



VIA ELECTRONIC MAIL AND U.S. MAIL

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April 30, 2014

Re: Oklahoma's Section 110 Infrastructure SIP Certification 2008 Primary and Secondary Ozone NAAQS

Dear Ms. Bradley:

On behalf of the Sierra Club, its over 3,300 members in Oklahoma, and others who are adversely impacted by Oklahoma's sources of ozone pollution, we submit the following comments on Oklahoma's Section 110 Infrastructure SIP Certification 2008 Primary and Secondary Ozone National Ambient Air Quality Standards ("NAAQS") ("Draft I-SIP"). Oklahoma must submit an Infrastructure State Implementation Plan ("Infrastructure SIP" or "I-SIP") that addresses all of the requirements in sections 110(a)(1) and (2) of the Clean Air Act ("CAA" or "Act") for the March 27, 2008 eight-hour primary Ozone NAAQS, as required by sections 110(a)(1) and (2) of the Clean Air Act ("CAA" or "Act"). 42 U.S.C. § 7410(a)(1) & (2).¹ As currently drafted, Oklahoma's Draft I-SIP does not satisfy a number of these essential requirements, including requirements to establish enforceable emission limits and address significant contributions to downwind states, and so requires significant revision prior to approval. The following comments explain these deficiencies in greater detail.²

¹ In addition to our members in Oklahoma, 190 supporters expressed concern over Oklahoma's Draft I-SIP, current ozone levels, and the lack of adequate emission limits in the State. See Supporters Comments on ODEQ Ozone SIP, attached hereto as Ex. 1.

² A copy of these comments and all exhibits can be found at <https://app.box.com/s/wh8hgcoy5w4a00r9r2u7>.

The primary NAAQS define the levels of air quality that the EPA Administrator determines to be necessary to protect public health with an adequate margin of safety. *See* 42 U.S.C. § 7409(b)(1). In 2008, EPA revised the primary ozone standard to 75 parts per billion (“ppb”) of the annual fourth-highest daily maximum eight-hour concentration averaged over 3 year. This revised standard if properly implemented will result in improvements in public health (including preventing premature deaths) and the environment.

When EPA revised the ozone standard, EPA recognized it was providing increased protection for public health, especially for children, the elderly, and asthmatics. This standard is meant to protect “against an array of O₃ [ozone]-related adverse health effects that range from decreased lung function and increased respiratory symptoms to serious indicators of respiratory morbidity including emergency department visits and hospital admissions for respiratory causes, and possibly cardiovascular-related morbidity as well as total nonaccidental and cardiorespiratory mortality.” *See* National Ambient Air Quality Standard for Ozone, 73 Fed. Reg. 16,436, 16,436 (Mar. 27, 2008). Further, increased ozone levels may contribute to premature death, especially in people with heart and lung disease. . EPA, Fact Sheet: Final Revisions to the National Ambient Air Quality Standards for Ozone, at 5 (2008), http://www.epa.gov/glo/pdfs/2008_03_factsheet.pdf. Ozone also damages vegetation and trees, including forests, parks, and crops. *Id.* at 2. EPA estimates that the 2008 eight-hour Ozone NAAQS has the potential to avoid 260 to 2,000 premature deaths annually as of 2020. *Id.* The total benefits in ozone reduction from this standard are estimated to save \$2 to \$17 billion per year. *Id.* In fact, 2011 and 2012 ozone ambient monitoring data indicate that EPA’s estimates of the health benefits from reducing ozone exposure may have been low.³ Due to these and other serious impairments caused by ozone exposure, the Oklahoma’s Department of Environmental Quality (“ODEQ”) must properly implement the eight-hour Ozone NAAQS through this I-SIP process in order to protect public health as required by law.

According to the Notice of Opportunity for Public Hearing and Comment from Oklahoma’s Department of Environmental Quality, written comments will be considered if received by 12:00 P.M. on April 30, 2014, making this submission timely.

I. LEGAL BACKGROUND

The Clean Air Act creates a framework for the “development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.” 42 U.S.C. § 7401(a)(4). Pursuant to section 109(b)(1) of the Act, EPA has established

³ In 2012, much of the country experienced record high temperatures and very high ozone levels. However, the 2008 ozone NAAQS benefit analysis was based on 2008 ozone levels and thus did not account for the higher ozone levels that were experienced in 2012. Current science indicates that temperatures experienced during 2012 will soon become typical due to climate change. If we do not reduce greenhouse emissions rapidly and substantially, the hottest summer of the last 20 years is expected to occur every other year, or even more frequently. *See, e.g.*, “Changes in Ecologically Critical Terrestrial Climate Conditions,” *Science*, 2 Aug. 2013, Vol. 341, no. 6145, 486-492. Therefore, the benefits analysis likely underestimated the ozone reductions the 2008 ozone NAAQS will require and consequently the benefit the standard will provide.

primary NAAQS for six criteria air pollutants, “the attainment and maintenance of which . . . are requisite to protect the public health.” *Id.* § 7409(b)(1). States have “primary responsibility” for assuring air quality within the state. *Id.* § 7407(a). Following promulgation of a NAAQS, the Act requires that a state shall “adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of such primary [NAAQS].” *Id.* § 7410(a)(1). For attainment and unclassifiable areas, section 110(a)(2)(A) requires that these plans (which EPA refers to as Infrastructure SIPs or I-SIPs) “include enforceable emission limitations . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements” of the Clean Air Act, including the requirement to maintain the NAAQS. 42 U.S.C. §§ 7410(a)(2)(A), 7410(a)(1); *Conn. Fund for Env’t, Inc. v. EPA*, 696 F.2d 169, 172 (2d Cir. 1982) (CAA requires that SIPs contain “measures necessary to ensure the attainment and maintenance of NAAQS”); *Mont. Sulphur & Chem. Co. v. EPA*, 666 F.3d 1174, 1180 (9th Cir. 2012) (“The Clean Air Act directs states to develop implementation plans—SIPs—that ‘assure’ attainment and maintenance of national ambient air quality standards (“NAAQS”) through enforceable emission limitations.”) (citing 42 U.S.C. §§ 7407(a), 7410(a)(2)(A)); *Hall v. EPA*, 273 F.3d 1146, 1153 (9th Cir. 2001) (“Each State must submit a [SIP] that specif[ies] the manner in which [NAAQS] will be achieved and maintained within each air quality control region in the State”) (internal citations omitted); *see also* EPA, “Sulfur Dioxide Implementation—Programs and Requirements for Reducing Sulfur Dioxide,” *available at* <http://www.epa.gov/airquality/sulfurdioxide/implement.html>.

EPA may approve an Infrastructure SIP only if it meets the requirements of 110(a)(2) of the Act. *See* 42 U.S.C. § 7410(a)(2)(A)-(M). The state bears the burden of demonstrating that its SIP submission satisfies the standards of section 110(a)(2). *Mich. Dept. of Env’tl. Quality v. Browner*, 230 F.3d 181, 183, 185 (6th Cir. 2000) (affirming EPA’s rejection of a SIP proposal where the state “failed to offer evidence that [the] proposed rules will not interfere with the attainment and maintenance of the NAAQS.”). For a plan to be adequate, it “must demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard that it implements.” 40 C.F.R. § 51.112(a).

A. The Plain Language and Legislative History of the Clean Air Act Require That Infrastructure SIPs Must Impose Emission Limits Adequate to Prevent NAAQS Exceedances in Areas Not Designated Nonattainment.

The Clean Air Act, on its face, requires I-SIPs to be adequate to prevent exceedances of the NAAQS. Following promulgation of a NAAQS, a state must “adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of such [NAAQS].” 42 U.S.C. § 7410(a)(1). Pursuant to section 110(a)(2)(A), this I-SIP must “include *enforceable emission limitations* . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements” of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS). *Id.* § 7410(a)(2)(A) (emphasis added). As defined by the Act, the term “emission limitation” means “a requirement established by

the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter.” *Id.* § 7602(k). Thus, the plain language of section 110(a)(2)(A) requires that I-SIPs include enforceable emission limits on sources sufficient to ensure maintenance of the NAAQS.

The legislative history of the Clean Air Act supports this interpretation. As the Senate Committee Report accompanying the 1970 Clean Air Act explained, the Act “would establish certain tools as potential parts of an implementation plan and *would require that emission requirements be established by each State for sources of air pollution agents or combinations of such agents in such region* and that these emission requirements be monitored and enforceable.” Sen. Cmte. on Pub. Works Rpt. at 12 (Sept. 17, 1970) (emphasis added), attached hereto as Ex. 2. This was reaffirmed in the subsequent Senate Conference Report, which stated that: “In order to implement the national ambient air quality standards, these [state implementation] plans *must provide for emission limitations on all services in the region covered by the plan*, together with schedules and timetables of compliance, systems for monitoring both ambient air and emissions from individual sources, and adequate enforcement authority.” Sen. Conf. Rpt., 116 Cong. Rec. 42,381, 42,384 (Dec. 18, 1970) (emphasis added), attached hereto as Ex. 3.⁴

B. EPA Regulations Implementing the Clean Air Act Require That Infrastructure SIPs Must Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment.

EPA regulations implementing section 110(a)(2) also require that I-SIPs be adequate to prevent exceedances of the NAAQS. Pursuant to these regulations, in order for a SIP to be approved by EPA, it “must demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard that it implements.” 40 C.F.R. § 51.112(a). The regulation clearly states that all SIPs must contain emission limits that adequately ensure the NAAQS is achieved. *Id.* Although these regulations were developed before the

⁴ Although the language of current section 110(a)(2)(A) was originally found in section 110(a)(2)(B), its substance has remained faithful to the statements found in the Senate Committee Reports. There were only two substantive changes between 1970 and the present. First, the addition of former section 172(c)’s requirement that SIPs’ emission limitations, schedules, and timetables be “enforceable.” *See* Rpt. of the Senate Cmte. on Env’t. and Pub. Works accompanying the Clean Air Act Amendments of 1989 at 20 (Dec. 20, 1989) (explaining that “Paragraph (1) of rewritten section 110(c) combines and streamlines existing section 110(a)(2)(b) and the enforceability requirements of section 172(c) of current law”), attached hereto as Ex. 4; *see also* 42 U.S.C. § 7502(c) (section 172(c)) (requiring that a SIP revision submitted before July 1, 1982 pursuant to a demonstration under subsection (a)(2) “shall contain enforceable measures to assure attainment of the applicable standard not later than December 1, 1987”). Second, the clarification in the 1990 Clean Air Act Amendments that the “means[] or techniques” for meeting the requirements of the Act included “economic incentives such as fees, marketable permits, and auctions of emissions rights.” 42 U.S.C. § 7410(a)(2)(A).

Clean Air Act separated Infrastructure SIPs from nonattainment SIPs—a process that began with the 1977 amendments and was completed by the 1990 amendments—the regulations nonetheless continue to apply to I-SIPs. EPA has not changed the regulation since 1990, and in the preamble to the final rule promulgating 40 C.F.R. § 51.112, EPA expressly identifies that its new regulations were *not* implementing Subpart D, the new nonattainment provisions of the Act. *See* Air Quality Implementation Plans; Restructuring SIP Preparation Regulations, 51 Fed. Reg. 40,656, 40,656 (Nov. 7, 1986) (“It is beyond the scope of th[is] rulemaking to address the provisions of Part D of the Act . . .”). Consequently, 40 C.F.R. § 51.112 was intended to apply to I-SIPs. Thus, it is clear that I-SIPs must contain “measures, rules, and regulations” sufficient to ensure maintenance of the NAAQS.

C. Consistent with the Clean Air Act, Prior EPA Interpretations of the Act Require Infrastructure SIPs to Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment.

EPA has relied on section 110(a)(2)(A) and 40 C.F.R. § 51.112 on multiple occasions to reject Infrastructure SIPs that did not contain specific emissions limits sufficient to demonstrate attainment and maintenance of the NAAQS. For example, in March 2006, EPA disapproved Missouri’s attempt to revise the SO₂ emission limits in its I-SIP for two power plants because the new emission limits would not ensure maintenance of the short-term sulfur dioxide NAAQS. *See* Approval and Promulgation of Implementation Plans; State of Missouri, 71 Fed. Reg. 12,623, 12,624 (Mar. 13, 2006). In so doing, EPA explained that “Section 110(a)(2)(A) of the [Act] requires, in part, that the [state implementation] plan include emission limitations to meet the requirements of the Act, including the requirement in section 110(a)(1) that the plan must be adequate to attain and maintain ambient air quality standards.” *Id.* EPA further explained that “40 C.F.R. 51.112 requires that the plan demonstrate that rules contained in the SIP are adequate to attain the ambient air quality standards.” *Id.* In the case of Missouri’s proposed I-SIP, EPA expressed concern that the sulfur dioxide emission rates for two power plants in question were “not protective of the short-term sulfur dioxide NAAQS” because, while Missouri had lowered the emission rates for the facilities, it had dramatically increased the averaging times (from a 3-hour average to an annual average) without providing “a demonstration, as required by the [Clean Air Act] and EPA regulations, that the [sulfur dioxide national ambient air quality] standards, and particularly the three-hour and the twenty-four hour standards, can be protected by an annual emission limit.” *Id.*

More recently, in December 2013, EPA rejected a revision to Indiana’s sulfur dioxide I-SIP pursuant to 40 C.F.R. § 51.112, because Indiana failed to demonstrate that the I-SIP, as revised, was sufficient to ensure maintenance of the sulfur dioxide NAAQS. *See* Approval of Air Quality Implementation Plans; Indiana; Disapproval of State Implementation Plan Revision for ArcelorMittal Burns Harbor; Final Rule, 78 Fed. Reg. 78,720, 78,721 (Dec. 27, 2013). Indiana had submitted a request to EPA to revise its sulfur dioxide SIP for the ArcelorMittal Burns Harbor facility to remove the SO₂ emission limit for the blast furnace flare at the facility. *Id.* In the proposed disapproval,

EPA explained that “[u]nder 40 C.F.R. 51.112(a), each SIP must demonstrate that the measures, rules, and regulations it contains are adequate to provide for the timely attainment and maintenance of the NAAQS.” *See* Approval of Air Quality Implementation Plans; Indiana; Disapproval of State Implementation Plan Revision for ArcelorMittal Burns Harbor; Proposed Rule, 78 Fed. Reg. 17,157, 17,158 (Mar. 20, 2013). Because Indiana did not demonstrate that the ArcelorMittal blast furnace gas flare’s existing emission limit was “redundant, unnecessary, or that its removal would not result in or allow an increase in actual SO₂ emissions,” and, consequently, that removal of the limit would not “affect the validity of the emission rates used in the existing attainment demonstration, thus undermining the SIP’s ability to ensure protection of the SO₂ NAAQS,” EPA rejected the proposed amendment. *Id.* at 17,159; *see also* 78 Fed. Reg. at 78,721.

In addition, while in its recent Infrastructure SIP guidance EPA purported to postpone certain I-SIP start-up, shutdown, and malfunction (“SSM”) requirements, nowhere in that guidance does EPA discuss postponement of any other I-SIP requirement.⁵ *See* U.S. EPA, Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Section 110(a)(1) and 110(a)(2), at 19-20 (Sept. 13, 2013) [hereinafter “EPA I-SIP Guidance”]. This is simply a further indication that the CAA requires I-SIPs to include emission limits adequate to ensure attainment of the NAAQS and that the imposition of such limits may not be delayed.

D. Supreme and Appellate Court Opinions Hold That Infrastructure SIPs Must Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment.

Since the inception of the modern Clean Air Act in 1970, courts have interpreted the language presently found in section 110(a)(2)(A) to require that SIPs contain enforceable emission limits sufficient to prevent exceedances of the NAAQS. In *Train v. NRDC*, a seminal case on SIP approval requirements, the Supreme Court explained that:

In complying with this requirement [that a SIP provide for attainment and maintenance of the NAAQS], a State’s plan must include ‘emission limitations,’ which are regulations of the composition of substances emitted into the ambient air from such sources as power plants, service stations, and the like. They are the specific rules to which operators of pollution sources are subject, and which if enforced should result in ambient air which meets the national standards.

421 U.S. 60, 78 (1975); *see also id.* at 67 (citing language from then-current section 110(a)(2)(B) now found in section 110(a)(2)(A)).

Courts of appeals have echoed the same conclusion. For example, in *Pennsylvania Department of Environmental Resources v. EPA*, the Third Circuit stated that the Clean Air Act “directs the EPA to withhold approval from a state implementation

⁵ Sierra Club disagrees, however, with EPA’s apparent postponement of those same SSM requirements; such postponement is unsupported by the CAA.

plan if the ‘maintenance of [the] standard’ cannot be assured.” 932 F.2d 269, 272 (3rd Cir. 1991).⁶ The court observed that the “need to maintain the Clean Air Act standards once they are reached is well-recognized by the Courts.” *Id.* Other courts have provided similar analyses. In *Mision Industrial, Inc. v. EPA*, for example, the First Circuit explained that, “[b]efore approving an air quality implementation plan or revision, the Administrator must determine that it ‘includes emission limitations . . . and such other measures as may be necessary to insure attainment and maintenance of (the) primary or secondary standard’” 547 F.2d 123, 129 (1st Cir. 1976) (quoting former section 110(a)(2)(B)).

The 1990 Clean Air Act amendments do not alter this picture. Court decisions since the 1990 amendments have continued to hold that I-SIPs must have emission limits that maintain the NAAQS. In *Alaska Department of Environmental Conservation v. EPA*, the Supreme Court explained that an Infrastructure SIP under CAA section 110(a)(1) must be a “plan which provides for implementation, maintenance, and enforcement of [NAAQS].” 540 U.S. 461, 470 (2004) (quoting section 110(a)(1)). “While States have wide discretion in formulating their plans . . . SIPs must include certain measures Congress specified to assure that national ambient air quality standards are achieved.” *Id.* (internal citations and quotations omitted). Thus, in order for EPA to approve a SIP, it “must ‘include enforceable emission limitations and other control measures, means, or techniques . . . as may be necessary or appropriate to meet the applicable [CAA] requirements.’” *Id.* (quoting 42 U.S.C. § 7410(a)(2)(A)).

The circuit courts have also been clear that section 110(a)(2)(A) from the post-1990 Clean Air Act requires enforceable emission limits in I-SIPs. For example, the Ninth Circuit affirmed that “[t]he Clean Air Act directs states to develop implementation plans—SIPs—that ‘assure’ attainment and maintenance of national ambient air quality standards (‘NAAQS’) *through enforceable emission limitations.*” *Mont. Sulphur & Chem. Co.*, 666 F.3d at 1180 (citing 42 U.S.C. §§ 7407(a), 7410(a)(2)(A)) (emphasis added). And the Sixth Circuit has explained that “EPA’s deference to a state is conditioned on the state’s submission of a plan ‘which satisfies the standards of § 110(a)(2)’ and which includes emission limitations that result in compliance with the NAAQS.” *Mich. Dept. of Env’tl Quality*, 230 F.3d at 185 (quoting *Train*, 421 U.S. at 79).

Additionally, in *Hall v. EPA*, the Ninth Circuit held that EPA had not fulfilled its responsibility under another provision—section 110(l)⁷—to evaluate whether a revised air quality plan will achieve the pollution reductions required under the Act. 273 F.3d at 1152. In *Hall*, EPA incorrectly approved a revision to an air quality plan solely on the basis that the revisions did not relax the existing SIP, rather than “measur[ing] the existing level of pollution, compar[ing] it with the national standards, and determin[ing]

⁶ The court was interpreting the 1977 version of the statute in which Subpart 1 of Part D had been added, *id.* at 271 n.1, but relied on the language of then-current section 110(a)(2)(B) (now found in section 110(a)(2)(A)). *Pennsylvania Department of Environmental Resources*, 32 F.2d at 272.

⁷ Section 110(l) provides, in relevant part, that “[t]he Administrator shall not approve a revision of a [state implementation] plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress . . . or any other applicable requirement of this chapter.” 42 U.S.C. § 7410(l).

the effect on this comparison of specified emission modifications.” *Id.* at 1157-58 (quoting *Train*, 421 U.S. at 93). EPA claimed a statutory equivalence between non-relaxation of rules approved in 1981 and non-interference with current attainment requirements. *Id.* at 1155. The court rejected EPA’s application of the “no relaxation” rule, finding it inconsistent with the Act because it set an improper baseline that failed to take into consideration the 1990 amendments, which set new deadlines for attainment and established other new requirements for incremental progress towards attainment. *Id.* at 1160-61. Those current attainment requirements were the baseline from which EPA should have measured “non-interference.” *Id.* EPA’s analysis was required to reflect consideration of the prospects of meeting current attainment requirements under a revised air quality plan. *Id.* Just as a plan revision must not interfere with attainment of the NAAQS under section 110(l), an I-SIP must likewise include enforceable limits sufficient to ensure the initial plan provides for maintenance of the NAAQS under 110(a)(2)(A).

II. OKLAHOMA’S DRAFT I-SIP FAILS TO ENSURE THE ATTAINMENT AND MAINTANCE OF THE PRIMARY OZONE NAAQS, AND THUS MUST BE REVISED.

Oklahoma’s Draft I-SIP fails to include emission limits and other restrictions on sources of ozone precursors, including anthropogenic sources like nitrogen oxides (“NO_x”) and volatile organic compounds (“VOCs”), to ensure that areas not designated nonattainment will attain and maintain the 2008 eight-hour Ozone NAAQS. As discussed, under section 110(a)(2)(A), the I-SIP must “include enforceable emission limitations . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements” of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS).

Emission limits are especially important for meeting the eight-hour Ozone NAAQS, because fuel combustion from sources such as electric generating units “is one of the largest anthropogenic sources of emissions of NO_x in the United States.” 73 Fed. Reg. at 16504.⁸ Specifically, in Oklahoma, coal-fired electric generating units are responsible for thirteen percent of all NO_x emissions released in the State, or 61,291 tons in 2011. *See* Ex. 5, NO_x NEI All Sectors(2011)_28 Apr 2014.xlsx, Excel Worksheet “Percentage Summary (All States)”, attached hereto as Ex. 5; *see also* EPA, The National Emissions Inventory, Sector Summaries, <http://www.epa.gov/ttn/chief/net/2011inventory.html>. 2011inventory.html. For example, as modeled by EPA, Oklahoma sources contributed approximately 28 ppb to the nonattainment modeled at the Tulsa monitors. *See* EPA, CSAPR_Ozone and PM2.5_Contributions, attached hereto as Ex. 10. Sources near Tulsa are likely significant contributors to Tulsa’s ozone problem. Oklahoma’s total NO_x emissions are also significant, especially when compared with emissions from other states. National Emissions Inventory (“NEI”) data from 2011 shows that Oklahoma’s sources collectively emitted over 468,700 tons of NO_x, making it’s emissions higher than those of thirty nine other states or the eleventh greatest emitter of NO₂ in the nation. *See* Ex. 4, NO_x NEI All Sectors(2011)_28 Apr 2014.xlsx, Excel Worksheet “Ranking of State NO_x Totals”. Yet

⁸ In addition to EGUs, oil and gas production is a major source of ozone precursors in Oklahoma, and the state should require measures to reduce those emissions as part of the I-SIP.

Oklahoma fails to demonstrate how it plans to address these significant NO_x emissions and other ozone precursors.

- A. EPA's monitoring data demonstrates that Draft I-SIP fails to attain and maintain the 2008 Ozone NAAQS.

Oklahoma's proposed SIP fails to impose necessary restrictions on ozone precursor sources sufficient to ensure the attainment and maintenance of the 2008 Ozone NAAQS in areas designated attainment as shown by the EPA's own ozone monitoring data. Ozone monitor data reveals that eleven counties from 2010-2012 had exceedances that are above attainment/unclassifiable levels. Looking at data from 2011-2013, ten counties again show exceedances of 0.076 ppm or higher. These monitors reveal that ozone concentrations in these areas exceed the 2008 Ozone NAAQS, and thus ozone concentrations are above the level deemed safe for public health. *See* OK Ozone Monitors 2009-2013, Excel Worksheet "OK Ozone Monitors 2009-13", attached hereto as Ex. 6; *see also* EPA AirData: Monitor Values Report, http://www.epa.gov/airdata/ad_rep_mon.html. Despite these exceedances, no areas with monitoring exceedances, and in fact no area in Oklahoma, is designated nonattainment. 77 Fed. Reg. 30,088, 30,141-142 (May 21, 2012) (labeling all of Oklahoma unclassifiable /attainment). Oklahoma must demonstrate how the Draft I-SIP is designed to address these exceedances to ensure attainment and maintenance of the 2008 Ozone NAAQS.

The 2008 eight-hour ozone monitor values are listed below for the violating counties from 2009 to 2013.

Table 1: Fourth Highest Monitor Values of Counties with Three-Year Averages from 2010 to 2013 equal to 0.076 ppm or Above

County (Monitor Number)	Average 2010-2012	Average 2011-2013
Caddo (#400159008)	0.077	0.080
Canadian (#400170101)	0.076	0.076
Cherokee (#400219002)	0.076	0.074
Cleveland (#400270049)	0.076	0.076
Comanche (#400310651)	0.075	0.077
Creek (#400370144)	0.078	0.078
Kay (#400719010)	0.072	0.077
Mayer (#400979014)	0.078	0.077
Oklahoma (#401090033)	0.077	0.078
Oklahoma (#401090096)	0.077	0.076
Oklahoma ⁹ (#401091037)	0.079	0.079
Ottawa (#401159004)	0.076	0.076
Tulsa ¹⁰ (#401430137-1)	0.080	0.08
Tulsa (#401430174)	0.077	0.077
Tulsa (#401430178)	0.078	0.077
Tulsa (#401431127)	0.08	0.080

See Ex. 5.

ODEQ has not even attempted to demonstrate that emissions allowed by the Draft I-SIP will ensure compliance with the eight-hour ozone standard.¹¹ As demonstrated by EPA’s own monitoring data, these three-year averages show an alarming trend in Oklahoma’s air quality.¹² The air quality is not improving. In most areas, ozone

⁹ This monitor and thus county also showed exceedances from 2009-2011.

¹⁰ This monitor and thus county also showed exceedances from 2009-2011.

¹¹ ODEQ stated that “[n]o specific enforceable emission limitations or other control measures, means, or techniques have been identified as necessary to attain or maintain the 2008 Ozone NAAQS.” Draft I-SIP at 2. However, ODEQ is clearly mistaken because the monitors show exceedances of the 2008 standard.

¹² The evidence of poor air quality is particularly troubling in light of Oklahoma’s asthma rates. As of 2008, the Center for Disease Control reported 241,011 adults and 88,825 children living with asthma. See

concentrations are actually getting worse. The monitoring data proves that Oklahoma Draft I-SIP is inadequate to meet the 2008 ozone standards. In order for Oklahoma to comply with the Clean Air Act and the requirements of section 110(a)(2)(A), Oklahoma must revise its I-SIP to include enforceable emission limits and other measures which will ensure the attainment and maintenance of the 2008 Ozone NAAQS.

B. Adding control devices and emissions limits on electric generating units are a cost effective option to reduce NO_x and attain and maintain the 2008 Ozone NAAQS.

Under section 110(a)(2)(A), the I-SIP must “include enforceable emission limitations . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements” of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS. Control devices and limits on coal-fired electric generating units (“EGUs”) are likely the most cost effective option to ensure the 2008 Ozone NAAQS are attained and maintained. Nitrogen Oxides, an ozone precursor, can be reduced cost-effectively through installation of selective catalytic reduction (“SCR”) technology at EGUs where it is not already in place and by imposing short-term stringent emission limits on all EGUs. Notably, at least three major coal-burning power plants in Oklahoma do not have SCR technology or have not announced plans to retire: Muskogee, Sooner, and one unit at the GRDA plant.

In Oklahoma where at least ten counties show exceedances of the 2008 Ozone NAAQS, all EGUs should have emission limits based on available and demonstrated control technology. SCR catalysts have been applied over the last 20 years as retrofits to existing power plants across the country and have a proven track record of meeting low emission rates. In particular, a limit of 0.07 pound per MMBtu (“lb/MMBtu”) based on an eight-hour averaging time that applies at all times, including during startup and shut down is readily achievable. EPA has long acknowledged that 90% removal efficiency for SCR on coal-burning units is achievable. *See* EPA, “Ambient Air Quality Impact Report for Desert Rock Energy Facility PSD Permit,” at 8, attached hereto as Ex. 7. Thus, taking even the highest emission rate that EPA has set with no post-combustion control, that is 0.5 lb/MMBtu and applying the 90% control from SCR, an emission limit of 0.05 lb/MMBtu is clearly achievable. However, ODEQ could add a 40% “safety factor” and establish limitations in the ISIP at 0.07 lb/MMBtu. A review of the RACT/BACT/LAER clearinghouse demonstrates that numerous PSD permits for coal-burning boilers were issued during the “coal rush” of the first decade of this century with emission limits of 0.07 lb/MMBtu. Towards the end of the coal rush, BACT was lowered to 0.05 lb/MMBtu. EPA acknowledged, in setting BACT for the Desert Rock facility, that even 0.05 lb/MMBtu involves a significant “safety factor.” In 2001, Babcock & Wilcox Company, in its paper, “How Low Can We Go”, attached hereto as Ex. 8, said that 0.016 lb/MMBtu was achievable for bituminous coal and 0.008 lb/MMBtu for Powder River Basin coal. *See* Ex. 8 at 5, Table 2.

Actual data confirms that 0.07 lb/MMBtu is easily achievable. For example,

Center for Disease Control, State Profiles: Asthma in Oklahoma,
http://www.cdc.gov/asthma/stateprofiles/asthma_in_ok.pdf.

during the 2006 ozone season, approximately 88 coal-fired units achieved emission limits of less than 0.07. *See* CAMD NO_x Ranked Low to High Ozone 2006, attached hereto as Ex. 9. While these emission rates should be based on 0.07 lb/MMBtu, the limit should actually set as a lb/hour limit, calculated by multiplying 0.07 MMBtu/hr times the maximum allowable heat input or maximum heat input in prior permit applications for the EGU. Setting the limit in lb/hour ensures consistent protection of the ambient air quality regardless of whether the claimed maximum heat input capacity for the unit is accurate or changes in the future. In addition, a limit in lb/hour addresses the issue of startup and shutdown. Even if the NO_x emission rate in lb/MMBtu is higher during startup and shutdown when the SCR cannot be engaged, the source should be able to remain under the limit because the heat input is lower during startup and shutdown.

Ideally, the limit should be based on a 1-hour or 8-hour averaging time to protect the 8-hour averaging time of the 2008 Ozone NAAQS. This is especially important for coal burning EGUs, because electricity demand tends to be highest on hot, summer days, which coincides with those times when ozone levels are the worst. Without short-term averaging times, EGUs could emit NO_x at higher rates at precisely the time when the ozone levels are the worst and still meet the emission limit using a longer-term average period by reducing their NO_x emissions during periods when the ozone levels are not as severe.

Under no circumstances can any averaging time longer than a 24-hour averaging time with an emission limit based on 0.070 lb/MMBtu comply with the legal requirements. To begin with, over seven years ago, EPA determined that an emission limit of 0.06 lb/MMBtu based on a 24-hour averaging time was economically and technically achievable and thus BACT for a coal-fired power plant. *See* Ex. 7 at 14.¹³ Furthermore, while the emission rates provided in Exhibit 9 are for the entire ozone season, there are dozens of units that operate substantially below 0.070 lb/MMBtu. If a coal-burning EGU unit normally operated at rates similar to these units, it would have the ability to comply with the 24-hour average based on 0.070 lb/MMBtu even if in some hours it operated at a higher rate. Similarly, with other technologies such as low NO_x burners and overfire air, the emission rates could be in the 0.15 lb/MMBtu range when the SCR is not operating. For example, the Labadie power plant in Missouri operates in the 0.11 to 0.12 lb/MMBtu range without post-combustion controls. A boiler with a 0.15 lb/MMBtu emission rate without operating SCR and an SCR that can remove 90% NO_x can operate 8 hours with no SCR in a 24 hour period and still maintain compliance with a 24-hour average emission limit based on 0.070 lb/MMBtu. Finally, as noted above, the limit should actually be set in lb/hr. Therefore, the units could operate at a lower heat input for certain hours in order to maintain compliance with a 24-hour average limit.

¹³ The fact that EPA's decision was for the proposed Desert Rock facility, rather than an existing facility, is a distinction without a difference. Similarly, the Newmont facility had a 24-hour averaging time limit of 0.067 lb/MMBtu almost a decade ago. *Id.*

C. The Draft I-SIP fails to include measures that ensure compliance with section 110(a)(2)(A) of the Act regarding the 2008 Ozone NAAQS.

Oklahoma's Draft I-SIP fails to include measures that sufficiently demonstrate that it will comply with section 110(a)(2)(A), and therefore it cannot ensure the proper implementation, maintenance, and enforcement of the NAAQS as required. As discussed, under section 110(a)(2)(A), the I-SIP must "include enforceable emission limitations . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements" of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS). Yet, Oklahoma's submission neither includes nor references emission limitations or other required measures that ensure compliance with the eight-hour primary Ozone NAAQS. *See generally* Draft I-SIP.

The statutory and regulatory sections that ODEQ incorporated into its Draft I-SIP are insufficient to ensure compliance with the 2008 Ozone NAAQS.¹⁴ In particular, ODEQ's Draft I-SIP does not provide sufficient emission limits on large NO_x sources to guarantee the NAAQS will be attained and maintained. For example, with respect to new solid fossil fuel-burning sources, the Draft I-SIP cites to the existing Oklahoma Air Pollution Control Rules, OAC 252:100-33, standard of 0.70 lb/MMBtu, which is too weak to comply with the 2008 Ozone NAAQS. *See* Draft I-SIP at 2. That limit is ten times higher than the limit proven to be easily achievable, as discussed above. Moreover, critically, it only applies to new sources and does not address older, inefficient EGUs that are emitting NO_x at much higher levels. In addition, if the sources cannot meet this limit during startup or shutdown, Oklahoma's existing regulations allow it to be waived and replaced with laxer requirements. As evidenced by the fact that at least ten counties in Oklahoma have design values exceeding the NAAQS, these weak existing provisions do not ensure that Oklahoma will attain and maintain the 2008 Ozone NAAQS. The exceedences demonstrated by EPA's monitoring data shows that more stringent requirements must be placed on sources of ozone precursors. *See* Ex. 6. It is clear that the standards contained within the Draft I-SIP were created for the less stringent, outdated 1997 NAAQS and must be revised to reflect the applicable 2008 standard.

¹⁴ Sierra Club notes that Oklahoma has submitted Ozone Advance Plans for Oklahoma City and Tulsa. *See generally* Letter from Eddie Terrill, Division Director, Air Quality Division, ODEQ, to Laura Bunte, Ozone Advance (Oct. 25, 2013), *available at* http://www.incog.org/Environmental_Planning/Documents/FINAL%20Tulsa%20Path%20Forward%20Action%20Plan%20for%20Ozone%20Advance%20Oct-2013.pdf [hereinafter "Tulsa Ozone Advance"]; *see also generally* Eddie Terrill, Division Director, Air Quality Division, ODEQ, to Laura Bunte, Ozone Advance (May 31, 2013) *available at* <http://www.epa.gov/ozoneadvance/pdfs/20130531ok.pdf> [hereinafter "Oklahoma City Ozone Advance"]. While we applaud Oklahoma's recognition of the problem in at least two counties and its efforts to address the ozone exceedences, the plans contain many voluntary measures, which are legally insufficient to ensure attainment and maintenance of the NAAQS. These plans also suggest that Oklahoma acknowledges the need to revise its NO_x emission limit on major sources. *See* Tulsa Ozone Advance at 28; *see also* Oklahoma City Ozone Advance at 4. We would be happy to provide more information about adequate NO_x emission limits as part of the ozone advance plan process. Further, we are concerned about the plan's suggested averaging time, a thirty-day rolling average. *Id.* A thirty-day rolling averaging period is inadequate to protect an eight-hour standard.

Further, the Draft I-SIP impermissibly allows for ambient air incremental increases, variances, exceptions, or exclusions with regard to limits placed on sources of ozone precursors, and so further fails to assure attainment of the 2008 Ozone NAAQS. The Draft I-SIP incorporates existing regulatory provisions that allow exemptions from enforcement that undermine the programs meant to ensure attainment and maintenance with the NAAQS. *See* Draft I-SIP at 2. For instance, in the Oklahoma Clean Air Act, a variance may be granted by the Council for any provision of the Oklahoma Clean Air Act under certain circumstances. *See* 27A O.S. §2-5-109. Moreover, OAC 252:100-9-8 allows owners and operators of any size sources to be relieved of a civil or administrative penalty, thus evading enforcement actions for excess emissions during periods of startup, shutdown, and malfunction. These provisions and others not discussed in these comments undermine the efficacy of the I-SIP by permitting sources to evade enforcement and emit excess emissions, preventing Oklahoma from attaining and maintaining the 2008 Ozone NAAQS.

As a result of all of these inadequacies, exemptions, variances, and other shortfalls not listed in these comments, the Draft I-SIP cannot ensure that Oklahoma will attain and maintain the 2008 Ozone NAAQS. In particular, the Draft I-SIP fails to address large sources of NO_x pollution. Oklahoma must revise its I-SIP to include enforceable emission limits at its largest sources, the Muskogee, Sooner, and GRDA power plants, that address the exceedances shown by the monitoring data and that otherwise address the eight-hour Ozone NAAQS, and it must update its emission regulations to ensure that proper mass limitations and short term averaging periods are imposed on large NO_x sources, including coal-fired power plants.

D. Enforceable emission limits are necessary to avoid nonattainment designations

In addition to being a required component of the I-SIP, enforceable emission limits—either in permits or source-specific SIP provisions—are necessary to avoid nonattainment designations in areas where modeling or monitoring shows that ozone levels exceed the eight-hour NAAQS. Oklahoma should use this I-SIP process to address current ozone exceedances in at least ten counties and prevent these counties from being redesignated as nonattainment for the 2008 Ozone NAAQS, or designated nonattainment for the forthcoming Ozone NAAQS, by adding appropriate enforceable emission limits on NO_x sources.¹⁵ In order to comply with section 110(a)(2)(A) and avoid nonattainment designations for areas impacted by high ozone levels, ODEQ must amend the Draft I-SIP to ensure that large sources of NO_x cannot continue to contribute to exceedances of the eight-hour Ozone NAAQS.

¹⁵ In January, EPA solicited comments on the Ozone NAAQS. *See generally* Review of National Ambient Air Quality Standards for Ozone; Draft Document (Doc ID: EPA-HQ-OAR-2008-0699-0116) (Jan. 29, 2014).

III. OKLAHOMA’S I-SIP FAILS TO ENSURE THAT ITS SOURCES ARE NOT SIGNIFICANTLY CONTRIBUTING TO NONATTAINMENT OR INTERFERENCE WITH MAINTENANCE OF THE NAAQS IN DOWNWIND STATES.

Oklahoma must address interstate transport of Oklahoma’s emissions that would contribute to exceedances or interfere with the maintenance of the NAAQS. Under section 110(a)(2)(D), a SIP must contain “adequate provisions (i) prohibiting . . . any source . . . from emitting any air pollutant in amounts which will—(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard” 42 U.S.C. § 7410(a)(2)(D)(i)(I); *see also EPA v. EME Homer City Generation*, No. 12-1182, slip op. at 14 (U.S. Apr. 29, 2014) (reiterating that this is a mandatory duty) [hereinafter “*Homer City*”]. Oklahoma’s Infrastructure SIP, as proposed, fails to address any cross-state impacts that are due to sources within the state. *See* Draft I-SIP at 6. This is inadequate and should result in EPA disapproving the submittal.

The Clean Air Act sets a mandatory duty for states to submit I-SIPs within three years of promulgation of a NAAQS. 42 U.S.C. § 7410(a)(1). Under CAA section 110, there is no prerequisite action required, such as EPA issuing guidance, before states must fulfill their mandatory duty. *See Homer City* at 14 (“the CAA sets a series of precise deadlines to which the States and EPA must adhere.”). ODEQ cannot rely on the fact that EPA’s 2013 I-SIP Guidance does not address interstate transport provisions. *See* Draft I-SIP at 6.¹⁶ This guidance directly contradicts the language of the Clean Air Act. Therefore, Oklahoma must create a SIP to address Prongs 1 and 2 of the interstate provisions and provide the public with an opportunity to comment on it.¹⁷

Moreover, ODEQ cannot rely on its Prevention of Significant Deterioration Program and Air Quality Impact regulation, OAC 252:100-8-35. *See* Draft I-SIP at 6. That program and regulation apply only to new sources and modifications. Thus, sources are only evaluated under those regulations when built or undergoing a major modification and only evaluated for contribution to the NAAQS at the time of that action. Thus, a plant built as recently as 2007 would not have submitted to ODEQ an analysis of its compliance with the 2008 Ozone NAAQS. Consequently, ODEQ must revise its I-SIP to adequately address section 110(a)(2)(D)(i)(I).

¹⁶ The Supreme Court has resoundingly disapproved the belief that states cannot address the section 110(a)(2)(D)(i), the Good Neighbor provision, until EPA first calculates the budget of emissions and gives upwind states the opportunity to propose SIP’s allocating those budgets among in-state sources before issuing a FIP. *See Homer City*, 696 F.3d 7, 37 (D.C. Cir. 2012), rev’d, No. 12-1182, slip op. at 27-28 (U.S. Apr. 29, 2014) (stating “nothing in the statute places EPA under an obligation to provide specific metrics to States before they undertake to fulfill their good neighbor obligations” and finding the D.C. Circuit impermissibly altered the clear deadlines in the Act).

¹⁷ Just as EPA has historically used air dispersion modeling in attainment designations and SIP revisions, so has the agency relied on modeling to assess cross-state impacts under the Act’s Good Neighbor provision—section 110(a)(2)(D)(i)(I). Under Clean Air Interstate Rule (“CAIR”) and the Cross-State Air Pollution Rule (“CSAPR”), as well as the 2003 NO_x SIP Call, EPA has used modeling to determine pollutants’ cross-state impacts. Note that the D.C. Circuit court never questioned the agency’s use of modeling to assess cross-state impacts. *See generally North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008).

In light of the recent *Homer City* Supreme Court decision, ODEQ should act quickly to address pollution that may be contributing to another state's nonattainment or interfering with another state's maintenance of the 2008 Ozone NAAQS. The Court's decision means Oklahoma must address its exceedances under its own volition, or EPA will be required to act instead. Oklahoma should take the opportunity now to place enforceable emission limits on large sources contributing to problems with the attainment and maintenance of the NAAQS in other states. ODEQ must provide provisions in its proposed I-SIP to ensure that pollution from Oklahoma is not preventing other states from attaining or maintaining the eight-hour ozone NAAQS.

IV. OKLAHOMA'S DRAFT I-SIP FAILS TO INCLUDE INFORMATION REGARDING THE EMERGENCY EPISODE PLAN.

Under section 110(a)(2)(G), Oklahoma must provide an emergency plan. Here, Oklahoma claims that this requirement has been satisfied by a plan submitted in 1972 and revised in 1988. *See* Draft I-SIP at 11.¹⁸ However, ODEQ does not provide the plan or a link to the plan for the public to evaluate whether it is sufficient to meet the requirements of section 110(a)(2)(G). In order for the public to adequately weigh whether the emergency episode plan is sufficient, Oklahoma must provide the plan. Thus, Oklahoma should revise its Draft I-SIP to include the emergency plan.

V. CONCLUSION

The Draft I-SIP fails to ensure that the eight-hour Ozone NAAQS are attained and maintained, as described above. Oklahoma must adopt new provisions into the I-SIP to protect public health and comply with the Act's requirements. Sierra Club would be happy to provide any other information that might assist Oklahoma in evaluating the impacts of these sources and developing an I-SIP in full compliance with the Clean Air Act.

Respectfully submitted,

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¹⁸ The Commenter disagrees that Oklahoma can ignore its duty to address visibility requirements under Clean Air Act section 110(a)(2)(J). *See* Draft I-SIP at 13. The statute clearly states that each plan shall meet the requirements relating to visibility protection. *See* 42 U.S.C. § 7410(a)(2)(J).

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