

No. _____

**In the
Supreme Court of the United States**

EXXONMOBIL CORPORATION; EXXONMOBIL
CHEMICAL COMPANY; EXXONMOBIL REFINING &
SUPPLY COMPANY,

Petitioners,

v.

ENVIRONMENT TEXAS CITIZEN LOBBY, INCORPORATED;
SIERRA CLUB,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

**PETITION APPENDIX
VOLUME II OF II (327a-554a)**

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[2017 WL 2331679]

UNITED STATES DISTRICT COURT,
S.D. TEXAS, HOUSTON DIVISION

Civil Action No. H-10-4969

ENVIRONMENT TEXAS CITIZEN LOBBY, INC. AND SIERRA
CLUB,

Plaintiffs,

v.

EXXONMOBIL CORPORATION, EXXONMOBIL CHEMICAL
COMPANY, AND EXXONMOBIL REFINING AND SUPPLY
COMPANY,

Defendants.

Signed 04/26/2017

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REVISED FINDINGS OF FACT &
CONCLUSIONS OF LAW¹

DAVID HITTNER, United States District Judge

On February 10, 2014, this Court commenced a non-jury trial in the above-entitled matter. During the course of the thirteen-day proceeding, the Court received evidence and heard sworn testimony.² On December 17, 2014, having considered the evidence, testimony, and oral arguments presented during the trial, along with post-trial submissions³ and the

¹ As explained further below, the Fifth Circuit vacated the Court's prior judgment as expressed in the initial Findings of Fact and Conclusions of Law. However, the Fifth Circuit upheld the Court's findings as to Count VII; the denial of a declaratory judgment, permanent injunction, and appointment of a special master; and the CAA penalty factor for compliance history and good faith efforts to comply. The Court's initial findings as to Counts V and VI, and the following penalty factors—the size of the business and payment by the violator of penalties previously assessed for the same violation—were unaddressed and undisturbed by the Circuit's opinion. Because the Court's prior judgment was vacated in whole and not in part, where the Court's prior findings were undisturbed or upheld by the Fifth Circuit, the Court reincorporates the prior findings into the Revised Findings of Fact and Conclusions of Law. Part II of the revised findings of fact and conclusion of law adopts the previous Part II in its entirety, as the Circuit did not hold the Court made any clearly erroneous factual finding.

² The parties submitted 1,148 exhibits that span thousands of pages, and 25 witnesses testified.

³ The post-trial submissions considered by the Court include the plaintiffs' and the defendants' original proposed findings of fact and conclusions of law, which are 455 pages and 361 pages in length, respectively. On remand, the Court considered the revised proposed findings of fact and conclusions of law, and where relevant, the pre-appeal proposals (both the original and revised).

applicable law, the Court entered its initial findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52(a). The judgment was appealed. The Fifth Circuit vacated the Court's judgment and remanded the case for the determination of a new judgment as consistent with the Circuit's opinion. Accordingly, the Court issues the following revised findings of fact and conclusions of law, as consistent with the instructions on remand from the Fifth Circuit following the vacatur of the Court's initial judgment. 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,⁴ injunctive relief,

⁴ 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. On remand, Plaintiffs only seek \$40,815,618 in penalties.

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.

On December 17, 2014, the Court issued its initial findings of fact and conclusions of law.⁵ Plaintiffs appealed the decision to the Fifth Circuit. On May 27, 2016, the Fifth Circuit issued an opinion vacating the Court's judgment and remanding for assessment of penalties based on the violations actionable as consistent with its opinion.⁶ Specifically, the Circuit held: (1) as to Count I, the Court erred as a matter of law in treating the count as alleging violations of Maximum Allowable Emission Rate Table ("MAERT") limitations rather than special conditions 38 and 39; (2) as to Count II, the Court erred in requiring Plaintiffs to show repeated violations of the same numerical threshold per pollutant per emission point, rather than violations per pollutant per emission point, even if the numerical limitations varied due to amendment or renewal; (3) as to Counts III and IV, the Court erred in requiring corroboration for violations it explicitly found were uncontested; and (4) in assessing the penalty factors, the Court erred in failing to enter findings as to whether an economic benefit was received by delaying environmental improvement projects and abused its discretion in treating violations of shorter duration as

⁵ *Findings of Fact & Conclusions of Law*, Document No. 225.

⁶ *Env't Tex. Citizen Lobby, Inc. v. ExxonMobil Corp.*, 824 F.3d 507 (5th Cir. 2016).

offsetting longer duration violations and less serious violations as offsetting more serious violations.

On August 29, 2016, the Court ordered the parties to submit revised proposed findings of fact and conclusions of law consistent with scope of remand from the Fifth Circuit. The Court instructed the parties that it would not revisit any finding of fact or conclusion of law upheld in or left undisturbed by the Fifth Circuit's opinion. The parties submitted their proposals on October 31, 2016, and filed responses to the respective opposing party's proposal on November 21, 2016. Having considered the Fifth Circuit's opinion, the parties revised proposals and responses thereto, the Court revises its initial conclusions of law, as follows, on Counts I-IV; the economic benefit, duration, and seriousness penalty factors; enters conclusions of law in the first instance on the affirmative defenses asserted in Exxon's revised proposal; and its judgment on the amount of penalties to be assessed.⁷

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

⁷ The Court deems abandoned any argument asserted in the initial proposed finding facts and conclusions of law that was not re-urged on remand in the revised proposals or the responses thereto.

owned subsidiaries of ExxonMobil Corporation.⁸ ExxonMobil Corporation is the largest publicly traded oil company in the world as measured by market evaluation.⁹ In addition, it is one of the largest publicly traded companies in the world measured by both revenue and market capitalization.¹⁰ Total after-tax profits of ExxonMobil Corporation were \$41 billion in 2011 and \$44 billion in 2012.¹¹

2. Exxon owns and operates the Complex, which consists of a refinery, olefins plant, and chemical plant.¹² The Complex is one of the largest and most complex industrial sites in the United States.¹³ Specifically, it is the largest petroleum and petrochemical complex in the United States.¹⁴ It sits on approximately 3,400 acres, with a circumference of approximately 13.6 miles.¹⁵ 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.¹⁶ These products

⁸ *Defendant ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company's Original Answer*, ¶¶ 12-13.

⁹ *Trial Transcript* at 5-61:6-9.

¹⁰ *Trial Transcript* at 5-60:5-21.

¹¹ *Trial Transcript* at 5-61:11-13.

¹² *Defendant ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining and Supply Company's Original Answer*, ¶¶ 11-13.

¹³ *Trial Transcript* at 3-74:21-25,4-171:21 to 4-172:6,4-173:3-5.

¹⁴ *Plaintiffs' Exhibit 556* at 25.

¹⁵ *Trial Transcript* at 3-71:14 to 3-72:6-9,8-50:20-22.

¹⁶ *Trial Transcript* at 3-77:5 to 3-80:1.

range from jet fuel to plastic.¹⁷ 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.¹⁸ It employs over 5,000 people.¹⁹

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.²⁰

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.²¹ 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.²² Taking all permit conditions together, the Complex is regulated by over 120,000 permit

¹⁷ *Trial Transcript* at 3-56:2-18, 3-60:16-18.

¹⁸ *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.

¹⁹ *Trial Transcript* at 3-75:15-18.

²⁰ *Trial Transcript* at 11-33:19 to 11-39:16.

²¹ *Trial Transcript* at 2-207:18 to 2-208:9, 2-212:1-3; *see* 30 Tex. Admin. Code § 122.142(b).

²² *Trial Transcript* at 1-245:9-17, 2-208:13 to 2-209:13.

conditions related to air quality, each of which is tracked by the Complex for compliance purposes.²³

C. Reportable Events, Recordable Events, and Deviations

5. Exxon documents noncompliance and indications of noncompliance with its Title V permits in three ways.²⁴ 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 emissions events.”²⁵ 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.²⁶ Third, the TCEQ requires Exxon to document and submit to the TCEQ information about Title V “deviations” in semi-annual Title V “deviation reports.”²⁷ It is undisputed Exxon complied with the TCEQ’s aforementioned reporting and recording require-

²³ *Trial Transcript* at 3-81:9 to 3-82:1.

²⁴ *Trial Transcript* at 2-205:13 to 2-206:14, 2-216:3-20.

²⁵ 30 Tex. Admin. Code §§ 101.1(88), 101.201; *Trial Transcript* at 2-232:13-20, 2-236:3-24, 12-164:11-23.

²⁶ 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.

²⁷ 30 Tex. Admin. Code §§ 122.10(6), 122.145(2); *Trial Transcript* at 2-217:4 to 2-218:19.

ments. 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, 2013.²⁸ 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 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").²⁹

D. Investigation, Enforcement, and Corrective Actions

6. The TCEQ investigates each reportable emissions event.³⁰ 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.³¹ Similarly, the TCEQ reviews the records of recordable emissions events and takes enforcement action should it

²⁸ *Trial Transcript* at 1-246:3-15.

²⁹ *Plaintiffs' Exhibits* 1A-7E.

³⁰ *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.

³¹ 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.

determine the records reflect an inappropriate trend.³²

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.³³ Similarly, for the Recordable Events and Deviations, Exxon analyzed the records for trends and ways to improve, identified root causes, and implemented corrective actions.³⁴ 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.³⁵ 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.³⁶ 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.³⁷

³² *Defendants' Exhibit* 546 at 5-7, ¶¶ 13-18.

³³ *Trial Transcript* at 3-114:25 to 3-117:4,4-26:4-16.

³⁴ *Trial Transcript* at 3-117:5-22, 10-39:24 to 10-40:8, 10-219:11 to 10-220:13.

³⁵ *Trial Transcript* at 10-231:15 to 10-232:14.

³⁶ *Defendants' Exhibit* 546 at 6, ¶¶ 16-17.

³⁷ *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.

8. After investigating, the TCEQ assessed \$1,146,132 m penalties against Exxon for some of the Events and Deviations.³⁸ In addition, Harris County assessed \$277,500 in penalties for some of the Events and Deviations.³⁹ Thus, in total, Exxon has paid \$1,423,632 in monetary penalties for Events and Deviations at issue in this case.⁴⁰ Along with those penalties, the TCEQ required Exxon to take certain corrective actions or document the corrective actions already taken.⁴¹

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.⁴² 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.⁴³ 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

³⁸ *Plaintiffs' Exhibit* 337.

³⁹ *Defendants' Exhibit* 502 at 1-10.

⁴⁰ 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.

⁴¹ *E.g.*, *Defendants' Exhibits* 472 at 3-4, 475 at 2, 486 at 2, 488 at 2.

⁴² *Defendants' Exhibits* 18-20; *Trial Transcript* at 3-202:14 to 3-206:3.

⁴³ 30 Tex. Admin. Code § 101.222.

or had already taken corrective actions.⁴⁴ An example of one such Reportable Event occurred on August 30, 2006, at the Butadiene Unit due to operator error.⁴⁵ Exxon's root cause analysis determined the event occurred because a technician misunderstood a request via radio from a computer console operator and opened the wrong valve.⁴⁶ 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.⁴⁷ 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.⁴⁸ 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.⁴⁹ 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.⁵⁰ To prevent similar events from occurring, Exxon increased the methanator trip point from 700 to 800 degrees and modified its operating procedures

⁴⁴ *Defendants' Exhibits 24-29; Trial Transcript at 3-200:9 to 3-202:13.*

⁴⁵ *Defendants' Exhibits 26, 26E.*

⁴⁶ *Defendants' Exhibit 26E.*

⁴⁷ *Defendants' Exhibit 26E.*

⁴⁸ *Defendants' Exhibits 26, 26I.*

⁴⁹ *Defendants' Exhibit 261.*

⁵⁰ *Defendants' Exhibit 261.*

in three ways: operating windows for crossover temperatures, dimethyl sulphide injection prior to feed-in, and removal of 225 pounds of steam prior to feed-in.⁵¹

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.⁵² Of the 3,735 Recordable Events, 43% were 112 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.⁵³ 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.⁵⁴ 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 pounds of emissions.⁵⁵ As another

⁵¹ *Defendants' Exhibit* 261.

⁵² *Trial Transcript* at 12-164:11-23.

⁵³ *Defendants' Exhibit* 1007A at 1; *see Plaintiffs' Exhibits* 1B, 2B, 2D, 2F.

⁵⁴ *Defendants' Exhibit* 1007A at 2; *see Plaintiffs' Exhibits* 1B, 2B, 2D, 2F.

⁵⁵ *Plaintiffs' Exhibit* 1B at row 800; *Trial Transcript* at 10-216:17 to 10-218:6, 12-234:3-12.

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.⁵⁶

11. Of the 901 Deviations, 45% involved no emissions whatsoever.⁵⁷ The Deviations not involving emissions typically relate to late reports or incomplete reports.⁵⁸ 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.⁵⁹ 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.⁶⁰ The emissions from the remaining 415 Deviations are categorized as either a Reportable Event or Recordable Event depending on the amount of emissions, and thus those emissions are addressed in the Court's findings related to Reportable Events or Recordable Events.⁶¹

⁵⁶ *Plaintiffs' Exhibit 2D* at row 2432.

⁵⁷ *Trial Transcript* at 3-118:9-13, 10-204:11-13, 10-208:1-8.

⁵⁸ *Trial Transcript* at 10-208:9 to 10-209:17; *see Plaintiffs' Exhibits 7A-E*.

⁵⁹ *Plaintiffs' Exhibit 7C* at row 36, 142; *Trial Transcript* at 10-207:1-7.

⁶⁰ *Trial Transcript* at 10-209:18 to 10-210:1.

⁶¹ *Trial Transcript* at 10-203:11 to 10-204:10, 10-210:7-12.

E. Agreed Enforcement Order

12. On February 22, 2012, Exxon and the TCEQ agreed on an enforcement order regarding the Complex (the “Agreed Order”).⁶² 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.⁶³ 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 minimization practices ... are intended to reduce loads on the flare system.

⁶² *Defendants’ Exhibit* 222.

⁶³ *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.

* * *

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....⁶⁴

The Agreed Order states these projects “will reduce emissions at the Baytown Complex, including emissions from emissions events...”⁶⁵ Indeed, the Agreed Order requires certain amounts of emissions reductions.⁶⁶ Exxon could not have been required to undertake these projects under existing laws and regulations.⁶⁷ Implementation of these projects will cost approximately \$20,000,000.⁶⁸ 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.⁶⁹ In addition, Exxon must submit annual reports to the TCEQ that identify emissions reductions, including “an explanation of how recent

⁶⁴ *Defendants’ Exhibit 222* at ¶ III.12.

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

⁶⁶ *Defendants’ Exhibit 222* at ¶ III.10.

⁶⁷ *Defendants’ Exhibit 222* at ¶ III.12; *Trial Transcript* at 3-190:6-24, 12-177:12 to 12-178:6.

⁶⁸ *Trial Transcript* at 3-32:25 to 3-40:5.

⁶⁹ *Defendants’ Exhibit 222* at ¶¶ III.12, 13.

air emissions performance continues the overall emissions reduction trends at the Baytown Complex,” and provide information on activities undertaken to improve environmental performance.⁷⁰

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.⁷¹ 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 2014.⁷² Over the past several years Exxon has spent more than \$1 billion on regulatory compliance and environmental improvement projects at the Complex.⁷³ 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 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 2013.⁷⁴

14. The Complex employs a wide variety of emissions-reduction equipment such as wet gas scrubbers, selective catalytic reduction, amine

⁷⁰ *Defendants’ Exhibit* 222 at ¶ III.14.

⁷¹ *Trial Transcript* at 3-82:2 to 3:83:20, 3-273:20 to 3-274:20.

⁷² *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.

⁷³ *Trial Transcript* at 12-239:22 to 12-240:6.

⁷⁴ *Defendants’ Exhibit* 413.

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.⁷⁵ Approximately half of the flares at the Complex are connected to flare gas recovery compressors.⁷⁶ 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.⁷⁷ Exxon has also generated and implemented a flare minimization plan to reduce flaring at the Complex.⁷⁸ Further, Exxon’s maintenance policies and procedures conform or exceed industry standards and codes.⁷⁹

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.⁸⁰ Despite good practices, at any industrial facility there will always be mechanical failure and human imperfection

⁷⁵ *Trial Transcript* at 10-47:5 to 10-78:19.

⁷⁶ *Trial Transcript* at 10-56:13-16.

⁷⁷ *Trial Transcript* at 10-61:5-17.

⁷⁸ *Trial Transcript* at 12-231:16 to 12-232:1.

⁷⁹ *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.

⁸⁰ *Defendants’ Exhibit* 190 at 7-8, 14-15; *Defendants’ Exhibit* 546 at 11, ¶¶ 32-34; *Trial Transcript* at 3-112:2-8.

leading to noncompliance with Title V permit conditions.⁸¹

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 emissions of CO have dropped by 76, and reported emissions of NO_x have dropped by 63 percent.⁸²

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.⁸³ In addition, the annual amount of unauthorized emissions of criteria pollutants at the

⁸¹ *Defendants' Exhibit* 190 at 7-8, 14-15; *Defendants' Exhibit* 546 at 11, ¶¶ 32-34; *Trial Transcript* at 3-112:2-8.

⁸² *Defendants' Exhibit* 22 at ¶ I.12.

⁸³ *Defendants' Exhibits* 1004, 1008.

Complex decreased by 95% from 2006 to 2013.⁸⁴ Similarly, the annual number of Reportable Events that occurred at the Complex decreased by 81% percent from 2005 to 2013.⁸⁵ Flaring at the Complex has been reduced by 73% since 2000.⁸⁶

17. In addition, each year at issue, total emissions were far below the annual emissions limits.⁸⁷ 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.⁸⁸ Also, each year at issue, unauthorized emissions were a very small percentage of total emissions and an even smaller percentage of the annual emissions limits.⁸⁹ 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.⁹⁰

H. Plaintiffs and Plaintiffs’ Members

⁸⁴ *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.

⁸⁵ *Defendants’ Exhibit* 1000 at 1.

⁸⁶ *Defendants’ Exhibit* 547 at 12:11-12.

⁸⁷ *Defendants’ Exhibits* 1004, 1008. Emissions from “event emissions” are at issue in this case, not “permitted emissions.”

⁸⁸ *Defendants’ Exhibit* 1004 at 1.

⁸⁹ *Defendants’ Exhibits* 1004, 1008.

⁹⁰ *Defendants’ Exhibit* 1004 at 1.

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.”⁹¹ It has approximately 2,900 dues-paying members in Texas.⁹² Similarly, Sierra Club is a non-profit corporation with a purpose to protect humanity, the environment, and the ability to enjoy the outdoors.⁹³ The Lone Star (Texas) Chapter of the Sierra Club has approximately 25,000 members.⁹⁴ 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.⁹⁵ She grew up in Baytown at her parents’ home, which is about a mile and a half from the Complex.⁹⁶ The Complex is the closest industrial facility to her parents’ home.⁹⁷ She lived in Houston from 2006 through 2013 while attending college and working, during which time she regularly visited her parents’ home in Baytown.⁹⁸ In March 2013, she moved to Oakland, California.⁹⁹ She has returned to Baytown to visit her family at her

⁹¹ *Plaintiffs’ Exhibit 338 at ¶ II(2); Trial Transcript at 1-227:16-25.*

⁹² *Trial Transcript at 1-234:24 to 1-235:4.*

⁹³ *Trial Transcript at 2-125:11-22.*

⁹⁴ *Trial Transcript at 2-125:23 to 2-126:4.*

⁹⁵ *Trial Transcript at 1-192:2-22.*

⁹⁶ *Trial Transcript at 1-193:8 to 1-194:16.*

⁹⁷ *Trial Transcript at 1-194:17-20.*

⁹⁸ *Trial Transcript at 1-196:6 to 1-199:9.*

⁹⁹ *Trial Transcript at 1-199:8-9.*

parent's home, and she has plans to visit Baytown again for the holidays in 2014.¹⁰⁰ 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.¹⁰¹ These symptoms improved when she moved away from Baytown and she was able to stop taking medication, but the symptoms return whenever she visits her family in Baytown.¹⁰² However, she cannot correlate any of these symptoms to specific Events or Deviations at issue in this case.¹⁰³ Further, she has seen flares, smoke, and a brownish haze over the Complex.¹⁰⁴ 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.¹⁰⁵ 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.¹⁰⁶ Lastly, she enjoys running outdoors, but when she is visiting Baytown, she refrains from doing

¹⁰⁰ *Trial Transcript* at 1-199:10-25.

¹⁰¹ *Trial Transcript* at 1-200:1 to 1-201:15, 1-205:6-25, 1-219:1-14.

¹⁰² *Trial Transcript* at 1-205:19 to 1-206:11.

¹⁰³ *Trial Transcript* at 1-207:25 to 1-209:23, 1-220:1 to 1-222:4.

¹⁰⁴ *Trial Transcript* at 1-202:2 to 1-203:8, 1-218:6-17.

¹⁰⁵ *Trial Transcript* at 1-203:9 to 1-204:9.

¹⁰⁶ *Trial Transcript* at 1-218:3-24.

so because she experiences labored breathing and an abrasive feeling in her throat and lungs.¹⁰⁷

20. Second, Marilyn Kingman is a member of Sierra Club.¹⁰⁸ She lives in a town that neighbors Baytown, but she shops, banks, attends church, and conducts other activities several times a week in Baytown, including nearby the Complex.¹⁰⁹ She has smelled a chemical smell around the Complex, seen flares at the Complex, and seen a gray or brown haze over the Complex.¹¹⁰ The odors she has smelled, which she attributes to the Complex, cause her to be concerned for her health.¹¹¹ She limits her outdoor activities in Baytown when she smells odors or sees haze.¹¹² Also, flaring at the Complex concerns her because she is afraid of explosion and because she believes flaring indicates something is wrong.¹¹³ However, she does not claim to have any physical ailments or health conditions that she attributes to anything happening at the Complex.¹¹⁴ Also, she was not able to correlate any of her experiences or concerns to specific Events or Deviations at issue in this case.¹¹⁵

¹⁰⁷ *Trial Transcript* at 1-204:10 to 1-205:5.

¹⁰⁸ *Trial Transcript* at 6-69:11-14.

¹⁰⁹ *Trial Transcript* at 6-71:3 to 6-75:6.

¹¹⁰ *Trial Transcript* at 6-75:2 to 6-76:15.

¹¹¹ *Trial Transcript* at 6-76:16-23, 6-83:6-12.

¹¹² *Trial Transcript* at 6-76:24 to 6-77:24.

¹¹³ *Trial Transcript* at 6-78:13 to 6-80:5.

¹¹⁴ *Trial Transcript* at 6-95:14-20.

¹¹⁵ *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;

21. Third, Richard Shae Cottar is a member of Sierra Club.¹¹⁶ From April 2010 through September 2012, he lived a quarter of a mile from the Complex.¹¹⁷ Since September 2012, he has lived approximately two miles from the Complex.¹¹⁸ 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.¹¹⁹ He also smelled strong, pungent odors that, on occasion, caused him headaches and awoke him in the night.¹²⁰ 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.¹²¹ He has also smelled odors that became more intense the closer he got to the Complex while driving.¹²² His asthmatic symptoms were exacerbated when living at the closer address, and since moving further from the Complex, his asthmatic

however, February 13, 2014, is outside the time frame of this case.

¹¹⁶ *Trial Transcript* at 1-98:18 to 1-99:13.

¹¹⁷ *Trial Transcript* at 1-102:7 to 1-103:6.

¹¹⁸ *Trial Transcript* at 1-102:3-4, 1-106:5-11.

¹¹⁹ *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.

¹²⁰ *Trial Transcript* at 1-109:21 to 1-112:3, 1-131:5 to 1-132:4, 1-176:6-9.

¹²¹ *Trial Transcript* at 1-119:5-18.

¹²² *Trial Transcript* at 1-111:10-20.

symptoms have decreased.¹²³ He moved further away from the Complex out of concern for his health and safety.¹²⁴ When visiting the nature center next to the Complex, he does not stay if he sees emissions.¹²⁵ 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.¹²⁶ However, he understands that certain emissions and flaring are allowed by permits.¹²⁷ 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.¹²⁸

22. Fourth, Sharon Sprayberry is a member of Sierra Club.¹²⁹ She lived in Baytown from 2004 until June 2012, about one mile from the Complex.¹³⁰ 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 she

¹²³ *Trial Transcript* at 1-148:3 to 1-149:19, 1-187:12 to 1-188:1.

¹²⁴ *Trial Transcript* at 1-144:21 to 1-145:17.

¹²⁵ *Trial Transcript* at 1-152:11-21.

¹²⁶ *Trial Transcript* at 1-153:9-20.

¹²⁷ *Trial Transcript* at 1-153:9-13, 1-169:3-18.

¹²⁸ *Trial Transcript* at 1-123:19 to 1-131:1, 1-168:17 to 1-181:12.

¹²⁹ *Trial Transcript* at 6-5:19-23.

¹³⁰ *Trial Transcript* at 6-11:23 to 6-13:13, 6-37:2-5, 6-40:3-10.

saw flares.¹³¹ These smells concerned her because she was afraid they were toxic or harmful.¹³² While living in Baytown, she also experienced respiratory issues.¹³³ Her respiratory problems went away within a few weeks of moving to a different city—McGregor, Texas.¹³⁴ 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.¹³⁵ She would have retired in Baytown if the air quality were better.¹³⁶ She understands not all flares involve unauthorized emissions because some flares and emissions are authorized by permit.¹³⁷ In total, she was able to credibly correlate two events she observed to Events or Deviations.¹³⁸

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 Complex for **35 years**.¹³⁹ 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

¹³¹ *Trial Transcript* at 6-15:18 to 6-16:19, 6-33:12 to 6-36:13.

¹³² *Transcript* at 6-36:16 to 6-37:1.

¹³³ *Trial Transcript* at 6-15:7-17.

¹³⁴ *Trial Transcript* at 6-37:9-24.

¹³⁵ *Trial Transcript* at 6-38:2-19.

¹³⁶ *Trial Transcript* at 6-38:20-22.

¹³⁷ *Trial Transcript* at 6-50:12-20.

¹³⁸ *Trial Transcript* at 6-17:7 to 6-23:8,6-45:20 to 6-49:16,6-65:20 to 6-67:24.

¹³⁹ *Trial Transcript* at 10-130:11 to 10-131:9.

concerns about any emissions events or flares that have occurred at the Complex.¹⁴⁰ 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.¹⁴¹

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**.¹⁴² He does not “feel impacted or influenced” by his close proximity to the Complex.¹⁴³ 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.¹⁴⁴ He has smelled substantial odors a couple of times in 37 years but does not characterize the odors as overpowering.¹⁴⁵

25. Third, Gordon Miles has lived very close to the Complex for **28 years**.¹⁴⁶ He has never experienced any problems with flaring, odors, or noises coming from the Complex; has no health problems that he

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

¹⁴¹ *Trial Transcript* at 10-142:7-18.

¹⁴² *Trial Transcript* at 11-101:8 to 11-102:3, 11-104:10-19.

¹⁴³ *Trial Transcript* at 11-114:13-18.

¹⁴⁴ *Trial Transcript* at 11-113:7-11, 11-114:19 to 11-115:1, 11-115:10-14.

¹⁴⁵ *Trial Transcript* at 11-115:5-9.

¹⁴⁶ *Defendants' Exhibit 545; Trial Transcript* at 12-82:11 to 12-86:5.

attributes to anything happening at the Complex; and has no complaints about Exxon as a neighbor.¹⁴⁷

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 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

¹⁴⁷ *Trial Transcript* at 12-89:22 to 12-90:14, 12-96:13-22.

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.¹⁴⁸ 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 smelled or haze seen, left the nature center next to

¹⁴⁸ *Supra* ¶¶ II.19-22.

Complex early, and moved away from Complex.¹⁴⁹ 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 plaintiffs 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 plaintiffs 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 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 plaintiffs 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

¹⁴⁹ *Supra* ¶¶ II.19-22.

Deviations.¹⁵⁰ Also, Plaintiffs' members have seen flares, smoke, and haze over the Complex.¹⁵¹ 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.¹⁵² 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.¹⁵³ Some of the members' allergies and respiratory problems decreased when they moved away from the Complex.¹⁵⁴ 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.¹⁵⁵ All the aforementioned evidence suffices to establish a fairly traceable connection between Plaintiffs' members' injuries and the Events and

¹⁵⁰ *Supra* ¶¶ II.19-22 (Dominguez-0, Kingman-0, Cottar-3, and Sprayberry-2).

¹⁵¹ *Supra* ¶¶ II.19-22.

¹⁵² *Supra* ¶¶ II.19, 21-22.

¹⁵³ *Supra* ¶ II.21.

¹⁵⁴ *Supra* ¶¶ II.19, 21-22.

¹⁵⁵ 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.

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; *Laidlaw*, 528 U.S. at 185-86.¹⁵⁶ An injunction requiring the defendant to cease its violations also satisfies the redressability requirement of standing. *Texans United*, 207 F.3d at 794; *Envtl. 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

¹⁵⁶ 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.9-48 (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).

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.

B. Actionability

9. It is undisputed Exxon violated some emission standards or limitations under the CAA.¹⁵⁷ 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).¹⁵⁸ The plaintiff

¹⁵⁷ 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.

¹⁵⁸ *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).

can prove a person is “in violation,” otherwise known as proving on going 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. *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.¹⁵⁹

¹⁵⁹ 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* ¶¶ 111.60-61. 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* ¶ 111.61 n.224. There is no credible evidence that any of the Events or

11. Title V permits incorporate numerous, different regulatory requirements, and the Complex is regulated by over 120,000 permit conditions.¹⁶⁰ 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

Deviations resulted from the same root cause. *Infra* ¶ III.61. 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 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.

¹⁶⁰ *Supra* ¶ II.4.

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.

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;¹⁶¹ 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; and tables that tally the alleged number of days of pre-complaint and post-complaint violations from the aforementioned spreadsheets.¹⁶² The Court addresses each count of Plaintiffs' complaint in turn.

a. Count I

1. Special conditions 38 and 39 are standards or limitations within the meaning of the CAA

13. Plaintiffs contend the language in flexible permit 18287's special conditions 38 and 39 stating upset emissions are "not authorized" is a standard or limitation under the CAA. Exxon contends that special conditions 38 and 39 are not standards or limitations under the CAA because the term "not authorized" exempts upset emissions from the permit.

14. The Court's initial opinion found Plaintiffs failed to provide corroborating evidence of violations

¹⁶¹ *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.

¹⁶² *Plaintiffs' Exhibits* 9-15.

of special conditions 38 and 39 because the evidence provided in support of Count I failed to specify which standards and limitations were allegedly violated. To the extent Plaintiffs did allege a violation of air containment conditions or limitations, the Court found the evidence did not prove a repeated violation of the same, specific limitation. On appeal, the Circuit held the Court conflated its analysis of Count I with the alleged MAERT limitation violations in Count II. As a matter of law, the Circuit held Count I sufficiently alleged an alternate theory from Count II, that every emissions event at the refinery constitutes a violation of the “no upset emissions” provision in special conditions 38 and 39. The Court’s judgment on Count I was vacated and remanded. The Circuit determined the Court “appl[ied] the wrong law to the events set forth” by using the incorrect permit provisions in its analysis. The Court, therefore, must in the first instance examine whether violations of special conditions 38 and 39 are actionable under the CAA, and if so, what the statutory scope of liability is for each upset event.¹⁶³

¹⁶³ The Fifth Circuit remanded the case because it determined the Court applied the wrong law. The Court acknowledged in its original opinion (as did the Fifth Circuit opinion) that it did not reach the legal question of whether any violation was actionable under the CAA. Instead, the Court had determined it did not need to address that legal question because, even if the emission events were actionable under the CAA, Plaintiffs did not meet their burden of proof. Exxon contends that because the Fifth Circuit only remanded to this Court with instructions to treat Count I as alleging violations of special conditions 38 and 39, and not MAERT violations, any language in the opinion pertaining to the validity of Exxon’s theory that the permits do not govern upset emissions is not binding on remand. To the extent Exxon is correct—that any

15. The Court first turns to whether special conditions 38 and 39 are an “emission standard or limitation” within the meaning of CAA. An “emission standard or limitation” is defined as “any standard, limitation or schedule established under any permit issued pursuant to subchapter V of this chapter or under any applicable State implementation plan approved by the Administrator, any permit term or condition, and any requirement to obtain a permit as a condition of operations.” 42 U.S.C. § 7604(f)(4). Permit 18287 is a Title V permit within the meaning of the CAA.¹⁶⁴ Therefore, liability turns on whether the “not authorized” language in special conditions 38 and 39 is a limitation in the permit or an exemption from the permit.

16. On its face, the language in special conditions 38 and 39 is a limitation within the meaning of the CAA. The relevant provision in the special conditions states: “This permit does not authorize upset emissions, emissions from maintenance activities that occur as a result of upsets, or any unscheduled/unplanned emissions associated with an upset. Upset emissions are not authorized, including situations where that upset is within the flexible permit

discussion by the Fifth Circuit pertaining to Exxon’s argument that upset emissions are not governed by permits is dicta—the Court notes that it has independently undertaken an analysis of the argument. The Court (as addressed in detail below) agrees with the Fifth Circuit’s analysis of Exxon’s argument. As such, the Court finds it not necessary to address which portions of the Fifth Circuit’s opinion as to Count I may be dicta, and therefore, not binding on the Court on remand.

¹⁶⁴ Title V permit 01229 incorporates permit 18287.

emission cap or an individual emissions limit.”¹⁶⁵ The term “not authorized” cannot be interpreted in isolation from the surrounding text. The modifying language within the text, that this provision applies even when an upset is “within the flexible permit emission cap or an individual emissions limit,” clarifies any ambiguity as to whether the term “not authorized” should be interpreted as a limitation. Rather than exempting upset emissions from the permit, the terminology provides a further limitation on standards and limitations found elsewhere in the permit.

17. Exxon’s contention the phrasing of general condition 15 indicates that each special condition would need to explicitly state failure to comply with a limit in a permit is a “violation” where an emission is “not authorized” is unavailing. General condition 15 states: “The permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized **and** are violations of this permit.”¹⁶⁶ The phrase “are not authorized and are violations of the permit” modifies the first part of the sentence “[e]missions that exceed the limits of this permit.” The “not authorized” terminology from special condition 38 and 39 does not parallel the modifying “not authorized and ... violations of the permit” language in general condition 15, such that the term should not be interpreted as violations unless explicitly deemed such. Special conditions 38 and 39’s language is best

¹⁶⁵ Plaintiffs’ Exhibit 176, Special Condition ¶¶ 38, 39 (emphasis added).

¹⁶⁶ Plaintiffs’ Exhibit 176, General Condition ¶ 15 (emphasis added).

classified as instead defining when an upset event “exceeds the limits of this permit.” As discussed above, by the special conditions’ terms, any upset emission—even one within the flexible permit emission cap or an individual emissions limit—exceeds the limits of permit 18287.

18. The cases Exxon cites in support of holding that special conditions 38 and 39 exempt upset emissions from the permit are inapposite. The analysis of the distinction between “authorizing” and “prohibiting” an event in *Association of Civilian Technicians v. FLRA*, 269 F.3d 1112, 1116 (D.C. Cir. 2001), turned on an agency’s reliance on a non-applicable statute to interpret a collective bargaining provision and its interpretation that the lack of authorization in that inapplicable statute prohibited an expenditure. The statutory provision at issue did not use the term “not authorized.” *Id.* As such, the D.C. Circuit was not even interpreting the term “not authorized” and differentiating the term from “prohibiting”; any discussion of a lack of authorization merely pertained to the general principle that an expenditure is not authorized unless affirmatively recognized by a law or regulation. *Id.* The special conditions at issue here turn on the definition of the explicit term “not authorized.” *Cabazon Band of Mission Indians v. Wilson*, 37 F.3d 430, 433 (9th Cir. 1994), involved a statute that did not confer authority to tax, but neither did the statute prohibit taxation if another source of authority for taxing power could be shown. Here, Exxon has not directed the Court to an alternate authority source that authorizes upset

emissions.¹⁶⁷ Additionally, in context of the entire text of the provision at issue in special conditions 38 and 39, the term “not authorized” on its face prohibits upset emissions.

19. Nor does Exxon find support for its position in the regulatory framework. Special conditions 38 and 39 pertain to “upset emissions.” As permit 18287 does not define the term, the Court turns to the definition found in Texas’s regulatory framework. An “upset event” is defined under Texas law as “[a]n unplanned and unavoidable breakdown or excursion of a process or operation that results in unauthorized emissions ...”¹⁶⁸ 30 Tex. Admin. Code § 101.1 (110). “[U]nauthorized emissions” are defined as “[e]missions of any air contaminant except water, nitrogen, ethane, noble gases, hydrogen, and oxygen that exceed any air emission limitation in a permit, rule, or order of the commission or as authorized by Texas Health and Safety Code, § 382.0518(g).” *Id.* § 101.1(108). The regulations themselves refer back to the limitations set out in a permit. Exxon has not pointed the Court to a regulation that governs upset

¹⁶⁷ *Infra* ¶¶ III.19-20.

¹⁶⁸ In full, the definition states: “Upset event—An unplanned and unavoidable breakdown or excursion of a process or operation that results in unauthorized emissions. A maintenance, startup, or shutdown activity that was reported under § 101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements), but had emissions that exceeded the reported amount by more than a reportable quantity due to an unplanned and unavoidable breakdown or excursion of a process or operation is an upset event.” 30 Tex. Admin. Code § 101.1(110).

emissions that would potentially conflict with special conditions 38 and 39.¹⁶⁹

20. The Court has not found any ambiguity as to whether the term “not authorized” in special conditions 38 and 39 pertains to a limitation. The Court found the language in the relevant special conditions is plain on its face and is a limitation within the meaning of the CAA. Even if there were to be ambiguity, however, the evidence Exxon cites from the TCEQ and the purported applicability of *Auer* deference is unpersuasive. The Agreed Order states: “Emission events and MSS activities, other than planned MSS activities, are not subject to permitting under 30 Tex. Admin. Code Chapters 106 or 116, and are regulated under 30 Tex. Admin. Code Chapter 101 and Tex. Health & Safety Code §§ 382.0215, 382.0216 and 382.085.”¹⁷⁰ Chapter 106 pertains to permits by rule. *See* 30 Tex. Admin. Code § 106.4. Chapter 116 pertains to permitting for new construction or modification. *See* 30 Tex. Admin. Code § 116.10. The Agreed Order is best interpreted as stating Exxon cannot receive a permit allowing emissions events or unplanned MSS activities by rule or during new construction and modification. Emissions events and unplanned MSS activity is not exempted from a permit; instead, Exxon is prohibited from receiving a

¹⁶⁹ 30 Texas Administrative Code § 101.1 merely sets out the definitions for terms used in air quality rules; section 101.1 does not provide any affirmative regulation pertaining to those definitions. Even if Exxon were able to direct the Court to such a provision, general provision 13 in permit 18287 states the special conditions in the permit may be more restrictive than the requirement of Title 30 of the Texas Administrative Code. *See* Plaintiffs’ Exhibit 176, General Condition ¶ 13.

¹⁷⁰ *Defendants’ Exhibit* 222, Finding ¶ I.2.

permit allowing emissions events and unplanned MSS activities pursuant to those chapters. The Agreed Order prohibits issuing a permit that allows emissions events and unplanned MSS activities, and states the events and activities are additionally subject to the cited regulatory schemes. A permit could still include a provision that prohibits emissions events and unplanned MSS activities and would be consistent with the Agreed Order.

22. Exxon further contends the trial evidence establishes agency regulatory policy considers special conditions 38 and 39 not to be stand-alone emissions standards or limitations, and the agency's treatment of these special conditions is entitled to *Auer* deference.¹⁷¹ At trial, Karen Olson ("Olson"), a former TCEQ permit reviewer and manager, testified that special conditions 38 and 39, "define what is within the scope of the permit and what is not within the scope of the permit as handled through Chapter 101."¹⁷² However, there was no testimony that specifically stated whether upset emissions were within the scope of the permit or not.¹⁷³ Even if the

¹⁷¹ *Auer* deference is the proposition that, where an agency's regulation is ambiguous, courts "defer to an agency's interpretation of its regulations, even in a legal brief, unless the interpretation is plainly erroneous or inconsistent with the regulations or there is any other reason to suspect that the interpretation does not reflect the agency's fair and considered judgment on the matter in question." *Talk Am., Inc. v. Mich. Bell Tel. Co.*, 546 U.S. 50, 59 (2011) (internal quotations omitted).

¹⁷² *Trial Transcript*, 11-149:5 to 150:15.

¹⁷³ Further, the Court sustained Plaintiffs' objection to Exxon's tender of Olson for the purpose of "establish[ing] the TCEQ's understanding of the permit, the regulations that apply to the permit, and how the TCEQ views permit and permitting

Court were to interpret Olson's testimony as stating the agency did not consider special conditions 38 and 39 as stand-alone limitations, *Auer* deference would not apply to that testimony. *See Paralyzed Veterans of Am. V. D.C. Arena L.P.*, 117 F.3d 579, 587 (D.C. Cir. 1997), *abrogated on other grounds by Perez v. Mortg. Bankers Ass'n*, 135 S. Ct. 1199 (2015) ("A speech of a mid-level official of an agency, however, is not the sort of 'fair and considered judgment' that can be thought of as an authoritative departmental position."). Olson's testimony would be the equivalent of a speech by a mid-level official in *Paralyzed Veterans*, which the Court would not without more ascribe authority to as a departmental position. *Auer* deference, therefore, is inapplicable. Accordingly, the Court finds that special conditions 38 and 39 are standards and limitations within the CAA.

2. *Violations of Special Conditions 38 and 39*

23. Plaintiffs contend that each pollutant emitted during an upset event is a separate violation. Exxon does not address this contention. The Court did not reach the question in its initial opinion as to whether violations are determined per upset event or on a contaminant-by-contaminant basis.

24. Interpretations of the CWA provision are instructive when analyzing a CAA provision. *See United States v. Anthony Dell'Aquila, Enters. & Subsidiaries*, 150 F.3d 329, 338 n.9 (3d Cir. 1998). The CWA utilizes a pollutant-by-pollutant analysis in determining violations. *See Texaco*, 2 F.3d 493, 498-99 (discussing that one unresolved source of trouble

issues, and how they interpreted those rules." *Trial Transcript*, 11-127:8 to 128:5.

can result in violations of multiple parameters, all of which are actionable in citizen's suit). Additionally, the language of special conditions 38 and 39 refers to "upset emissions" not "upset events."¹⁷⁴ As discussed above, under Texas's regulatory framework "upset events" are defined as resulting in "unauthorized emissions."¹⁷⁵ The Court determines that the statutory framework and language of the special conditions indicate a pollutant-by-pollutant approach should be adopted here. Accordingly, the Court will count each emission of a separate pollutant during an upset event as an individual violation.

25. The evidentiary support cited for violations of Count I is Plaintiffs Exhibits 1A and 1B (stipulated spreadsheets), 587 and 588 (Plaintiffs' corresponding spreadsheets), and 9 (tallied table).¹⁷⁶ These exhibits all reference permit 18287. The information contained within the spreadsheets pertaining to the date, time, duration of release, and amount released is undisputed. The Court found that pursuant to special conditions 38 and 39 these emissions were not authorized in any amount, even if the emissions fell within an emissions cap or individual emission

¹⁷⁴ Plaintiffs' Exhibit 176, Special Condition ¶¶ 38, 39.

¹⁷⁵ *Supra* ¶ III.19.

¹⁷⁶ On remand, Plaintiffs submitted resorted versions of Plaintiffs' Exhibits 587-94. *Description of Re-Sorted Versions of Plaintiffs' Exhibits 587-594*, Document No. 253, Exhibit 3. The resorted versions show how repeated violations of specific emissions were identified and calculated, as well as grouped by duration. The spreadsheets were submitted to the Court in native format. The Court has reviewed the resorted exhibits and finds they are consistent with the spreadsheets initially submitted at trial.

limit.¹⁷⁷ Therefore, the hourly emission limit is zero. Plaintiffs spreadsheets comport with the Court's analysis of special conditions 38 and 39.

26. Each day of violation is subject to a civil penalty under the CAA. *See* 42 U.S.C. § 7413(b); 40 C.F.R § 19.4. Neither party has directed the Court to a definition within a statute or permit for the term "day." The Court adopts the definition of "day" as a twenty-four hour period, as has been adopted in the context of the CWA. *See San Francisco Baykeeper v. W Bay Sanitary Dist.*, 791 F. Supp. 2d 719, 762 (N.D. Cal. 2011) (noting the twenty-four hour period calculation, as opposed to a calendar day definition, was more favorable to the defendant, the non-moving party). As the Court found each separate emission of a pollutant during an upset event is a separate violation, to the extent multiple violations by the same pollutant occur on the same calendar day, those violations are counted as separate violations. However, a continuous violation of pollutant resulting from one upset event utilizes the twenty-four hour period definition in calculating days of violations.

27. The Court has reviewed the spreadsheets and tallied table submitted by Plaintiffs relevant to Count I and agrees with the methodology used in calculating the total violations per pollutant listed therein. The evidence shows the refinery emitted twenty-four

¹⁷⁷ To the extent the spreadsheets reference MAERT limits the Court will consider those violations in the alternative under Count II. The Court will analyze permit 18287 violations individually under each count. To the extent Counts I and II overlap-and as consistent with the Circuit's instructions on remand-the Court will not double count any violations under Counts I and II in calculating the penalties.

different pollutants in continuing or repeated violations totaling 10,583 days of violations. Accordingly, the Court finds under Count I, Plaintiffs have proven 10,583 days of repeated or continued violations of special conditions 38 and 39 by a preponderance of the evidence.

b. Count II

28. Plaintiffs contend-given the Fifth Circuit's holding that even if the numerical limits per pollutant within a permit vary due to amendment or renewal, exceeding those differing limits qualifies as a violation of the same permit-the violations in Count II are undisputed. Exxon contends it merely stipulated the data in the evidentiary spreadsheets supporting Count II was correct, but did not concede that entries on those spreadsheets listing the emission limit as zero or not authorized were violations.

29. The Court's initial opinion found Plaintiffs' spreadsheets supporting their allegations of violations of the hourly MAERT limits needed to reference and provide corroborating evidence of repeated or continuing violations of a specific permit condition. Additionally, the Court found where the numeric limit for a specific permit varied, each numeric violation constituted a separate permit for purposes of showing repeated violations. Only as to the chemical plant permits, did the Court find the spreadsheets corroborated repeated violations of the same, specific hourly emission limitation.¹⁷⁸ The

¹⁷⁸ The Court found sixteen violations of Count II utilizing that interpretation of violating the same, specific permit

Fifth Circuit held the Court erred in treating variations in numerical limits for a pollutant within a permit due to amendment or renewal as different conditions or limitations. “[W]ith respect to specific limits on particular pollutants from particular sources that change numerically due to amendments or renewal ... such limits constitute the same ‘standards or limitations’ for purposes of determining whether violations are ‘repeated’ or ‘ongoing’ under the CAA citizen suit provision.” *Env’t Tex. Citizen Lobby v. ExxonMobil Corp.*, 824 F.3d 507, 519 (5th Cir. 2016) (citing 42 U.S.C. §§ 7604(a)(1) & (f)(4)). The Court was instructed on remand to calculate the correct number of actionable Count II violations using the correct definition of the “same standard or limitation.”

30. Exxon contends the Fifth Circuit only vacated in part the Court’s initial conclusions of law for Count II. Undisturbed by the Circuit’s opinion, Exxon argues, are the Court’s initial conclusions of law paragraphs 19, 22, and 25. These paragraphs originally found that where certain emissions were listed as “not specifically authorized” or authorized by the particular permit, the spreadsheets did not corroborate violations of “specific conditions.” As such, Exxon contends it is free on remand to challenge the sufficiency of entries on the spreadsheets that use the notations “not specifically authorized” or an hourly emissions limit rate of zero, to prove repeated violations. Exxon is mistaken. Footnote five of the Circuit’s opinion forecloses any argument on remand as to whether these entries constitute violations. In

condition. See *Findings of Fact and Conclusions of Law*, Document No. 225, Appendix.

that note, the Circuit addresses Exxon's argument on appeal "that it 'never admitted' any entries under Count II were violations, 'and the district court plainly understood that position since it did not find liability on all of the allegations in' that count." *Env't Tex.*, 824 F.3d at 518 n.5. Holding that Exxon conceded that filing a reportable STEERS event is a violation, the Circuit explained this Court's finding of no liability on some events did not necessitate the Court having adopted Exxon's position. *Id.* Because the CAA requires proving repeated violations, the existence of a single reported violation does not create per se liability under the CAA. *Id.* The Court noted in its initial findings (which the Circuit's opinion cited) that Exxon "[did] not dispute that the alleged violations under Count II ... of Plaintiffs complaint constitute violations of an emission standard or limitation."¹⁷⁹ The Circuit's opinion did not find any error with the finding that the Count II violations were undisputed. Therefore, the Court declines on remand to revisit that conclusion. Accordingly, the Court finds, as to Exxon's contention it is entitled to contest on remand whether entries for which the limit is listed as zero or not specifically authorized are violations, the Courts initial findings forecloses that argument on remand.¹⁸⁰

31. The Circuit's analysis of Counts III and IV is instructive to the extent Exxon contends the Court's initial conclusion, that entries with limitations listed

¹⁷⁹ *Findings of Fact and Conclusions of Law*, Document No. 225, 111.9, 111.9 n.153.

¹⁸⁰ *Supra* ¶ III.9 n.153; *Findings of Fact & Conclusions of Law*, Document No. 225, ¶ III.9 n.153.

as “not specifically authorized” or zero were not corroborated and therefore not proven, was not vacated. The Circuit interpreted the Court’s initial conclusions of law paragraphs 19, 22, and 25 as not being corroborated as to the “same limit”-not that an entry listing the limit as “not authorized” or zero required additional corroboration. *Env’t Tex.*, 824 F.3d at 521. The term corroboration referred not to additional evidentiary proof that an entry was a violation, but instead to whether such a violation was repeated or continuous such that it would be actionable under the CAA.¹⁸¹ Accordingly, the Court

¹⁸¹ To the extent the Court’s initial conclusions could be interpreted to support Exxon’s theory, the Court finds any such interpretation is foreclosed by the Fifth Circuit’s opinion. Specifically, the opinion states: “[T]he district court clearly assumed each Count II event counted by Plaintiffs was undisputed as a violation because it limited its focus in its findings of fact and conclusions of law to whether identical numerical permit limits were present in Plaintiffs’ tables such that repeated or ongoing violations of the *same* limits were ‘corroborated.’” *Env’t Tex.*, 824 F.3d at 524. Whether this characterization of the Court’s initial conclusions simplified any nuances in that opinion is immaterial on remand. The Circuit vacated Count II in its entirety, not in part. Exxon is attempting on remand to assert arguments the Circuit specifically found were waived. In repeated footnotes, in regards to Count II, the Circuit stated: “Exxon never contested those emissions as violations below, and the district court rightly understood there was no dispute on the point.” *Id.* at 524 n. 9; *see also*, *id.* at 518 n.5 (noting Exxon did not contest on the record whether “specific entries in which the emission quantity-standing alone-would appear to fall below the applicable listed threshold were not shown to be violative of MAERT limits”). The Court interprets these notes as instructing it to consider each entry on Count II as an undisputed violation and that any interpretation otherwise would be error. On remand, the Circuit did give Exxon leave to contest whether an entry on the spreadsheet was

finds as consistent with the Circuit's opinion, that where a limit is listed as zero or "not authorized," that term refers to a limitation within the CAA and any entry on the spreadsheet listed as such is a violation. In calculating the number of violations, the Court below will note the permit conditions the Plaintiffs allege were violated and the spreadsheets providing the evidentiary support documenting those violations.¹⁸²

32. General condition 8 and special condition 1 of each of Exxon's state-issued permits identify a MAERT. For each pollutant, the MAERT identifies the pollution source, termed the "emission point." Flexible permits contain a single hourly emission limit for a pollutant—a cap-governing all sources in aggregate. 30 Tex. Admin. Code § 116.715(c)(7).

attributable to planned MSS activity. *Id.* at 519. In other words, Exxon was free on remand to direct the Court to which entries were attributable to authorized MSS activity (essentially to assert which violations were subject to affirmative defenses). Violations that result from planned MSS activity are an affirmative defense pursuant to 30 Texas Administrative Code § 101.222. Except to the extent Exxon has addressed MSS activity in its briefing on the affirmative defenses, Exxon has not otherwise directed the Court to which violations could be attributable to planned MSS activity. Accordingly, the Court on this count will treat all violations as uncontested and then determine when it addresses Exxon's affirmative defenses whether all the repeated violations provide a basis for liability under the CAA.

¹⁸² As noted in the previous footnote, the following subsections calculate the repeated violations in total. The Court will address in the section on affirmative defenses whether all the repeated violations proven in Count II give rise to liability under the CAA prior to calculating the base number used in determining the amount of a penalty to assess.

Standard permit MAERTs list the hourly emission limit per pollutant for each source.¹⁸³ “An exceedance of the flexible permit emission cap(s) or individual emission limitations is a violation of the permit.” *Id.* § 116.715(b). MAERTs, and any other special conditions listed in a permit, govern the emission limits for flexible permits. *Id.* § 116.715(c)(7) (stating only those sources of emissions and air contaminants listed in the table are permitted). The corollary of the MAERT defining the universe of sources and contaminants a permit allows within the limits set forth is, that if an emission is not listed in the MAERT, it is not allowed by permit and not authorized. Therefore, the effective limit for that unauthorized contaminant is zero.

33. Plaintiffs submitted spreadsheets in native format sorted based on the information provided in the stipulated spreadsheets. The Court has reviewed Plaintiffs’ spreadsheets and determined that violations are properly counted, based on the above findings, where the emissions rate is “not specifically authorized,” zero, or where portions of an emission is authorized, but the emission exceeds the applicable pounds/hour rate limit, without any additional corroboration needed. As with Count I, the Court concludes the use of a twenty-four hour period, as opposed to a calendar day, to calculate days of violation is appropriate.

i. Refinery Flexible Permit 18287¹⁸⁴

¹⁸³ See e.g., *Plaintiffs’ Exhibit* 139 at ETSC 076146-47.

¹⁸⁴ Count II violations involving 18287 are calculated here without respect to the Court’s findings on Count I. The Count II violations are to an extent duplicative of the Count I violations.

34. Refinery Flexible Permit 18287 provides for MAERT limitations in general conditions 8 and 15, special condition 1, and the table set forth in accordance with those conditions.¹⁸⁵ General condition 8 provides, in relevant part, that “[f]lexible permitted sources are limited to the emission limits and other conditions specified in the table attached to the flexible permit.”¹⁸⁶ General condition 15 requires the permit holder to comply with all requirements of the permit, and states emissions exceeding the limits thereof are not authorized and are permit violations.¹⁸⁷ Special condition 1 provides that “[t]his permit covers only those emissions from those points listed in the attached table entitled ‘Emission Sources—Emission Caps,’ and the facilities covered by this permit are authorized to emit to the emission rate limits and other conditions specified in this permit.”¹⁸⁸

35. The evidentiary support cited for MAERT violations of permit 18287 is Plaintiffs Exhibits 2A and 2B (stipulated spreadsheets), 589 and 590 (Plaintiffs’ corresponding spreadsheets), and 10 (tallied table). The Court has reviewed the spreadsheets and tallied table submitted by Plaintiffs relevant to Count II, permit 18287, and agrees with the methodology used in calculating the total

In calculating the amount of a penalty to assess, the Court will use the violations in Count I, as special conditions 38 and 39 are more restrictive than the MAERT limitations in Count II, and encompass the Count II violations.

¹⁸⁵ *Plaintiffs’ Exhibit* 176 at ETSC 077534.

¹⁸⁶ *Plaintiffs’ Exhibit* 176, General Condition ¶ 8.

¹⁸⁷ *Plaintiffs’ Exhibit* 176, General Condition ¶ 15.

¹⁸⁸ *Plaintiffs’ Exhibit* 176, Special Condition ¶ 1.

violations per pollutant listed therein. The evidence shows the refinery emitted twenty-four different pollutants in continuing or repeated violations totaling 7,920 days of violations. Accordingly, the Court finds as to permit 18287, Plaintiffs have proven 7,920 days of repeated or continued violations of MAERT limits by a preponderance of the evidence.¹⁸⁹

ii. Olefins Plant Flexible Permit 3452

36. Olefins Plant Flexible Permit 3452 provides for MAERT limitations in general condition 8, special condition 1, and the table set forth in accordance with those conditions.¹⁹⁰ General condition 8 provides, that “[t]he total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled ‘Emission Sources—Maximum Allowable Emission Rates.’”¹⁹¹ Special condition 1 provides that “[t]his permit authorizes emissions only from those points listed in the attached table entitled ‘Emission Points, Emission Caps,’ and Individual Emission Limitations.”¹⁹²

37. The evidentiary support cited for MAERT violations of permit 3452 is Plaintiffs Exhibits 2C and 2D (stipulated spreadsheets), 591 and 592 (Plaintiffs’ corresponding spreadsheets), and 10 (tallied table). The Court has reviewed the spreadsheets and tallied table submitted by Plaintiffs relevant to Count II,

¹⁸⁹ The Court finds the Count II violations as to permit 18287 in the alternative to any violations found as to that permit in Count I.

¹⁹⁰ *Plaintiffs’ Exhibit* 132 at ETSC 076033 et seq.

¹⁹¹ *Plaintiffs’ Exhibit* 133, General Condition ¶ 8.

¹⁹² *Plaintiffs’ Exhibit* 133, Special Condition ¶ 1.

permit 3425, and agrees with the methodology used in calculating the total violations per pollutant listed therein. The evidence shows the plant emitted fourteen different pollutants in continuing or repeated violations totaling 4,038 days of violations. Accordingly, the Court finds as to permit 3452, Plaintiffs have proven 4,038 days of repeated or continued violations of MAERT limits by a preponderance of the evidence.

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 Authorization¹⁹³

38. The Chemical Plant permits provide for MAERT limitations in general condition 8, special condition 1, and the tables set forth in accordance with the conditions of permits 4600, 5259, 20211, 36476. General condition 8 of permits 4600, 5259, and 36476 provides, that “[t]he total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled ‘Emission Sources—Maximum Allowable Emission Rates.’”¹⁹⁴ General

¹⁹³ The Court in its initial findings of fact and conclusions of law did find repeated violations of the Chemical Plant permits on Count II. However, as the Circuit determined the Court used an erroneous definition of the term “same permit,” the Court reanalyzes the Chemical Plant permits anew using the correct standard. This necessitates entering entirely new findings as to these permits.

¹⁹⁴ *Plaintiffs’ Exhibit* 140, General Condition ¶ 8; *Plaintiffs’ Exhibit* 144, General 8; *Plaintiffs’ Exhibit* 139, General Condition Condition ¶ 8.

condition 8 of permit 20211 provides, in relevant part, that “[f]lexible permitted sources are limited to the emission limits and other conditions specified in the table attached to the flexible permit.”¹⁹⁵ Special condition 1 of permits 4600 and 36476 provides that “[t]his permit authorizes emissions only from those points listed in the attached table entitled ‘Emission Sources—Maximum Allowable Emission Rates’ and facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.”¹⁹⁶ Special condition 1 of permit 5259 states that “[t]his permit covers only those sources of emissions listed in the attached table entitled ‘Emission Sources—Maximum Allowable Emission Rates,’ and those sources are limited to the emission limits and other conditions specified in the attached table.”¹⁹⁷ Special condition of permit 20211 provides, in relevant part, that “the facilities covered by this permit are authorized to emit subject to the emission rate limits on the maximum allowable emission rates table

¹⁹⁵ *Plaintiffs’ Exhibit* 123, General Condition ¶ 8.

¹⁹⁶ *Plaintiffs’ Exhibit* 140, Special Condition ¶ 1; *Plaintiffs’ Exhibit* 139, Special Condition 139. The MAERT table for permit 4600 is located at *Plaintiffs’ Exhibit* 140 at ETSC 76161 et seq. The MAERT table for permit 36476 is located at *Plaintiffs’ Exhibit* 140 at 076146 et seq.

¹⁹⁷ *Plaintiffs’ Exhibit* 144, Special Condition ¶ 1. The MAERT table for permit 5259 is located at *Plaintiffs’ Exhibit* 140 at ETSC 76187.

(MAERT) table and other requirements specified in Special Condition Nos. 54 through 68.”¹⁹⁸

39. The evidentiary support cited for MAERT violations of the Chemical Plant permits is Plaintiffs Exhibits 2E and 2F (stipulated spreadsheets), 593 and 594 (Plaintiffs’ corresponding spreadsheets), and 10 (tallied table). The Court has reviewed the spreadsheets and tallied table submitted by Plaintiffs relevant to Count II, chemical plant permits, and agrees with the methodology used in calculating the total violations per pollutant listed therein. The evidence shows the plant emitted different pollutants in continuing or repeated violations totaling 1,671 days of violations. Accordingly, the Court finds as to the Chemical Plant permits, Plaintiffs have proven 1,671 days of repeated or continued violations of MAERT limits by a preponderance of the evidence.

c. Count III

40. Under Count III, Plaintiffs allege thirteen 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”).¹⁹⁹ The evidentiary support cited to is Plaintiffs’ Exhibits 3 (stipulated spreadsheet), 595 (Plaintiffs’ corresponding spreadsheet), and 11

¹⁹⁸ *Plaintiffs’ Exhibit* 120, Special Condition ¶ 1. The MAERT table for permit 20211 is located at *Plaintiff’s Exhibit* 120 at 075736 et seq.

¹⁹⁹ *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law*, Document No. 218 at 100.

(tallied table). Plaintiffs divided this count by plant for the purpose of proving repeated violations.²⁰⁰

41. The Court in its initial opinion determined that Plaintiffs provided corroborating evidence sufficient to prove nine violations. The Fifth Circuit held the Court erred in requiring corroboration of the Count III violations, as the Court had expressly found the violations under Counts II, III, IV, and V were undisputed. On remand, the Court was instructed to include in its tally of Count III violations, those violations which it had previously deemed uncorroborated.

42. For each plant, the Court finds that Plaintiffs' Exhibit 3 establishes either at least two violations of the HRVOC rule prior to, or at least one violation proceeding and following, the complaint's filing. As the Court found that violations in Count III were undisputed, and the Circuit held that no corroboration of the undisputed violations was required, all of the alleged violations are actionable. Accordingly, the Court finds as to the HRVOC rule violations, Plaintiffs have proven thirteen repeated or continued violations, totaling eighteen days of violation, by a preponderance of the evidence.²⁰¹

d. Count IV

43. Under Count IV, Plaintiffs allege forty-two violations of the rule that prohibits visible emission from flares except for periods not to exceed five

²⁰⁰ *Plaintiffs' Exhibit 11*. Only violations at the olefins and chemical plant are listed; no violations at the refinery are listed.

²⁰¹ As with the prior counts, the Court will later address the applicability of any affirmative defenses to the Count III violations.

minutes in two consecutive hours (the “Smoking Flares Rule”).²⁰² 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.

44. The Court in its initial opinion determined that Plaintiffs provided corroborating evidence sufficient to prove twenty-eight violations. The Fifth Circuit held the Court erred in requiring corroboration of the Count IV violations, as the Court had expressly found the violations under Counts II, III, IV, and V were undisputed. On remand, the Court was instructed to include in its tally of Count IV violations, those violations which it had previously deemed uncorroborated.

45. For each plant, the Court finds that Plaintiffs’ Exhibit 4 establishes either at least two violations of the Smoking Flare rule prior to, or at least one violation proceeding and following, the complaint’s filing. As the Court found that violations in Count IV were undisputed, and the Circuit held that no corroboration of the undisputed violations was required, all of the alleged violations are actionable. Accordingly, the Court finds as to the Smoking Flare rule violations, Plaintiffs have proven forty-two repeated or continued violations, totaling forty-four

²⁰² *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law*, Document No. 218 at 101.

days of violation, by a preponderance of the evidence.²⁰³

e. Count V

46. 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”).²⁰⁴ The evidentiary support cited to is Plaintiffs’ Exhibits 5 (stipulated spreadsheet), 597 (Plaintiffs’ corresponding spreadsheet), and 13 (tallied table). Plaintiffs divided this count by plant for the purpose of proving repeated violations.²⁰⁵ 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.”²⁰⁶ 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

²⁰³ As with the prior counts, the Court will later address the applicability of any affirmative defenses to the Count IV violations.

²⁰⁴ *Plaintiffs’ Proposed Findings of Fact and Conclusions of Law*, Document No. 218 at 101.

²⁰⁵ *Plaintiffs’ Exhibit* 13.

²⁰⁶ *Plaintiffs’ Exhibits* 5 at row 17, 597 at row 17.

all of the alleged violations of the Flame Pilot Rule under Count V are actionable.²⁰⁷

f. Count VI

47. 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 14115; special condition 1; and MAERT limits for emissions of various air contaminants.²⁰⁸ 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);"²⁰⁹ 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.²¹⁰

²⁰⁷ All the violations listed in Plaintiffs' Exhibit 5 are actionable. The Court is not required to revisit its methodology in determining that all violations are actionable because the Fifth Circuit did not address Count VI on appeal.

²⁰⁸ *Plaintiffs' Proposed Findings of Fact and Conclusions of Law*, Document No. 218 at 102; *Plaintiffs' Revised Proposed Findings of Fact and Conclusions of Law*, Document No. 222 at 58-59; *Plaintiffs' Exhibit 14* at 1.

²⁰⁹ *Plaintiffs' Exhibits 6* (capitalization omitted), 598 (capitalization omitted).

²¹⁰ See *Plaintiffs' Exhibits 6*, 598.

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.²¹¹ 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 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.²¹²

g. Count VII²¹³

48. Under Count VII, Plaintiffs allege Exxon's Deviations are actionable.²¹⁴ 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

²¹¹ *Plaintiffs' Exhibit 598.*

²¹² The Court notes that Plaintiffs recognize violations under Count VI overlap with violations under other counts.

²¹³ The Fifth Circuit affirmed the Court's judgment as to Count VII, and the Court instructed the parties it would not revisit its findings as to this Count on remand.

²¹⁴ The evidentiary support cited to is Plaintiffs' Exhibits 7A-7E (stipulated spreadsheets), 599-603 (Plaintiffs' corresponding spreadsheets), and 15 (tallied tables).

noncompliance with a term or condition of the permit....” 30 Tex. Admin. Code § 122.10(6) (emphasis added).²¹⁵ “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.P.R. § 71.6(a)(3)(iii)(C) (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.

D. Affirmative Defenses

49. The Court addresses the applicability of Exxon’s asserted affirmative defenses prior to addressing the relief sought by Plaintiffs, because if an affirmative defense is proven applicable to a violation, the Court in its assessment of the penalty factors will not consider that violation. In the initial findings of fact and conclusions of law, the Court declined to address Exxon’s affirmative defenses as it had found no penalties or other relief warranted. In vacating and remanding that judgment, the Fifth Circuit recognized the Court would likely be called to rule upon the applicability of the affirmative defenses on remand. Exxon contends Hurricane Ike was an Act of God that shields it from liability for emissions violations occurring during the duration of Governor’s proclamation and that it is entitled to affirmative

²¹⁵ See also *Trial Transcript* at 10-203:3-13, 10-209:7-14 (discussing how deviations are indications of noncompliance with a permit condition).

defenses under 30 Texas Administrative Code Chapter 101.222. Plaintiffs contend the defenses are not available as a matter of law or are not supported by sufficient proof.

1. Hurricane Ike Defenses

50. Exxon contends the Texas Governor's proclamation prior to Hurricane Ike's landfall, and the TCEQ's guidance that the proclamation abrogated a need to seek prior approval for exceedance of emission limits directly related to the hurricane response, precludes liability for ten reportable events resulting violations. Plaintiffs contend the CAA does not contain an Act of God defense, and therefore, the defense is not available because Exxon has not met its burden to show any such provision was incorporated in Texas's State Implementation Plan ("SIP").²¹⁶

51. A state regulatory defense "must itself be authorized or permitted by the SIP." *Sierra Club v. Tenn. Valley Auth.*, 430 F.3d 1337, 1346-50 (11th Cir. 2005) (explaining why a state provision that provided a defense that the "EPA has never sanctioned ... and has yet to accept or reject [the defense] as a proposed SIP revision" is inapplicable). Texas Water Code § 7.215 provides: "If a person can establish that an event that would otherwise be a violation of a statute within the commission's jurisdiction or a rule adopted or an order or a permit issued under such a statute

²¹⁶ Exxon contends Plaintiffs did not previously raise the argument that § 7.251 of the Texas Water Code is not included in the Texas SIP. That is incorrect. See *Plaintiff's Revised Proposed Findings of Fact and Conclusions of Law*, Document No. 218, ¶ 42.

was caused solely by an act of God, war, strike, riot, or other catastrophe, the event is not a violation of that statute, rule, order, or permit.” Tex. Water Code § 7.251 (enacted in 1997 and current through the end of the 2015 Regular Session of the 84th Legislature). Exxon contends that because Texas’s SIP incorporates § 7.251’s predecessor statute, which includes an Act of God provision, the Act of God defense is recognized by Texas’s SIP. *See* 40 C.P.R. § 52.2270(e) (incorporating Texas Clean Air Act (Article 4477-5), Vernon’s Texas Civil Statutes, as amended by S.B. 48 of 1969). The problem with this argument is that the SIP incorporates a previous version of the statute, not the current provision. A state regulatory defense has to be specifically authorized or permitted by the state SIP. Exxon is claiming a state regulatory defense pursuant to Texas Water Code § 7.251. Section 7.251 is not specifically authorized or permitted by the SIP; its predecessor is. There is no indication in the record or the statutory provisions cited that EPA has ever sanctioned § 7.251 or considered the provision as a proposed SIP revision.²¹⁷ Accordingly, the Court finds as a matter of law that Exxon’s Act of God defense is inapplicable and Exxon is subject to liability under the CAA for the events purportedly covered by this defense.

2. *30 Texas Administrative Code § 101.222
Affirmative Defenses*

²¹⁷ Nor is there any provision in the SIP adopting the Governor’s Hurricane Ike proclamation. The CAA does not provide an Act of God defense. Without specific authorization in the CAA or Texas’s SIP, the Act of God defense is inapplicable here.

50. Exxon contends affirmative defenses under 30 Texas Administrative Code § 101.222 apply to ninety-eight of the events. Plaintiffs contend Exxon did not set forth specifically how the statutory criteria are met for each event for which an affirmative defense is asserted, but that Exxon instead impermissibly relied on TCEQ's acceptance of the asserted affirmative defenses.

51. The burden to show the applicability of an affirmative defense rests on the party seeking entitlement to the defense. *Luminant Generation Co. LLC v. US. E.P.A.*, 714 F.3d 841, 855 (5th Cir. 2013). That party must prove the “enumerated factors, including that the period of excess emissions was minimized to the extent practicable and that the emissions were not due to faulty operations or disrepair of equipment.” *Id.* (quoting 75 Fed. Reg. at 68,992 and citing 30 Tex. Admin. Code § 101.222(b), (c)) (rejecting the contention that a defendant only need make a prima facie showing of applicability and that the burden will then shift to the plaintiff to show the defense does not apply).

52. Pursuant to 30 Texas Administrative Code § 101.222(b), non-excess upset events are subject to affirmative defenses in enforcement actions, where the **“owner or operator proves all of the following:”**

(1) the owner or operator complies with the requirements of § 101.201 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements)....;

(2) the unauthorized emissions were caused by a sudden, unavoidable breakdown

of equipment or process, beyond the control of the owner or operator;

(3) the unauthorized emissions did not stem from any activity or event that could have been foreseen and avoided or planned for, and could not have been avoided by better operation and maintenance practices or technically feasible design consistent with good engineering practice;

(4) the air pollution control equipment or processes were maintained and operated in a manner consistent with good practice for minimizing emissions and reducing the number of emissions events;

(5) prompt action was taken to achieve compliance once the operator knew or should have known that applicable emission limitations were being exceeded, and any necessary repairs were made as expeditiously as practicable;

(6) the amount and duration of the unauthorized emissions and any bypass of pollution control equipment were minimized and all possible steps were taken to minimize the impact of the unauthorized emissions on ambient air quality;

(7) all emission monitoring systems were kept in operation if possible;

(8) the owner or operator actions in response to the unauthorized emissions were documented by contemporaneous operation logs or other relevant evidence;

(9) the unauthorized emissions were not part of a frequent or recurring pattern indicative of inadequate design, operation, or maintenance;

(10) the percentage of a facility's total annual operating hours during which unauthorized emissions occurred was not unreasonably high; and

(11) the unauthorized emissions did not cause or contribute to an exceedance of the national ambient air quality standards (NAAQS), prevention of significant deterioration (PSD) increments, or to a condition of air pollution.

30 Tex. Admin. Code § 10 1.222(b) (emphasis added).

53. The evidentiary support cited for the affirmative defenses is Defendant's Exhibits 18, 19, and 20, and the corresponding STEERS reports attached thereto. Exxon also directs the Court to paragraphs 476 through 687 of its initial proposed findings of facts and conclusions of law.²¹⁸ Therein, Exxon cites to expert testimony of Dr. Christopher S. Buehler, Dr. Lucy Fraiser, and Mr. David Cabe.²¹⁹

54. The Court finds that Exxon has not met its burden to demonstrate that the eleven statutory criteria are met as to the ninety-eight events. The Court has reviewed paragraphs 476 to 687 in full. As to each STEERS event, Exxon cites to a finding by the TCEQ that an affirmative defense applies to that

²¹⁸ *Proposed Findings of Fact and Conclusions of Law*, Document No. 216, Exhibit 1.

²¹⁹ *Proposed Findings of Fact and Conclusions of Law*, Document No. 216, Exhibit 1, ¶¶ 677-86.

event. However, the TCEQ's determination of the applicability of an affirmative defense at best rises to the level of prima facie proof. Reliance on the TCEQ's determination is not sufficient to meet Exxon's evidentiary burden at trial to demonstrate all eleven criteria are met. Neither is Exxon's general citation to the testimony of its experts sufficient to demonstrate all ninety-eight STEERS events are subject to affirmative defenses. **Exxon has the burden to demonstrate that all eleven criteria are met for each specific event to which an affirmative defense would apply.** Exxon did not, for each purported STEERS event for which an affirmative defense was asserted, direct the Court to the evidentiary testimony from the experts that demonstrated each of the eleven criteria were met as to that specific event.²²⁰ Accordingly, the Court finds Exxon has not met its burden to show the applicability of 30 Texas Administrative Code § 101.222 under the eleven enumerated factors to each of the relevant STEERS events.

²²⁰ For example, while Dr. Buehler testified in his opinion the criteria were met as to all the events, he did not testify as to whether *all* the criteria were met, as Mr. Cabe and Dr. Fraiser testified as to the air quality criterion. *Trial Transcript*, 11-241:24 to 242:22. The Court would then further have to refer back to respective expert reports and next piece together any testimony and information from the reports to match that evidence the respective STEERS events. Rather than direct the Court to pinpointed testimony and supporting documentation in the expert reports for the eleven criteria for each separate STEERS event, Exxon has only provided a general citation to the testimony and record. The Court finds this is not sufficient to prove each of the enumerated factors as to each STEERS event.

C. Declaratory Judgment

55. Plaintiffs request a “declaratory judgment that Exxon violated its Title V permits and thus the CAA.”²²¹ 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.²²² The Court has already made these findings.²²³

D. Penalties

56. Having found on remand, that a majority of events are actionable under the CAA’s citizen suit provision, the Court will exercise its discretion to conduct a penalty assessment for those events.

57. “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,

²²¹ *PlaintiffS’ Proposed Findings of Fact and Conclusions of Law*, Document No. 218 at 405; *PlaintiffS’ Revised Proposed Findings of Fact and Conclusions of Law*, Document No. 222 at 58.

²²² *Supra* ¶¶ III.9-12.

²²³ *Supra* ¶¶ III.13-48.

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).

58. 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*, 714 F.3d at 852 (“[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.”).²²⁴ 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)

²²⁴ 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)).

(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

59. 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 facts found supra in paragraph III. 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

60. 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.²²⁵ 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.²²⁶ Therefore, there are numerous opportunities for noncompliance, and the number of Events and Deviations alone is not the best evidence

²²⁵ See supra ¶ II.5.

²²⁶ Supra ¶ II.2.

of compliance history.²²⁷ 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.²²⁸

61. 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 manner that eliminates all Events and Deviations.²²⁹ 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.²³⁰ For reasons explained

²²⁷ See *Trial Transcript* at 10-220:14 to 10-223:16.

²²⁸ *Trial Transcript* at 10-221:24 to 10-222:10.

²²⁹ *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.

²³⁰ *Supra* ¶ 11.16.

infra in footnote 240, 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.²³¹ Rather, as expounded supra in paragraph 11.7, a root cause analysis is necessary to 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.²³² 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

²³¹ *Supra* ¶ II.7.

²³² 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 lightning 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-0; *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.

event, and implemented appropriate corrective actions to try to prevent recurrence.²³³ Similarly, for the Recordable Events and Deviations, Exxon analyzed the records for trends and ways to improve, identified root causes, and implemented corrective actions.²³⁴ Additionally, Exxon's maintenance policies and procedures conform or exceed industry standards and codes.²³⁵ The 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.²³⁶ 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.²³⁷ After evaluating all the evidence, the Court finds the preponderance of the credible evidence shows Exxon

²³³ *Supra* ¶¶ 11.7-9.

²³⁴ *Supra* ¶ II.7.

²³⁵ *Supra* ¶ 11.14.

²³⁶ *Trial Transcript* at 12-16:10-20.

²³⁷ *Defendants' Exhibit* 546 at 14-15, ¶¶ 40-44.

made good faith efforts to comply with the CAA.²³⁸ Accordingly, Exxon's full compliance history and good faith efforts to comply weigh against assessing a penalty.

c. Duration of the Violation

62. The Fifth Circuit's opinion held the Court abused its discretion by viewing violations of a longer duration as offset by violations of a shorter duration. The Circuit's opinion also indicated the Court should revisit its approach as to, whether in calculating the duration of a violation, a court should look to the duration of each individual violation or the period of time over which the violations occurred. *See Env't Tex.*, 824 F.3d at 531. The Court was instructed on remand, if it continued to consider durations of the violations individually, to determine whether any violation standing alone was sufficient to justify imposing a penalty.²³⁹

63. The Court first turns to the proper standard for determining whether this factor requires examining the length of an individual violation or the period of time over which the violations occurred. Exxon does not address the case law cited by

²³⁸ 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.

²³⁹ Exxon contends the Court should continue to look to duration of the violations standing alone in analyzing this factor. However, Exxon cites no case law to support this proposition.

Plaintiffs, and referred to by the Fifth Circuit, that indicates the Court should consider the period of time over which the violations occurred on this factor. See *United States v. Vista Paint Corp.*, No. EDCV 94-0127 RT, 1996 WL 477053, at *15 (C.D. Cal. Apr. 16, 1996); *United States v. B & W Inv. Props., Inc.*, No. 91 C 5886, 1994 WL 53781, at *4 (N.D. Ill. Feb. 18, 1994); *United States v. Midwest Suspension & Brake*, 824 F. Supp. 713, 736-37 (E.D. Mich. 1993); *United States v. A.A. Mactal Constr. Co. Inc.*, Civ. A. No. 89-2372-V, 1992 WL 245690, at *3 (D. Kan. Apr. 10, 1992). Nor does Exxon argue that the plain meaning of the phrase “duration of the violation” requires examining each individual violation as opposed to the period of time over which the violations occurred. The Court, in light of the Fifth Circuit’s notation of the authority supporting the position, adopts the interpretation of this factor that examines the period of time over which the credible evidence establishes the violations occurred.

64. The Court next turns to, whether looking to the period of time over which the violations occurred, the duration factor supports imposing a penalty. The credible evidence establishes the violations at issue occurred over an eight-year period. During that eight-year time period, Exxon averaged more than one violation per day. Accordingly, the Court finds the duration factor weighs in favor of assessing a penalty.²⁴⁰

²⁴⁰ The Court finds even under its previous interpretation of this factor, looking to the individual violation’s duration, there are individual violations of a sufficient duration to weigh in favor of assessing penalties. The Court previously found that any longer violations were balanced out by the numerous cursory

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

65. 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.²⁴¹ 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.²⁴²

e. Economic Benefit of Noncompliance

66. 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 (emphasis added). “[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

violations. The Circuit held utilizing the balancing methodology for analyzing the duration factor was an abuse of discretion. As directed by the Circuit on remand, the Court now looks to the actionable violations and determines that a sufficient quantity of violations of a sufficient duration occurred to weigh in favor of assessing penalties. For example, under Count II, there were 138 actionable violations that were more than forty-eight hours in duration. See *Plaintiffs’ Exhibits* 589, 590, 591, 592, 593 & 594.

²⁴¹ *Supra* ¶ II.8.

²⁴² Plaintiffs contend on remand this amount should be reduced given the Court’s finding on Count VII; however, as this issue was not appealed or part of the Fifth Circuit’s instructions on remand, the Court will not revisit the issue.

equipment.” *Id.* (internal quotation marks omitted). A district court must make a reasonable estimate of economic benefit of noncompliance. *Id.* at 552-53.

67. The Fifth Circuit held this Court erred in failing to enter findings as to whether Exxon received an economic benefit in delaying implementation of the four environmental improvement projects from the Agreed Order.²⁴³ Although the Circuit upheld the Court’s rejection of Bower’s expert testimony on this issue as not credible,²⁴⁴ the Circuit held that

²⁴³ *Supra* ¶ II.12.

²⁴⁴ As to Bower’s testimony, the Court’s initial opinion made the following findings, in paragraphs 41–42 of the Court’s *Findings of Fact and Conclusions of Law*, Document No. 225:

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.

Plaintiffs elicited testimony on this issue from Shefftz that was independent of Bower's testimony. *Env't Tex.*, 824 F.3d at 529, 529 n.17. The Circuit noted this Court found Shefftz's method for calculating the economic benefit reliable. On remand, the Court was instructed that "the economic benefit estimate must encompass every benefit that defendants received

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." He opined the remainder of the \$90 million needed to be spent on "material." 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. 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. 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. This includes four environmental improvement projects costing approximately \$20 million that Exxon was not required to undertake under law, and over \$500 million on maintenance and maintenance-related capital projects each year at issue.

from violation of the law' regardless of the inherently speculative nature of the inquiry." *Id.* at 530 n.19 (citing *United States v. Gulf Park Water Co.*, 14 F. Supp. 2d 854, 864 (S.D. Miss 1998)). Further, after making such findings, the Court was instructed to consider whether those four improvement projects were necessary to correct the violations. The Circuit noted the evidence indicated the projects "appear to be correlated in at least a general way" and the Court's inquiry on remand "should center on whether the projects will ameliorate the kinds of general problems that have resulted in at least some of the permit violations upon which Plaintiffs have sued." *Id.* at 530, 530 n.19.

68. The Court interprets the Fifth Circuit's opinion as instructing it to do a two-step analysis on remand: (1) enter findings based on Shefftz's testimony as to the economic benefit Exxon received from delaying implementation of the projects²⁴⁵; and (2) enter findings on the "necessary to correct" prong as to whether the four improvement projects would generally ameliorate the violations on which the Plaintiffs have sued, without requiring a showing that the projects are specifically tied to the prevention of each violation.

²⁴⁵ The Court interprets the Circuit's opinion as holding that Shefftz's testimony alone is sufficient to carry Plaintiff's burden of proof on the first step. To the extent Exxon contests the sufficiency of Shefftz's testimony, in regards to the interest rate chosen in the calculations and because he failed to account for the cost of delay by ignoring the increase in equipment expense, the Circuit instructed the Court to consider "every benefit ... regardless of the inherently speculative nature of the inquiry." *Env't Tex.*, 824 F.3d at 530 n.19 (emphasis in original).

69. On the first step, the Court turns to Shefftz's testimony as to any economic benefit Exxon received from delaying implementation of the four projects in the Agreed Order. The Court previously found Shefftz's methodology reliable. Shefftz calculated the economic benefit to Exxon from delaying implementation as \$11,746,234 as of November 22, 2013 (the date of Shefftz's report).²⁴⁶ The economic benefit would increase by \$61,066 per month until the economic benefit was disgorged in the form of a civil penalty.²⁴⁷ It is now April 2017, which is forty-one additional months from the date of Shefftz's report. Therefore, the economic benefit would encompass an additional \$2,503,706 and the total economic benefit from delay is \$14,249,940. Accordingly, the Court finds Exxon received an economic benefit of \$14,249,940 from the delayed implementation of the improvement projects.²⁴⁸

²⁴⁶ *Trial Transcript* 5-57:14 to 58:13; *Plaintiffs' Exhibit* 556 at 1, 18-21.

²⁴⁷ *Plaintiffs' Exhibit* 556 at 14, 19. *Trial Transcript*, 5-49:5-9, 5-52:6-10.

²⁴⁸ Plaintiffs also contend on remand that because the Circuit instructed the Court to consider every benefit, the one billion dollars the Court found demonstrated Exxon's good faith efforts to comply should now be included in the calculation of the economic benefit from delay. The scope of the Circuit's remand was clear that its instructions pertained to the Shefftz's testimony about the four projects and every benefit derived from the delaying the projects' implementation. Even if Plaintiffs' contention were within the scope of remand, the Court finds the evidence cited insufficient to support even a highly speculative inquiry, and additionally, the argument is waived because it was not raised in any of the previously filed proposed findings of fact and conclusions of law.

70. The Court now turns to the Circuit’s direction on the second step, whether a delayed project is “necessary to correct” the types of violations in the complaint. The Circuit has articulated a general correlation standard to utilize in analyzing this step.²⁴⁹ As an example of the general correlation standard, the Circuit notes that “one project aims to ‘more effectively monitor and troubleshoot’ a refinery flare system in order to ‘improve the identification and characterization of flaring events’ (Count IV) and the order estimates that the projects will specifically achieve reductions in HRVOC emissions (Count III).” *Env’t Tex.*, 824 F.3d at 530. Given the Fifth Circuit’s holding that at least one project meets the general correlation standard, the Court finds the Plaintiffs have met their burden as to at least one project on the “necessary to correct” step. Additionally, the Circuit noted this Court had previously recognized in its order the “projects reflect ‘an effort to reduce emissions and unauthorized emissions events’ at the Baytown complex.”²⁵⁰ *Id.* As the Fifth Circuit instructed the Court to analyze the “necessary to correct” step at a high level of generality, the Court finds Plaintiffs have carried their burden of proof.²⁵¹ Plaintiffs have demonstrated that: (1) the Plant Automation Venture “is intended to provide early identification of potential events and/or

²⁴⁹ *Supra* ¶ III.67.

²⁵⁰ *Supra* ¶ II.12.

²⁵¹ To the extent Exxon argues the projects were voluntary and not required for compliance, and therefore, not a proper basis for determining delayed economic benefit, the Court notes the Fifth Circuit directed it to use those projects on remand in its analysis of the factor.

instrumentation abnormalities, allowing proactive response”²⁵²; (2) the Fuels North Flare System Monitoring/Minimization Project is intended to “more effectively monitor and troubleshoot” the refinery flares²⁵³; (3) the BOP/BOPX Recovery Unit Simulators Project is intended to “improve operator training and competency, resulting in reduced frequency and severity of emissions events”²⁵⁴; and (4) the Enhanced Fugitive Emissions Monitoring Project is a program to locate VOC and HRVOC leaks.²⁵⁵ Accordingly, under the generally correlated standard articulated by the Fifth Circuit, the Court finds the four improvement projects were “necessary to correct” the violations at issue in this suit.

71. The Court has found Exxon received an economic benefit of \$14,249,940 by delay four implementation of four improvement projects that were necessary to correct the violations at issue in this suit. Accordingly, the Court finds the economic benefit of noncompliance factor weighs in favor of assessing a penalty.

f. Seriousness

72. 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]

²⁵² *Defendants’ Exhibit 222*, ¶ 12.a.

²⁵³ *Defendants’ Exhibit 222*, ¶ 12.a.

²⁵⁴ *Defendants’ Exhibit 222*, ¶ 12.b.

²⁵⁵ *Defendants’ Exhibit 222*, ¶ 12.d.

CAA violations to discrete damage to either the environment or the public.” *Pound*, 498 F.3d at 1099 (citing *Pub. Interest Research Grp. of N.J., Inc. v. Powell Duffryn Terminals Inc.*, 913 F.2d 64, 79 (3d Cir. 1990)). The Fifth Circuit, however, did not issue any guidance in its opinion as to the proper definition of the term. Instead, the Fifth Circuit held the Court abused its discretion in viewing the violations it found to be more serious as offset by the numerous less serious violations. In doing so, the Circuit noted—without explicitly adopting—courts have recognized that “the overall number and quantitative severity of emissions or discharges may properly be relied upon as evidence of seriousness.” *Env’t Tex.*, 824 F.3d at 532 (citing *Pub. Interest Research Grp. of N.J., Inc. v. Powell Duffryn Terminals Inc.*, 913 F.2d 64, 79 (3d Cir. 1990)).

73. In light of the Circuit’s guidance, the Court looks to the overall number and quantitative severity of the emissions or discharges.²⁵⁶ The overall number

²⁵⁶ The Court maintains its findings from its initial findings of fact and conclusions of law that most the violations were not serious from a public health and environmental perspective. As is necessary for parts of the Court’s initial judgment left undisturbed by the Fifth Circuit’s opinion, which relied on those findings, the Court reiterates here paragraphs 47 and 48 from the *Findings of Fact and Conclusions of Law*, Document No. 225:

47. Plaintiffs claim the Events and Deviations were serious because they adversely affected public health. To support this claim, Plaintiffs submitted 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. Factors affecting potential risk of harm from pollutants include duration of exposure and concentration of pollutants. 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. Although Plaintiffs' evidence of potential health effects provides some support of a 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. 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. 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. Indeed, unauthorized emissions were a very small percentage of total emissions at the Complex for each year at issue. Plaintiffs' members were only able to correlate some of the impacts, such as odor and noise, to five Events or Deviations at issue in this case. 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. These residents testified the Complex

of violations weighs in favor finding the violations serious. 16,386 days of violations are supported by the evidence.²⁵⁷ As to the quantitative severity of the emissions, approximately ten million pounds of pollutants were released into the atmosphere as a result of the violations in this case.²⁵⁸ Accordingly, the Court finds given the number of days of violations and the quantitative amount of emissions released as a result, the seriousness factor weighs in favor of the assessment of a penalty.

g. Balancing the Factors

74. 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.P.R. § 19.4. Plaintiffs contend the total maximum penalty, after deducting for overlapping violations, is \$573,510,000. However, Plaintiffs are only seeking \$40,815,618 in penalties on remand.²⁵⁹ Exxon contends it should not be assessed a penalty.

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. For all these reasons, the proposition that the Events or Deviations were serious because they created nuisance-type impacts on the surrounding community is not supported by the preponderance of the credible evidence.

²⁵⁷ Days of violations per count are as follows: (1) Count 1: 10,583 days; (2) Count II: 5,709 days; (3) Count III: 18 days; (4) Count IV: 44 days; and (5) Count V: 32 days.

²⁵⁸ *Plaintiffs' Exhibit* 609.

²⁵⁹ *Plaintiffs' Proposed Findings of Fact and Conclusions of Law Following Remand*, Document No. 253, Exhibit 1, ¶ 52.

75. After carefully considering all of the penalty assessment factors discussed above, the Court determines a penalty is appropriate in this case.²⁶⁰ The size and economics factor, duration factor, economic benefit from noncompliance factor, and seriousness factor, all weigh towards assessing a penalty. While Exxon's compliance history weighs against assessing a penalty, that factor is not sufficient to outweigh the factors supporting assessing a penalty. Any penalty assessed will deduct the \$1,423,632 Exxon was already penalized from the amount.

76. 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. &*

²⁶⁰ Exxon did not contend in its initial proposed findings of fact and conclusions of law that the Court should consider the "justice so requires" factor. Therefore, the Court declines to address those arguments on remand.

Subsidiaries, 150 F.3d 329, 339 (3d Cir. 1998); *see Pound*, 498 F.3d at 1095. “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.

77. Plaintiffs calculate the maximum penalty as follows²⁶¹ : (1) Count I: 10,583 days of violation with a \$370,405,000 penalty; (2) Count II: 7,920 days of refinery violations with a \$277,200,000 penalty, 4,038 days of olefins violations with a \$141,330,000 penalty, and 1,671 days of chemical plant violations with a \$58,485,000 penalty; (3) Count III: 18 days of violations with a \$630,000 penalty; (4) Count IV: 44 days of violations with a \$1,540,000 penalty; and (5) Count V: 32 days of violations with a \$1,120,000 penalty. The Court agrees with this calculation. As the Court found Exxon liable on the refinery violations in Count I, it will not include the refinery violations in Count II when calculating the maximum penalty. The total maximum penalty, therefore, is \$573,510,000.

78. **Plaintiffs** have submitted proposed findings of fact and conclusions of law that **adopt a bottom-up approach**, which calculates the penalty at an amount that is **fifty percent** higher than the

²⁶¹ Plaintiffs apply a penalty rate of \$35,000 per day across the board, given that approximately half the violations occurred when the rate was \$32,500 and half when the rate was \$37,500. Defendants do not contest this specific point in determining the maximum penalty. Therefore, as it is uncontested, the Court adopts this methodology as well.

economic benefit from noncompliance.²⁶² Therefore, as the Court has discretion as to which method to follow, the Court adopts the method proposed by Plaintiffs. The Court determined the economic benefit from noncompliance to be \$14,249,940.²⁶³ Using Plaintiffs' proposed methodology for calculating the penalty (which includes a 50% multiplier), the resulting penalty is \$21,374,910. The Court determines, considering its finding that Exxon made a good faith effort to comply, the amount is sufficient to account for the factors that weighed towards assessing a penalty. The majority of the factors weigh towards imposing a penalty, which the Court determines justifies an increase from the base economic benefit from noncompliance number. Subtracting the \$1,423,632 already paid by Exxon in penalties, the resulting penalty amount is \$19,951,278.

E. Injunctive Relief

79. "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

²⁶² *Plaintiffs' Proposed Findings of Fact and Conclusions of Law Following Remand*, Document No. 253, Exhibit 1, ¶ 52.

²⁶³ Plaintiffs' proposed findings of fact and conclusions of law utilized a higher base amount (approximately \$28 million); however, as the Court rejected Plaintiffs' theory that led to the higher base amount, the Court uses the amount in the actual finding to calculate the penalty. *Supra* ¶ III.69, III.69 n.248; *Plaintiffs' Proposed Findings of Fact and Conclusions of Law Following Remand*, Document No. 253, Exhibit 1, ¶ 52.

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).

80. 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 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).

81. 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 footnote 251, 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.²⁶⁴ This is likely due to Exxon's substantial efforts to improve environmental performance and compliance.²⁶⁵ 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 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

82. 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.

83. 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

²⁶⁴ *Supra* ¶ II.16.

²⁶⁵ *See supra* ¶¶ II.12-14.

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. Attorneys' Fees

84. Plaintiffs request an award of attorneys' fees, expert witness fees, and costs pursuant to 42 U.S.C. § 7604(d).²⁶⁶ Exxon has not responded in opposition to this request. The Court finds an award of reasonable attorneys' fees, expert fees, and costs is appropriate as the Plaintiffs have substantially prevailed. Plaintiffs have ninety days to file their costs. The Plaintiffs are directed to file an appropriate and timely application for fees following the entry of judgment.

IV. CONCLUSION

Based on the foregoing, the Court hereby

ORDERS that Plaintiffs Environment Texas Citizen Lobby, Inc. and Sierra Club's requests in this case for a declaratory judgment, injunctive relief, and appointment of a special master, are **DENIED**. Plaintiffs' request for penalties against Defendants is **GRANTED IN THE AMOUNT OF \$19,951,278**. Further, the Court

²⁶⁶ *Addendum to Plaintiffs' Proposed Findings of Fact and Conclusions of Law Following Remand*, Document No. 254. Exxon did request attorneys' fees and costs in its proposal; as Exxon is not the substantially prevailing party, the Court denies that request.

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ORDERS that Plaintiffs' request for attorneys' fees, expert witness fees, and costs is **GRANTED**. The Court further

ORDERS that Defendants' request for attorneys' fees and costs is **DENIED**.

The Court will issue a separate Final Judgment.

SIGNED at Houston, Texas, on this 26 day of April, 2017.

/s/ David Hittner _____
David Hittner
United States District Judge

423a

[824 F.3d 507]

UNITED STATES COURT OF APPEALS,
FIFTH CIRCUIT

No. 15–20030

ENVIRONMENT TEXAS CITIZEN LOBBY, INCORPORATED;
SIERRA CLUB,

Plaintiffs–Appellants,

v.

EXXONMOBIL CORPORATION; EXXONMOBIL CHEMICAL
COMPANY; EXXONMOBIL REFINING & SUPPLY
COMPANY,

Defendants–Appellees.

Filed May 27, 2016

Appeal from the United States District Court
for the Southern District of Texas.

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Before BENAVIDES, DENNIS, and SOUTHWICK, Circuit Judges.

FORTUNATO P. BENAVIDES, Circuit Judge:

This appeal concerns a Clean Air Act (“CAA”) citizen suit brought by Plaintiffs– Appellants Environment Texas Citizen Lobby Incorporated and Sierra Club (“Plaintiffs”) against ExxonMobil Corporation, ExxonMobil Chemical Company, and ExxonMobil Refining & Supply Company

(collectively, “Exxon”). Exxon owns and operates an industrial complex (which includes a refinery and two petrochemical plants) in Baytown, Texas, and Plaintiffs allege that Exxon violated the federal permits governing operations at the complex thousands of times over a nearly eight year period. Specifically, and as relevant to this appeal, Plaintiffs allege that Exxon (1) repeatedly violated a permit condition “stating that emissions from ‘upset’ events are not authorized under any circumstances,” (2) repeatedly emitted pollutants at rates in excess of the hourly emission limits set forth in permit emission rate tables, (3) repeatedly emitted highly reactive volatile organic compounds (“HRVOCs”) at rates in excess of a 1,200 lbs./hr. emission limit, (4) repeatedly violated a prohibition on visible emissions from flares lasting more than five minutes during any two consecutive hours, and (5) repeatedly violated a number of other permit requirements, some emissions-related and some non-emissions-related, as reflected in “deviation reports” filed with the Texas Commission on Environmental Quality.

Plaintiffs sued Exxon for these and other alleged violations in the United States District Court for the Southern District of Texas. The district court conducted a thirteen-day bench trial and issued findings of fact and conclusions of law denying most of Plaintiffs’ claims and declining to order any relief. On appeal, Plaintiffs contend generally that (1) the district court erred in finding a total of only 94 actionable violations of Exxon’s permits, and (2) the district court abused its discretion in declining to impose any penalties, issue a declaratory judgment, or grant injunctive relief in remediation of the violations at issue. We now VACATE the district

court's judgment and REMAND for further proceedings.

I. BACKGROUND

Exxon's Baytown industrial complex the subject of the instant lawsuit—is comprised of a refinery, an olefins plant, and a chemical plant. Overall, the complex is governed by five federal operating permits issued pursuant to Title V of the CAA. *See* 42 U.S.C. §§ 7661a–7661d. These federal permits (“Title V Permits”) incorporate various federal and state regulatory requirements and also incorporate by reference state permits issued pursuant to State Implementation Plan (“SIP”) programs. Each permit at issue in this suit contains a Maximum Allowable Emission Rate Table (“MAERT”), which sets the maximum rates at which specific pollutants may be emitted from specific sources (or, in the case of “flexible” permits, groups of sources). It is also undisputed on appeal that (1) “[t]he permits for all three plants incorporate the Texas ‘HRVOC Rule,’ which limits facility-wide emissions of highly reactive volatile organic compounds to no more than 1,200 pounds per hour,” and (2) “[t]he permits for all three plants incorporate federal regulations prohibiting visible” plant flare emissions “for periods exceeding five minutes during any two-hour period.” Finally, each incorporated permit involved in this case contains a series of additional “special conditions.” For example, and as relevant to the present appeal, a permit governing operations at the Baytown refinery provides under special conditions 38 and 39 that “[t]his permit does not authorize upset emissions, emissions from maintenance activities that occur as a result of upsets, or any unscheduled/unplanned

emissions associated with an upset. Upset emissions are not authorized, including situations where that upset is within the flexible permit emission cap or an individual emission limit.”

The state regulatory agency charged with enforcing these permit provisions in conjunction with the EPA is the Texas Commission on Environmental Quality (“TCEQ”). In order to facilitate TCEQ oversight and enforcement, state regulations require regulated entities to document “noncompliance and indications of noncompliance” with their permits in certain ways. *Env’t Tex. Citizen Lobby, Inc. v. ExxonMobil Corp.*, 66 F.Supp.3d 875, 882 (S.D.Tex.2014). First, regulated entities must submit State of Texas Environmental Electronic Reporting System (“STEERS”) reports to the TCEQ documenting “emissions events”¹ that result in the release of pollutants at or above a threshold quantity. *See* 30 TEX. ADMIN. CODE § 101.201(a); *id.* § 101.1(88)-(89). Second, regulated entities must maintain on-site records of “emissions events” that result in the release of pollutants below the relevant threshold quantity. *Id.* § 101.201(b). Third, regulated entities must submit semi-annual reports to the TCEQ

¹ An “emissions event” is defined under Texas law as “[a]ny upset event or unscheduled maintenance, startup, or shutdown activity, from a common cause that results in unauthorized emissions of air contaminants from one or more emissions points at a regulated entity.” 30 TEX. ADMIN. CODE § 101.1(28). “Unauthorized emissions” are in turn defined as “[e]missions of any air contaminant except water, nitrogen, ethane, noble gases, hydrogen, and oxygen that exceed any air emission limitation in a permit, rule, or order of the commission....” *Id.* § 101.1(108).

documenting any “deviations”² from Title V permit requirements. *Id.* § 122.145(2). The TCEQ investigates each “reportable” event reflected in a STEERS report, reviews the on-site records of all “recordable” events, and has the authority to take enforcement action on any event should it deem such action necessary. In the present case, the record reflects that the TCEQ pursued enforcement and ultimately assessed over \$1 million in penalties against Exxon based on a number of the “events” set out in its reports and records for the period relevant to this appeal. Furthermore, in 2012, the TCEQ and Exxon entered an “agreed enforcement order” which, among other things, requires Exxon to implement four “environmental improvement projects” in order to “reduce emissions at the Baytown Complex, including emissions from emissions events....”

As a supplement to the enforcement authority vested in the EPA and state regulatory agencies like the TCEQ, the CAA also authorizes “any person [to] commence a civil action on his own behalf” 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 definition of “emission standard or limitation” includes any “standard,” “limitation,” “schedule,” “term,” or “condition” in a Title V permit.

² A “deviation” is defined under Texas law as “[a]ny indication of noncompliance with a term or condition of the permit as found using compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information.” 30 TEX. ADMIN. CODE § 122.10(6).

Id. § 7604(f)(4). Thus, any person may bring a so-called “citizen suit” under the CAA against a regulated entity that has violated a provision of its Title V permit, so long as the violation has been “repeated” or is “ongoing.” *See id.* § 7604(a)(1).

In December of 2010, Plaintiffs in the present case sued Exxon under the CAA’s citizen suit provision, alleging thousands of violations of Exxon’s permits over a period spanning from October of 2005 through the date of suit.³ Plaintiffs raised seven counts in their complaint, five of which are at issue in this appeal. Specifically, Plaintiffs alleged (among other things) that Exxon (1) committed thousands of violations of the refinery permit condition providing that “upset emissions” are “not authorize[d]” (Count I); (2) committed thousands of violations of the MAERT emission limits for various pollutants in the complex’s permits (Count II); (3) committed 18 days of violations of the incorporated 1,200 pounds per hour permit limits on emissions of HRVOCs (Count III); (4) committed 44 days of violations of the incorporated permit prohibitions on visible emissions from flares for periods exceeding five minutes during any two-hour period (Count IV); and (5) committed over 4,000 days of additional violations of sundry regulatory requirements reflected in “deviation reports” that Exxon submitted to the TCEQ (Count VII). Plaintiffs sought the maximum statutory penalties for each of the violations, a declaratory judgment that Exxon violated its permits (and thus the CAA), a permanent

³ Because Plaintiffs claimed many of the violations were “ongoing,” the period of alleged violations ultimately extended through September of 2013. costs, and appointment of a “special master” to monitor implementation of relief.

injunction barring Exxon from further permit violations, attorneys' fees and costs, and appointment of a "special master" to monitor implementation of relief.

As evidentiary support for the alleged violations, Plaintiffs relied exclusively on "Exxon's STEERS reports of reportable emissions events, records of recordable emissions events, and Title V deviation reports covering the time period at issue." *Env't Tex.*, 66 F.Supp.3d at 882. At the direction of the district court, the parties compiled the various reports and records into spreadsheets and "stipulated to [their] contents." *Id.* The district court subsequently conducted a thirteen-day bench trial and issued findings of fact and conclusions of law in late 2014. Broadly, the district court concluded that only 94 of the thousands of alleged permit violations were "actionable," and the court declined to order any of Plaintiffs' requested relief. More specifically, (1) the district court treated Count I as alleging violations of MAERT hourly emission limits (essentially conflating Count I and Count II) and found no "actionable" Count I violations; (2) the district court found only 25 "actionable" Count II violations based on Plaintiffs' ostensible failure to show that most of the violations were repeated violations of the same hourly MAERT limits; (3) the district court found only a handful of Count III and Count IV violations, as the rest of the alleged violations were not "corroborated"; (4) the district court found no additional Count VII violations, as Plaintiffs had failed to meet their burden of showing that the "indications" of noncompliance in the deviation reports were actual violations; (5) the district court declined to grant declaratory relief, because the court had "already

made” findings on Exxon’s liability; (6) the district court declined to impose a penalty based, in part, on the finding that Exxon received no economic benefit from its failure to comply with its permits and the view that lengthy/serious violations could be offset by less lengthy/less serious violations; and (7) the district court declined to grant injunctive relief, finding that the injury to the public from denial of an injunction would not outweigh the damage the injunction would cause Exxon. Plaintiffs now appeal.

II. DISCUSSION

As noted above, the district court in this case found that 94 of the thousands of alleged permit violations were “actionable” under the citizen suit provision of the CAA, and the court declined to order any of Plaintiffs’ requested relief. Notably, the district court’s judgment on penalties went beyond merely concluding that no penalty was warranted for the violations it found actionable. Rather, the district court determined that even if *every* alleged violation were actionable, it would not impose a penalty. *Env’t Tex.*, 66 F.Supp.3d at 904. We conclude that (1) the district court erred in finding 94 “actionable” permit violations; (2) the district court abused its discretion when it weighed less lengthy/ less serious violations against more lengthy/more serious violations in its assessment of the CAA penalty factors; and (3) the district court erred in failing to consider certain evidence of Exxon’s economic benefit from noncompliance. We therefore VACATE the district court’s judgment and REMAND for assessment of penalties based on the correct number of actionable violations.

A. Liability

The liability claims at issue in this appeal largely hinge on the legal significance of undisputed facts. As noted above, the parties stipulated to the accuracy of Plaintiffs' evidence, which consisted of spreadsheets detailing Exxon's reports and records of "emissions events" and Title V "deviation reports." However, the parties dispute nearly every legal conclusion to be drawn from the spreadsheets, including whether the spreadsheets—because they reflect Exxon's legally required reports and records of "emissions events"—constitute admissions of permit violations. We will address each liability count in turn after briefly discussing the standard of review.

1. Standard of Review

"The standard of review for a bench trial is well established: findings of fact are reviewed for clear error and legal issues are reviewed de novo." *Preston Exploration Co., L.P. v. GSF, L.L.C.*, 669 F.3d 518, 522 (5th Cir.2012) (quoting *Kona Tech. Corp. v. S. Pac. Transp. Co.*, 225 F.3d 595, 601 (5th Cir.2000)). However, "[t]he clearly erroneous standard of review does not apply to [those] factual findings made under an erroneous view of controlling legal principles." *Maritrend, Inc. v. Serac & Co. (Shipping) Ltd.*, 348 F.3d 469, 470 (5th Cir.2003) (quoting *Lake Charles Stevedores, Inc. v. PROFESSOR VLADIMIR POPOV M/V*, 199 F.3d 220, 223 (5th Cir.1999)).

"A finding is 'clearly erroneous' when there is no evidence to support it, or if the reviewing court, after assessing all of the evidence, is left with the definite and firm conviction that a mistake has been committed." *U.S. Bank Nat'l Ass'n v. Verizon Commc'ns, Inc.*, 761 F.3d 409, 431 (5th Cir.2014)

(quoting *Baldwin v. Taishan Gypsum Co., Ltd. (In re Chinese–Manufactured Drywall Prods. Liab. Litig.)*, 742 F.3d 576, 584 (5th Cir.2014)). When “the district court’s account of the evidence is plausible in light of the record viewed in its entirety,” this court “may not reverse it even though convinced that had it been sitting as the trier of fact, it would have weighed the evidence differently.” *Id.* (quoting *Anderson v. City of Bessemer City*, 470 U.S. 564, 573–74, 105 S.Ct. 1504, 84 L.Ed.2d 518 (1985)). Furthermore, if this court “determine[s] that ‘there are two permissible views of the evidence,’ then [it] may not conclude that the [district] court’s choice between them was clearly erroneous.” *Id.*

2. Count I: The “No Upset Emissions” Condition

In Count I of their complaint, Plaintiffs alleged that Exxon violated incorporated provisions of the Title V Baytown refinery permit providing “that upset emissions, emissions from maintenance activities that occur as a result of upsets, or any unscheduled/unplanned emissions associated with an upset, are not authorized in any amount.” Likewise, in the proposed findings of fact and conclusions of law that Plaintiffs submitted to the district court, they alleged under Count I that “Exxon violated the provisions of the Refinery’s Title V permit that prohibit upset emissions,” and Plaintiffs specifically cited special conditions 38 and 39 of incorporated refinery permit 18287 in support of this allegation. However, Plaintiffs also submitted a summary exhibit of Count I violations in which violations of “MAERT limits” were referenced. For this reason, the district court concluded that Plaintiffs’ allegations with respect to Count I had been “inconsistent,” and

because the Count I summary chart listed violations “contaminant-by-contaminant,” the district court treated Count I as alleging violations “of conditions that apply to separate air contaminants,” i.e., MAERT emission limits. *Env’t Tex.*, 66 F.Supp.3d at 895–96. In other words, the district court conflated Plaintiffs’ Count I allegations with their Count II allegations (addressed *infra*) and concluded there were no actionable violations under Count I for the same reason there were very few actionable violations under Count II. On appeal, Plaintiffs argue that the district court simply applied the wrong permit provisions to Count I; put another way, Plaintiffs claim that the court erred by applying the wrong law to the events set forth in Plaintiffs’ spreadsheets—a decision to which *de novo* review applies. See *Maritrend*, 348 F.3d at 470. We agree.

The aforementioned special conditions 38 and 39 state that “[t]his permit does not authorize upset emissions, emissions from maintenance activities that occur as a result of upsets, or any unscheduled/unplanned emissions associated with an upset. Upset emissions are not authorized, including situations where that upset is within the flexible permit emission cap or an individual emission limit.” An “upset event” (the emissions from which would be “upset emissions”) is defined under Texas law as an “unplanned and unavoidable breakdown or excursion of a process or operation that results in unauthorized emissions.” 30 TEX. ADMIN. CODE § 101.1(110). Thus, because every “emissions event” recorded or reported by Exxon in this case also by definition involved “unauthorized emissions” as a result of “upset event[s]” or “unscheduled maintenance, startup, or shutdown activity,” *id.* § 101.1(28), Plaintiffs were

clearly alleging under Count I that every emission of a pollutant during each recorded “emissions event” at the refinery was a violation of special conditions 38 and 39 (and, by extension, one of Exxon’s Title V permits).

The district court, however, believed it was “unclear exactly which standards or limitations Plaintiffs contend were violated under Count I,” largely because one of Plaintiffs’ summary exhibits setting forth Count I violations listed the violations under a heading for violations of “MAERT limits” rather than special conditions 38 and 39.⁴ *Env’t Tex.*, 66 F.Supp.3d at 896. The court thus suggested in a footnote that Plaintiffs were “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,” and because Plaintiffs’ Count I allegations were listed “contaminant-by-contaminant,” the court treated Count I as alleging solely violations of MAERT limits. *Id.* at 896 & n. 163.

On appeal, Exxon claims that the district court’s Count I analysis stemmed from its “reject[ion]” of “Plaintiffs’ theory that all upset emissions are actionable violations” and its “recogni[tion] that these emissions were actionable, if at all, only if they

⁴ While Plaintiffs do not offer an explanation for this variance, a simple review of the record provides an obvious one: human error. The summary tables for Plaintiffs’ Count II violations are identical to the summary tables for the Count I violations, with only the numbers and headings changed. Thus, when the Count II tables were used to make the Count I tables, it is likely that the “violations” heading was mistakenly left unaltered.

exceeded the maximum hourly emission rates.” But this contention is inaccurate—the district court in fact expressly declined to “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.” *Id.* at 896. Indeed, in the district court’s view, Plaintiffs did “not contend every upset event is actionable because the condition that does not authorize upset emissions was repeatedly violated.” *Id.* As should be clear from the foregoing discussion, however, this is precisely what Plaintiffs contended, and we do not think the district court’s decision to ignore special conditions 38 and 39 follows from “Plaintiffs’ approach to proving repeated violations under Count I contaminant-by-contaminant.” *Id.* at 896 n. 167. Rather, because Plaintiffs alleged that each emission of *each pollutant* during refinery emissions events was a violation of the special conditions (regardless of MAERT limits), it is unsurprising under Plaintiffs’ actual Count I theory that they would list violations in such a manner.

Nevertheless, Exxon further argues that Plaintiffs’ allegations of permit violations in general are based on the fallacious theory that “unauthorized emissions” during emissions events violate state permits. Exxon claims, on the contrary, that emissions events are simply not *governed* by permits and are instead subject to other regulations. In support of this contention, Exxon cites a portion of its 2012 agreed enforcement order with the TCEQ, which provides that “[e]missions events and [unplanned] MSS activities ... are not subject to permitting under 30 TEX. ADMIN. CODE Chapters 106 or 116, and are

regulated under 30 TEX. ADMIN. CODE Chapter 101 and TEX. HEALTH AND SAFETY CODE §§ 382.0215, 382.0216 and 382.085.” *Exxon Mobil Corp.*, Docket No. 2011–2336–AIR– E, 2012 WL 780783, at *1 (Tex. Comm’n on Env’tl. Quality Feb. 29, 2012). Based on this language, Exxon claims that “unauthorized” emissions from emissions events cannot violate a permit, because such emissions were never subject to permits in the first instance.

We see at least two problems with Exxon’s argument: first, “unauthorized emissions,” by definition, include “[e]missions of any air contaminant . . . that exceed any air emission limitation in a permit. . . .” 30 TEX. ADMIN. CODE § 101.1(108). Second, the language from the TCEQ agreed enforcement order, read in conjunction with the regulatory framework it references, appears to indicate simply that Exxon cannot be issued a permit by rule (under Chapter 106) or a permit for new construction or modification (under Chapter 116) that allows for emissions events. *See id.* §§ 106.4, 116.10–20. But this does nothing to suggest that emissions from such events are incapable of violating a permit, as evidenced by the fact that the TCEQ found violations of Exxon’s permits—including state-issued permit 18287 and the corresponding Title V permit—stemming from Exxon’s “fail[ure] to prevent unauthorized emissions” during several discrete emissions events at the Baytown complex. *Exxon Mobil Corp.*, 2012 WL 780783, at *4.

We accordingly conclude that the district court erred as a matter of law in treating Count I as alleging violations of MAERT limits rather than special conditions 38 and 39. Furthermore, we note (as did

the district court) that the alleged “violations under Count I overlap to an extent with hourly emission limit violations under Count II,” but we do not agree that this is a reason to collapse the MAERT limits with special conditions 38 and 39. Rather, as Plaintiffs made clear in the court below, Count I sets forth the *alternative* theory that every “emissions event” at the refinery constitutes a violation of the “no upset emissions” provisions incorporated into the refinery’s Title V permit. As such, we believe that the district court’s judgment on Count I should be vacated and the case remanded for reconsideration of Count I together with Count II, which we will now address.

3. Count II: MAERT Limits

In Count II, Plaintiffs alleged that the “emissions events” set forth in Exxon’s reports and records encompassed over 13, 000 days of violations of the hourly numerical emission limits for specific pollutants contained in the Maximum Allowable Emission Rate Tables (MAERTs) of incorporated permits governing the Baytown refinery, olefins plant, and chemical plant. The district court found that Plaintiffs had not proven any “actionable” MAERT violations under the relevant permits for the refinery and olefins plants and had proven a total of only 25 actionable violations under the relevant chemical plant permits. The court premised its findings on the determination that because the CAA citizen suit provision authorizes suits for “repeated or ongoing” violations of “*an* emission standard or limitation ... *in*” a Title V permit, Plaintiffs had to prove repeated violations of the “*same, specific*” permit limitations. *Env’t Tex.*, 66 F.Supp.3d at 895, 898. In the district court’s view, this meant that

Plaintiffs had to show repeated violations of identical numerical emission limits from the MAERTs. And because Plaintiffs had categorized the violations in their spreadsheets by pollutant, with the applicable numerical limits in the spreadsheets often varying wildly for the same pollutants from one entry to the next, the district court concluded that Plaintiffs had not shown repeated violations of most MAERT limits. On appeal, Plaintiffs contend that the district court erred in viewing different numerical limits on emissions of the same pollutants from the same sources as distinct “permit limitations” for purposes of assessing whether MAERT limit violations were repeated or ongoing.

As noted previously, the CAA allows a person to 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 Act].” 42 U.S.C. § 7604(a)(1). Based on this provision, the district court in this case concluded (and neither party disputes on appeal) that for a CAA violation⁵ to be “actionable” in a citizen suit, “the

⁵ Exxon “[did] not dispute” in the court below that “the alleged violations under Count[] II ... constitute violations of an emission standard or limitation.” *Env’t Tex.*, 66 F.Supp.3d at 893 n. 153. Exxon attempts to argue on appeal that it “never admitted” any entries under Count II were violations, “and the district court plainly understood that position since it did not find liability on all of the allegations in” that count. However, Exxon’s argument—at least with respect to alleged violations under Count II—clearly runs contrary to its clarification at trial that “if Exxon Mobil files a reportable STEERS event, for example, in essence, it is making a report of releases that exceed, for example, an hourly limit with respect to a particular release.” Furthermore, the fact that STEERS reports and on-site

plaintiff must prove by the preponderance of the evidence one of the following”: either “repeated violation of the same emission standard or limitation before the complaint was filed” or “violation of the same emission standard or limitation both before and after the complaint was filed.”⁶ *Env’t Tex.*, 66 F.Supp.3d at 894; *see also Glazer v. American Ecology Envtl. Servs. Corp.*, 894 F.Supp. 1029, 1037–38

records of “emissions events” reflect violations of emission standards or limitations does *not* mean that a defendant is per se liable under the citizen suit provision of the CAA. *See* 42 U.S.C. § 7604(a)(1) (providing that violations must be “repeated” or ongoing). Thus, the fact that the district court “did not find liability on all of the” events under Count II is not proof that the district court believed many of the events counted as violations by Plaintiffs were not, in fact, violations. Finally, with respect to Exxon’s argument that specific entries in which the emission quantity—standing alone—would appear to fall below the applicable listed threshold were not shown to be violative of MAERT limits, we note that we were unable to locate in the record any point at which Exxon contested these entries before the district court. Rather, Exxon’s proposed findings of fact and conclusions of law focused on whether Count II violations were “repeated” or “ongoing,” and when asked directly by the district court “which events from the stipulated tables” it “claim[ed] [did] not constitute a violation,” Exxon did not mention Count II. Thus, to the extent Exxon asks us to conclude that most of the Count II violations, including a number of the violations that the district court found actionable, were not violations at all based on an argument it never raised below, we decline to do so. *See, e.g., Violette v. Smith & Nephew Dyonics, Inc.*, 62 F.3d 8, 11 (1st Cir.1995) (a defendant may not “evade the scrutiny of the district court” by raising a new defense on appeal “in order to create essentially a new trial”).

⁶ The district court also noted a third alternative: namely, showing a “continuing likelihood of recurrence.” However, as the district court recognized, “Plaintiffs do not claim satisfaction of the third method of proving actionability.” *Env’t Tex.*, 66 F.Supp.3d at 894.

(E.D.Tex.1995). Accordingly, because an “emission standard or limitation” includes any “standard,” “limitation,” “schedule,” “term,” or “condition” in a Title V permit, 42 U.S.C. § 7604(f)(4), Plaintiffs concede that they had to prove by the preponderance of the evidence that violations of the *same, specific* conditions or limitations in Exxon’s permits were “repeated” in the past or occurred at least once before Plaintiffs filed suit and at least once after.

Despite this concession, Plaintiffs take issue with the district court’s finding that because violations were categorized in the spreadsheets and summaries by pollutant, with often-differing numerical limits listed, Plaintiffs failed to prove that most violations of specific MAERT limits were repeated or ongoing. Plaintiffs devote a significant portion of their brief on this point to the question of whether a MAERT limit for a particular pollutant from a particular source should be considered a single standard or limitation despite changes to the actual number of the limit over time. In short, Plaintiffs believe that multiple exceedances of MAERT limits on specific pollutants from specific emission points (or groups of emission points) should be considered “repeated” even if the numbers of the limits vary due to intermittent permit amendments or renewals. Yet as Exxon points out, variations in the limits listed in Plaintiffs’ spreadsheets may, in at least some instances, be attributable to the presence of distinct numerical limits for ordinary conditions and maintenance, startup, and shutdown (“MSS”) activity within a single version of a permit. *E.g.*, PERMIT NO. 36476 (setting ordinary and MSS limits on chemical plant emissions). Nevertheless, the district court in this case did not distinguish between different emission

limits in the same version of a permit and corresponding emission limits in different versions of a permit. Instead, the court simply determined that any time the listed “emission limit” in Plaintiffs’ tables varied numerically, a new permit “standard or limitation” was at issue. We conclude that this was error.

At least with respect to specific limits on particular pollutants from particular sources that change numerically due to amendments or renewals, we believe that such limits constitute the same “standard[s] or limitation[s]” for purposes of determining whether violations are “repeated” or “ongoing” under the CAA citizen suit provision. 42 U.S.C. §§ 7604(a)(1) & (f)(4). This view is consistent with the approach taken by courts in assessing “ongoing” violations of Clean Water Act (“CWA”) permits. *See Allen Cty. Citizens for the Env’t, Inc. v. BP Oil Co.*, 762 F.Supp. 733, 740–41 (N.D. Ohio 1991), *aff’d*, 966 F.2d 1451 (6th Cir.1992) (unpublished table decision).⁷ In the CWA context, courts have focused on *pollutants* and whether those *pollutants* have been discharged at higher rates than authorized by a permit, not simply on whether the same numerical thresholds are at issue. *See id.* at 740–41. We think this approach makes good sense given that, as the Fourth Circuit explained in a CWA case, “[t]he entire structure of [The Act] and regulations involves

⁷ We acknowledge, as the district court in this case did, that “[t]he ‘to be in violation’ provision in the CAA is identical to the ‘to be in violation’ provision in the CWA,” and “[i]nterpretations of the CWA provision are instructive when analyzing the CAA provision. *Env’t Tex.*, 66 F.Supp.3d at 894 n. 154; *see also United States v. Anthony Dell’Aquila, Enters. & Subsidiaries*, 150 F.3d 329, 338 n. 9 (3d Cir.1998).

identifying specific pollutants and setting a permit limit for each pollutant of concern.” *Chesapeake Bay Found. v. Gwaltney*, 890 F.2d 690, 698 (4th Cir.1989). We accordingly hold that limits on emissions of specific pollutants from specific emission points (or groups of emission points in flexible permits) should constitute permit “emission standard[s] or limitation[s]” that may be violated repeatedly under the CAA citizen suit provision, regardless of whether the numerical values of the limits have been changed through amendments or renewals.

In light of our holding, we must vacate the district court’s judgment on Count II. On remand, the district court is instructed to determine the correct number of actionable Count II violations when treating corresponding limits on the same pollutants from different versions of the relevant permits as the same “standard[s] or limitation[s]” under the CAA.⁸

4. Counts III and IV: HRVOCs and Smoking Flares

Under Counts III and IV, Plaintiffs alleged 13 violations (for a total of 18 days) of the incorporated “HRVOC rule” prohibiting emissions of highly reactive volatile organic compounds at a rate exceeding 1,200 lbs./hr. (Count III) and 42 violations (for a total of 44 days) of the incorporated “smoking flare rule” prohibiting visible emissions from flares for periods exceeding five minutes during any two-hour period (Count IV). The district court counted 9 of the 13 HRVOC rule entries in Plaintiffs’ spreadsheets and 28 of the 42 smoking flare rule entries as

⁸ We also note, once again, that on remand, the district court should consider the overlap between Plaintiffs’ Count I and Count II claims with respect to refinery emissions.

“violations,” finding that the remaining entries were not “corroborated” as violations of the rules because they either did not explicitly state limits had been exceeded or did not list opacity percentages and start/end times to allow for verification. *Env’t Tex.*, 66 F.Supp.3d at 901–02. On appeal, Plaintiffs claim that the district court erred in requiring “corroboration” of these entries, as “Exxon conceded at trial that all of the alleged violations under Counts III and IV constituted ‘violations of an emission standard or limitation.’”

In an early portion of its order, the district court stated the following: “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.” *Env’t Tex.*, 66 F.Supp.3d at 893 n. 153. Exxon argues on appeal that this statement referred only to “the actionability of various legal theories in general,” but we cannot agree. Far from merely acknowledging Exxon’s failure to dispute that Counts II, III, IV, and V involved “emission standards or limitations” that might hypothetically be violated, the district court expressly found it undisputed that “Exxon violated” standards and limitations under those counts. *See id.* at 893. In making this finding, the court was undoubtedly relying on an exchange at trial during which the court directly asked counsel for Exxon “which events from the stipulated tables” it claimed “do not constitute a violation.” In response, counsel pointed only to events under Counts I, VI, and VII. Indeed, even after the court clarified that it was “not talking about repeated or ongoing[,] [j]ust talking about the definition of violations,” counsel for Exxon

replied that “those are the three areas I’ll point the court to.”

On the basis of this exchange, the district court clearly assumed each Count II event counted by Plaintiffs was undisputed as a violation, because it limited its focus in its findings of fact and conclusions of law to whether identical numerical permit limits were present in Plaintiffs’ tables such that repeated or ongoing violations of the *same* limits were “corroborated.”⁹ *See id.* at 899–900. In other words, the district court appears to have treated the statements by counsel for Exxon as judicial admissions that “with[drew]” the question of whether specific events were violations “from contention,” and it thus assumed the entries at issue under Count II were, factually, MAERT limit exceedances. *See Martinez v. Bally’s La., Inc.*, 244 F.3d 474, 476–77 (5th Cir.2001). With respect to Counts III and IV, however, the district court concluded that a number of specific entries were not actionable because the entries themselves were not “corroborated” as *violations*. We find this differential treatment of Counts II, III, and IV irreconcilably inconsistent. If the district court believed there was a question as to whether particular events under the three counts constituted violations in the first instance, it should have analyzed each entry to determine whether, as a factual matter, the relevant limits were exceeded. If it believed the events under those counts were

⁹ Indeed, it is for this very reason that we declined to address Exxon’s argument regarding whether specific emissions under Count II exceeded MAERT limits—Exxon never contested those emissions as violations below, and the district court rightly understood there to be no dispute on the point.

undisputed as violations, it should have analyzed simply whether the violations were “repeated” or “ongoing.” What the court did, however, was (1) analyze only whether violations, which it believed to be undisputed, were “repeated” or “ongoing” under Count II; and (2) analyze only whether specific entries corroborated violations of the relevant permit requirements under Counts III and IV. In light of the court’s analysis of Count II and its express finding that violations under Counts II, III, IV, and V were undisputed, we do not see how the district court’s treatment of entries counted by Plaintiffs as violations under Counts III and IV can be justified. We accordingly conclude that the district court erred in requiring “corroboration” for violations that, in a different portion of the same order, it explicitly found to be undisputed. On remand, the district court is instructed to include in its tally of Count III and Count IV violations the entries it rejected as “uncorroborated.”

5. Count VII: Additional Violations in Deviation Reports

Under Count VII, Plaintiffs alleged over 4,000 days of additional Title V permit violations based on “Title V deviation reports” that Exxon submitted to the TCEQ during the relevant time period. These reports contained entries reflecting the “emissions events” that were at issue in the other counts, as well as various non-emissions-related incidents (involving, for instance, reporting requirements). Plaintiffs asserted at trial that each incident contained in a deviation report constituted an actionable permit violation, and Exxon argued that none of the entries evinced “violations” at all under the definition of

“deviation” set forth in the Texas Administrative Code. The district court agreed with Exxon, reasoning that (1) Texas law defines a deviation as merely “[a]n *indication* of noncompliance with a term or condition of [a] permit,” 30 TEX. ADMIN. CODE § 122.10(6); (2) Federal regulations confirm that “[a] deviation is not always a violation,” 40 C.F.R. § 71.6(a)(3)(iii)(C); and (3) given Plaintiffs’ decision to rely solely on the deviation reports themselves as evidence of underlying actionable violations, Plaintiffs had failed “to show how, in light of [the aforementioned] provisions, the Deviations at issue ... [were] actual violations.” *Env’t Tex.*, 66 F.Supp.3d at 903.

Plaintiffs contend on appeal that the district court misapplied the applicable “standard of proof” in its ruling on Count VII, as the deviation reports contained “all of the prima facie evidence needed to establish that a permit violation occurred.” They accordingly argue that because *Exxon* failed to rebut the evidence of violations contained in the reports, the district court should have ruled that every incident in a deviation report was an actionable violation. More specifically, Plaintiffs note that federal regulations allow regulated entities to submit “other information” indicating that a “reported deviation was *not* a violation,” and Exxon in this case “submitted no such information as part of any of the Deviation Reports at issue, nor did it submit any such information at trial.”

We find Plaintiffs’ argument unpersuasive. While their briefing of Count VII is devoid of authority in support of their contentions regarding the “burden of proof,” Plaintiffs appear to be referring to their earlier reliance on cases reflecting that “a permittee’s own records of violations are sufficient to establish

liability.” However, the cases Plaintiffs cite do not support the proposition that *deviation* reports specifically are sufficient to establish violations (as opposed to merely constituting “indications” of noncompliance). For example, the one CAA case Plaintiffs rely on involved Louisiana’s permitting and reporting system, which requires the filing of written reports “each time the refinery has an ‘unauthorized discharge.’ ” *St. Bernard Citizens for Env’tl. Quality, Inc. v. Chalmette Ref., L.L.C.*, 354 F.Supp.2d 697, 706 (E.D.La.2005). These reports would be akin to the STEERS reports mandated by the TCEQ, *not* the deviation reports at issue under Count VII. *See also Concerned Citizens Around Murphy v. Murphy Oil USA, Inc.*, 686 F.Supp.2d 663, 680 (E.D.La.2010) (recognizing that “unauthorized discharge reports demonstrate that [the defendant] violated emission standards or limitations”).

Furthermore, to the extent Plaintiffs point to a lack of “other information” showing that deviations were not violations, testimony regarding the significance of stand-alone deviations and their relationship to compliance certification is precisely the type of evidence that could have aided the district court in resolving Count VII. *See Compliance Assurance Monitoring*, 62 Fed. Reg. 54,900, 54,937 (Oct. 22, 1997) (providing that a regulated entity “may include information in the certification to document that compliance was achieved”). In the absence of such evidence, however, we see no error in the district court’s conclusion that the Count VII deviation reports alone were insufficient to meet Plaintiffs’ ultimate burden of proving actionable

violations.¹⁰ *See Carr v. Alta Verde Indust., Inc.*, 931 F.2d 1055, 1064 n. 7 (5th Cir.1991) (noting that “the burden [is] on the plaintiff to prove *at trial* his allegations of a continuing or intermittent violation”).

B. Remedies

Under the CAA, district courts have jurisdiction in citizen suits “to enforce” emission standards or limitations and “to apply any appropriate civil penalties.” 42 U.S.C. § 7604(a). For the thousands of days of permit violations alleged in this lawsuit, Plaintiffs sought (1) a declaratory judgment that Exxon had violated its permits (and thus the CAA); (2) a statutory penalty of over \$600 million (to be deposited in a special fund for use by the EPA pursuant to 42 U.S.C. § 7604(g)(1)); and (3) a permanent injunction prohibiting further permit violations.¹¹ The district court declined to order any of Plaintiffs’ requested relief. Plaintiffs now argue that (1) the district court abused its discretion in declining to issue a declaratory judgment, (2) the

¹⁰ We do not hold that deviation reports will always be insufficient to prove actual permit violations. Indeed, we note that some of the Count IV violations stem from information contained in deviation reports. We only conclude that, based on the record before us in this case, there was no error in the district court’s refusal to find an actionable violation in every Count VII deviation. Because Plaintiffs chose to rely exclusively on the *existence* of the deviation reports, with little attempt to clarify their *significance*, as proof of hundreds of violations of different regulatory requirements, we see no basis (and Plaintiffs have not provided one on appeal) to disagree with the district court’s resolution of Count VII.

¹¹ Plaintiffs also sought attorneys’ fees and costs and appointment of a “special master” to monitor implementation of relief, but these are not at issue in the present appeal.

district court committed numerous errors (and thus abused its discretion) in declining to impose any penalties, and (3) the district court abused its discretion in declining to grant a permanent injunction. We will address each form of relief in turn.

1. Declaratory Judgment

The district court in this case refused to issue a declaratory judgment that Exxon had violated its permits and the CAA, because while it recognized that it was “undisputed Exxon violated some emission standards or limitations,” it viewed the more important issue as “whether any such violations are actionable under the CAA as a citizen suit”—and the court had “already made these findings.” *Env’t Tex.*, 66 F.Supp.3d at 903. Plaintiffs now argue that the district court should have issued a declaratory judgment in order to “defin[e] and clarif[y] the nature of Exxon’s liability under the CAA.”

A determination of whether to grant declaratory relief is within the district court’s discretion, and a decision to deny declaratory relief is thus reviewed only for abuse of that discretion. *United Teacher Assoc. Ins. Co. v. Union Labor Life Ins. Co.*, 414 F.3d 558, 569 (5th Cir. 2005). As we have previously explained, “[t]he two principal criteria guiding” the decision of whether to render a declaratory judgment “are (1) when the judgment will serve a useful purpose in clarifying and settling the legal relations in issue, and (2) when it will terminate and afford relief from the uncertainty, insecurity, and controversy giving rise to the proceeding.” *Concise Oil & Gas P’ship v. La. Intrastate Gas Corp.*, 986 F.2d 1463, 1471 (5th Cir. 1993) (quoting 10A CHARLES ALAN WRIGHT, ARTHUR R. MILLER & MARY K. KANE,

FEDERAL PRACTICE AND PROCEDURE § 2759 (2d ed. 1987)).

In this regard, we have recognized that a declaratory judgment may not serve a “useful purpose” when a fact-finder has already “settled the legal relations in issue.” *Id.*; see also *Am. Equip. Co., Inc. v. Turner Bros. Crane and Rigging, LLC*, No. 4:13-CV-2011, 2014 WL 3543720, at *3 (S.D. Tex. July 14, 2014) (“Courts in the Fifth Circuit regularly reject declaratory judgment claims seeking the resolution of issues that will be resolved as part of the claims in the lawsuit.”). In *Concise Oil*, for instance, Plaintiffs brought an action for breach of contract and sought a declaratory judgment that the contract was valid; however, we declined to reverse the district court’s determination that such declaratory relief was unwarranted, because “the jury’s verdict and our affirmance . . . on breach conclusively refute[d]” the contention that the contract had been terminated (as the defendants maintained). 986 F.2d at 1471. In the present case, the district court, sitting as fact-finder, found that Exxon had committed over 90 actionable violations of its permits (thus also violating the CAA). And while we vacate the district court’s judgment, our “affirmance” of the broad conclusion that Exxon committed actionable violations of its permits diminishes any “useful purpose” that a declaratory judgment on that point might otherwise serve. As such, we find no abuse of discretion in the district court’s decision not to grant declaratory relief.

2. Penalties

As noted previously, the district court in this case went beyond merely concluding that no statutory penalties under the CAA were warranted for the few

violations it found actionable—rather, the district court broadly concluded that “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,” and it proceeded to analyze each penalty factor from that perspective. *Env’t Tex.*, 66 F.Supp.3d at 904. Plaintiffs argue on appeal that the district court erred in its assessment of four of the statutory penalty factors, and thus its ultimate refusal to assess a penalty was an abuse of discretion. We will begin by discussing penalties under the CAA generally and will then address Plaintiffs’ arguments with respect to each penalty factor as the district court applied it in this case.

i. CAA Penalties Generally

The CAA provides that in a citizen suit, “[a] penalty may be assessed for each day of violation.” 42 U.S.C. § 7413(e)(2). The parties agree on appeal that imposition of a civil penalty is not mandatory under the CAA; rather, the decision whether to impose a penalty rests in the discretion of the court.¹² *See, e.g., Pound v. Airosol Co., Inc.*, 498 F.3d 1089, 1094 (10th Cir.2007) (referring to “the penalty, if any, to be assessed for a violation of the Act”). In deciding whether to impose a penalty, however, a court *must* “take into consideration” seven statutory factors, “in addition to such other factors as justice may require.” *See* 42 U.S.C. § 7413(e)(1) (providing that the court “shall take [the factors] into consideration”); *Pound*,

¹² Exxon expends considerable brief space rebutting what it views as “Plaintiffs’ theory that civil penalties are mandatory.” However, it is fairly obvious from Plaintiffs’ briefing that they concede the point and do not argue that the district court was required to impose penalties as a matter of law.

498 F.3d at 1097–98 (recognizing that the statutory factors “must be considered in a CAA penalty analysis”). These factors are:

- (1) the size of the business;
- (2) the economic impact of the penalty on the business;
- (3) the violator’s full compliance history and good faith efforts to comply;
- (4) the duration of the violation as established by any credible evidence;
- (5) payment by the violator of penalties previously assessed for the same violation;
- (6) the economic benefit of noncompliance; and
- (7) the seriousness of the violation.

42 U.S.C. § 7413(e)(1).

In the present case, the district court concluded that the “size of the business” and “economic impact of the penalty” factors weighed in favor of assessing a penalty, as “Exxon [would] only be impacted by a large penalty and has the ability to pay the alleged maximum penalty.” *Env’t Tex.*, 66 F.Supp.3d at 904. Plaintiffs do not contest this conclusion on appeal, for obvious reasons. The district court also concluded that because Exxon had previously paid \$1,423,632 in penalties for some of the violations at issue (as a result of TCEQ enforcement actions), that amount should be “deducted from any penalty otherwise warranted.” *Id.* at 907. Plaintiffs likewise do not contest the district court’s resolution of this factor. With respect to the remaining factors, however, the

district court concluded that each one either weighed against assessing a penalty or, at most, weighed neither for nor against assessing a penalty, and Plaintiffs vigorously contest the district court's resolution and weighing of these remaining factors. We will accordingly address each penalty factor in roughly the same order as the district court, keeping in mind that (1) a district court's analysis of the penalty factors is subject to review only for abuse of discretion, and (2) underlying factual findings are reviewed only for clear error. *Sierra Club v. Cedar Point Oil Co. Inc.*, 73 F.3d 546, 573 (5th Cir.1996); see also *United States ex rel. Adm'r of EPA v. CITGO Petroleum Corp.*, 723 F.3d 547, 551 (5th Cir.2013) (quoting *Tull v. United States*, 481 U.S. 412, 427, 107 S.Ct. 1831, 95 L.Ed.2d 365 (1987)) (acknowledging that "the process of weighing" similar CWA penalty factors is "highly discretionary," and thus "[a] court's determination of the amount of a penalty to be assessed is reviewed under the highly deferential abuse-of-discretion standard").

ii. Compliance History and Good
Faith Efforts to Comply

The district court in this case determined that Exxon's compliance history and good faith efforts to comply with its permits weighed against assessment of a penalty. At the outset, the court noted that "the number of [events] at issue in this case [was] high" and might suggest that Exxon's compliance history was "arguably inadequate." *Env't Tex.*, 66 F.Supp.3d at 904-05. However, the court found that based on the extremely large size of the facility, it would not be "possible to" eliminate all emissions events, and thus "the number of Events and Deviations alone is not the

best evidence of compliance history” or “good faith effort to comply.” *Id.* at 905. Rather, the district court concluded that Exxon “made substantial efforts to improve environmental performance and compliance” based on (1) the “significant reduction” in overall unauthorized emissions at the complex “over the years at issue in this case”; (2) Exxon’s agreement to undertake environmental improvement projects at the complex in an enforcement order with the TCEQ; (3) the lack of “credible evidence” that any of the alleged violations “resulted from a recurring pattern”; and (4) the “persuasive and credible” testimony from a chemical engineer and a former TCEQ official that Exxon’s “concerted effort[s] to comply” had contributed to the Baytown facility’s reputation as a “leader[] in maintenance and operation practices.” *Id.* at 905–06.

On appeal, Plaintiffs raise several challenges to the district court’s analysis of this factor. First, Plaintiffs contend that the district court essentially “invok[ed] presumed impossibility of compliance ‘as a reason to not impose penalties’ ” despite clear precedent and regulatory language indicating that “‘impossibility is not a defense’” to compliance with one’s permits. In this regard, Plaintiffs correctly identify that under Texas law, it is not “a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to comply with the permit terms and conditions of the permit.” 30 TEX. ADMIN. CODE § 122.143(4). In other words, if a regulated entity is incapable of operating in compliance with its permits, the “one simple and straightforward way . . . to avoid paying civil penalties” is to “cease[] operations until it [is] able to” do so. *Atl. States Legal Found., Inc. v. Tyson*

Foods, Inc., 897 F.2d 1128, 1141–42 (11th Cir.1990). However, as the district court in this case plainly noted, its invocation of Exxon’s size and the infeasibility of achieving full compliance was not an attempt to raise impossibility as a bar to imposing penalties; rather, the district court’s discussion on this point was simply a recognition that compliance history and good faith efforts to comply should be viewed in the context of the size and complexity of the emitting facility at issue, and thus “the number of [emissions events] does not *alone* mean Exxon did not make a good faith effort comply” with its operating permits for this particular complex. *Env’t Tex.*, 66 F.Supp.3d at 905 n. 221. We accordingly reject Plaintiff’s first argument.

Plaintiffs next claim that the district court clearly erred in finding that Exxon’s agreement to undertake four environmental improvement projects constituted a “substantial effort[]” at achieving compliance that demonstrated “good faith.” Plaintiffs argue that the agreement merely imposed toothless and overdue requirements in an attempt by Exxon and complicit TCEQ officials to “undercut more stringent citizen enforcement,” as evidenced by the fact that the agreement “was negotiated, at Exxon’s instigation, only after” Plaintiffs gave notice of their intent to file suit. On this point, we think it is possible that the agreement between Exxon and the TCEQ is a sterling example of regulatory capture at its worst; however, it is also entirely possible that Exxon’s explanation for pursuing the agreement—that it wanted more “certainty” in enforcement is valid and that the company did want to take good-faith steps towards reducing future compliance issues. Thus, given that there are “two permissible views of the evidence,” the

district court was entitled to take the view it did, and we cannot second-guess that view now. *U.S. Bank Nat'l Ass'n*, 761 F.3d at 431.

Finally, Plaintiffs argue that the district court “did not consider several other factors relevant to Exxon’s compliance history,” including “the number of similar violations in the past” and “the prior enforcement lawsuit brought by the United States.” We were unable to discern, however, in what way Plaintiffs believe the district court’s failure to consider these “factors” was erroneous—the authority cited in Plaintiffs’ briefing, a CWA order from the Southern District of Mississippi applying that statute’s “history of violations” penalty factor, merely recognizes that “courts consider ... the duration and nature of” past and present violations under the Act. *United States v. Gulf Park Water Co., Inc.*, 14 F.Supp.2d 854, 864 (S.D.Miss.1998). Nowhere does the *Gulf Park* court state that specific consideration of the factors listed by Plaintiffs is required (or even appropriate) in all cases, and we have no reason to believe it would be. We accordingly conclude that the district court in this case did not abuse its discretion in determining that the “compliance history and good faith efforts to comply” penalty factor weighed against imposition of a penalty.¹³

¹³ Plaintiffs raise two additional arguments in their briefing: first, they argue that Exxon’s own calculations regarding the potential for implementation of additional emissions-reducing technologies at the complex demonstrate that at least some of the violations were preventable, cutting against Exxon’s “good faith efforts to comply.” However, what Plaintiffs fail to mention is that Exxon’s witness merely *used* calculations done by Plaintiffs as to the amount of emissions that could have been prevented by implementation of the relevant

iii. Economic Benefit of Noncompliance

The “economic benefit of noncompliance” factor directs courts to “consider the financial benefit to the offender of delaying capital expenditures and maintenance costs on pollution-control equipment.” *CITGO*, 723 F.3d at 552. We have recognized in the Clean Water Act context that “a district court generally must make a ‘reasonable approximation’ of economic benefit when calculating a penalty under [the Act],” as a finding on the amount of economic benefit is “central to the ability of a district court to assess the statutory factors and for an appellate court to review that assessment.” *Id.* at 552, 554 (quoting *Cedar Point Oil*, 73 F.3d at 576). We have also identified at least two general approaches to calculating economic benefit: “(1) the cost of capital, i.e., what it would cost the polluter to obtain the funds

technology in order to show that even “giving every benefit of the doubt” to “Plaintiffs’ theory,” implementation of the technology would not have been economically reasonable. As such, Plaintiffs have not shown clear error on this basis.

Second, Plaintiffs note the inconsistency between the district court’s conclusion that no “improvements could have been made to prevent recurrence” and the court’s finding that the four TCEQ-mandated environmental improvement projects “will reduce unlawful emissions.” For reasons we discuss in connection with the “economic benefit of noncompliance” factor, we do perceive a tension between the district court’s finding that the projects reflect “substantial efforts to improve ... compliance” and its finding that no improvements could have “prevented” any emissions events involved in this case. *Env’t Tex.*, 66 F.Supp.3d at 905. Nevertheless, in light of the district court’s other reasons for weighing this factor as it did, we cannot conclude that this tension alone renders the court’s overall resolution of the “compliance history and good faith efforts to comply” factor an abuse of discretion. See *CITGO*, 723 F.3d at 551 (referring to our review of penalty factors as “highly deferential”).

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.* at 552 (quoting *United States v. Allegheny Ludlum Corp.*, 366 F.3d 164, 169 (3d Cir.2004)).¹⁴ In the present case, the district court determined that “the most reasonable estimate of Exxon’s economic benefit of noncompliance is \$0.” *Env’t Tex.*, 66 F.Supp.3d at 908. In making this determination, the district court appears to have concluded that Plaintiffs failed to provide credible evidence of any “pollution-control equipment” that would have “correct[ed]” any of the alleged violations under either of the approaches to calculating economic benefit previously identified. Indeed, the district court rejected testimony from Plaintiffs’ expert on pollution-control technology, Mr. Bowers, as “vague and undetailed” and found that “neither Bowers nor any other evidence credibly demonstrated that any of Bowers’s suggested capital improvements

¹⁴ We have also recognized multiple approaches to the related question of how to “set the amount of the penalty” overall: “some courts use the ‘top down’ approach in which the maximum penalty is set . . . and reduced as appropriate considering the . . . enumerated [penalty factors] as mitigating factors, while other courts employ the ‘bottom up’ approach, in which economic benefit is established, and the remaining . . . elements . . . are used to adjust the figure upward or downward.” *Id.* In the present case, the district court appears to have simply weighed the factors independently without adopting either approach—as it felt it had discretion to do—and the court noted that the result would be the same under any approach. *Env’t Tex.*, 66 F.Supp.3d at 912 n. 267. Regardless, Plaintiffs do not challenge the district court’s overall approach to “set[ting] the amount of the penalty.”

would have prevented any of the [violations].” *Id.* at 907–08. Notably, the court also alluded to the four environmental improvement projects from the TCEQ agreed enforcement order¹⁵ as “an effort to reduce emissions and unauthorized emissions events” and appeared to treat these projects as an indication that Exxon did *not* receive any economic benefit. *Id.* at 908. On appeal, Plaintiffs contend that the district court erred in ignoring evidence of economic benefit stemming from Exxon’s own admissions and the TCEQ’s agreed enforcement order. We agree that the district court erred in failing to enter findings on whether the four environmental improvement projects from the TCEQ order constitute evidence of economic benefit from noncompliance.¹⁶

Caselaw makes clear that “economic benefit” in the penalty context can be calculated as the “benefit realized by a violator from *delayed* expenditures to comply with the [Act].” *Allegheny Ludlum Corp.*, 366 F.3d at 178 (emphasis added) (analyzing the

¹⁵ The four improvement projects are (1) plant automation venture—installing computer programs to monitor, identify, diagnose, and guide operations, which will help identify potential events so they can be addressed proactively; (2) fuels north flare system monitoring/minimization: additional monitoring probes and “on-line analyzers” that improve sensing and characterizing flaring events; (3) BOP/BOPX recovery unit simulators: developing and using “high-fidelity process training simulators” to improve operator training and reduce emissions events; (4) enhanced fugitive emissions monitoring: using infrared technology to locate leaks. *Exxon Mobil Corp.*, 2012 WL 780783, at *8–*9.

¹⁶ Plaintiffs’ argument about Exxon’s “admissions” regarding implementation of emissions-reducing technologies is the same argument that we addressed, and rejected, in footnote 13, *supra*.

“economic benefit” penalty factor under the Clean Water Act). Courts applying this factor thus often “start[] with the ‘costs spent’ or that should have been spent to achieve compliance,” then “apply an interest rate to determine the present value of the avoided or delayed costs.” *Id.* (quoting *United States v. Smithfield Foods, Inc.*, 191 F.3d 516, 530 (4th Cir.1999)). In other words, the effect of spending money to achieve compliance is often not mitigation of economic benefit—rather, plaintiffs may point to such expenditures as evidence of the regulated entity’s economic benefit to the extent the delay in making those expenditures allowed the regulated entity to use the money it saved productively. See *United States v. Gulf Park Water Co., Inc.*, 14 F.Supp.2d 854, 863–64 (S.D. Miss.1998). For instance, the defendants in *Gulf Park* were alleged to have violated the CWA by discharging pollutants into United States waters without a required NPDES permit, and in an earlier proceeding, the district court ordered them to pay a deposit necessary to connect to a regional wastewater system. *Id.* at 857. The defendants complied and connected to the system in 1997—subsequently, in assessing the penalty factors under the CWA, the district court concluded there was “no doubt that the defendants ... enjoyed an economic benefit in not having expended the funds necessary to connect to the Regional system in 1985, in 1989 or in 1991.” *Id.* at 864. The court also noted that while the plaintiffs had the burden of establishing economic benefit, “[t]he determination of economic benefit does not require an elaborate evidentiary showing,” as it is incumbent upon the court to “endeavor to reach” an estimate that “encompass[es] every benefit that defendants

received from violation of the law” regardless of the inherently “imprecise” or “somewhat speculative” nature of the inquiry. *Id.* at 863–64 (quoting *United States v. Mac’s Muffler Shop, Inc.*, 25 ERC 1369, 1986 WL 15443, at *8 (N.D. Ga. Nov. 4, 1986)).

Turning to the present case, the district court rejected Mr. Bowers’ expert testimony regarding specific measures that could have been taken to achieve compliance as not “credible,” and because we are extremely deferential to a district court’s assessment of witness credibility, we conclude that this was not clearly erroneous. *See Canal Barge Co., Inc. v. Torco Oil Co.*, 220 F.3d 370, 375 (5th Cir.2000) (“We cannot second guess the district court’s decision to TTT discount a witness’ testimony.”). However, Plaintiffs also elicited detailed testimony from their economic benefit expert, Mr. Shefftz, about the benefit stemming specifically from the four environmental improvement projects contained in the TCEQ agreed enforcement order, and Mr. Shefftz made clear in his testimony that the calculation of benefit with respect to these projects did not rely on Mr. Bowers’ inputs at all ¹⁷—rather, Mr. Shefftz took

¹⁷ Mr. Shefftz did testify that the improvement projects should be considered a “subset of the total amounts” drawn from Mr. Bowers’ testimony, but this does not undercut the validity of the TCEQ projects as independent evidence of economic benefit. Mr. Shefftz’s point was simply that because Mr. Bowers’ suggested improvements would ostensibly encompass every measure needed to bring Exxon’s facility to 0 permit violations, the \$11.7 million benefit calculated by Mr. Shefftz with respect to the TCEQ projects should not be added on to the overall estimate of economic benefit. But this does nothing to suggest that the district court’s rejection of Mr. Bowers’ testimony also somehow precludes consideration of the TCEQ projects as evidence of economic benefit. Indeed, Mr. Shefftz explained that

implementation dates from the order itself and cost estimates from one of Exxon’s environmental coordinators and used those figures to calculate the overall benefit from delaying implementation of the TCEQ projects between 2005 and 2012. Mr. Shefftz calculated that this amount was approximately 11.7 million dollars. Based on Mr. Shefftz’s testimony, Plaintiffs argued in their proposed findings of fact and conclusions of law that Exxon gained an economic benefit of at least this amount by not implementing the TCEQ projects earlier—which, according to testimony from Exxon’s own employees in the environmental department at the Baytown facility, it could have done. Nevertheless, while the district court expressly found that Mr. Shefftz’s methodology for calculating economic benefit was reliable, it did not treat the TCEQ projects as potentially indicative of Exxon’s economic benefit from noncompliance. Rather, it treated the projects as an indication that Exxon *did not* receive an economic benefit. In light of the evidence adduced by Plaintiffs, we believe the court should have made findings on the critical question of whether Exxon received a benefit from failing to implement the TCEQ projects earlier.¹⁸

“[c]onceptually, it’s a subset of [the overall estimate], but TTT it’s also independent of [Bowers’] expert opinion.”

¹⁸ Two arguments raised by Exxon warrant mention here: first, Exxon insisted at oral argument that the TCEQ order represents a regulatory decision to “forgo” maximum penalties in favor of other “corrective action,” and allowing a citizen suit to “capitalize” on the economic costs in the order by using them as economic benefits would be unfair—but this argument about compliance efforts “negating” economic benefit is precisely the argument that various courts have rejected under the economic benefit factor. As one district court recently stated, economic

We acknowledge that both of the approaches to calculating economic benefit identified in our caselaw require some showing that delayed expenditures would be “necessary to correct” the violations at issue in the suit. *See CITGO*, 723 F.3d at 552. In the present case, the district court found no credible evidence to indicate that “any of *Bowers’s* suggested capital improvements would have prevented any of the Events or Deviations,” with the necessary

benefit is not “now negated by the fact that [the defendant] is working to remedy the issues TTT,” because “the fact that [the defendant] must pay to bring his facility into compliance TTT does not excuse his history of noncompliance.” *Idaho Conservation League v. Magar*, 2015 WL 632367, at *5 (D. Idaho 2015). Relatedly, in its response to Plaintiffs’ 28(j) letter, Exxon quoted the Supreme Court’s opinion in *Gwaltney* for the proposition that allowing citizens to “file suit . . . in order to seek the civil penalties that [a regulatory agency] chose to forgo” would “curtail[] considerably” the regulator’s “discretion to enforce the Act.” *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc.*, 484 U.S. 49, 61, 108 S.Ct. 376, 98 L.Ed.2d 306 (1987). Exxon’s reference to *Gwaltney* is unhelpful, however, because the Supreme Court’s discussion on this point was in the context of interpreting the Clean Water Act’s “to be in violation” language as barring citizen suits based on “wholly past violations of the Act.” *Id.* at 60, 108 S.Ct. 376. Yet as both parties acknowledge, the Clean Air Act was amended in 1990 to authorize citizen suits against any person “who is alleged to have violated” the Act. 42 U.S.C. § 7604(a)(1) (emphasis added). This amendment has been viewed as a direct response to *Gwaltney*, and indeed, neither party in this case disputes that the “to have violated” language authorizes citizen suits based on wholly past violations of the CAA. *See Atl. States Legal Found., Inc. v. United Musical Instruments, U.S.A., Inc.*, 61 F.3d 473, 477 (6th Cir.1995) (recognizing that “after *Gwaltney*, Congress amended the Clean Air Act . . . explicitly to allow citizen suits for purely historical violations. . . .”). Thus, the proposition to which Exxon’s *Gwaltney* quotation lends support appears to no longer apply in CAA citizen suits.

implication being that none of those improvements would “correct” the violations. *Env’t Tex.*, 66 F.Supp.3d at 908 (emphasis added). However, because the district court failed to address Plaintiffs’ evidence that Exxon received an economic benefit from delayed implementation of the TCEQ projects, it did not consider whether *those* projects were necessary to correct the violations. Looking to the order in which the projects are described, the TCEQ has specified that they “will reduce emissions at the Baytown Complex, including emissions from emissions events.” *Exxon Mobil Corp.*, Docket No. 2011–2336–AIR–E, 2012 WL 780783, at *8 (Tex. Comm’n on Env’tl. Quality Feb. 29, 2012). Furthermore, some of the projects appear to be correlated in at least a general way with at least some of the violations upon which Plaintiffs have sued. For example, one project aims to “more effectively monitor and troubleshoot” a refinery flare system in order to “improve the identification and characterization of flaring events” (Count IV), and the order estimates that the projects will specifically achieve reductions in HRVOC emissions (Count III). *Id.* at *7–*8. Finally, the district court itself recognized in its order that the projects reflect “an effort to reduce emissions and unauthorized emissions events” at the Baytown complex. *Env’t Tex.*, 66 F.Supp.3d at 908. Thus, given that Plaintiffs adduced evidence regarding the benefit that Exxon received from foregoing earlier implementation of these projects, we conclude that the district court erred in failing to consider that evidence and enter specific findings as to whether the projects demonstrate that Exxon received an economic benefit from noncompliance. On remand, the district court is instructed to enter such findings,

which will entail consideration of whether the projects are “necessary to correct” the violations at issue in this suit.¹⁹

iv. Duration of the Violation

Under the CAA, courts must consider “the duration of *the violation* as established by any credible evidence” in determining whether and to what extent a penalty should be assessed. 42 U.S.C. § 7413(e)(1) (emphasis added). The district court in this case determined that the “duration of the violation” factor weighed neither for nor against imposition of a penalty, because “the duration of each of the [violations] differ[ed] tremendously,” and Plaintiffs sought maximum penalties for each emissions event regardless of length. *Env’t Tex.*, 66 F.Supp.3d at 906–07. Significantly, the court found that some of the violations were of “long” duration, but because other violations were “short,” the court concluded that the factor was neutral overall. On appeal, Plaintiffs argue that the district court abused its discretion in concluding that this factor did not

¹⁹ In making its findings on remand, the court should be mindful that the economic benefit estimate must “encompass every benefit that defendants received from violation of the law” regardless of the inherently speculative nature of the inquiry. *Gulf Park*, 14 F.Supp.2d at 864 (quoting *Mac’s Muffler Shop*, 1986 WL 15443 at *8). We thus believe that compliance expenditures or projects need not be tied specifically to prevention of each violation in order to establish that they are “necessary to correct” the violations overall, particularly in a case such as this where the violations are extensive and varied. Rather, we believe the inquiry should center on whether the projects will ameliorate the kinds of general problems that have resulted in at least some of the permit violations upon which Plaintiffs have sued.

weigh in favor of imposing a penalty, because the court essentially viewed shorter violations as “offset[ting]” the violations of longer duration.

As Plaintiffs note, there is some authority in support of the proposition that, when multiple “intermittent” violations over a span of time are at issue, a court may consider the overall length of the period during which the violations occurred (rather than assessing each violation individually). *See, e.g., United States v. Midwest Suspension and Brake*, 824 F.Supp. 713, 736–37 (E.D.Mich.1993); *United States v. A.A. Mactal Construction Co., Inc.*, No. 89–2372–V, 1992 WL 245690, at *3 (D. Kan. Apr. 10, 1992). In the present case, however, the district court appears to have read the statutory language as literally mandating that the duration of each “violation” within a series of violations over time be considered. *Env’t Tex.*, 66 F.Supp.3d at 907 (discussing the durations of individual events). We need not resolve whether the “duration of the violation” factor requires scrutiny of the length of each individual violation or allows for assessment of an overall violation period, as even assuming the former approach is a proper one, the district court abused its discretion in this case by viewing violations as effectively offsetting each other.

An example serves to effectively illustrate the nature of the district court’s error: had Plaintiffs cherry-picked from Exxon’s reports only the violations that the district court found to be “long,” the court would have been unable to use “variability in duration” as a reason to conclude that this factor was neutral. Thus, given that Plaintiffs included with these long violations a host of other short violations,

it would make little sense to say that the “duration of the violation” factor somehow applies differently to the lengthy violations in light of the inclusion of the short ones. Exxon claims that because it was actually the Plaintiffs who “fail[ed] to differentiate events based on duration . . . at trial,” the district court “was free to reject Plaintiffs’ all-or-nothing approach.” However, the fact that Plaintiffs sought maximum penalties for each violation, regardless of length, has no bearing on whether the district court appropriately considered “the duration of the violation” under the CAA. *See Pound*, 498 F.3d at 1097–98 (noting that

the court must consider each statutory factor in a CAA penalty analysis). Indeed, it is undisputed that Plaintiffs’ spreadsheets set forth the individual durations of the events at issue, and Plaintiffs’ repeatedly made clear the overall time period within which violations were alleged to have occurred. Thus, because the district court opted to consider the durations of violations individually, it should have considered whether any violation, standing alone, was sufficiently long to justify imposition of a penalty. Its failure to do so, and its decision to instead view the factor as neutral based on overall duration variability, was an abuse of discretion.

v. Seriousness of the Violation

In assessing the “seriousness of the violation” penalty factor, courts outside of this circuit have looked to the “risk or potential risk of environmental harm posed by emissions/discharges and have found violations to be serious “even absent proof of actual deleterious effect.” *Pound*, 498 F.3d at 1099. Furthermore, courts have recognized that the overall number and quantitative severity of emissions or

discharges may properly be relied upon as evidence of seriousness. See *Pub. Interest Research Grp. of N.J., Inc. v. Powell Duffryn Terminals Inc.*, 913 F.2d 64, 79 (3d Cir.1990) (holding that the district court properly relied upon “the large number of gross exceedances in concluding that [the defendant’s] violations were serious”). In the present case, the district court began its assessment of this factor by noting that “each of the Events and Deviations differ tremendously,” with some of the events being “more serious because they emitted higher quantities of emissions” and “many more” of the events being “less serious.” *Env’t Tex.*, 66 F.Supp.3d at 908–09. Thus, in “considering the amount of emissions,” the district court determined there were many more violations that were “not serious or less serious than were more serious.” *Id.* at 909. The court then went on to examine whether Exxon’s violations “adversely affect[ed] human health or the environment” and concluded there was no “credible evidence” that any of the events “even potentially” did so. *Id.* As with its analysis of the “duration of the violation” factor, we conclude that the district court abused its discretion in using “less serious” violations to essentially offset violations of a concededly “more serious” nature based on emission quantity alone.

The CAA instructs a court considering penalties to assess “the seriousness of the violation.” 42 U.S.C. § 7413(3)(1). When multiple violations are at issue, balancing “more serious” violations against “less serious” ones clearly runs contrary to this instruction, with the result being that serious violations become less so if accompanied by a sufficient number of insignificant violations. In other words, given the district court’s recognition that some of the emissions

in this case were large enough to be considered “more serious,” we think it was an erroneous application of the “seriousness of the violation” factor to conclude that the existence of thousands of additional, smaller violations somehow tipped the scale against assessment of a penalty. If anything, the inclusion of many *more* violations with the most serious ones would only increase the overall degree of seriousness, rather than lessening it. *See Powell Duffryn*, 913 F.2d at 79. Thus, in light of the district court’s explicit recognition that some of the violations were more serious based on the amount of emissions alone, we conclude that it was an abuse of discretion to view this factor as weighing *against* imposition of a penalty due to the existence of thousands of additional, “less serious” violations.²⁰

3. Permanent Injunction

The final point of error asserted by Plaintiffs concerns the district court’s refusal to grant a permanent injunction prohibiting Exxon from committing further permit violations. “We review a district court’s grant or denial of injunctive relief for abuse of discretion.” *Aransas Project v. Shaw*, 775 F.3d 641, 663 (5th Cir.2014). “The party seeking a permanent injunction 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

²⁰ Because the district court acknowledged that for at least some of the emissions events, the sheer quantity of pollutants emitted made the violations “more serious,” we do not find it necessary to address the other asserted errors raised by Plaintiffs with respect to this factor.

disserve the public interest.” *VRC LLC v. City of Dallas*, 460 F.3d 607, 611 (5th Cir.2006) (citing *Dresser–Rand, Co. v. Virtual Automation, Inc.*, 361 F.3d 831, 847–48 (5th Cir.2004)). The district court in this case denied the request for an injunction based on its finding that any injury to the public would not outweigh the damage an injunction would cause Exxon. *Env’t Tex.*, 66 F.Supp.3d at 913. Regarding the injury to the public, the district court found that any future unauthorized emissions would not be any “more harmful to the public or the environment than past [emissions] were.” *Id.* With respect to the damage to Exxon, the district court found that granting a permanent injunction would be “excessively intrusive” because it would “entail continuing superintendence of the permit holder’s activities by a federal court.” *Id.* (quoting *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 193, 120 S.Ct. 693, 145 L.Ed.2d 610 (2000)).

On appeal, and although their argument is rather cursory, Plaintiffs appear to contend that the district court abused its discretion by “rel[ying] on [the] clearly erroneous factual finding[]” that imposition of an injunction would significantly burden Exxon. *See Aransas*, 775 F.3d at 663 (noting that it is an abuse of discretion to “rel[y] on clearly erroneous factual findings when deciding to grant or deny the permanent injunction”). Plaintiffs argue that Exxon “already tracks and reports compliance with its Title V permits” and “has immense financial resources which could be devoted to improving compliance,” and thus the district court erred in concluding that “even an injunction that did no more than require Exxon to prove it is complying with its permits” would be

excessively burdensome. However, although it may be true that Exxon has the resources to comply with any injunction, we do not believe that fact alone establishes clear error in the district court's finding that forcing Exxon to continuously prove its compliance with the CAA would be "excessively intrusive." Thus, we conclude that the district court did not abuse its discretion in declining to grant a permanent injunction in this case.

III. CONCLUSION

In sum, we conclude that the district court erred in its analysis of Exxon's liability under Counts I through IV and abused its discretion in assessing three of the CAA's mandatory penalty factors. We accordingly VACATE the district court's judgment and REMAND for assessment of penalties based on the violations that are properly considered "actionable" in light of this opinion.²¹

²¹ We note that the district court declined to address the applicability of any affirmative defenses, as it was unnecessary given the decision not to award penalties. Because we vacate that decision, however, we recognize that the district court may well be called upon to rule on Exxon's claimed affirmative defenses on remand. *See, e.g.*, 30 TEX. ADMIN. CODE § 101.222(b) (setting forth an affirmative defense for "[n]on-excessive upset events").

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[66 F. Supp. 3d 875]
UNITED STATES DISTRICT COURT,
S.D. TEXAS,
HOUSTON DIVISION

Civil Action No. H-10-4969

ENVIRONMENT TEXAS CITIZEN LOBBY, INC. AND
SIERRA CLUB,

Plaintiffs,

v.

EXXONMOBIL CORPORATION, EXXONMOBIL CHEMICAL
COMPANY, AND EXXONMOBIL REFINING AND SUPPLY
COMPANY,

Defendants.

Filed Dec. 17, 2014

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FINDINGS OF FACT & CONCLUSIONS OF LAW

DAVID HITTNER, District Judge.

On February 10, 2014, this Court commenced a
non-jury trial in the above-entitled matter. During
the course of the thirteen-day proceeding, the Court

received evidence and heard sworn testimony.¹ Having considered the evidence, testimony, and oral arguments presented during the trial, along with post-trial submissions² and the applicable law, the Court now enters the following findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52(a). 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,

¹ The parties submitted 1,148 exhibits that span thousands of pages, and 25 witnesses testified.

² The post-trial submissions considered by the Court include the plaintiffs’ and the defendants’ original proposed findings of fact and conclusions of law, which are 455 pages and 361 pages in length, respectively.

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.

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.

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

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

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 3-75:15-18.

¹⁵ *Trial Transcript* at 3-75:15-18.

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

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 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

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.

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.

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 semiannual 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 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

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.

²⁵ *Plaintiffs’ Exhibits* 1A–7E.

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 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

²⁶ *Defendants’ Exhibit* 546 at 8, ¶ 24; *Trial Transcript* at 2–241:14–21, 2244:10–18, 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.

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

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 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

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.

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.

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 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

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.

⁴² *Defendants' Exhibit* 26E.

⁴³ *Defendants' Exhibit* 26E.

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, di-methyl 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

⁴⁴ *Defendants' Exhibits* 26, 26I.

⁴⁵ *Defendants' Exhibit* 26I.

⁴⁶ *Defendants' Exhibit* 26I.

⁴⁷ *Defendants' Exhibit* 26I.

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

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 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

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.

⁵¹ *Plaintiffs' Exhibit* 1B at row 800; *Trial Transcript* at 10-216:17 to 10-218:6, 12234:3-12.

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.

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 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

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.

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.

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 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

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

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

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 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

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.

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.

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 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

⁶⁸ *Trial Transcript* at 2–195:1–2, 2–203:8–12, 3–89:22 to 3–90:9, 12–214:19 to 12215:5, 12–226:4–13.

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

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.

and implemented a flare minimization plan to reduce 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,

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, 1220:15–20, 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.

S02 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 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

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.”

tons, but the Complex only emitted 2,958.1 tons of VOCs in that year.⁸⁴ Also, each year at issue, unauthorized 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, re-search, 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 25,000 members.⁹⁰ Plaintiffs called four members of either Environment Texas or Sierra Club to testify.

⁸⁴ *Defendants' Exhibit* 1004 at 1.

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.

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

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 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

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.

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.

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 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

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.

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.

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 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

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.

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 1123:18, 1-128:2-3.

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 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

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.

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.

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 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

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.

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.

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 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

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.

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.

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

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.

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.

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.

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 requirements by the preponderance of the evidence. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561, 112 S.Ct. 2130, 119 L.Ed.2d 351 (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, 120 S.Ct. 693, 145 L.Ed.2d 610 (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, 120 S.Ct. 693. 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 1067211,

¹⁴⁴ *Supra* 55 II.19-22.

¹⁴⁵ *Supra* 55 II.19-22.

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 from the Complex.¹⁵⁰ Additionally, Plaintiffs submitted evidence of the potential health effects

¹⁴⁶ *Supra* 55 II.19–22 (Dominguez–0, Kingman–0, Cottar–3, and Sprayberry–2).

¹⁴⁷ *Supra* 55 II.19–22.

¹⁴⁸ *Supra* 55 II.19, 21–22.

¹⁴⁹ *Supra* 5 II.21.

¹⁵⁰ *Supra* 55 II.19, 21–22.

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, 120 S.Ct. 693. Relief that prevents or deters violations from reoccurring satisfies the redressability requirement. *Id.* at 185–86, 120 S.Ct. 693. 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; *Laidlaw*, 528 U.S. at 185–86, 120 S.Ct. 693.¹⁵²

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.

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

An injunction requiring the defendant to cease its violations also satisfies the redressability requirement of standing. *Texans United*, 207 F.3d at 794; *Envtl. 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.

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

considered ongoing under the CAA and are thus actionable in a citizen suit).

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.

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. *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:

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).

- (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

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*

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 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.

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.

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

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.

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) 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

¹⁵⁹ *Plaintiffs' Exhibits* 9–15.

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

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, 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

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.

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

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 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

¹⁶⁵ See *Plaintiffs’ Exhibit 9*.

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

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

¹⁶⁹ *Plaintiffs’ Exhibit 9* at 2.

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

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 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.

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.

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.

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.

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.*

20. Also as in Count I, Plaintiffs claim “each regulated air contaminant ... is counted separately for purposes of repeated violations,” and 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 different limits together under this Count, they have not met their burden to prove

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.

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 which conditions of permit 3452 were violated. Further, Plaintiffs have not provided any other persuasive evidence that the emissions listed in the spreadsheets

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.*

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 spreadsheets corroborate NO_x limits were repeatedly violated, the spreadsheets show *different* NO_x limits were violated. Because Plaintiffs categorized different

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 precomplaint 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.

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 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

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.

¹⁸⁶ *Plaintiffs' Exhibit* 10 at 2–6.

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 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

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.

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

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’

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.

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

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 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

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.

¹⁹⁵ *Plaintiffs' Exhibits* 3 at row 5, 595 at row 5.

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

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 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.

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

¹⁹⁸ *Plaintiffs’ Exhibit 12*.

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

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), 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

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.

²⁰³ Plaintiffs’ Exhibit 13.

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 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

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

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

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).

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 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

²⁰⁸ See *Plaintiffs' Exhibits* 6, 598.

²⁰⁹ *Plaintiffs' Exhibit* 598.

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).

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) (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

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).

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

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 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

²¹⁴ *Supra* ¶¶ III.9–12.

²¹⁵ *Supra* ¶¶ III.13–30.

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, 107 S.Ct. 1831, 95 L.Ed.2d 365 (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.

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)).

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 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

²¹⁷ See supra ¶ II.5.

²¹⁸ Supra ¶ II.2.

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

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 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

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

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.

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 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

²²³ *Supra* ¶ II.7.

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 lightning 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.

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 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 straight-forward 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,

²²⁵ *Supra* ¶¶ II.7–9.

²²⁶ *Supra* ¶ II.7.

²²⁷ *Supra* ¶ II.14.

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

Exxon's full compliance history and good faith efforts to comply weigh against assessing a penalty.

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

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.

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.

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 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

²³⁴ *Supra* ¶ II.10.

²³⁵ *Supra* ¶ II.8.

district court must make a reasonable estimate of economic benefit of noncompliance. *Id.* at 552–53.

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

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

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, 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.

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.

²⁴¹ *Supra* ¶¶ II.12–14.

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 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

²⁴² The Fifth Circuit has not opined on this issue.

²⁴³ *Supra* ¶ II.10.

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 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

²⁴⁴ *Supra* ¶ II.10.

²⁴⁵ *See supra* ¶ II.5.

²⁴⁶ *Supra* ¶ II.5.

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.

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 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

²⁵⁰ *Supra* ¶ II.11.

²⁵¹ *Supra* ¶ II.11.

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.

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 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,

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.

²⁵⁵ *Plaintiffs’ Revised Proposed Findings of Facts and Conclusions of Law* at 68, 4 78.

²⁵⁶ *Supra* 44 II.19–22.

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 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

²⁵⁷ *Supra* 4 II.3; *see supra* 44 I.19, 21–22 (finding Plaintiffs' members understood some emissions and flaring is authorized by permit).

²⁵⁸ *Supra* 4 II.17.

²⁵⁹ *Supra* 44 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*, 4 969. 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.* 44 969–70. 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.

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 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

²⁶⁰ See *supra* ¶¶ II.23–25.

²⁶¹ *Supra* ¶¶ II.23–25.

²⁶² Although the impacts to Plaintiffs’ members are traceable enough to the Complex to confer standing understanding 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.

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.

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

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

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 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.

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, 130 S.Ct. 2743, 177 L.Ed.2d 461 (2010). It is within the court’s discretion to grant or deny injunctive relief.

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

Weinberger v. Romero-Barcelo, 456 U.S. 305, 320, 102 S.Ct. 1798, 72 L.Ed.2d 91 (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 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, 102 S.Ct. 1798. “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, 120 S.Ct. 693, 145 L.Ed.2d 610 (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, 94 S.Ct. 713, 38 L.Ed.2d 661 (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

²⁶⁸ *Supra* 5 II.16.

²⁶⁹ *See supra* 55 II.12–14.

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 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.

* * *

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CORRECTED FEBRUARY 24, 2023

**UNITED STATES COURT OF APPEALS,
FOR THE FIFTH CIRCUIT**

No. 17-20545

ENVIRONMENT TEXAS CITIZEN LOBBY,
INCORPORATED; SIERRA CLUB,

Plaintiffs—Appellees,

versus

EXXONMOBIL CORPORATION; EXXONMOBIL CHEMICAL
COMPANY; EXXONMOBIL REFINING
& SUPPLY COMPANY,

Defendants—Appellants.

Appeal from the United States District Court
for the Southern District of Texas
USDC No. 4:10-CV-4969

ON PETITION FOR REHEARING EN BANC

(Opinion July 29, 2020, 5 Cir., 2020, 968 F.3d 357)

(Opinion August 30, 2022, 5 Cir., 2022,
47 F.4th 408)

Before RICHMAN, *Chief Judge*, and JONES, SMITH,
STEWART, ELROD, SOUTHWICK, HAYNES, GRAVES,
HIGGINSON, WILLETT, HO, DUNCAN, ENGELHARDT,
OLDHAM, WILSON, and DOUGLAS, *Circuit Judges*.

PER CURIAM:

A member of the court having requested a poll on
the petition for rehearing en banc, and a majority of

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the circuit judges in regular active service and not disqualified having voted in favor,

IT IS ORDERED that this cause shall be reheard by the court en banc with oral argument on a date hereafter to be fixed. The Clerk will specify a briefing schedule for the filing of supplemental briefs. Pursuant to 5th Circuit Rule 41.3, the panel opinions in this case dated July 29, 2020, and August 30, 2022, are VACATED.

42 U.S.C. § 7413**§ 7413. Federal enforcement****(e) Penalty assessment criteria**

(1) In determining the amount of any penalty to be assessed under this section or section 7604(a) of this title, the Administrator or the court, as appropriate, shall take into consideration (in addition to such other factors as justice may require) 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 (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation. The court shall not assess penalties for noncompliance with administrative subpoenas under section 7607(a) of this title, or actions under section 7414 of this title, where the violator had sufficient cause to violate or fail or refuse to comply with such subpoena or action.

(2) A penalty may be assessed for each day of violation. For purposes of determining the number of days of violation for which a penalty may be assessed under subsection (b) or (d)(1) of this section, or section 7604(a) of this title, or an assessment may be made under section 7420 of this title, where the Administrator or an air pollution control agency has notified the source of the violation, and the plaintiff makes a prima facie showing that the conduct or events giving rise to the violation are likely to have continued or

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recurred past the date of notice, the days of violation shall be presumed to include the date of such notice and each and every day thereafter until the violator establishes that continuous compliance has been achieved, except to the extent that the violator can prove by a preponderance of the evidence that there were intervening days during which no violation occurred or that the violation was not continuing in nature.

* * *

42 U.S.C. § 7604

§7604. Citizen suits

(a) Authority to bring civil action; jurisdiction

Except as provided in subsection (b), any person may commence a civil action on his own behalf—

(1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the Eleventh Amendment to the Constitution) who is alleged to have violated (if there is evidence that the alleged violation has been repeated) or to be in violation of (A) an emission standard or limitation under this chapter or (B) an order issued by the Administrator or a State with respect to such a standard or limitation,

* * *

(b) Notice

No action may be commenced—

(1) under subsection (a)(1)—

(A) prior to 60 days after the plaintiff has given notice of the violation (i) to the Administrator, (ii) to the State in which the violation occurs, and (iii) to any alleged violator of the standard, limitation, or order, or

(B) if the Administrator or State has commenced and is diligently prosecuting a civil action in a court of the United States or a State to require compliance with the standard, limitation, or order, but in any such action in a court of the United States any person may intervene as a matter of right.¹

¹ So in original. The period probably should be “, or”.

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* * *

(d) Award of costs; security

The court, in issuing any final order in any action brought pursuant to subsection (a) of this section, may award costs of litigation (including reasonable attorney and expert witness fees) to any party, whenever the court determines such award is appropriate. The court may, if a temporary restraining order or preliminary injunction is sought, require the filing of a bond or equivalent security in accordance with the Federal Rules of Civil Procedure.

* * *

(f) “Emission standard or limitation under this chapter” defined

For purposes of this section, the term “emission standard or limitation under this chapter” means—

(1) a schedule or timetable of compliance, emission limitation, standard of performance or emission standard,

(2) a control or prohibition respecting a motor vehicle fuel or fuel additive, or²

(3) any condition or requirement of a permit under part C of subchapter I (relating to significant deterioration of air quality) or part D of subchapter I (relating to nonattainment),³ section 7419 of this title (relating to primary nonferrous smelter orders), any condition or requirement under an applicable implementation plan relating to transportation control measures, air quality maintenance plans, vehicle inspection and maintenance programs or vapor recovery

² So in original. The word “or” probably should not appear.

³ So in original.

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requirements, section 7545(e) and (f) of this title (relating to fuels and fuel additives), section 7491 of this title (relating to visibility protection), any condition or requirement under subchapter VI (relating to ozone protection), or any requirement under section 7411 or 7412 of this title (without regard to whether such requirement is expressed as an emission standard or otherwise);⁴ or

(4) any other standard, limitation, or schedule established under any permit issued pursuant to subchapter V or under any applicable State implementation plan approved by the Administrator, any permit term or condition, and any requirement to obtain a permit as a condition of operations.⁵

which is in effect under this chapter (including a requirement applicable by reason of section 7418 of this title) or under an applicable implementation plan.

(g) Penalty fund

(1) Penalties received under subsection (a) shall be deposited in a special fund in the United States Treasury for licensing and other services. Amounts in such fund are authorized to be appropriated and shall remain available until expended, for use by the Administrator to finance air compliance and enforcement activities. The Administrator shall annually report to the Congress about the sums deposited into the fund, the sources thereof, and the actual and proposed uses thereof.

⁴ So in original. The semicolon probably should be a comma.

⁵ So in original. The period probably should be a comma.

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(2) Notwithstanding paragraph (1) the court in any action under this subsection 6 to apply civil penalties shall have discretion to order that such civil penalties, in lieu of being deposited in the fund referred to in paragraph (1), be used in beneficial mitigation projects which are consistent with this chapter and enhance the public health or the environment. The court shall obtain the view of the Administrator in exercising such discretion and selecting any such projects.

The amount of any such payment in any such action shall not exceed \$100,000.