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 (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 Plaintiff's 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.

---

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

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

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 (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

---

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

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

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 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

---

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

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

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 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]

---

[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.

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 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 14/15; special condition 1; and MAERT

[206] *Plaintiffs' Exhibits* 5 at row 17, 597 at row 17.

[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.

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] 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

---

[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.

[211] *Plaintiffs' Exhibit* 598.

other persuasive evidence that the emissions listed in the spreadsheets violate the Title V permit conditions or limits referenced under this Count. For these reasons, Plaintiffs have not met their burden to prove either repeated violation pre-complaint or violation both before and after the complaint of the same emission standard or limitation under Count VI.[212]

g. Count VII[213]

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 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

---

[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).

[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).

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.

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 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 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.

[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.

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.F.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

50. Exxon contends affirmative defenses under 30 Texas Administrative Code § 101.222 apply to ninety-eight of the events. Plaintiffs contend Exxon did

[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.

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. U.S. 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 § 101.222(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 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

---

[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.

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.

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

---

[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.

[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.

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,
> 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.

---

[222] *Supra* ¶¶ III.9–12.

[223] *Supra* ¶¶ III.13–48.

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) (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.

---

[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'Aquilla, 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

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 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

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 of compliance history.[227] In other words, the number of Events and Deviations must be

---

[225] *See supra* ¶ II.5.

[226] *Supra* ¶ II.2.

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

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 infra in footnote 240, the Court is not persuaded by Keith Bowers's opinion that certain capital improvements or additional spending on

---

[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* ¶ II.16.

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 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.[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 event, and implemented appropriate corrective actions to try

---

[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 lightening arresters, causing them to short out; a squirrel bypassed animal traps, causing some electrical equipment to short circuit; and a hawk dropped a snake on top of Substation One, causing an electrical power disruption. *Defendants' Exhibits* 1020C, 1020I–O; *Trial Transcript* at 10-244:17 to 10-253:17. Categorizing such varied events together does not prove the events had a common cause, resulted from a recurring pattern, or were preventable.

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

---

[233] *Supra* ¶¶ II.7–9.

[234] *Supra* ¶ II.7.

[235] *Supra* ¶ II.14.

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

[237] *Defendants' Exhibit* 546 at 14–15, ¶¶ 40–44.