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October 27, 2011

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Via Certified Mail 7010-0290-0000-4382-3809

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Via Certified Mail 7010-0290-0000-4382-3830

RE: Notice of Intent to Sue for Clean Air Act Violations at the Big Brown Steam Electric Station in Freestone County, Texas

Dear Mr. Young, Mr. Campbell, and Plant Manager:

We are writing on behalf of the Sierra Club to provide you with notice of intent to file suit for significant and ongoing violations of the Clean Air Act at the Big Brown Steam Electric Station ("Big Brown Plant") located in Freestone County, Texas. The Sierra Club is the nation's oldest and largest grassroots environmental group with Texas members who live, work, attend school, travel and recreate in areas adversely affected by emissions from the Big Brown Plant. They include members of sensitive populations such as people with asthma, the elderly, and children who are at elevated risk for the deleterious health effects posed by emissions from coal-fired boilers.

I. Authority to Bring Suit

Clean Air Act section 304(a)(1) authorizes citizens to bring suit to enjoin violations of an emission standard or limitation under the Clean Air Act and seek redress and civil penalties for such violations. 42 U.S.C. § 7604(a). The Clean Air Act provides for civil penalties of up to \$37,500 per violation per day after January 12, 2009, and up to \$32,500 for violations on or before January 12, 2009. 42 U.S.C. §§ 7413(d)(1), (e), and 7604(a); 40 C.F.R. §§ 19.2 and 19.4 (2010).

As a prerequisite to filing a citizen suit in federal court pursuant to section 304(a)(1), section 304(b)(1) of the Act requires the Sierra Club to provide you with at least sixty days' notice of the violations. This notice is being provided to satisfy those requirements. The Sierra Club intends to file suit in federal district court any time sixty days after the postmarked date of this letter to enjoin the violations described below, ensure future compliance, obtain civil penalties for past noncompliance, recover attorney fees and costs of litigation, and obtain any other appropriate relief.

II. Clean Air Act Violations

A. Emissions from the Big Brown Plant Violate Applicable Opacity Limits

Emissions from the Big Brown Plant's main boilers, Units 1 and 2, have repeatedly violated, and continue to violate, opacity limits contained in the Texas State Implementation Plan ("SIP") and the Big Brown Plant's Title V Operating Permit designed to protect public health and the environment. "Opacity" is a measure of soot in the gas stream emitted from power plant smokestacks. The Big Brown Plant uses opacity emissions levels for compliance assurance monitoring with the plant's particulate matter ("PM") limits. PM is a mixture of small particles, including organic chemicals, metals, and toxic ash. *See e.g.* U.S. Environmental Protection Agency, Office of Air and Radiation, EPA-452/F-03-001, *Particle Pollution and Your Health* (Sept. 2003), <http://www.epa.gov/air/particlepollution/pdfs/pm-color.pdf>. According to the U.S. Environmental Protection Agency ("EPA"), current scientific evidence links PM exposure to a variety of human health impacts, including irritation of the airways, coughing or difficulty breathing, decreased lung function, aggravated asthma, development of chronic bronchitis, irregular heartbeat, heart attacks, and premature death in people with heart or lung disease. *Id.*; *see also* U.S. EPA, Office of Air and Radiation, Particulate Matter, Health and Environment, <http://www.epa.gov/air/particlepollution/health.html> (last visited Oct. 25, 2011). Recent studies find that PM exposure may result in tens of thousands of excess deaths per year, and additional cases of illness among the U.S. population. *See e.g.* EPA, National Center for Environmental Research, Extramural Research, Particulate Matter, <http://www.epa.gov/ncer/science/pm/> (last visited Oct. 25, 2011). Additionally, fine PM (particles with a diameter of less than 2.5 microns) can be carried long distances to settle over land or water, which may result in acidic lakes and streams, nutrient imbalances in aquatic systems, and damage to forests and farmlands. *Id.*

The Big Brown Plant's current Title V Operating Permit No. O65 ("Title V Permit") and Texas Air Control ("TAC") Board Order 90-14 require visible emissions from the Unit 1 and 2 boiler stacks to comply with a 20 percent opacity limit at all times. Luminant Generation Company, LLC, Big Brown Stream Electric Station, Federal Operating Permit, Permit No. O65,

Condition 18 (Alternative Means of Control) and Applicable Requirements Summary, Unit Summary (Nov. 15, 2005); TAC Board Order 90-14 at ¶ 19. TAC Board Order 90-14, filed with TCEQ's predecessor agency the Texas Air Control Board under and pursuant to 30 TEX. ADMIN. CODE § 111.113, a SIP approved regulation,¹ established an alternative opacity limitation of 20 percent for Big Brown Units 1 and 2, over a six minute average, beginning July 1, 1996. TAC Board Order 90-14 at ¶ 19. The 20 percent opacity limit is also a federally enforceable requirement of the Title V Permit, which incorporates TAC Board Order 90-14 by reference. We are notifying you of a total of 13,222 separate violations of this opacity limit occurring from July 2006, through December 2010:

- Unit 1 violated this limit 6,530 times; and
- Unit 2 violated this limit 6,692 times.

Under the Texas SIP, emissions from the Big Brown are also subject to a 30 percent opacity limit (averaged over a six minute period). 30 TEX. ADMIN. CODE § 111.111(a)(1)(A); 61 Fed. Reg. 20,732, 20,734 (May 8, 1996) (incorporating the 30 percent opacity limit into the Texas SIP). We are notifying you of a total of 7,645 separate violations of this opacity limit occurring from July 2006, through December 2010.

- Unit 1 violated this limit 3,698 times; and
- Unit 2 violated this limit 3,947 times.²

Attachments A and B summarize the number of quarterly violations of the 20 and 30 percent opacity limits, respectively, at each unit. Each opacity violation noticed, including the date, time, and reported six-minute violation, is provided in Attachment C (see enclosed compact disc), which contains copies of your quarterly Opacity Excess Emissions Reports.

These thousands of chronic opacity violations harm, and will continue to harm, the health, aesthetic and economic interests of the Sierra Club and its members. The harm is traceable to the Big Brown Plant's opacity violations, and enjoining the violations will redress the harm.

B. Emissions from the Big Brown Plant Violate its Particulate Matter Limit

Emissions from Big Brown Plant, Units 1 and 2, have repeatedly violated, and continue to violate the PM limit contained in the Texas SIP and Big Brown Plant's Title V Operating Permit. 30 TEX. ADMIN. CODE § 111.153(b), which has been approved by EPA into the Texas SIP, prohibits Big Brown from exceeding "0.3 pound of total suspended particulate per million

¹ TCEQ submitted 30 TEX. ADMIN. CODE § 111.113, Alternative Opacity Limits, to EPA for approval on June 16, 1989. See 40 C.F.R. § 52.2270(c). EPA formally approved the provision into the SIP on May 8, 1996. 61 Fed. Reg. 20,732.

² 30 TEX. ADMIN. CODE § 111.111(a)(1)(E) allows for one exemption from the 30 percent opacity limit per hour "during the cleaning of a firebox or the building of a new fire, soot blowing, equipment changes, ash removal, and rapping of precipitators." In calculating the number of violations listed in this notice letter, we have conservatively exempted one 30 percent opacity limit violation per hour, under the generous assumption that the reason for the exceedance may fall under one of the allowable exceptions.

Btu heat input, averaged over a two-hour period.” 74 Fed. Reg. 19,144 (Apr. 28, 2009) (approving 30 TEX. ADMIN. CODE § 111.153(b) into the Texas SIP). The Big Brown Plant’s Title V Permit also specifically incorporates the 0.3 lb/hour PM limit. Title V Permit at 35. These limits protect the public from harmful PM exposure, which, as discussed above, current science links to numerous human health effects.

Using: (1) Luminant’s self-reported heat input and sulfur dioxide emissions data (available at EPA’s Clean Air Markets database); (2) Luminant’s self-reported monthly heat content, sulfur content, and ash content of coal by coal type data (available on the Energy Information Administration’s website); and (3) information contained in Luminant’s Application for Amendment to Permit No. 56445 for Incorporation of Planned Maintenance, Startup, and Shutdown Activities (including estimated emissions and inputs), we calculated PM emissions from Big Brown’s main boilers. As illustrated in Attachment D, PM emissions from the Big Brown Plant violated the applicable PM limit on at least 370 occasions between January 2008 and July 2011. The plant’s numerous PM emission limit violations occurred in the course of boiler startups, during the periods that Units 1 and 2 burned coal, but prior to activation of the plant’s PM emission control devices. These violations harm, and will continue to harm, the health, aesthetic and economic interests of the Sierra Club and its members. The harm is traceable to the Big Brown Plant’s PM emission limit violations, and enjoining the violations will redress the harm.

C. Emissions from the Big Brown Plant Cause Exceedances of the Federal Health-Based Standard for Sulfur Dioxide in Violation of the Texas SIP

On June 2, 2010, EPA published a final rule, strengthening the primary sulfur dioxide (“SO₂”) National Ambient Air Quality Standard (“NAAQS”) to protect the public health. 75 Fed. Reg. 35,520. EPA established a one-hour standard at a level of 75 parts per billion (“ppb”) (or 196 ug/m³) based on the three-year average of the 99th percentile of the daily maximum one-hour concentrations. The one-hour SO₂ standard is designed to protect public health by reducing people’s exposure to high short-term concentrations of SO₂. EPA, Fact Sheet, Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide, <http://www.epa.gov/air/sulfurdioxide/pdfs/20100602fs.pdf> (June 2, 2010).

Modeling based on the Big Brown Plant’s self-reported annual SO₂ emissions shows that emissions from the plant cause ambient air pollution to greatly exceed the one-hour SO₂ NAAQS—the standard EPA has deemed protective of the public health. AERMOD Modeling of SO₂ Impacts of the Luminant Big Brown Coal Plant, Khanh T. Tran (June 2011) (“Tran SO₂ Modeling”) (Attachment E). Specifically, using the plant’s 2006 self-reported annual emissions, five years of meteorological data, and the latest EPA modeling guidance, the AERMOD modeling demonstrates that emissions from the Big Brown Plant cause large and pervasive exceedances of the one-hour SO₂ NAAQS. Excluding other sources and background concentrations, emissions from the Big Brown Plant cause exceedances of the NAAQS in an area around the plant with a radius of approximately five miles. With the addition of the conservative background SO₂ concentration, emissions from Big Brown impact an even larger area, which includes the Richland Creek Wildlife Management Area. Sierra Club members live and recreate in areas affected by SO₂ emissions from the Big Brown Plant.

30 TEX. ADMIN. CODE § 101.4 prohibits the Big Brown Plant from emitting “one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property.” 38 Fed. Reg. 16,568 (June 22, 1973) (approving 30 TEX. ADMIN. CODE § 101.4 into the Texas SIP). Current scientific evidence links adverse health effects with short-term exposure to SO₂ ranging from 5-minutes to 24-hours. Adverse respiratory effects include narrowing of the airways, which can cause difficulty breathing and increased asthma symptoms. These effects are particularly important for people with asthma during periods of faster or deeper breathing, such as while exercising or playing. Studies also show an association between short-term SO₂ exposure and increased visits to emergency rooms and hospital admissions for respiratory illnesses, particularly in at-risk populations. Furthermore, EPA selected the level of 75 ppb for the one-hour SO₂ NAAQS, because it found that higher levels of SO₂ could result in adverse health effects in sensitive populations. *See* 75 Fed. Reg. at 35,546. EPA explicitly rejected higher standards, including a standard of 150 ppb as “not requisite to protect the public health with an adequate margin of safety.” Specifically, EPA noted that exposure to SO₂ concentrations at levels allowed under a higher 150 ppb standard would not adequately protect children with asthma.³ The Tran SO₂ Modeling demonstrates that emissions from the Big Brown Plant cause SO₂ levels to exceed 197.9 ppb (including a conservative background concentration) and approximately 190 ppb alone, significantly above the 150 ppb level that EPA rejected as not sufficiently protective of sensitive populations (and close to triple the adopted one-hour standard). Accordingly, because SO₂ emissions from the Big Brown Plant exceed levels that are injurious to and adversely affect human health and welfare, the plant is violating the Texas SIP.

Sierra Club provided copies of the Tran SO₂ Modeling to Luminant in mid-July 2011. We continue to welcome a conversation with Luminant on the steps that you have taken or plan to take to reduce the Big Brown Plant’s harmful SO₂ emissions. Absent significant reductions of SO₂ emissions from the Big Brown Plant, Luminant will continue to harm the health and welfare of Sierra Club members who live, work, and recreate near the power plant, in violation of 30 TEX. ADMIN. CODE § 101.4 and the Texas SIP.

III. Conclusion

The Sierra Club intends to file suit to enjoin the violations described above and to ensure future compliance, obtain civil penalties for past noncompliance, recover attorney fees and costs of litigation, and obtain other appropriate relief. Additionally, the Sierra Club intends to seek additional civil penalties to be used for beneficial mitigation projects consistent with 42 U.S.C. § 7604(g)(2).

³ *See* 75 Fed. Reg. at 35,542 (“[A] standard as high as 150 ppb would not comparably [(to the 50 ppb standard)] limit 5-minute SO₂ exposures ≥ 200 ppb. That is, [the EPA Administrator] noted that the St. Louis exposure analysis estimated that a 150 ppb standard would protect approximately 88% of asthmatic children at moderate or greater exertion from experiencing at least one SO₂ exposure ≥ 200 ppb per year (compared to > 99% and approximately 97% given standards at 50 and 100 ppb respectively . . .).” The Administrator concluded that exposure to SO₂ concentrations as low as 200 ppb can result in adverse health effects in people with asthma.)

We are happy to discuss any aspect of the allegations in this notice letter and look forward to your reply if you believe any of the foregoing information is incorrect, wish to discuss the further exchange of information consistent with the above suggestion, or are interested in discussing settlement prior to the initiation of litigation. Please contact the Sierra Club through its counsel, the Environmental Integrity Project, at our address below.

Sincerely,



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Enclosures

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