IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

SIERRA CLUB, **Plaintiff,**	§	
v.	§	**Civil Action No. W-12-CV-108**
ENERGY FUTURE HOLDINGS CORPORATION and LUMINANT GENERATION COMPANY LLC, **Defendants.**	§	

MEMORANDUM OPINION AND ORDER

This case is a citizen suit brought by Plaintiff Sierra Club pursuant to Section 304 of the federal Clean Air Act ("CAA"), 42 U.S.C. § 7604. Plaintiff claims that Defendants Energy Future Holdings Corporation ("EFHC") and Luminant Generation Company LLC ("Luminant") own a coal-fired power plant, Big Brown Plant in Freestone County, Texas ("Big Brown") that has and continues to violate particulate matter and opacity limits under the CAA. The Court granted partial summary judgment in favor of Defendants and determined that there were no particulate matter violations at the Big Brown Plant.

INTRODUCTION

On February 24, 2014, this Court held a three-day bench trial on the remaining issues on whether Defendants violated the opacity limits at the Big Brown Plant. After both parties had the opportunity to present closing arguments, the Court ruled in favor of Defendants. Pursuant to Rule 52 of the

Federal Rules of Civil Procedure, the Court issues this Memorandum Opinion of Findings of Fact and Conclusions of Law.[1]

FINDINGS OF FACTS

I. Background

1. The Big Brown Plant's two units generate electricity with a blend of coal. The electricity generated is supplied to 23 million Texas customers via the electric grid operated by the Electric Reliability Council of Texas ("ERCOT").

2. Big Brown Power Company LLC owns the Big Brown Plant. Big Brown Power Company LLC is not a defendant in this case.

3. Defendant Luminant operates the Big Brown Plant.

4. Defendant EFH neither owns nor operates the Big Brown Plant. At trial, undisputed testimony established that EFH does not operate or maintain Big Brown or its emissions control equipment, nor does it direct capital expenditures, purchase coal, obtain permits, or submit environmental compliance reports for Big Brown. The evidence established that Defendant Luminant does those things for Big Brown.

5. The plant is located in a rural area in Freestone County, Texas. Ms. Barbara Lawrence, the only individual member of the Sierra Club organization in

[1] Rule 52(a) obligates the district court to identify its factual findings and separately state its conclusions of law in support of its bench trial judgment. *Chandler v. City of Dallas*, 958 F.2d 85, 88-89 (5th Cir. 1992).

the area that Sierra Club has identified, lives on Richland-Chambers reservoir, approximately 11 miles from the plant.

6. The Court previously held that Sierra Club has Article III standing through Ms. Lawrence. *See* Doc. 202.

7. More than 60 days before filing this lawsuit, Sierra Club notified Defendants, the United States Environmental Protection Agency ("EPA"), the Texas Governor's Office, and the Texas Commission on Environmental Quality ("TCEQ"), in writing, of the Sierra Club's intent to file suit for repeated past and ongoing violations of the two emission limits at issue in this litigation. The Court previously ruled that Sierra Club gave adequate pre-suit notice to the Defendants. *See* Doc. 75 at 12-16.

II. Sierra Club's Claim

8. Big Brown Plant is required to operate under a CAA permitting process that limits the amount of emissions the plant may legally emit into the air. That permitting program is administered and enforced by the TCEQ.

9. One indicator of the potential presence of air emissions is opacity. Texas rules define opacity as the "degree to which an emission of air contaminants obstruct the transmission of light expressed as a percentage of light obstructed as measured by an optical instrument or trained observer." 30 TEX. ADMIN. CODE § 101.1(72). In other words, the higher the opacity, the less light that passes through a plume of emissions.

10. Opacity is measured at Big Brown Plant using a device known as a "Continuous Opacity Monitoring System" ("COMS"), one of which is located in each of the two exhaust stacks at the plant. The COMS operate continuously and record opacity levels in six-minute averages.

11. Under the Texas CAA State Implementation Plan ("SIP"), power plant opacity "shall not exceed 30 percent averaged over a six-minute period." 30 TEX. ADMIN. CODE § 111.111(a)(1)(A).

12. SIP limits are federal CAA limits that can be enforced by the state, EPA, or citizens. 42 U.S.C. §§ 7413 & 7604; 40 C.F.R § 52.23.

13. The Texas SIP contains affirmative defenses for opacity readings that exceed the 30 percent level. *See* 30 TEX. ADMIN. CODE § 101.222(d) & (e). One of the defenses applies to "[e]xcess opacity events due to an upset," *id.* at § 101.222(d), and another applies to "unplanned maintenance, startup, or shutdown," also known as "MSS," *id.* at § 101.222(e).

14. To qualify for the defenses, the operator must prove to the TCEQ that ten demonstration criteria are met. *Id.* In general, the criteria require that the opacity was properly documented and reported to TCEQ; that the opacity was the result of an unavoidable breakdown of equipment or a process beyond the control of the operator; that the opacity event was not caused by inadequate design, operation, or maintenance; that if the opacity event was caused by a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; that the emissions control equipment was

operated in a manner consistent with good practices so as to minimize opacity at the plant; and that the opacity event did not cause or contribute to "a condition of air pollution." *Id.* If all criteria are met, the defense applies to "all claims in enforcement actions brought for these activities, other than claims for administrative technical orders and actions for injunctive relief." *Id.*

15. EPA approved these two affirmative defenses for opacity into the Texas SIP, and the Fifth Circuit has affirmed that approval notwithstanding the objections of Sierra Club. *See Luminant Generation* Co. *LLC v. U.S. E.P.A.,* 714 F.3d 841 (5th Cir. 2013); 75 Fed. Reg. 68,989, 68,999 (Nov. 10, 2010) ("Our approval of sections 101.222(b), (c), (d), and (e) into the Texas SIP provides a source the option to assert an affirmative defense for certain periods of excess emissions in an enforcement action brought against it by EPA or a citizen in federal court"). The EPA explained that these affirmative defenses exist because "despite good practices, [sources may] be unable to meet emission limitations during periods of startup and shutdown and, that despite good operating practices, sources may suffer a malfunction due to events beyond the control of the owner or operator." 75 Fed. Reg. at 68,992.

16. The present case involves the MSS and upset opacity events at Big Brown Plant that were self-reported by Luminant to the TCEQ during the period July 2007 to December 2010. Sierra Club claims that Big Brown Plant violated the 30 percent opacity limit on 6,520 occasions during this time period, and continues to

do so, when the plant was in MSS or upset mode.[2] Sierra Club derives this number from Luminant's reports to the TCEQ, which describe the events and report the plant's COMS readings over 30 percent during this period. The number of violations during the period at issue assumes that one exceedance per hour was allowed for the cleaning of the firebox (i.e., the boiler), the building of a new fire (i.e., a "startup") or other specified exemption contained in 30 TEX. ADMIN. CODE § 111.111(a)(1)(E). Sierra Club also alleges that Defendants continue to violate the limit.

17. It was revealed at trial that these readings comprise less than 1.5 percent of the plant's total operating time during this period. In other words, during more than 98.5 percent of the time, the plant is operating with opacity below 30 percent, usually around 10 percent. Notwithstanding the relatively short timeframe at issue, Sierra Club still notes that the amount of emissions released during these opacity exceedances comprise of 15 to 20 percent of Big Brown Plant's total annual emissions.

III. TCEQ's Investigations and Findings

18. It is not a matter of dispute that Luminant reported these MSS and upset events to TCEQ and that they constitute a small fraction of the plant's operation.

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[2] Sierra Club's complaint included another claim (Count II) that alleged the plant violated a limit on particulate matter ("PM") emissions. That claim was dismissed on summary judgment for the reasons stated in the Court's Order entered on February 10, 2014. Doc. 240.

Indeed, following the submission of the reports, the TCEQ conducted an investigation of each event to determine if the affirmative defense demonstration criteria discussed above were, in fact, met.

19. In all instances, the TCEQ determined that the applicable criteria in 30 Texas Administrative Code § 101.222(d) & (e) were satisfied and that no violation occurred. TCEQ documented its findings in publicly-available investigation reports. [Exhibit D-3]. Defendants provided certified copies of TCEQ's investigation reports documenting the events at issue in this case and the TCEQ's evaluation and regulatory determination. [Exhibit D-3.1 – D-3.184].

20. Sierra Club does not dispute that the TCEQ issued investigative reports for each of the opacity events at issue in this case after determining that none of the events was a violation. However, Sierra Club disagrees with TCEQ's findings and conclusions applying the criteria in § 101.222(d) & (e).

21. Sierra Club also does not dispute that these investigative determinations fall squarely within the TCEQ's sphere of expertise, which requires the use, evaluation, and assessment of scientific, technical, and operational data, and draws on the TCEQ's technical expertise, enforcement experience, and technical competence. Indeed, Sierra Club's expert witness, Dr. Ranajit Sahu, acknowledged as much during his testimony. Nonetheless, Sierra Club's witness Neil Carman—Sierra Club's clean air program director for the State of Texas—testified that Sierra Club sought to have the Court disregard the TCEQ's investigations and findings and instead rely on Sierra Club's investigation.

IV. Big Brown Plant's Emissions Control Equipment

22. Mr. Freeman Jarrell has been employed by Luminant for 47 years. He is currently the Senior Director for Regional Support for Luminant's Southern Region, which includes the Big Brown Plant. Mr. Jarrell was the plant manager at Big Brown Plant from 2001 to 2012. During that time period, Mr. Jarrell was responsible for the daily operation and maintenance of Big Brown.

23. Mr. Jarrell testified that the Big Brown Plant controls opacity from the stacks at the plant by collecting fly ash in the plant's gas stream using two pieces of equipment—an electrostatic precipitator ("ESP") and a Compact Hybrid Particulate Collector ("COHPAC") baghouse.

24. Each of Big Brown's two generating units has its own ESP and baghouse. The ESPs were part of the original construction of the units in the early 1970s. Both units were retrofitted in the mid-1990s to add pulse-jet baghouses to the end of their emissions-control trains.

25. The plant's current CAA operating permits—Permit No. O65 [Exhibit D-8], which was renewed by TCEQ on January 15, 2014, and Permit No. 56445 [Exhibit D-5], which was revised in December 2011—specify this emissions control equipment and how it must be operated during MSS events.[3]

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[3] Permit No. O65 is Big Brown Plant's Title V permit. Title V of the Clean Air Act, 42 U.S.C. §§ 7661-7661f, establishes an operating permit program for major sources of air emissions. A Title V permit compiles all the various applicable requirements for a facility into a single federally-enforceable air permit. *See United States v. Cemex, Inc.,*

26. Big Brown's ESPs and the baghouses operate in series. In other words, as combustion of coal in each of the two boilers produces flue gas, the flue gas exits the boiler and then is routed sequentially through the ESP first and the baghouse second before being sent through the stack.

27. An ESP is a device with three primary functions: 1) electrostatic charging of the fly ash particles in the gas stream from the boiler; 2) collection of the charged ash particles, and 3) removal of the ash from the ESP. Fly ash in the gas stream entering the ESPs is first energized with a charge by electrically-charged wires and then attracted to a collecting plate of the opposite charge. The plates are "rapped," or shaken, in sequence, and the fly ash falls into collection hoppers and is removed from the plant by a pressurized ash collection system.

28. Once cleaned by the ESP, the flue gas enters the baghouse for final treatment. The baghouse removes fly ash that may remain in the flue gas stream following the ESP. The ash is collected on fabric bags inside the baghouse. The bags are cleaned automatically and in sequence by a pulse-jet of air, and the fly ash is collected and removed. Fly ash removed by the ESPs and

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864 F. Supp. 2d 1040, 1045 (D. Colo. 2012); 42 U.S.C. §§ 7661c(a), (b). The permit is crucial to the implementation of the Act: it contains, in a single, comprehensive set of documents, all CAA requirements relevant to the particular emission source. *Com. of Va. v. Browner*, 80 F.3d 869, 873 (4th Cir. 1996). A Title V permit has been described as a "source-specific bible for Clean Air Act compliance." *Id.* Big Brown's Title V permit, like all of its air permits, is issued by the TCEQ.

baghouses is collected in hoppers and pneumatically conveyed to storage silos prior to loading for recycling, disposal, or sale.

29. As explained by Mr. Jarrell, the ESPs and baghouses must be disengaged during periods of MSS and upset in order to ensure their effective operation during the 98.5 percent of the time that the plant is operating in normal mode to generate electricity. This process occurs because, in order to operate safely and ensure their reliable operation during the unit's normal full-load operation, Big Brown's ESPs and baghouses must operate within certain temperature parameters during startup and shutdown that temporarily decrease their collection efficiency and lead to brief opacity events.

30. The need to periodically engage in the processes of shutting down and starting up a coal-fueled electric generating unit is an unavoidable feature of operating a coal-fueled electric generating unit that is beyond the control of the unit's owner or operator. All coal-fueled power plants must engage in the process of unit shutdown and unit startup, as Big Brown Plant does, for unit maintenance and repair. Sierra Club also acknowledges that shutdowns at coal-fired power plants are an unavoidable occurrence of plant operation.[4]

31. Startup and shutdown are the most critical phases during the operation of a coal-fueled electric generating unit such as Big Brown. Both startup and

[4] During the critique of one of Defendants' expert report at trial, expert for Sierra Club, Mr. Mark Ewen, noted that a power plant is unable to continuously operate as shutdowns for maintenance and other activities are necessary and unavoidable.

shutdown require precise coordination of a multitude of working parts and conditions in order to assure safe and reliable operation of the unit. Plant personnel follow detailed written procedures when starting up or shutting down the units. [Exhibit D-11.6, D-11.7]. It is because the emissions control equipment is disengaged during periods of MSS and upset that opacity readings at the stack rise above 30 percent for brief periods of time.

32. As explained by Mr. Jarrell, the Big Brown Plant operated during this time period, and continues to operate today, according to its Standard Operating Procedures. [Exhibit D-11.6, D-11.7]. These procedures are designed to minimize opacity by placing the ESP and baghouse into service as soon as practical during startups, and removing these pieces of equipment from service as late as possible during shutdowns, within certain temperature parameters. Big Brown's operating procedures prohibit the ESPs and baghouses from being engaged before, and require that the ESPs and baghouses be disengaged by the time, the ESP inlet temperature reaches 250 degrees Fahrenheit. *Id.*

33. If Big Brown engaged the ESPs and baghouses earlier in the startup process, or left them engaged longer during the shutdown period, Mr. Jarrell testified that it would cause a condition known as plugging or caking due to the additional moisture in the flue gas at lower temperatures. The moisture and ash would set-up like concrete on the ESP internals, which would impact the ESP's collection efficiency critique criticism and cause higher opacity during normal operations and in the long-term. This type of caking would occur on the bags in

the baghouses as well. Further, early energizing, or late de-energizing, of the ESP could lead to more serious issues, such as an explosion causing property damage or personal injury, due to sparking and carry-over un-combusted fuel.

34. Big Brown's current Permit No. 56445 requires that the plant operate according to its Standard Operating Procedures, which have not changed over this time period. Mr. Jarrell and Mr. Eric Chavers,[5] the Chemical and Environmental Supervisor at the plant, both testified that Big Brown complies with its standard operating procedures and the terms of the permit when starting up and shutting down.

35. Big Brown Plant's startup and shutdown procedures are consistent with guidance from EPA. As EPA explains in its ESP training manual, "[i]f an ESP is used on a coal-fired boiler, the ESP should not be started until coal firing can be verified. . . . [and] [a]fter gas at temperature of 200°F has entered ESP for 2 hours[.]" U.S. Environmental Protection Agency, Air Pollution Training Institute, SI 412B, Lesson 6: ESP Operation and Maintenance, at 6-5 & Table 6-2 [Exhibit D-11.3]. *See also* U.S. Environmental Protection Agency, Electrostatic Precipitator Malfunctions in the Electric Utility Industry, EPA-600/2-77-006, at 4-19 to -20 (Jan. 1977) ("About 8 hours is required to bring a unit on line, i.e. when

[5] Mr. Chavers has worked for Luminant for nearly 9 years. His responsibilities include monitoring opacity, maintaining the plant's COMS in good working order, collecting the data, and making reports to TCEQ on opacity events in coordination with Luminant's Environmental Services department.

the steam pressure reaches the design range, which is about 107-135°C (225-275°F) for cold-side ESP's. The precipitator is turned on manually, usually 1 hour after the unit is firing coal. . . . Times required to bring the boiler to proper operating temperature vary, but the described procedure is representative of that for a coal-fired boiler.") [Exhibit D-11.2].

36. If the minimum-temperature restriction is not observed, EPA has explained, "sticky particulate and sparking" in the ESP can "lead to unburned carbon, hydrocarbons, and [carbon monoxide] in the ESP."[6] The presence of sticky particulate, unburned carbon, hydrocarbon, and carbon monoxide in the ESP is problematic for two reasons. First, the sticky particulate, unburned carbon, hydrocarbon, and carbon monoxide "may be set afire or result in an explosion that endangers personnel."[7] EPA's regulatory guidance on ESPs instructs that "[p]ersonnel safety should be the foremost consideration in any startup procedure." [8] Second, consistent with Mr. Jarrell's testimony, EPA guidance states that the collection of sticky particulate, unburned carbon,

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[6] U.S. Environmental Protection Agency, Operation and Maintenance Manual for Electrostatic Precipitators, EPA/625/1-85/017, at 5-3 through 5-4 (Sept. 1985) [Exhibit D-11.1].

[7] *Id.*

[8] *Id.* at 5-1.

hydrocarbon, and carbon monoxide in the ESP "could also permanently destroy the ESP's performance potential."[9]

37. Mr. Jarrell further testified as to the maintenance and upkeep of Big Brown Plant's ESPs and baghouses. The plant addresses necessary maintenance through the use of on-site plant staff as well as third-party contractors who are experienced in ESP and baghouse inspection and maintenance. The plant regularly commissions front-to-back inspections and repairs of the ESPs and baghouses by specialized contractors. [Exhibit D-42]. These third-parties inspect the ESPs and baghouses and recommend and conduct the necessary repairs and maintenance. During the time period at issue, many maintenance items were addressed during a longer maintenance outage, which requires scheduling and coordination with ERCOT, but some items that needed more immediate attention were addressed during shorter and/or unscheduled outages.

38. Sierra Club's expert witness, Dr. Ranajit Sahu, an engineer by training, testified about his opinions of Big Brown Plant's emissions control equipment. Dr. Sahu testified that it was his opinion that these opacity events could have been avoided because it is technically feasible for the ESPs and baghouses at Big Brown to be engaged earlier in the startup process, and remain engaged longer in the shutdown process.

[9] *Id.* at 5-3 through 5-4.

39. Dr. Sahu noted that Big Brown's boilers were designed to burn 100 percent locally-mined Texas lignite. However, since roughly the mid-1990's, the plant has been blending lignite with coal brought in from the Powder River Basin ("PRB"), an area in the western United States. Dr. Sahu testified that while PRB coal has certain benefits in terms of sulfur dioxide emissions, its use at the Big Brown Plant exacerbates opacity levels caused by the undersized ESPs.

40. Dr. Sahu testified that the ESPs installed at Big Brown utilize an undersized Specific Collection Area ("SCA"), or collection plate, which does not sufficiently capture the particulate matter from the lignite coal that the plant was originally designed to burn. Given the fact that the plant is now burning a mixture of Texas lignite and PRB coal, Dr. Sahu explained that a larger SCA is required to properly capture the smaller-sized PM.

41. Dr. Sahu also stated that the ESPs and baghouses at Big Brown could have been replaced with new larger baghouses that, in his opinion, would have reduced the number of opacity events. Dr. Sahu further criticized the maintenance and design of the ESPs and baghouses, relying in large part on summaries of reports of third-party contractors that Luminant hired to inspect the equipment. He testified that the plant should have spent an additional $5 million in maintenance each year.

V. Luminant's Reporting of the Opacity Events and TCEQ's Investigations

42. Ms. Shawn Glacken, Luminant's Senior Vice President for Environmental Services during this time period, testified regarding the company's reporting of the opacity events to the TCEQ. Luminant is required to monitor and measure opacity levels at Big Brown and report those levels to TCEQ, and Ms. Glacken's department handled that task in coordination with plant staff.

43. Luminant submits two different types of reports to TCEQ related to opacity: 1) reports through the STEERS reporting system and 2) quarterly reports. STEERS stands for "State of Texas Environmental Electronic Reporting System" and is an online portal through which facility operators report certain opacity events to TCEQ. Luminant submits a report to TCEQ through its STEERS reporting system when opacity at Big Brown is, or is expected to be, 15 percent over the relevant opacity reporting threshold, which in this case is 30 percent. Luminant's STEERS Reports detail the facts surrounding each reported opacity event, the cause, duration, corrective action taken, and other information. Luminant also submits quarterly reports to TCEQ in a collective report called an "Excess Emission Report, Continuous Emission Monitoring System (CEMS) Downtime Report, and Deviation Report, and Title V Deviation Report." Sierra Club relies exclusively on these publicly-filed reports to make its allegations that there were violations. [Exhibit D-33.1 – D-33.16; D-34.1 – D-34.204].

44. Ms. Glacken presented a summary of voluminous documents regarding the opacity events at issue, pursuant to Federal Rule of Evidence 1006, for each unit at Big Brown Plant. [Exhibit D-1, D-2]. The summaries provide the date, time, nature, intensity, frequency, duration, cause, and contemporaneous documentation and reporting made by Luminant with regard to all of the opacity events at issue.

45. Sierra Club did not object to the summaries, and the Court accepts them as correct descriptions of the events at issue.

46. As presented in the summaries, and as further evidenced by certified copies of the reports issued by the TCEQ, for each and every one of the reported opacity events at Big Brown for the period July 2007 through December 2010, the TCEQ made an investigation and issued a written determination as to whether the affirmative defense criteria in 30 Texas Administrative Code § 101.222 were satisfied. [Exhibit D-3]. In each and every instance, the TCEQ found that the criteria had been met and no violation of the opacity limitation had occurred. [Exhibit D-3].

VI. Air Quality and Lack of Harm to Sierra Club's Members

47. Dr. Lucy Fraiser, a Ph.D. toxicologist, testified on behalf of Defendants regarding any harm to public health or welfare as a result of the opacity events and, specifically, whether they caused or contributed to "a condition of air pollution," which is criteria number ten under the affirmative defenses. Sierra Club offered the testimony of Dr. Andrew Gray, an air modeler, and rebuttal

testimony of Dr. George Thurston, a Professor of Environmental Medicine at New York University.

48. All of these individuals agreed that, based on air quality modeling conducted by Mr. Robert Paine and relied on by Dr. Fraiser, the reported opacity events at Big Brown for the period July 2007 through December 2010 did not result in particulate matter ("PM") concentrations sufficient to cause or contribute to a violation of the primary or secondary National Ambient Air Quality Standards ("NAAQS") for PM.

49. As explained by Dr. Fraiser, EPA sets the NAAQS at a level adequate to protect human health and the environment with an adequate margin of safety. There are three different NAAQS for PM. For PM_{10} (which refers to particles that are less than or equal to ten microns in size), there is a 24-hour average standard of 150 micrograms / cubic meter ($\mu g/m^3$). For $PM_{2.5}$ (which refers to particles that are less than or equal to 2.5 microns in size), there was a 24-hour average standard of 35 $\mu g/m^3$ and an annual average standard of 15 $\mu g/m^3$ (which was later revised by EPA to 12 $\mu g/m^3$ after the events at issue in this lawsuit).

50. Dr. Fraiser testified that, in her opinion, the PM NAAQS levels set by EPA were, as intended, protective of human health and environment with an adequate margin of safety and this would include protection of sensitive populations such as children, the elderly, and people with respiratory problems.

51. Dr. Thurston and Dr. Gray testified that, in their opinion, any amount of PM in the air can cause the risk of adverse health effects, even if below the NAAQS. In their opinion, there is no safe level of PM in the air even from common human activities such as cooking. Neither Dr. Thurston nor Dr. Gray, however, attempted to analyze or apply criteria number ten under the affirmative defenses. Both admitted that they were not familiar with criteria number ten or the Texas definition of "air pollution."

52. Dr. Fraiser, on the other hand, specifically analyzed criteria number ten under the affirmative defenses. She focused on the Texas definition of "air pollution" and concluded the events at issue did not cause or contribute to a condition of air pollution. She determined that the events at issue did not adversely affect human health or welfare, animal life, vegetation, or property. And she further concluded that the events did not interfere with the normal use or enjoyment of animal life, vegetation, or property.

53. In addition to relying on EPA's NAAQS for PM and the lack of any violations of those NAAQS, Dr. Fraiser further examined other factors such as the surrounding land use, the time of day of the events, the event duration, and the percentage of total time of the opacity events. She also determined that, based on her investigation, there were no complaints from members of the public, including from Barbara Lawrence, to TCEQ regarding any of the events at issue. She further relied on the deposition testimony of Barbara Lawrence, in which Ms. Lawrence testified that she had no physical injury or harm as a result

of Big Brown's emissions. Based on all of these factors, in addition to the air modeling that showed no violation of the NAAQS, Dr. Fraiser concluded that none of the events at issue in the lawsuit caused or contributed to a condition of air pollution, as defined by Texas law.

VII. The Permitting of Big Brown Plant's MSS Emissions

54. As testified to by Ms. Glacken and Mr. Chavers, in December 2011, TCEQ approved a revision to Big Brown's Air Permit No. 56445. [Exhibit D-5]. The revised Permit No. 56445, which remains in effect, requires that Big Brown's ESPs and baghouses only be operated during certain times and under certain operating conditions. The permit states: "Opacity greater than 20 percent from [the plant's stacks] is authorized when the permit holder complies with the MSS duration limitations and other applicable work practices identified below." *Id.*

55. Among those required work practices, Permit No. 56445 states that Big Brown "will comply with the boiler and ESP manufacturer's operating procedures or the permittee's written Standard Operating Procedures manual during planned MSS, and will operate in a manner consistent with those procedures to minimize opacity by placing the ESP and baghouse into service as soon as practical during planned startups or removing the ESP and baghouse from service as late as possible during planned shutdowns, once the baghouse inlet gas temperature is between 200 and 300 degrees F, but not longer than the durations identified in Special Condition No. 8(A)." *Id.*

56. The permit further limits the duration of MSS events. It provides that a "planned startup" "shall not exceed 24 hours," except that the plant may have a combined 600 hours on an annual calendar basis during which "[t]he total amount of incremental time the extended startups exceed 24 hours."[10] *Id.* It further provides that a "planned shutdown" "shall not exceed 24 hours," except that the plant may have a combined 600 hours on an annual calendar basis during which "[t]he total amount of incremental time the extended shutdowns exceed 24 hours."[11] *Id.* Permit No. 56445 further provides that "planned online and offline maintenance activities" listed in the permit "are authorized for no more than 535 hours in a calendar year per unit." *Id.*

57. In the Source Review and Technical Analysis it conducted in connection with the issuance of amended Permit No. 56445 [Exhibit D-6], TCEQ determined that emissions during the permitted MSS events, which are identical to the MSS events at issue in this case except that they occurred during a prior time period, would be *de minimis* and "would not cause an exceedance of the NAAQS" and that "no adverse impacts to public health and the environment are anticipated as

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[10] The permit defines a "planned startup" "as the period that begins when the induced draft booster fans start operation and ends when the utility boiler reaches stable load and ESP/baghouse operation has been fully optimized."

[11] The permit defines a "planned shutdown" "as the period that begins when the electrostatic precipitator is partially or completely de-energized due to reaching its minimum operating temperature and ends when a temperature has been reached that allows personnel to enter the structure and conduct maintenance activities."

a result of quantifying and permitting emission rates for" the permitted MSS events. *Id.* The TCEQ further determined that the work practices required by the permit were "Best Available Control Technology" or "BACT."

58. Ms. Glacken testified that, as part of this permitting process, TCEQ reviewed the plant's overall environmental compliance and assigned Big Brown a "High" performance rating, which is the best possible rating. [Exhibit D-6].

59. Ms. Glacken testified that, in accordance with 30 Texas Administrative Code § 122.217, Luminant submitted the requirements of revised Permit No. 56445 to the TCEQ as a revision to the plant's Title V federal operating permit on December 12, 2011. [Exhibit D-7]. The submission was made prior to final issuance of the revised Permit No. 56445 (issued on December 16, 2011), as instructed by TCEQ, so there would be no gap in the regulatory requirements applicable to the plant. Luminant's application identified the revised requirements of Permit No. 56445 as provisional terms and conditions of the plant's Title V permit and stated "Luminant will comply with the amended requirements of Permit No. 56445 as provisional terms and conditions of the Federal Operating Permit." *Id.*

60. Ms. Eva Hernandez, a senior organizing manager for Sierra Club, testified at trial by deposition that the plant's permits, including Permit No. 56445, are binding requirements on the operation of the plant.

61. Ms. Glacken and Mr. Chavers testified about the plant's implementation of this permit revision. The plant did not change the way it operates the ESPs and

baghouses, but instead changed its method of tracking MSS activity, as required by the permit, to ensure compliance with the new duration limitations in the permit. As to be expected, the number of reportable events has decreased to a negligible amount because the permit revision now requires tracking of MSS activity in relation to the new duration limitations in lieu of reporting all opacity exceedances during MSS.

62. Ms. Glacken testified that the amendment to Permit No. 56445 authorizes and regulates the kinds of MSS activities at issue in this case. Ms. Glacken testified that if the MSS activities that Sierra Club challenges (which occurred between July 2007 and December 2010) had occurred after the issuance of amended Permit No. 56445, or if Permit No. 56445 had been amended before July 2007, then all of those MSS activities would have been covered, authorized, and regulated by amended Permit No. 56445.

63. In 2012 and 2013, Big Brown's two units complied with the new MSS hours restrictions, and in fact used only a small fraction of the allotted hours. [Exhibit D-9, D-10]. As confirmed by Mr. Chavers' testimony, the plant's data showed that the plant was engaging the ESPs and baghouses in accordance with the temperature ranges in the permit. To the extent the plant operates outside the terms of the permit, those events would still be reported to the TCEQ as before and reviewed by TCEQ for compliance with the demonstration criteria.

64. Ms. Glacken and Ms. Hernandez testified about the regulatory and judicial proceedings following the issuance of the revisions to Permit No. 56445 in

December 2011. Upon issuance, the TCEQ announced that any person who sought to challenge the permit had two avenues for doing so: 1) a motion to overturn with the Chief Clerk of TCEQ; and 2) judicial review in Travis County district court. [Exhibit D-5]. Sierra Club pursued both avenues of relief and requested that the permit be overturned. Sierra Club filed its motion to overturn on January 9, 2012 [Exhibit D-13], and filed a petition for judicial review on January 17, 2012 [Exhibit D-14]. The TCEQ denied the motion to overturn on February 10, 2012. And, on July 3, 2012, Sierra Club voluntarily non-suited its request for judicial review of the permit with prejudice. [Exhibit D-15].

CONCLUSIONS OF LAW

I. Statutory and Regulatory Background

1. The Clean Air Act ("CAA") creates "a comprehensive national program that ma[kes] the States and the Federal Government partners in the struggle against air pollution." *Gen. Motors Corp. v. United States*, 496 U.S. 530, 532 (1990). Under the Act, "air pollution prevention . . . and air pollution control at its source is the primary responsibility of States and local governments." 42 U.S.C. § 7401(a)(3). *See also Luminant Generation Co. v. EPA*, 675 F.3d 917, 932 (5th Cir. 2012) ("[The Clean Air Act's] cooperative federalism regime [] affords sweeping discretion to the states[.]"). Texas exercises its primary authority in this regard through the Texas Commission on Environmental Quality ("TCEQ"), which promulgates and enforces the Texas CAA State Implementation Plan ("SIP"). *See* 40 C.F.R. § 52.2270 (Texas SIP).

2. As the Fifth Circuit has recognized, the Texas SIP has always acknowledged and accounted for the fact that even well-designed, well-operated, and well-maintained ESPs cannot be safely and effectively operated during periods of MSS. *See Luminant Generation Co.*, 714 F.3d at 847 (5th Cir. 2013) ("Since the creation of its first SIP in 1972, Texas has provided for special treatment of SSM activity.").

3. The affirmative defenses come into play only when the Big Brown Plant's boiler units or associated pollution control equipment are either being shut down, started up, undergoing maintenance, or experiencing a malfunction (or "upset"). As previously determined by the Court (Doc. 162), the affirmative defenses are applicable in this case for two reasons. First, TCEQ renewed Big Brown's Title V Permit No O65 in 2008. As part of that permitting process, TCEQ revised Permit No. O65 and incorporated and applied to the plant all of the affirmative defenses for startup, shutdown, maintenance, and upset in 30 Texas Administrative Code §§ 101.222(a)–(h). [Exhibit D-4]. TCEQ issued public notice of the 2008 revisions of Permit No. O65 and provided a 30-day opportunity for the public to comment. EPA did not object to the 2008 revised permit, and Sierra Club did not submit comments to TCEQ or petition EPA to object to the permit. The Court lacks jurisdiction to hear claims collaterally attacking the contents of the Title V permit, which includes all defenses in § 101.222. Doc. 162 at 15; 42 U.S.C. § 7607(b)(2). Second, even if they had not been expressly incorporated into the plant's permits, §§ 101.222(b)-(e) were approved by EPA into the Texas SIP

effective January 10, 2011, and the Court will apply the federal law that is currently in effect for the reasons stated in its prior Order. Doc. 162 at 16–19.

4. Thus, as Sierra Club's counsel stated in closing arguments, for purposes of this case, there is no "SIP Gap"—*i.e.*, no period during which Defendants cannot avail themselves of the affirmative defenses.

II. Defendants Have Met Their Burden of Proving the Affirmative Defense Criteria for All Opacity Events

5. The question for the Court, then, is whether the affirmative defense criteria are met for the opacity events that occurred at Big Brown Plant from July 2007 to December 2010. For the reasons discussed below, the Court finds that the defense criteria are met in all instances.

A. TCEQ's Findings Are Entitled to Deference

6. First, Luminant demonstrated to the TCEQ, and the TCEQ found, that all of the events at issue meet the affirmative defense criteria in 30 Texas Administrative Code § 101.222. Sierra Club argues that the Court should reach a different conclusion based on the opinion testimony of Dr. Sahu, Dr. Gray, and Dr. Thurston.

7. While there may certainly be circumstances where a court should step in despite contrary findings of a state agency, the Court finds no such circumstances are present here. The Court will not second-guess the TCEQ's written, contemporaneous determinations, given the complete lack of evidence offered by Sierra Club regarding any error or deficiency in those determinations.

Courts should provide proper deference to an administrative agency's legal and factual determinations. An agency's interpretation of, or finding of facts under, a regulation it is charged with enforcing is entitled to deference because "[a]dministrative agencies are simply better suited than courts to engage in such a process." *Ford Motor Credit Co. v. Milhollin*, 444 U.S. 555, 569 (1980); *see also* 3 Charles H. Koch, Jr., Administrative Law and Practice § 12.24[3] (2d ed. 1997) ("It is readily recognized that many conclusions reached by the agency are the result of a technical competence that even the most arrogant nonexpert could not hope to replicate."); *United States v. BP Products North America Inc.*, 610 F.Supp.2d 655, 709 (S.D. Tex. 2009). This deference extends to an agency's application of its own regulations to a set of facts. *Coeur Alaska, Inc., v. Se. Alaska Conservation Council*, 557 U.S. 261, 283 (2009) ("[W]e do find that agency interpretation *and agency application* of the regulations are instructive and to the point.") (citing *Auer v. Robbins*, 519 U.S. 452, 461 (1997)) (emphasis added); *see also United States v. Alcoa, Inc.*, No 1:03-cv-222, 2007 WL 5272187, at *7 (W.D. Tex. Mar. 14, 2007), *aff'd*, 533 F.3d 278 (5th Cir. 2008) ("a district court reviews the actions of a state agency administering federal programs as it would review the actions of a federal agency, including deference to reasoned administrative action" (citing *Indep. Nursing Home v. Simmons*, 732 F. Supp. 684, 688 (D. Miss. 1990)).

8. Courts are at their most deferential in reviewing the agency's findings where an agency's particular technical expertise is involved. *Texas v. EPA*, 690

F.3d 670, 677 (5th Cir. 2012); *Medina County Environmental Action Ass'n v. Surface Transp. Bd.*, 602 F.3d 687, 699 (5th Cir. 2010); *Center for Marine Conservation v. Brown*, 917 F. Supp. 1128, 1143 (S.D. Tex. 1996) (When an agency is acting within its "own sphere of expertise," the Court's review "must be very deferential.").

9. Here, the TCEQ is the regulatory agency that promulgated the affirmative defenses and is charged by federal law with the primary responsibility of enforcing the CAA in the State. As Dr. Sahu testified, the TCEQ possesses the technical expertise that is required to apply the criteria. And the criteria themselves contemplate a demonstration to, and finding by, the TCEQ. The Court will defer to TCEQ's application of 30 Texas Administrative Code § 101.222 to the opacity events at issue here, especially given the lack of evidence offered by Sierra Club regarding any error or deficiency in those determinations.

10. In the case at hand, the Court finds no circumstances that would warrant reaching a different conclusion than TCEQ reached. "[T]here is a strong public policy against a federal court's interference in state agency determinations absent some finding that the agency has violated federal law." *Alcoa*, 2007 WL 5272187, at *7. Here, the strong public policies of comity for State determinations and respect for administrative agency expertise weigh in favor of deferring to TCEQ's determinations in this case. TCEQ's determinations are further supported by the weight of the evidence adduced at trial and documented in contemporaneous reports by the agency. The Sierra Club has provided no

evidence of any factual, legal, or procedural errors whatsoever in TCEQ's findings, and the Court finds none.

11. Further, not only do TCEQ's findings not violate federal law, they are fully consistent with EPA's guidance on MSS events and proper operation of ESPs. EPA has repeatedly recognized that ESPs, like those at Big Brown Plant, must be disengaged during the startup and shutdown process.

12. In fact, in approving the affirmative defenses at issue in this case, EPA explained that "[w]e can understand that there may be excess opacity emissions in certain situations from operation of power generators equipped with ESPs."[12] EPA also expressed the view "that imposition of a penalty for sudden and unavoidable malfunctions, startups or shutdowns caused by circumstances entirely beyond the control of the owner or operator may not be appropriate."[13] TCEQ's findings with respect to the events at issue in this case are fully consistent with EPA's views and guidance.

13. Because TCEQ determined that the affirmative defenses were met for all opacity events at issue, and the Court finds no error in those determinations, no penalty will be assessed for any of the events.

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[12] 75 Fed. Reg. 68,989, 68,996 (Nov. 10, 2010) (final approval).

[13] 75 Fed. Reg. 26,892, 26,894 (May 13, 2010) (proposed approval)

B. Defendants Have Independently Proven All of the Affirmative Defense Criteria for All Opacity Events by a Preponderance of the Evidence

14. Second, even if the TCEQ had not made contemporaneous regulatory findings, the Court finds as a matter of fact that Defendants have met their burden of proving by a preponderance of the evidence that all ten of the affirmative defense criteria are met for all of the events at issue.

15. The Court credits the testimony of Mr. Jarrell, Mr. Chavers, and Ms. Glacken as to the criteria that relate to reporting and documentation of the opacity events contained in 30 Texas Administrative Code § 101.222(d)(1), (d)(8), (e)(1), and (e)(9). Each and every one of the events was documented by the plant in its logs and reported to the TCEQ in either a STEERS report or a quarterly report, or both. Sierra Club offers no evidence that criteria (d)(1), (d)(8), (e)(1), and (e)(9) were not met, and Sierra Club does not dispute the reporting procedures of the plant. As such, the Court finds those criteria are satisfied.

16. The Court credits the testimony of Mr. Chavers that "all emissions monitoring systems were kept in operation if possible" as required by criteria (d)(7) and (e)(8). As the reports indicate, all of the events were recorded by the plant's COMS, which is maintained and calibrated by Mr. Chavers and his staff. Again, Sierra Club offers no evidence that criteria (d)(7) and (e)(8) are not met, and the Court finds that those criteria are met.

17. The Court credits the testimony of Mr. Jarrell as to criteria (d)(2), (d)(4), (e)(2), (e)(5), and (e)(6), and finds those criteria are met. All of the events were

caused by a sudden, unavoidable breakdown of equipment or a process beyond the control of the operator. As Mr. Jarrell testified, and Dr. Sahu conceded, the vast majority of the opacity events were the result of starting up or shutting down one of the units and the process of engaging the plant's ESPs and baghouses in accordance with the Standard Operating Procedures, which require bypass during MSS and upsets. [Exhibit D-5]. This process is unavoidable and beyond the control of Luminant. The equipment that is permitted at the plant must be disengaged (or bypassed, to use the terminology of criteria (e)(5)) unless the temperature of the flue gas is above minimum operating temperatures. If the equipment is operated outside of these required ranges, it will result in caking or plugging, which will degrade the equipment's performance during normal operations, and further create the risk of explosion and harm to human life and property. [Exhibit D-11.6].[14]

18. Dr. Sahu testified that it was technically feasible for the ESPs to be turned on earlier in the startup process and left on longer in the shutdown process. But Dr. Sahu offered no factual support or analysis to support this opinion, and the Court finds his testimony not to be credible or convincing on these points. Moreover, technical feasibility is not a consideration under the MSS affirmative defense criteria in § 101.222(e). Dr. Sahu's opinions are also contrary to the EPA guidance discussed above, and, indeed, contrary to his own prior opinions

[14] "The precipitator inlet temperature should be above 250° (gas from air heater. This should help to assure that the collecting plates in the precipitator do not 'coat up.'"

submitted to EPA. In "Technical Comments" submitted to EPA on August 4, 2011, Dr. Sahu stated: "During periods of startup, shutdown etc., when exhaust gas temperatures are low and other gas properties may not be optimum (i.e., its moisture content, etc.), it is quite common for ESPs to not be energized until proper operating conditions occur. . . . Based on discussions with various equipment manufacturers and review of operating manuals, there are often minimum temperature requirements for ESPs in order to avoid issues such as moisture condensation and potential damage[.]"[15] Although at trial he cited one example of a plant where ESPs were being energized at the beginning of startup, he stated that the plant was deviating from the recommendations of the equipment manufacturer in doing so.

19. As confirmed by Mr. Jarrell and Mr. Chavers, the ESPs and baghouses are operated in a manner that would avoid damage to and degradation of the equipment and avoid the risk of explosion and harm to human life and property. As Mr. Jarrell and Mr. Chavers testified, the plant operates its equipment according to an established process that is consistent with its permit, EPA guidance, and manufacturer recommendations, and did so during the events at issue. For all these reasons, the Court finds that criteria (d)(2), (d)(4), (e)(2), (e)(5), and (e)(6) are satisfied.

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[15] Dr. Ranajit Sahu, Technical Comments on Certain Aspects of EPA's Proposed EGU MACT Rule, at 3-4 & n.2, submitted with comments of Environmental Integrity Project, EPA Docket EPA-HQ-OAR-0044-0001 (Aug. 4, 2011) [Exhibit D-52].

20. The Court credits the testimony of Mr. Jarrell as to criteria (d)(3) and (e)(3), which, although not identical, relate to the prevention of the opacity through planning and design, and finds that those criteria are met. As discussed above, the opacity events are an unavoidable aspect of operating the equipment at Big Brown in the manner in which it is designed and permitted to be operated. The ESPs and baghouses operate in series, and both must be disengaged during startup and shutdown. As Mr. Jarrell testified, the plant's current permits both specify that this is the equipment the plant is to operate and that it must be operated in this manner (*i.e.*, disengaged until minimum temperatures are achieved). Dr. Sahu himself stated previously this is "common" practice. And Dr. Sahu pointed to no specific design flaws in the ESPs or baghouses at the plant that prevent them from being engaged during startup and shutdown.

21. In the view of Dr. Sahu, the electrostatic precipitators used at Big Brown Plant are undersized for the amount of flue gases containing PM that they treat. Dr. Sahu testified that the baghouses at the plant were never designed to handle more than a small fraction of the particulate matter in the flue gases from the boilers, which results in the flue gases being bypassed when the ESPs are not energized. It is Dr. Sahu's opinion that the baghouses were never intended by the Defendants to control opacity during startups or shutdowns, or during maintenance activities when the fans are still on causing emissions to exit the smokestack. Dr. Sahu continued noting that if the plant completely replaced the currently-permitted equipment with a baghouse-only arrangement, these opacity

events would not occur or would not occur as frequently. But this view, even if true, has no factual bearing on the affirmative defenses, given that Dr. Sahu himself testified that the permitting and installation of new equipment would take up to two years and the affirmative defense criteria analysis applies to what is in place currently.

22. The Court credits the testimony of Mr. Jarrell as to criteria (d)(9) and (e)(4), which require that the opacity was not part of a recurring pattern indicative of inadequate design, operation, or maintenance. As discussed above, the Court finds that none of the events was the result of inadequate design and operation of the ESPs and baghouses. As to maintenance, the Court finds, based on the testimony of Mr. Jarrell, the third-party inspections and repairs that were conducted, and other evidence, that the equipment is well-maintained. The Court finds no instances in which an opacity event was caused by poor maintenance. Although Dr. Sahu gave the opinion that the plant should have spent $5 million more in maintenance each year, he did not indicate what essential maintenance work should have been done or how that money should be spent. For instance, Dr. Sahu opined that Defendants' lax maintenance and operating practices contributed to equipment problems and compounded the problems posed by the plant's "inadequately-sized" ESPs and baghouses. While admitting that proper maintenance and operation would not have entirely eliminated opacity exceedances, Dr. Sahu believed that there would have been a reduction in the duration and levels of some of the exceedances. However, for

many of the items that Dr. Sahu cited from the third-party inspection reports as examples of "poor maintenance" (like ESP expansion joints), the very same report indicated that the maintenance issue had been satisfactorily addressed. Given the many omissions and errors in Dr. Sahu's testimony, the Court does not find credible his assessment of the maintenance history of the ESPs and baghouses. As Mr. Jarrell testified, Luminant spent between approximately $4M to $8M on combined capital and O&M expenditures on Big Brown's ESPs and baghouses each year from 2005 to 2012. The work is scheduled and conducted during an outage at the plant in coordination with ERCOT and in light of electricity needs for the grid. The Court finds that adequate maintenance was timely performed on the ESPs and baghouses and that criteria (d)(9) and (e)(4) are met for all events.

23. The Court also finds that criteria (d)(5), (d)(6), and (e)(7), which address the operator's efforts to minimize opacity, are met for all events, based on the testimony of Mr. Jarrell and a review of the reports at issue. The 6,520 six-minute readings that Sierra Club challenges comprise only about 1.5 percent of the plant's total operating time during this period. In other words, during about 98.5 percent of the time, the plant is operating with opacity below 30 percent, usually around 10 percent. As Mr. Jarrell testified, these limited startup and shutdown opacity events are necessary to ensure effective operation of the equipment when it is needed most—during the 98.5 percent of the time that the plant is in normal operation mode. During normal operations, the opacity at the

plant is generally 10 percent or less, which is a clear stack. If the plant operated in a different manner, the ESPs and baghouses would experience caking or plugging, decreasing their collection efficiency and increasing opacity overall. The Sierra Club offered no competent evidence to the contrary. The Court finds that criteria (d)(5), (d)(6), and (e)(7) are met.

24. Finally, based on the testimony of Dr. Lucy Fraiser, the Court finds that criteria (d)(10) and (e)(10) are met because none of the opacity events at issue caused or contributed to "a condition of air pollution." "Air pollution" is defined in Texas as "the presence in the atmosphere of one or more air contaminants or combination of air contaminants in such a concentration and of such duration that either (A) are or may tend to be injurious to or adversely affect human health or welfare, animal life, vegetation, or property; or (B) interfere with the normal use or enjoyment of animal life, vegetation, or property." TEX. HEALTH & SAFETY CODE § 382.003(3). Analyzing both aspects of the definition of air pollution, Dr. Fraiser concluded that the events at issue did not cause or contribute to a condition of air pollution as determined by the TCEQ. The Court agrees.

25. To begin with, the air quality modeling relied on by Dr. Fraiser, which was conducted by Mr. Paine, demonstrates that the impact to ambient air quality from these short duration opacity events was minimal and did not cause any violations of the relevant NAAQS levels. As recognized by Sierra Club's expert, Dr. Thurston, the NAAQS are the cornerstone of the nation's air pollution control program and are aimed at establishing air quality requirements sufficient to

protect public health and welfare. The experts from both sides agree that the primary NAAQS are set at a level designed to protect human health with an adequate margin of safety, including protecting sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases. The secondary NAAQS are designed to provide public welfare protection, including protection against decrease visibility and damage to animals, crops, vegetation, and buildings. Sierra Club's own experts agree with Dr. Fraiser that there are no violations of the primary or secondary PM NAAQS relating to the events at issue in this case. Based on the air modeling, an analysis of the NAAQS, and an analysis of possible health effects caused by the opacity events, Dr. Fraiser concluded that the events at issue did not adversely affect human health or welfare.

26. Additionally, Dr. Fraiser considered several other factors in determining whether the opacity events interfered with the normal use or enjoyment of animal life, vegetation, or property. For example, Dr. Fraiser analyzed the surrounding land use, the time of day of the events, the duration of the events, the percentage of time of the events, and whether there were complaints to the TCEQ relating to the events. Based on these additional factors as well as the secondary NAAQS, Dr. Fraiser further concluded that the events at issue did not interfere with the normal use or enjoyment of animal life, vegetation, or property.

27. Unlike Dr. Fraiser, Sierra Club's experts – Dr. Gray and Dr. Thurston – did not analyze or consider criteria (d)(10) and (e)(10) of the affirmative defenses.

Both of them confirmed that they were not familiar with the Texas definition of air pollution, were not familiar with criteria (d)(10) and (e)(10), and were not attempting to express an opinion on criteria (d)(10) and (e)(10).

28. Still, Dr. Thurston testified that even if Big Brown Plant complied with area NAAQS standards, the emissions it was producing based on the opacity exceedances at issue, were still having short- and long-term adverse health effects for humans in the area surrounding the plant. Dr. Thurston disagreed with Dr. Frazier, who concluded that air pollution levels at or below NAAQS levels were safe. Dr. Thurston conceded, however, that he does not know how the TCEQ defines air pollution or how it interprets the application of the affirmative defense factors. Dr. Thurston also acknowledged that he has no evidence that Big Brown violated any NAAQS levels and is unable to cite a specific instance where an opacity violation at the plant directly harmed a person.

29. Dr. Gray examined the emission readings from the stacks at Big Brown Plant and analyzed air modeling reports based on dispersion scenarios with respect to the plant's emissions and opacity levels and its effects on the local environment. Dr. Gray opined that the opacity exceedances at the plant had a significant impact on the air quality of the local environment and for individuals who lived downwind from the plant. Pointing to a 2011 TCEQ Emission Inventory chart, Dr. Gray explained that Big Brown Plant's two units are listed as the second and third largest producer of $PM_{2.5}$ emissions among 2,000 facilities in the state of Texas. {Exhibit P-290, P-291]. He further noted that this was the

case notwithstanding the fact that MSS events account for less than two percent of the total annual time of operation at any given year at Big Brown Plant.

30. Dr. Gray testified that compliance with the current NAAQS levels will not eliminate all health risks to humans. However, Dr. Gray conceded that he did not consider the affirmative defenses and is unable to opine on the suitability of the NAAQS levels as implemented by EPA. Still, Dr. Gray believes that any increase of PM above a level of zero increases health risk and admits that his definition of air pollution is different than the definition considered by the TCEQ.

31. Thus, even absent deference to TCEQ's contemporaneous findings, the Court concludes that the evidence adduced at trial supports a finding that all of the ten criteria (in subsection (d) for upsets and subsection (e) for MSS) are satisfied for all of the opacity events at issue.

32. In sum, based on the testimony adduced at trial and the exhibits admitted, for all of the events on Luminant's reports for the period July 2007 to December 2010 that were designated as "excess opacity events due to an upset," the Court finds:

> (1) The events were properly reported to TCEQ in either a STEERS report or a quarterly report or both.
>
> (2) The opacity was caused by a sudden, unavoidable breakdown of equipment or process beyond the control of the owner or operator.
>
> (3) The opacity 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 by 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 opacity.

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

(6) The amount and duration of the opacity event and any bypass of pollution control equipment were minimized and all possible steps were taken to minimize the impact of the opacity 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 opacity event were documented by contemporaneous operation logs or other relevant evidence.

(9) The opacity event was not part of a frequent or recurring pattern indicative of inadequate design, operation, or maintenance.

(10) The opacity event did not cause or contribute to a condition of air pollution. *See* 30 TEX. ADMIN. CODE § 101.222(d).

33. And, based on the testimony adduced at trial and the exhibits admitted, for all of the events on Luminant's reports for the period July 2007 to December 2010 that were designated as MSS, the Court similarly finds:

(1) The events were properly reported to TCEQ in either a STEERS report or a quarterly report or both.

(2) The opacity was caused by a sudden, unavoidable breakdown of equipment or process beyond the control of the owner or operator.

(3) The periods of opacity could not have been prevented through planning and design.

(4) The opacity was not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

(5) If the opacity event was caused by a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

(6) The facility and air pollution control equipment were operated in a manner consistent with good practices for minimizing opacity.

(7) The frequency and duration of operation in a startup or shutdown mode resulting in opacity were minimized.

(8) All emissions monitoring systems were kept in operation if possible.

(9) The owner or operator actions during the opacity event were documented by contemporaneous operating logs or other relevant evidence.

(10) The opacity event did not cause or contribute to a condition of air pollution. *See* 30 TEX. ADMIN. CODE § 101.222(e).

34. The Court concludes that no penalty should be awarded for any of the opacity events at Big Brown Plant from July 2007 to December 2010 because the Defendants have proven the applicable affirmative defense for each event by a preponderance of the evidence. Thus, judgment will be entered in favor of Defendants on Sierra Club's request for civil penalties (including civil penalties to be designated for a beneficial mitigation project).

III. Sierra Club Is Not Entitled to Any Injunctive Relief

35. The Court further concludes that Sierra Club is not entitled to any injunctive relief, and its request for a permanent injunction will be denied.

A. The Conduct Sierra Club Seeks to Enjoin is Now Permitted

36. As noted above, TCEQ amended Big Brown's Air Permit No. 56445 in December 2011 to specifically permit and regulate the type of MSS emissions

events at issue in this case. Ms. Hernandez confirmed that the plant must follow this permit. And Mr. Chavers testified, and the reports indicate, that the MSS activity of which Sierra Club complains is now regulated and limited by the permit. Thus, the current version of Air Permit No. 56445 authorizes and makes lawful the very MSS activity that Sierra Club asks this Court to enjoin. Sierra Club has offered no evidence to the contrary.

37. Further, because Luminant has applied for a revision of its Title V permit and identified the revised Permit No. 56445 as a provisional term and condition, Texas's EPA-approved Title V regulations make this current version of the permit federally enforceable in this case. 30 TEX. ADMIN. CODE § 122.217; *see also* 45 TEX. PRAC., ENVTL. LAW § 5:10 (2d ed. 2013–2014) (when a "Title V permit holder submits an application for a minor permit revision . . . , the permit holder can operate the change before the issuance of the revised permit").

38. "Equitable relief is a prospective remedy, intended to prevent future injuries, and for that reason the sole function of an action for injunction is to forestall future violations." *Sierra Club v. TVA*, 592 F. Supp. 2d 1357, 1375 (N.D. Ala. 2009) (internal citations and quotations omitted). An injunction will not be issued for only alleged past infractions because such prospective equitable relief will not redress the plaintiff's injury. *See Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 109 (1998) ("Because respondent alleges only past infractions . . . and not a continuing violation or the likelihood of a future violation, injunctive relief will not redress its injury.").

39. It is well settled that a court has no authority to enjoin lawful conduct. *See Lauf v. E.G. Shinner & Co.*, 303 U.S. 323, 328 (1938) (a federal district court may not "enjoin acts declared . . . to be lawful"); *Senn v. Tile Layers Protective Union, Local No. 5*, 301 U.S. 468, 483 (1937) (injunctive relief will not issue "against the lawful conduct of another"); *Sierra Club v. Peterson*, 228 F.3d 559, 571 (5th Cir. 2000) (a district court may not enter an injunction that fails "to distinguish between legal and illegal future [conduct]").

40. As Mr. Chavers testified, the plant is operating now in accordance with that permit and its MSS duration limitations, and Sierra Club has offered no contrary evidence or evidence to suggest this will change in the future. Because "there is a total lack of evidence that [Defendants are operating Big Brown] in violation of *existing* law," an injunction, which would govern future operation of the plant, is not warranted. *TVA*, 592 F.Supp.2d at 1375 (denying Sierra Club request for injunction based on past opacity events) (emphasis in original). Because Permit No. 56445 now authorizes and regulates the MSS emissions, the Court will not enjoin them as Sierra Club requests.

41. Further, even if the revised Permit No. 56445 were not federally enforceable as Sierra Club argues, the Court will not substitute its judgment as to how Big Brown should operate its ESPs and baghouses for the judgment of the regulatory agency charged with making those determinations. TCEQ has reviewed the plant's operations and concluded how the emissions control equipment should be operated to reduce emissions overall and has determined

that the currently-permitted method reduces emissions to *de minimis* levels and does not negatively impact air quality. This Court, in its discretion, will not issue an injunction that conflicts with TCEQ's technical assessment.

B. Application of the Traditional Four-Factor Test for Injunctive Relief Demonstrates that an Injunction is Not Warranted

42. Even without considering the revised Permit No. 56445, the Court concludes that Sierra Club is not entitled to an injunction. Injunctive relief is not awarded automatically in all cases, even where a violation of the law is established. *Winter v. NRDC, Inc.*, 555 U.S. 7, 32 (2008) ("[a]n injunction is a matter of equitable discretion; it does not follow from success on the merits as a matter of course."); *Simmons v. Conger,* 86 F.3d 1080, 1085 (11th Cir.1996) ("Simply because prospective injunctive relief is available . . . does not mean that such equitable relief is appropriate."); *Weinberger v. Romero-Barcelo*, 456 U.S. 305, 320, 313 (1982) (the "exercise of equitable discretion . . . must include the ability to deny as well as grant injunctive relief" and "a federal judge sitting as chancellor is not mechanically obligated to grant an injunction for every violation of law").

43. "It is well-established that the party seeking a permanent injunction must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest

would not be disserved by a permanent injunction." *Abraham v. Alpha Chi Omega*, 708 F.3d 614, 626-27 (5th Cir.) *cert. denied*, 134 S. Ct. 88 (2013) (citing *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391 (2006) (citations omitted)).

44. Here, Sierra Club has not shown that these factors warrant an injunction. First, Sierra Club has not demonstrated any irreparable harm, and the Court finds there is no irreparable harm.

45. Second, the TCEQ and EPA are charged by the Clean Air Act with issuing the permits for the plant, and Sierra Club has access to other legal remedies to challenge the terms of the permit and the operation of the plant. Sierra Club has failed to show that it has no other remedies at law.

46. Third, the balance of hardship weighs heavily in favor of Defendants. On the one hand, Sierra Club has provided no credible evidence of any adverse impact, curtailed activities, or particular hardship as a result of the events at issue or events in the future. Defendants, on the other hand, have invested millions of dollars in the installation and maintenance of the ESPs and baghouses at Big Brown. Sierra Club's requested injunction is unwarranted, impracticable, and would cause substantial hardship and disruptions to the plant's business and its ability to provide reliable electricity.

47. The Court further finds that the public interest would not be served by an injunction. Big Brown generates enough electricity to power about 575,000 homes in Texas. This is much-needed electricity for the State. Electricity is not a convenience; it is a necessity. Threatening the supply of electricity is not in the

public interest and is another ground for denial of injunctive relief. *See Sierra Club v. Georgia Power Co.*, 180 F.3d 1309, 1311 (11th Cir. 1999) (affirming denial of injunction sought by Sierra Club over power plant operations as adverse to the public interest because "a steady supply of electricity during the summer months, especially in the form of air conditioning to the elderly, hospitals and day care centers is critical").

48. For these reasons, Sierra Club's request for injunctive relief is denied and judgment will be entered in favor of Defendants on Sierra Club's request for injunctive relief.

IV. Sierra Club has not Proven that the Opacity Events at Issue Caused any Injury to Barbara Lawrence or any Other Person

49. For an independent and additional reason, the Court concludes that Sierra Club has failed to demonstrate its entitlement to any relief. As the Fifth Circuit has held, "[Plaintiffs] must ultimately establish causation if they are to prevail *on the merits*" of their Clean Air Act claims. *See Texans United for a Safe Econ. Educ. Fund v. Crown Central Petroleum Corp.*, 207 F.3d 789, 793 (emphasis added); *Tex. Campaign for the Env't v. LCRA*, No. 4:11-cv-791, 2012 WL 1067211, at *5 (S.D. Tex. Mar. 28, 2012). This showing, as the Fifth Circuit held, is separate and apart from the minimal showing of "traceability" needed to demonstrate Article III standing. *Texans United*, 207 F.3d at 793. Thus, as the Court explained in its prior Order, "[t]o ultimately prevail in its lawsuit, Plaintiff will

need to prove causation and explicitly link opacity violations to Lawrence's injuries[.]" Doc. 202 at 11.

50. Sierra Club failed to prove any link between an alleged opacity violation and injury to Ms. Lawrence or any other person.[16]

51. Sierra Club offered no expert testimony to establish a causal connection between the specific opacity events at issue in this case and any aesthetic or other injury Ms. Lawrence may have suffered.

52. To the extent Sierra Club was offering the testimony of Dr. Gray or Dr. Thurston to establish causation, the Court concludes that their testimony was inadequate on this point. The Court finds that any alleged increase in PM is *de minimis* and did not cause a material increase in health risk to Ms. Lawrence or any other resident of the area near Big Brown.

53. Moreover, the Court concludes that even if Dr. Thurston's testimony were accepted at face value, it would be inadequate as a matter of law to establish a causal connection between the opacity events at issue and any legally cognizable injury. Dr. Thurston's opinion is that any amount of PM above zero increases *the risk* of health problems. However, Dr. Thurston provided no evidence that Ms. Lawrence (or any other specific, individual person) has actually experienced any health problems. The Fifth Circuit has held that in the absence of "a presently existing injury," the mere fact that a person has been exposed to a

[16] In fact, Sierra Club did not even call Ms. Lawrence as a witness at trial.

potentially hazardous substance is not a legally cognizable injury: "'the requisite element of causation is lacking until separate prospective injuries materialize.'" *Adams v. Johns-Manville Sales Corp.*, 783 F.2d 589, 591-92 (5th Cir. 1986) (quoting *Adams v. Johns-Manville Sales Corp.*, 727 F.2d 533, 537 (5th Cir. 1984)); *accord Metro-North Commuter R. Co. v. Buckley*, 521 U.S. 424, 432 (1997) ("with only a few exceptions, common-law courts have denied recovery to those who . . . are disease and symptom free"). Thus, even if the testimony from Dr. Gray and Dr. Thurston had established that the opacity events at issue had caused an increased risk of health problems, that evidence would not enable Sierra Club to carry its burden on causation.

54. Sierra Club, in its trial brief, contends that the CAA citizen suit provision does not require proof of causation. But the Fifth Circuit, which this Court must follow, has stated otherwise, as discussed above. Further, even if causation were not a separate element of proof, the Court finds that the complete lack of any link between these opacity events and Ms. Lawrence or any other Sierra Club member (or even any member of general public) would call for denial of any injunctive or monetary relief, which are matters within the Court's discretion.

V. No Penalty is Appropriate under the Statutory Factors

55. Even if the affirmative defense criteria had not been met or did not apply, the Court finds, after hearing the evidence, that civil penalties are not "appropriate" under 42 U.S.C § 7604(a) considering the penalty criteria in 42 U.S.C. § 7413(e)(1). For this additional and alternative reason, the Court

declines to assess any penalty, and judgment will be entered in Defendants' favor on Sierra Club's claim for civil penalties.

56. As the Fifth Circuit has held, "[t]he assessment of civil penalties under the [CAA] is left to the district court's discretion." *U.S. EPA v. CITGO Petroleum Corp.*, 723 F.3d 547, 551 (5th Cir. 2013). In general, "[i]n assessing the amount of a civil penalty in . . . [a CAA] citizen suit, the court must consider the penalty assessment criteria outlined in section 7413(e)." *Luminant Generation Co.*, 714 F.3d at 846.

57. Looking to the factors in 42 U.S.C. § 7413(e), in light of the evidence adduced at trial, the Court finds that no penalty is "appropriate" in this case. As the Fifth Circuit has instructed, the economic benefit to the defendant is a "critical factor" in determining whether a penalty is appropriate. *CITGO*, 723 F.3d at 552. However, the evidence showed that Defendants did not obtain an economic benefit from the opacity events, and the Court finds that Defendants did not obtain an economic benefit.

58. Sierra Club offered the opinions of Mr. Ewen in rebuttal to the opinions of Defendants' expert, Dr. Anne Smith. As Mr. Ewen testified, Dr. Smith analyzed any "economic benefit" Defendants would have incurred from the alleged CAA violations at the Big Brown plant and concluded that Defendants suffered a net economic loss from the events.

59. At trial, Mr. Ewen testified as to his criticisms of Dr. Smith's opinion. For example, Mr. Ewen disagreed with Dr. Smith's characterization of a period of

opacity compliance to a period of opacity exceedancy because a power plant cannot operate in a manner suggested by Dr. Smith. However, even accepting such criticisms, his rebuttal opinion does not show a positive economic benefit to Defendants.

60. Mr. Ewen recognized at trial that an economic benefit analysis can result in a negative or zero number, indicating no economic benefit. Here, the evidence adduced at trial supports the conclusion that Defendants obtained no economic benefit from the opacity events. The evidence before the Court was that Luminant expended significant sums to install and maintain at the plant both ESPs and baghouses, in series. The evidence also shows that Luminant spends millions of dollars each year in maintaining the equipment in good working order. Sierra Club did not identify any specific repair or maintenance work that was not done and would have prevented the opacity events at issue. The evidence further shows that electricity cannot be stored and that plants already have an incentive to minimize the outages that result in the opacity events. At trial, Mr. Ewen agreed that plants have an incentive and motivation to decrease unplanned outages like the ones that cause higher opacity readings.

61. Moreover, as Mr. Ewen testified at trial, in considering economic benefit, the proper methodology considers the least costly method of compliance. Thus, even if there were an economic benefit, the Court would consider as the economic benefit the least costly compliance option, not "solutions [that are] considerably overpriced." *United States v. Allegheny Ludlum Corp.*, 366 F.3d

164, 185 (3rd Cir. 2004) ("We . . . hold that [the] economic benefit analysis should be based on the least costly method of compliance."). As Mr. Ewen further testified, in some instances, the least costly compliance option will be applying for and obtaining a permit to authorize the activity at issue, and the cost of obtaining the permit, though perhaps "negligible," is the correct measure of economic benefit. *See* U.S. EPA, A Framework for Statute-Specific Approaches to Civil Penalty Assessments, EPA General Enforcement Policy #GM-22, at 7 (Feb. 16, 1984) [Exhibit D-128].

62. Here, the least costly compliance option would not have been the new baghouse that Dr. Sahu proposed, but would have been the option that Luminant actually pursued—applying for and obtaining a revision to Permit No. 56445 in December 2011 to authorize and regulate the events. The evidence shows that the application fee that Luminant paid to TCEQ in order to obtain the permit was $900. [Exhibit D-12.15]. While this amount is certainly negligible, it would nonetheless be the correct measure of any delay in compliance that might have existed under Sierra Club's legal theory.

63. Economic benefit is not the only factor the Court must consider. The other factors also indicate that no penalty is appropriate. As Dr. Fraiser testified, the opacity events at issue were not "serious" from an environmental or human health perspective. There is no evidence of impact to the environment or any individual. The events were not serious enough to generate any complaints to the TCEQ from nearby residents or any other person. The events were properly

reported by Luminant to the TCEQ, which determined the events were not "excessive" and not violations.

64. In addition, the opacity at issue occurred for only a minimal amount of time and did not interfere with air quality standards or cause any harm to any individual. Defendants were simply operating the control equipment in accordance with EPA and industry standards in order to ensure human safety and effective operation of the equipment. Operating the equipment in any other manner is not advisable. This particular equipment was selected and installed as part of a prior settlement with the Texas Air Control Board (now TCEQ) and the Lone Star Chapter of the Sierra Club [Exhibit D-28, D-29], and it would hardly make sense to penalize the company for operating the equipment as it was designed and installed with Sierra Club's involvement.

65. Further, as testified to by Ms. Glacken, the plant has a long and well-documented history of excellent compliance and good faith efforts to meet and outperform all requirements of the Clean Air Act, the Texas State Implementation Plan, the plant's permits, and other applicable environmental laws, which weighs in factor of no penalty being imposed. Sierra Club offered no contrary evidence. The events that are the subject of Sierra Club's complaint were fully reported to both TCEQ and EPA, and both determined that no enforcement action was warranted. TCEQ specifically investigated each event and determined there was no violation. Finally, the MSS events at issue are now expressly permitted under Permit No. 56445, which is a provisional condition to Title V Permit No. O65. 30

TEX. ADMIN. CODE § 122.217. Thus, a penalty would serve no deterrent effect in the future.

66. The Court therefore concludes, based on its analysis of all of the factors enumerated in 42 U.S.C. § 7413(e)(1) and the evidence adduced at trial, that under 42 U.S.C. § 7604(a) no penalty is appropriate for any of the opacity events that are the subject of this lawsuit. Thus, for this additional reason, judgment will be entered in favor of Defendants on Sierra Club's request for civil penalties.

VI. Sierra Club's Claim is Moot as to MSS Activities

67. Alternatively, and independently, Sierra Club's claim with respect to MSS events will be dismissed as moot.

68. As the Court explained in dismissing Sierra Club's PM claim, it has long been settled that "'[a] case seeking injunctive relief based on conduct that has become lawful due to a change in the law is rendered moot by the change in law.'" Doc. No. 240 at 17 (quoting *TVA*, 592 F. Supp. 2d at 1376); *accord Sawyer v. Whitley*, 945 F.2d 812, 814 n.1 (5th Cir. 1991).

69. For this reason, injunctive relief is not available to remedy past opacity exceedances at a plant that is in compliance with its current permit. *See TVA*, 592 F. Supp. 2d at 1376–77. Here, excess opacity during MSS has become lawful due to the change in Permit No. 56445. Sierra Club does not dispute that Big Brown presently operates in compliance with the duration and work-practice requirements (and all other terms and conditions) of amended Permit No. 56445, and the testimony of Mr. Chavers confirms that Big Brown does comply with its

new permit. As the Court has already explained, where, as here, "the threat of a future violation or harm has been nullified by an approved permit, 'there is no factual or legal ground to impose injunctive relief, and the case has become moot.'" Doc. 240 at 17 (quoting *TVA*, 592 F. Supp. 2d at 1377).

70. As for Sierra Club's request for a civil penalty, a citizen suit seeking civil penalties is mooted by the issuance of a permit that authorizes the activities for which the suit seeks penalties. Doc 240 at 16–17 ("Once a Title V permit is issued, a civil action seeking civil penalties for conduct allowed by the permit becomes moot."); *accord Miss. River Revival, Inc. v. City of Minneapolis*, 319 F.3d 1013, 1015–16 (8th Cir. 2003) ("Because permits have now issued, . . . plaintiffs' civil penalties claims are moot . . . ."); *see also WildEarth Guardians v. Pub. Serv. Co. of Colo.*, 690 F.3d 1174, 1186–87 (10th Cir. 2012) (claim for civil penalties mooted by a change in the governing regulations). This rule is the logical consequence of the remedial purpose of a civil penalty, which is to deter future misconduct. *See, e.g.*, *Friends of the Earth, Inc. v. Laidlaw Envtl Servs. (TOC), Inc.*, 528 U.S. 167, 185–86 (2000). Where the conduct that would be penalized has become lawful and permitted, that conduct is no longer misconduct, and a "claim for civil penalties, even if successful, would have no deterrent value." *WildEarth Guardians*, 690 F.3d at 1187.

CONCLUSION

For all of these reasons, the Court will enter judgment in favor of Defendants on all claims and will deny all relief requested by Sierra Club. Based

on the findings of fact above, the Court further concludes, pursuant to 42 U.S.C. § 7604(d), that an award of the costs of litigation (including reasonable attorney and expert witness fees) to Defendants is appropriate. Pursuant to Federal Rule of Civil Procedure 54(d)(2) and Local Rule CV-7(j), and in compliance with the requirements of those rules, Defendants may file their claim for fees by motion not later than 14 days after entry of judgment, at which time the Court will take up such motion. Accordingly, it is

ORDERED that judgment is entered in favor of Defendants and Sierra Club's request for civil penalties and injunctive relief is **DENIED**. It is also

ORDERED that any motion still pending in this lawsuit is **DENIED AS MOOT**. It is further

ORDERED that the Clerk shall enter final judgment in accordance with this Memorandum Opinion and Order.

SIGNED on this 28th day of March, 2014.

WALTER S. SMITH, JR.
UNITED STATES DISTRICT JUDGE