less in duration, 55% were 1 hour or less in duration, 62% were 2 hours or less in duration, 73% were 5 hours or less in duration, 82% were 12 hours or less in duration, and 89% were 24 hours or less in duration.²³³ Some of the Events and Deviations lasted less than a minute.²³⁴ Thus, Plaintiffs request the Court assess the maximum penalty for Events and Deviations that lasted less than a minute. Because of the tremendous variance in durations, with some being long

²³¹ See 42 U.S.C. § 7413(e)(2); 40 C.F.R. § 19.4; *Plaintiffs' Revised Proposed Findings of Fact and Conclusions of Law* at 68–69.

²³² See *Plaintiffs' Exhibits* 1A–7E.

²³³ *Supra* ¶ II.10.

²³⁴ *Supra* ¶ II.10.

and some being short, the Court finds the duration factor weighs neither towards nor against assessing a penalty.

d. Payment by the Violator of Penalties Previously Assessed for the Same Violation

39. Exxon has paid \$1,423,632 in monetary penalties for the Events and Deviations at issue in this case to either the TCEQ or Harris County.²³⁵ Plaintiffs accede this amount should be deducted from the total penalty determined by the Court, and the Court agrees. Accordingly, \$1,423,632 will be deducted from any penalty otherwise warranted.

e. Economic Benefit of Noncompliance

40. Generally, economic benefit of noncompliance is the financial benefit obtained by “delaying capital expenditures and maintenance costs on pollution-control equipment.” *CITGO Petroleum Corp.*, 723 F.3d at 552. “[T]here are two general approaches to calculate economic benefit: (1) the cost of capital, i.e., what it would cost the polluter to obtain the funds necessary to install the equipment necessary to correct the violation; and (2) the actual return on capital, i.e., what the polluter earned on the capital that it declined to divert for installation of the equipment.” *Id.* (internal quotation marks omitted). A district court must make a reasonable estimate of economic benefit of noncompliance. *Id.* at 552–53.

²³⁵ *Supra* ¶ II.8.

41. Plaintiffs claim Exxon's economic benefit of noncompliance is \$657 million as of June 2014. This number is based on Bowers's opinion that the Events and Deviations would not have occurred if (1) if Exxon would have spent \$90 million more annually on maintenance and (2) if Exxon would have installed certain capital equipment (an additional sulfur unit costing \$100 million, an additional sour gas flare costing \$10 million, and two additional compressor stations costing \$50 million each). Plaintiffs offered the testimony of an economist, Jonathan Schefftz, who used Bowers's inputs as to maintenance and capital expenditure costs delayed to calculate present-day economic benefit using the weighted-average cost of capital. The Court finds Schefftz's *method* of calculating economic benefit to be reliable. However, Schefftz made it very clear that he had no opinion as to the reliability of the inputs given to him by Bowers. For reasons explained *infra*, the Court finds Bowers's inputs to be neither reliable, credible, nor persuasive. Therefore, Schefftz's economic benefit of noncompliance figure is equally unreliable.

42. Bowers is a retired refinery and chemical plant engineer. Bowers's opinions and the bases for his opinions were vague and undetailed. Of the \$90 million Bowers opined should have been spent on maintenance, Bowers opined half of the \$90 million needed to be spent to hire 900 new employees to "run[] around inspecting things" and "[j]ust do more" maintenance and "stuff that needs

to be done.”²³⁶ He opined the remainder of the \$90 million needed to be spent on “material.”²³⁷ He said his estimate was a “crude estimate,” and he did not create a detailed budget of the type that he would have created when he was a project manager.²³⁸ Neither Bowers nor any other evidence credibly demonstrated that spending an additional \$90 million on maintenance would have prevented any of the Events or Deviations. Similarly, neither Bowers nor any other evidence credibly demonstrated that any of Bowers’s suggested capital improvements would have prevented any of the Events or Deviations. Instead, the preponderance of the credible evidence shows Bowers’s suggested capital improvements would not help reduce emissions.²³⁹ Moreover, Exxon has spent a substantial amount of money on maintenance, emissions-reduction and emissions-detection equipment, and capital improvement projects in an effort to reduce emissions and unauthorized emissions events.²⁴⁰ This includes four environmental improvement projects costing approximately \$20 million that Exxon was not required to undertake under law,

²³⁶ *Trial Transcript* at 4-181:15 to 4-182:15.

²³⁷ *Trial Transcript* at 4-182:4–7.

²³⁸ *Trial Transcript* at 4-267:6–23.

²³⁹ *Trial Transcript* at 10-56:17 to 10-57:25, 11-56:22 to 11-58:19, 12-26:24 to 12-34:8.

²⁴⁰ *Supra* ¶¶ II.12–14.

and over \$500 million on maintenance and maintenance-related capital projects each year at issue.²⁴¹

43. After carefully considering all of the evidence, the Court determines the most reasonable estimate of Exxon’s economic benefit of noncompliance is \$0. Because Exxon received no economic benefit from not complying, this factor weighs against assessing a penalty.

f. Seriousness

44. The CAA does not define “seriousness” in relation to the penalty assessment factors. *See* 42 U.S.C. § 7413(e)(1). Some circuit courts, not including the Fifth Circuit, have held that “a court may still impose a penalty if it finds there is a risk or potential risk of environmental harm” even if there is “a lack of evidence on the record linking [a defendant’s] CAA violations to discrete damage to either the environment or the public.” *Pound v. Airosol Co.*, 498 F.3d 1089, 1099 (10th Cir. 2007) (citing *Pub. Interest Research Grp. of N.J., Inc. v. Powell Duffryn Terminals Inc.*, 913 F.2d 64, 79 (3d Cir. 1990)).²⁴²

45. Plaintiffs have made no effort to differentiate the degree of seriousness for the different Events and Deviations. **Rather, Plaintiffs ask the Court to assess the maximum penalty allowed by law for each Event and**

²⁴¹ *Supra* ¶¶ II.12–14.

²⁴² The Fifth Circuit has not opined on this issue.

Deviation, regardless of degree of seriousness. Such an approach is inappropriate in this case because each of the Events and Deviations differ tremendously. For example, some of the Recordable Events emitted as little as 0.02 pounds of emissions, while some of the Recordable Events emitted over 500 pounds of emissions.²⁴³

46. Generally, reportable emissions events are more serious and more potentially harmful to human health than recordable emissions events.²⁴⁴ Reportable emissions events release greater than a threshold quantity of pollutants, while recordable emissions events release less than the threshold quantity.²⁴⁵ At issue are 241 Reportable Events and 3,735 Recordable Events.²⁴⁶ Thus, generally, there are many more less-serious events at issue than more-serious events. As to the Recordable Events, when considering the amount of emissions as a factor in determining seriousness, the majority of Recordable Events were less serious because they emitted lower quantities of emissions, while a small, minority of Recordable Events were more serious because they emitted higher quantities of

²⁴³ *Supra* ¶ II.10.

²⁴⁴ *Supra* ¶ II.10.

²⁴⁵ *See supra* ¶ II.5.

²⁴⁶ *Supra* ¶ II.5.

emissions.²⁴⁷ One example of a less-serious Recordable Event involved very brief smoke that emanated from a power receptacle due to an electrical issue when an extension cord was plugged in.²⁴⁸ Another example involved a small, one-minute fire in a cigarette butt can.²⁴⁹ As to the 901 Deviations, 45% involved no emissions whatsoever and thus, when considering the amount of emissions as a factor, were not serious at all.²⁵⁰ Emissions from Deviations involving emissions are either not at issue in this case or addressed in the Court's findings related to Reportable Events or Recordable Events.²⁵¹ Therefore, considering the amount of emissions as a factor, there are many more Events and Deviations that were not serious or less serious than were more serious.

47. Plaintiffs claim the Events and Deviations were serious because they adversely affected public health. To support this claim, Plaintiffs submitted

²⁴⁷ See *supra* ¶ II.10 (“58% [of Recordable Events] had total emissions of 20 pounds or less, 80% had total emissions of 100 pounds or less, 87% had total emissions of 200 pounds or less, and 93% had total emissions of 500 pounds or less.”).

One of Plaintiffs' experts, Ranajit Sahu, opined the actual quantities of emissions from Exxon's flares are often greater than the quantity Exxon reports to the TCEQ. The Court was not persuaded by this opinion and finds it is against the preponderance of the credible evidence.

²⁴⁸ *Supra* ¶ II.10.

²⁴⁹ *Supra* ¶ II.10.

²⁵⁰ *Supra* ¶ II.11.

²⁵¹ *Supra* ¶ II.11.

evidence of the potential health effects caused by the types of pollutants emitted during the Events and Deviations. For example, hydrogen sulfide, which smells like rotten eggs or feces, can cause sore throat, cough, fatigue, headaches, nausea, and poor memory at low concentrations.²⁵² Factors affecting potential risk of harm from pollutants include duration of exposure and concentration of pollutants.²⁵³ As discussed *supra*, the Events and Deviations differ tremendously in terms of duration and amount. Plaintiffs' aforementioned evidence of the potential health effects caused by the types of pollutants emitted does not include credible evidence that any of the specific Events and Deviations were of a duration and concentration to—even potentially—adversely affect human health or the environment.²⁵⁴ Although Plaintiffs' evidence of potential health effects provides some support of a

²⁵² *Plaintiffs' Exhibit* 476 at 38–39; *Plaintiffs' Exhibit* 540 at 1, 4, 10; *Trial Transcript* at 7-89:25 to 7-91:9, 9-161:24 to 9-162:8.

²⁵³ *See e.g.*, *Plaintiffs' Exhibit* 539 at 25, 27–29; *Plaintiffs' Exhibit* 476 at 50–51; *Trial Transcript* at 7-90:11–16, 7-91:10 to 7-92:9.

²⁵⁴ Plaintiffs' claim Exxon's own air dispersion modeling and stationary air monitor data showed that, in some instances, the predicted off-site concentrations of pollutants exceeded safety thresholds, such as Effects Screening Levels, National Ambient Air Quality Standards, or other air comparison values. However, there is conflicting evidence on this point, including conflicting evidence on the import of any such exceedances. The Court finds the greater weight of the credible evidence does not support a finding that any of the Events and Deviations actually or potentially adversely affected human health or the environment (under a penalty analysis) based on air dispersion modeling or stationary air monitor data.

potential risk of harm to human health, this evidence in this case is too tenuous and general to rise above mere speculation.

48. Plaintiffs also claim the Events and Deviations were serious because they created “nuisance-type impacts” to the community that interfered with daily life.²⁵⁵ Four Plaintiffs’ members experienced impacts to their life while living or visiting near the Complex, including pungent odors, allergies, respiratory problems, disruptive noise from flaring, concerns for their health after seeing haze believed to be harmful, and fears of explosion after seeing flares.²⁵⁶ However, these impacts could have been caused by Exxon’s *authorized* emissions or *other* companies’ emissions, because certain emissions and flares are authorized by permit and the nearby area in which the Complex operates is populated with numerous other refineries, petrochemical plants, and industrial facilities.²⁵⁷ Indeed, unauthorized emissions were a very small percentage of total emissions at the Complex for each year at issue.²⁵⁸ Plaintiffs’ members were only able to correlate some of the impacts, such as odor and noise, to five Events or Deviations

²⁵⁵ *Plaintiffs’ Revised Proposed Findings of Facts and Conclusions of Law* at 68, ¶ 78.

²⁵⁶ *Supra* ¶¶ II.19–22.

²⁵⁷ *Supra* ¶ II.3; *see supra* ¶¶ I.19, 21–22 (finding Plaintiffs’ members understood some emissions and flaring is authorized by permit).

²⁵⁸ *Supra* ¶ II.17.

at issue in this case.²⁵⁹ Moreover, Plaintiffs' members' testimonies regarding impacts were controverted by persuasive testimony from three other residents of the community who have lived very close to the Complex for many years.²⁶⁰ These residents testified the Complex has not impacted their lives, including that they have had no health problems they attribute to the Complex and that they have not experienced any problems with flaring, odors, noises, or emissions coming from the Complex.²⁶¹ For all these reasons, the proposition that the Events or Deviations were serious because they created nuisance-type impacts on the

²⁵⁹ *Supra* ¶¶ II.19–22 (Dominguez-0, Kingman-0, Cottar-3, and Sprayberry-2). The Court notes this lack of a correlation, except for five Events or Deviations, only to help explain why Plaintiffs' proposition that the Events or Deviations were serious because they created nuisance-type impacts on the surrounding community, or adversely affected public health, is largely unsubstantiated. In doing so, the Court does not hold such link is required for a finding that the Events and Deviations were serious under a penalty analysis.

In addition to Plaintiffs' members' testimonies, Plaintiffs claim in their post-trial submission that “[m]any times, Exxon personnel have noted on the complaint log that the date and time of a citizen complaint corresponds to the date and time of an emission event occurring at the Complex.” *Plaintiffs' Proposed Findings of Fact of Fact and Conclusions of Law*, ¶ 969. The only support Plaintiffs cited to in their post-trial submission for this proposition are complaints logged on the complaint log on 2/18/2008; however, Plaintiffs did not cite evidence that an Event or Deviation occurred on that day. *Id.* ¶¶ 969–70. Plaintiffs did not specifically reference any other correlations besides the one on 2/18/2008. *See id.* Therefore, Plaintiffs have not adequately shown any of the complaints on the complaint log correlated to any Events or Deviations in this case. Accordingly, the Court does not find the complaint log persuasive evidence that any of the Events or Deviations were serious.

²⁶⁰ *See supra* ¶¶ II.23–25.

²⁶¹ *Supra* ¶¶ II.23–25.

surrounding community is not supported by the preponderance of the credible evidence.²⁶²

49. As to Deviations not involving emissions, those Deviations typically relate to late reports or incomplete reports.²⁶³ Plaintiffs claim those Deviations are serious because, according to Bowers, “the practice of not following those requirements indicates lax operations which will lead to bad things happening.”²⁶⁴ The Court finds Bowers’s testimony on this issue is too vague to support a finding that the Deviations not involving emissions are serious. In addition, Plaintiffs claim that because some flammable substances were released, there was a risk of fire and explosion. Similarly, this risk is too vague to support a finding that the Events and Deviations are serious.

50. For all of the aforementioned reasons, overall the greater weight of the credible evidence does not support a finding that the Events or Deviations were serious. Accordingly, the seriousness factor weighs against assessing a penalty.

²⁶² Although the impacts to Plaintiffs’ members are traceable enough to the Complex to confer standing under standing law, this traceability is too tenuous to support a finding that the specific Events and Deviations caused impacts to Plaintiffs’ members under a penalty analysis.

²⁶³ *Supra* ¶ II.11.

²⁶⁴ *Trial Transcript* at 4-161:10–25.

g. Balancing the Factors

51. The maximum penalty for each day of violation is \$32,500 for violations occurring before January 13, 2014, and \$37,500 for violations occurring on January 13, 2009, and thereafter. 42 U.S.C. § 7413(e)(2); 40 C.F.R. § 19.4. Plaintiffs contend the total maximum penalty, after deducting for overlapping violations, is \$642,697,500. Plaintiffs ask the Court to assess Exxon this maximum penalty amount, less the \$1,423,632 Exxon has already been penalized for some of the Events and Deviations. Exxon contends it should not be assessed a penalty.

52. After carefully considering all of the penalty assessment factors discussed supra, the Court finds no amount of penalty is appropriate in this case even if all the Events and Deviations are actionable.²⁶⁵ Although some of the factors and evidence weigh towards assessing a penalty against Exxon, more factors and much more credible evidence weigh against assessing a penalty. Specifically, Exxon's large size and the minimal economic impact even a large amount of penalty would have on Exxon weigh towards assessing a penalty; however, Exxon's compliance history and good faith efforts to comply, Exxon's previous payment of \$1,423,632 in penalties, the lack of any economic benefit of

²⁶⁵ Neither of the parties contend justice requires consideration of any other factors, and the Court finds none either.

noncompliance to Exxon, and the determination that the greater weight of the credible evidence does not support a finding that the Events and Deviations are serious all weigh much more heavily against assessing a penalty.²⁶⁶ An assessment of no amount of penalty is the only amount of penalty that is consistent with a balancing of all the factors and the totality of the credible evidence supporting the factors.²⁶⁷ Accordingly, Exxon is not assessed a penalty.

²⁶⁶ As explained *supra* in ¶ III.39, \$1,423,632 will be deducted from any penalty otherwise warranted. As explained *supra* in ¶ III.38, the duration of the violation factor weighs neither towards nor against assessing a penalty.

²⁶⁷ The CAA does not prescribe a specific method for determining appropriate penalties. Some courts use the top-down approach, in which the court starts at the maximum penalty allowed by law and reduces downward as appropriate considering the factors as mitigating factors. *CITGO Petroleum Corp.*, 723 F.3d at 552. Other courts employ the bottom-up approach, in which the court starts at the economic benefit of noncompliance and adjusts upward or downward as appropriate considering the factors. *Id.* Rejecting a requirement that a district court must employ either the top-down or bottom-up approach, some circuit courts have held the district court can “simply rely[] upon [the] factors to arrive at an appropriate amount” without starting at a specific amount because “[t]he statute only requires that the [penalty] be consistent with a consideration of each of the factors.” *United States v. Anthony Dell’Aquila, Enters. & Subsidiaries*, 150 F.3d 329, 339 (3d Cir. 1998); see *Pound v. Airosol Co.*, 498 F.3d 1089, 1095 (10th Cir. 2007). “The [Fifth] [C]ircuit has never held that a particular approach must be followed” and has left such decision to the discretion of the district court. *CITGO Petroleum Corp.*, 723 F.3d at 552, 554.

As to the top-down approach, Plaintiffs contend the maximum penalty is \$642,697,500. Exxon contends Plaintiffs’ calculation of the maximum penalty is incorrect because they incorrectly counted the number of days of violation pursuant to the law. In this particular case, the Court does not need to decide whether Plaintiffs’ calculation of the total maximum penalty is legally correct because, even assuming it is correct and starting at \$642,697,500 under the top-down approach, the Court finds \$642,697,500 should be mitigated downward to \$0 based on the factors. As to the bottom-up approach, the economic benefit of noncompliance is \$0 for reasons explained *supra* in ¶¶ III.40–43. Starting at \$0, the Court finds \$0 should not be adjusted upward based on the factors. Therefore, whether taking a top-down approach, bottom-up

E. Injunctive Relief

53. “The party seeking a permanent injunction must meet a four-part test. It must establish (1) success on the merits; (2) that a failure to grant the injunction will result in irreparable injury; (3) that said injury outweighs any damage that the injunction will cause the opposing party; and (4) that the injunction will not disserve the public interest.” *VRC LLC v. City of Dallas*, 460 F.3d 607, 611 (5th Cir. 2006). “Other Fifth Circuit authority recognizes that the inadequacy of monetary damages also is a factor in the analysis.” *Reservoir, Inc. v. Truesdell*, No. 4:12-2756, 2013 WL 5574897, at *7 (S.D. Tex. Oct. 9, 2013) (Atlas, J.) (citing *ITT Educ. Servs., Inc. v. Arce*, 533 F.3d 342, 347 (5th Cir.2008)). “[A]n injunction is a drastic and extraordinary remedy, which should not be granted as a matter of course.” *Monsanto Co. v. Geertson Seed Farms*, 561 U.S. 139, 165 (2010). It is within the court’s discretion to grant or deny injunctive relief. *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 320 (1982). Even if a plaintiff prevails in a citizen suit, the court does not have to award any injunctive relief. *Envtl. Conservation Org. v. City of Dallas*, 529 F.3d 519, 530 (5th Cir. 2008).

54. Plaintiffs request Exxon be enjoined for five years from violating the emission standards and limitations found by this Court to be actionable. The CAA provides that district courts have jurisdiction to enforce emission standards or

approach, or simply relying upon the factors to arrive at an appropriate amount, the Court’s penalty finding is the same.

limitations. 42 U.S.C. § 7604(a). However, “[t]he grant of jurisdiction to ensure compliance with a statute hardly suggests an absolute duty to do so under any and all circumstances, and a federal judge sitting as chancellor is not mechanically obligated to grant an injunction for every violation of law.” *Weinberger*, 456 U.S. at 313. “Denial of injunctive relief does not necessarily mean that the district court has concluded there is no prospect of future violations for civil penalties to deter.” *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 193 (2000). Rather, the court in a “citizen suit properly may conclude that an injunction would be an excessively intrusive remedy, because it could entail continuing superintendence of the permit holder’s activities by a federal court—a process burdensome to court and permit holder alike.” *Id.* In addition, an injunction ordering a party to obey the law allows for a possible contempt citation and threat of judicial punishment should the party disobey the law. *See Schmidt v. Lessard*, 414 U.S. 473, 476 (1974). In determining whether to grant injunctive relief, the court may consider the “attitude and laudable efforts” of a defendant “in continuously trying to improve the level of emissions.” *See Ala. Air Pollution Control Comm’n v. Republic Steel Corp.*, 646 F.2d 210, 214 (5th Cir. Unit B 1981) (internal quotation marks omitted).

55. Enjoining Exxon from violating CAA standards and limitations would do nothing more than require Exxon to obey the law in the future. The Court finds

that such an injunction is unnecessary and that Plaintiffs have not established injury to the public outweighs damage to Exxon. Exxon—without an injunction ordering it to comply with the CAA—already faces threat of TCEQ enforcement actions, including penalties, and threat of citizen suits should it not comply with the CAA. The Court believes any additional benefit the public would gain from Exxon having the additional threat of judicial contempt and punishment for violation of a court order is minimal. Additionally, for reasons explained *supra* in paragraphs III.47–48, the greater weight of the credible evidence does not support a finding that the Events or Deviations were harmful to the public or the environment, and there is no evidence that any potential future emissions events or deviations will be more harmful to the public or the environment than past Events and Deviations allegedly were. To the contrary, the number of Reportable Events, the total amount of emissions, and the amount of unauthorized emissions of criteria pollutants have all decreased over the years at issue.²⁶⁸ This is likely due to Exxon’s substantial efforts to improve environmental performance and compliance.²⁶⁹ Moreover, proving compliance with the CAA to this Court for five years would be unduly burdensome on Exxon. Likewise, ensuring Exxon’s compliance with the CAA for five years would be unduly burdensome on this

²⁶⁸ *Supra* ¶ II.16.

²⁶⁹ *See supra* ¶¶ II.12–14.

Court. For these reasons, the Court finds Plaintiffs have not established denial of the requested injunction will cause injury to the public that outweighs damage the injunction would cause Exxon. Accordingly, Plaintiffs have not established the third requirement for injunctive relief, and injunctive relief is denied.

F. Special Master

56. Plaintiffs request the Court appoint a special master to monitor compliance with the injunctive relief granted in this Order. Plaintiffs request the special master be paid for by Exxon; have full access to the Complex, its personnel, and records; and be able to retain services of professional and technical people as needed. Having found no injunctive relief is warranted, a special master to monitor compliance with injunctive relief is consequently not warranted.

57. Moreover, even if the Court had granted the requested injunctive relief, a special master would still not be warranted. Plaintiffs did not show by the preponderance of the credible evidence that a special master could do a better job at reducing emissions events and deviations than the Complex's existing workforce. In addition, a special master would be excessively intrusive to Exxon's operations. Accordingly, Plaintiffs' request that the Court appoint a special master is denied.

G. *Affirmative Defenses*

58. Exxon contends the proclamations of the Texas governor, the related TCEQ directive, and a statutory “act of God” defense provide a legal bar to citizen suit liability for the Events and Deviations that occurred during Exxon’s Hurricane Ike preparation and response efforts. In addition, Exxon contends the affirmative defense provided under title 30, section 101.222 of the Texas Administrative Code is a defense to the assessment of penalties for some of the Reportable Events. Having found no penalties or other relief is warranted, the Court declines to address Exxon’s affirmative defenses.

IV. CONCLUSION

Based on the foregoing, the Court hereby

ORDERS that all of Plaintiffs Environment Texas Citizen Lobby, Inc. and Sierra Club’s requests in this case, including their request for a declaratory judgment, penalties, injunctive relief, and appointment of a special master, are **DENIED**. Judgment for Defendants ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company is **GRANTED**.

The Court will issue a separate Final Judgment.

SIGNED at Houston, Texas, on this ____ day of December, 2014.

DAVID HITTNER
United States District Judge

APPENDIX

As explained in paragraphs III.25–27 of this Order, below is the list of actionable violations under Counts II, III, and IV, with selected information from the stipulated spreadsheets. (All violations under Count V, which are listed in Plaintiffs’ Exhibit 5, are actionable. None of the alleged violations under Counts I, VI, or VII are actionable.)

Count II							
Stipulated Table Number* and Row Number	Start Date & Time	Duration (Hr:Min/Hrs)	Authorization/Permit	Emission Point	Contaminant	Amount Released/Emissions (lbs)	Emission Limit/Permit Limit (lbs/hr)
Count II Chemical Plant Permit 4600 (Flare Stack 23) Carbon Monoxide							
PX 2E Row 137	8/6/2009 2:45 PM	11:24	2.13 of 1069 pounds authorized by Permit 4600	Flare Stack 23	Carbon Monoxide	1,069.00	840.59
PX 2E Row 171	7/30/2010 10:09 PM	3:12	1.7 of total of 78.1 lbs are authorized under permit 4600	Flare Stack 23	Carbon Monoxide	76.40	840.59
Count II Chemical Plant Permit 4600 (Flare Stack 23) NO_x							
PX 2E Row 138	8/6/2009 2:45 PM	11:24	0.33 of 170 pounds authorized by Permit 4600	Flare Stack 23	NOX	170.00	116.81
PX 2E Row 172	7/30/2010 10:09 PM	3:12	0.2 of total of 10.8 lbs are authorized under permit 4600	Flare Stack 23	NOX	10.60	116.81
Count II Chemical Plant Permit 4600 (Flare Stack 23) Total VOC							
PX 2E Row 140	8/6/2009 2:45 PM	11:24	404 of 4,217 pounds authorized by Permit 4600	Flare Stack 23	TOTAL VOC	4,217.00	1,731.12
PX 2E Row 173	7/30/2010 10:09 PM	3:12	2.5 of total of 113.8 lbs are authorized under permit 4600	Flare Stack 23	TOTAL VOC	111.30	1,731.12

Count II Chemical Plant Permit 20211 (Flare Stack 12) Carbon Monoxide							
PX 2E Row 179	8/10/2010 10:26 AM	16:12	0 lbs of the total .19 lbs are authorized under permit # 20211	Flare Stack 12	Carbon Monoxide	0.19	67.73
PX 2E Row 188	3/24/2011 8:50 AM	5:35	Portions may be authorized under Permit #20211	Flare Stack 12	Carbon Monoxide	1.67	67.73
Count II Chemical Plant Permit 20211 (Flare Stack 12) Hydrochloric Acid/Hydrogen Chloride							
PX 2E Row 180	8/10/2010 10:26 AM	16:12	56.82 lbs of the total 9042.8 lbs are authorized under permit # 20211	Flare Stack 12	Hydrogen Chloride	8,985.98	1,132.10
PX 2E Row 193	4/1/2011 3:57 AM	3:07	10.56 lbs of the total 6653.43 lbs are authorized under Permit #20211	Flare Stack 12	Hydro- chloric acid	6,642.87	1,132.10
PX 2E Row 200	3/29/2012 12:04 AM	9:55	11321.00 lbs of the 20500.68 lbs are authorized by Permit 20211	Flare Stack 12	Hydrogen Chloride	9,179.68	1,132.10
PX 2F Row 2353	12/11/2012 10:42 AM	14.3	20211	Flare Stack 12 (FL12)	HCl (Hydrogen Chloride)	462.30	1132.10
Count II Chemical Plant Permit 20211 (Flare Stack 12) NOX							
PX 2E Row 181	8/10/2010 10:26 AM	16:12	0 lbs of the total .9 lbs are authorized under permit # 20211	Flare Stack 12	NOX	0.90	13.15
PX 2E Row 189	3/24/2011 8:50 AM	5:35	Portions may be authorized under Permit #20211	Flare Stack 12	NOX	0.33	13.15
PX 2E Row 194	4/1/2011 3:57 AM	3:07	0 lbs of the total 10.06 lbs are authorized under Permit #20211	Flare Stack 12	NOX	10.06	13.15

Count II Chemical Plant Permit 20211 (Flare Stack 12) Total VOC							
PX 2E Row 182	8/10/2010 10:26 AM	16:12	55.76 lbs of the total 330.7 lbs are authorized under permit # 20211	Flare Stack 12	TOTAL VOC	480.24	2,137.54
PX 2E Row 190	3/24/2011 8:50 AM	5:35	Portions may be authorized under Permit #20211	Flare Stack 12	TOTAL VOC	5.98	2,137.54
PX 2E Row 195	4/1/2011 3:57 AM	3:07	6.04 lbs of the total 214.36 lbs are authorized under Permit #20211	Flare Stack 12	TOTAL VOC	208.32	2,137.54
Count II Chemical Plant Permit 36467 (Flare 28) Carbon Monoxide							
PX 2F Row 1316	2/22/2009 7:00 AM	6.0	36476/PSD-TX- 996M1	Flare Stack 28	CO (Carbon Monoxide)	12.70	992.28
PX 2F Row 1320	2/25/2009 7:00 AM	6.0	36476/PSD-TX- 996M1	Flare Stack 28	CO (Carbon Monoxide)	163.00	992.28
PX 2F Row 1343	3/6/2009 1:45 PM	24.0	36476/PSD-TX- 996M1	Flare Stack 28	CO (Carbon Monoxide)	83.90	992.28
PX 2F Row 1356	3/13/2009 4:40 PM	1.0	36476/PSD-TX- 996M1	Flare Stack 28	CO (Carbon Monoxide)	3.52	992.28
Count II Chemical Plant Permit 36467 (Syngas Fugitives) Hydrogen Sulfide							
PX 2F Row 1266	1/20/2009 11:00 PM	3.0	36476/PSD-TX- 996M1	Flare Stack 28 (FS28)	H2S (Hydrogen Sulfide)	0.50	28.40
PX 2F Row 1312	2/19/2009 11:00 PM	9.0	36476/PSD-TX- 996M1	Flare Stack 28 (FS28)	H2S (Hydrogen Sulfide)	0.01	28.40
PX 2F Row 1645	12/28/2009 4:00 PM	2.0	36476/PSD-TX- 996M1	Flare Stack 28 (FS28)	H2S (Hydrogen Sulfide)	61.66	28.40

Count III		
Stipulated Table Number* and Row Number	Start Date & Time	Cause Reported in STEERS
Count III HRVOC Rule Olefins Plant		
PX 3 Row 5	6/25/2007 2:00 PM	LC01 A/B compressor trip resulted in flaring. Exceeded flare (PRIMFL) opacity limit for 15 minutes, VOC hourly limits for 3 hours., HRVOC hourly limit for 2 hours. Total emissions from Primary and Secondary Flare: 10,000 lbs VOC, 9827 lbs CO, 1888 lbs NOX, 5 lbs H2S, <1 lb SO2
PX 3 Row 6	1/3/2008 2:18 PM	LC01 A/B compressor trip resulted in flaring. Exceeded Primary flare (PRIMFL) and Secondary Flare (SECFL) opacity limit, VOC hourly limit for 25 hours, HRVOC hourly limit for 16 hours.
PX 3 Row 7	8/17/2008 12:00 PM	Compressor trips (LC01 and LC02) in the Cold Ends Unit resulted in flaring at the Primary Flare (PRIMFL) over the HRVOC hourly limit for two separate hours and over the permit VOC hourly limit for three separate hours.
PX 3 Row 8	9/3/2008 12:30 PM	During a plant upset, flaring from the primary (PRIMFL) and Secondary (SECFL) flares exceeded the PAL hourly VOC limit for 1 hour and the HRVOC limit for 1 hour ; the Secondary flare pilots were extinguished for a short period.
PX 3 Row 9	4/19/2009 5:00 AM	During a plant upset, flaring from the primary (PRIMFL) and Secondary (SECFL) flares exceeded the PAL hourly VOC limit for 11 hours and the HRVOC limit for 7 hours.
PX 3 Row 10	1/9/2010 8:00 AM	Extreme freezing weather conditions resulted in flaring with opacity for more than 5 minutes in two consecutive hours and site-wide emissions over the permit VOC hourly limit for six hours and over the HRVOC limit for two hours. Temperatures below freezing caused a level instrument malfunction on storage tank, XZTK-02, resulting in wastewater outside of the waste management unit.
PX 3 Row 11	2/2/2011 12:13 AM	During extreme freezing weather conditions, instrument malfunctions and equipment shutdowns resulted in flaring with opacity for more than 5 minutes in two consecutive hours. Site-wide emissions also intermittently exceeded the PAL hourly VOC limit and the hourly HRVOC limit.
Count III HRVOC Rule Chemical Plant		
PX 3 Row 15	9/28/2008 3:15 PM	During startup after Hurricane Ike, reactor R-5102 temperature instability caused pressure increase, resulting in safety relief valve to lift to atmosphere, exceeding the 1200 lb/hr HRVOC limit.
PX 3 Row 17	3/14/2012 8:00 AM	Incorrect lineup of safety relief valve PO-6101 resulted in an atmospheric relief event that exceeded the 1200 lb/hr HRVOC limit.

Count IV							
Stipulated Table Number* and Row Number	Start Date & Time	End Date & Time	Duration (Hours)	Contam-inant	Opacity (%)	Reported Emission Limit (% Opacity)	Plant; Title V Permit #
Count IV Smoking Flares Rule Refinery							
PX 4 Row 4	10/12/2007 2:32 PM	10/12/2007 2:48 PM	0.27	Opacity	100.00%	0.00%	Refinery; O-01229
PX 4 Row 5	10/12/2007 2:32 PM	10/12/2007 2:48 PM	0.27	Opacity	100.00%	0.00%	Refinery; O-01229
PX 4 Row 16	9/22/2011 11:28 AM	9/22/2011 11:43 AM	0.25	Opacity	100.00%	0.00	Refinery; O-01229
PX 4 Row 17	9/22/2011 11:28 AM	9/22/2011 11:43 AM	0.25	Opacity	100.00%	0.00	Refinery; O-01229
PX 4 Row 18	3/6/2013 10:57 AM	3/6/2013 11:12 AM	0.25	Opacity	100.00%	0.00	Refinery; O-01229
Count IV Smoking Flares Rule Olefins Plant							
PX 4 Row 21	12/10/2005 1:04 PM	12/10/2005 3:45 PM	2.68	Opacity	100.00%	30.00%	Olefins; O-01553
PX 4 Row 22	1/10/2006 11:54 AM	1/10/2006 3:00 PM	3.10	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 23	1/10/2006 11:54 AM	1/10/2006 3:00 PM	3.10	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 24	10/6/2006 7:20 PM	10/7/2006 12:20 AM	5.00	Opacity	15.00%	0.00%	Olefins; O-01553
PX 4 Row 25	6/25/2007 2:00 PM	6/25/2007 5:00 PM	0.25	Opacity	60.00%	0.00%	Olefins; O-01553
PX 4 Row 26	6/25/2007 1:55 PM	6/26/2007 2:06 AM	12.18	Opacity	60.00%	0.00%	Olefins; O-01553
PX 4 Row 27	1/3/2008 2:18 PM	1/5/2008 7:20 AM	41.03	Opacity	20.00%	0.00%	Olefins; O-01553
PX 4 Row 28	1/3/2008 2:18 PM	1/5/2008 7:20 AM	41.03	Opacity	80.00%	0.00%	Olefins; O-01553
PX 4 Row 29	10/27/2008 12:06 PM	10/27/2008 12:13 PM	0.12	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 30	12/10/2009 4:50 PM	12/11/2009 12:50 AM	8.00	Opacity	25.00%	0.00%	Olefins; O-01553
PX 4 Row 31	12/10/2009 4:50 PM	12/11/2009 12:50 AM	8.00	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 32	1/9/2010 8:00 AM	1/9/2010 7:05 PM	11.08	Opacity	30.00%	0.00%	Olefins; O-01553
PX 4 Row 35	2/10/2010 10:54 AM	2/10/2010 11:11 AM	0.28	Opacity	31.00%	0.00%	Olefins; O-01553

PX 4 Row 36	2/2/2011 12:13 AM	2/6/2011 7:00 PM	114.78; This event is identified as "flaring with opacity for more than 5 minutes in two consecutive hours" in the deviation report	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 37	2/2/2011 12:13 AM	2/6/2011 7:00 PM	114.78; This event is identified as "flaring with opacity for more than 5 minutes in two consecutive hours" in the deviation report	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 38	2/2/2011 12:13 AM	2/6/2011 7:00 PM	114.78; This event is identified as "flaring with opacity for more than 5 minutes in two consecutive hours" in the deviation report	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 39	4/14/2012 4:00 PM	4/14/2012 7:59 PM	3.98	Opacity	50.00%	0.00	Olefins; O-01553
PX 4 Row 40	6/22/2012 9:00 AM	6/22/2012 10:00 AM	1.00	Opacity	100.00%	0.00%	Olefins; O-01553
PX 4 Row 41	1/8/2013 6:00 AM	1/8/2013 5:00 PM	11.00	Opacity	80.00%	0.00%	Olefins; O-01553
Count IV Smoking Flares Rule Chemical Plant							
PX 4 Row 44	8/6/2009 2:54 PM	8/6/2009 4:35 PM	1.68	Opacity	100.00%	0.00%	Chemical; O-02269
PX 4 Row 45	8/6/2009 2:54 PM	8/6/2009 4:35 PM	1.68	Opacity	100.00%	0.00%	Chemical; O-01278
PX 4 Row 46	8/6/2009 2:54 PM	8/6/2009 4:35 PM	1.68	Opacity	100.00%	0.00%	Chemical; O-01278
PX 4 Row 47	8/6/2009 2:54 PM	8/6/2009 4:35 PM	1.68	Opacity	100.00%	0.00%	Chemical; O-01278

* "PX" refers to Plaintiffs' Exhibit.

SIGNED at Houston, Texas, on this ____ day of December, 2014.

DAVID HITTNER
United States District Judge

Opinion Information Form

1. **Complete Name of Case**
ENVIRONMENT TEXAS CITIZEN LOBBY, INC. *and* SIERRA CLUB v.
EXXONMOBIL CORPORATION, EXXONMOBIL CHEMICAL
COMPANY, *and* EXXONMOBIL REFINING AND SUPPLY COMPANY,
2. **Docket Number**
NO. 4:10-cv-4969
3. **Court**
UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION
4. **Date Order Filed**
December 17, 2014
5. **Judge**
THE HONORABLE DAVID HITTNER
UNITED STATES DISTRICT JUDGE
for the SOUTHERN DISTRICT OF TEXAS.
6. **Attorney for Plaintiffs**

Heather Govern
Joshua R. Kratka
National Environmental Law Center
44 Winter Street
Boston, MA 02108
917-710-5180 (Telephone)

David A. Nicholas
Attorney at Law
20 Whitney Rd.
Newton, MA 02460
617-964-1548 (Telephone)

Philip Harlan Hilder
Hilder & Associates, P.C.
819 Lovett Blvd.
Houston, TX 77006
713-655-9111 (Telephone)

7. Attorney for Defendants

Eric J. R. Nichols
Beck Redden LLP
515 Congress Ave., Suite 1750
Austin, TX 78701
512-708-1000 (Telephone)

Fields Alexander
Byron A. Rice
William Bradley Coffey
Beck Redden LLP
1221 McKinney Street, Suite 4500
Houston, TX 77010
713-951-6256 (Telephone)

Keith A. Courtney
Winstead PC
401 Congress Ave., Suite 2100
Austin, TX 78701
512-370-2813 (Telephone)