Proper Implementation of the National Ambient Air Quality Standards Through the State Implementation Plan Process

Congress designed the Clean Air Act (CAA or Act) with two principal mechanisms for assuring the quality of air across our nation: first, a system of "cooperative federalism" in which states develop and implement plans to meet health and welfare-based air quality standards established by the Environmental Protection Agency (EPA), and second, a series of programs providing minimum federal requirements for large facilities and hazardous pollutants. The Arkansas Pollution Control & Ecology Commission (APC&EC), in turn, implements the CAA and the Arkansas Water & Air Pollution Control Act by regulation, including Regulation 18 (the "Arkansas Air Pollution Control Code"), Regulation 19 (the "Regulations of the Arkansas Plan of Implementation for Air Pollution Control") and Regulation 26 ("Regulations of the Arkansas Operating Air Permit Program"). Based on the structure, language, history, and interpretation of the CAA and relevant EPA and APC&EC regulations the following are clear:

- National Ambient Air Quality Standards (NAAQS) are meant to be implemented by states through state implementation plans (SIPs), based on the consideration of a broad range of factors and tools identified by Congress and EPA.

- NAAQS are not directly applicable to individual facilities. They are neither "emissions standards or limitations" generally, nor are they "applicable requirements" specifically under the Title V program.

- Routine NAAQS modeling at the facility level is neither required by federal or state law nor sensible. Modeling is required for certain large new facilities and modifications, and any broader requirement would exceed federal standards.

- Arkansas can best achieve and maintain the most recent EPA NAAQS through the SIP development process, not *per se* application of the NAAQS to individual facilities.

Arkansans deserve the highest air quality, and the APC&EC should ensure that the burdens of achieving and maintaining that quality are fairly distributed and that all relevant factors and tools have been adequately considered through the SIP development process.

I. The Role of NAAQS in the CAA

The Clean Air Act of 1970 (1970 CAA)[1] established the modern framework for air pollution control in the United States. The centerpiece of the law was the creation of a system whereby EPA establishes the NAAQS, which serve as nationwide benchmarks for clean air, and states develop SIPs, which must be reviewed and approved by EPA, in order to achieve and maintain the NAAQS.[2] Under this framework, EPA is responsible for setting national air quality goals, while states have "the primary responsibility for assuring air quality" within their borders through their SIPs.[3]

Under CAA Section 109, EPA is charged with promulgating "primary" and "secondary" NAAQS for pollutants which, in the judgment of the EPA Administrator, "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."[4] The primary standards are set at levels requisite to protect public health "with an adequate margin of safety," while the secondary standards are set at levels protective of public welfare, which includes considerations such as visibility and effects on soils, crops, wildlife and buildings.[5] The NAAQS are required to undergo scientific review every five years, and the Administrator must revise the existing standards or issue new ones as appropriate based on that review.[6]

The primary NAAQS are set at inherently conservative levels. They must protect the health of any "sensitive group" in the population, such as persons with preexisting respiratory illness, children, and the elderly.[7] Further, the statutory requirement that the primary standards include an "adequate margin of safety" is intended to address uncertainties associated with inconclusive scientific and technical information available at the time of standard setting, and to provide a reasonable degree of protection against hazards that research has not yet identified.[8]

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[1] Pub. L. No. 91-604 (1970).

[2] *See* 42 U.S.C. §§ 7409-7410.

[3] *Id.* § 7407.

[4] *Id.* §§ 7408, 7409. Pollutants that meet these requirements (*i.e.* for which EPA has set a NAAQS) are often referred to as "criteria pollutants."

[5] *Id.* §§ 7409(b), 7602(h).

[6] *Id.* § 7409(d).

[7] *See, e.g.*, Primary National Ambient Air Quality Standards for Nitrogen Dioxide; Final Rule, 75 Fed. Reg. 6474, 6475, 6480 (Feb. 9, 2010).

[8] *Id.* at 6475-76 (citing *Lead Indus. Ass'n v. EPA*, 647 F.2d 1130, 1154 (D.C. Cir. 1980); *Am. Petroleum Inst. v. Costle*, 665 F.2d 1176, 1186 (D.C. Cir. 1981)).

EPA has set primary NAAQS for six pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$) and sulfur dioxide (SO_2). It has set secondary NAAQS for SO_2 and NO_2.[9] New or revised NAAQS are implemented in two basic steps. First, EPA designates areas as "attainment" (meeting the standard), "nonattainment" (not meeting the standard), or "unclassifiable" (cannot be determined based on available information).[10] Second, each state must adopt and submit SIPs to EPA which provide for the implementation, achievement, and maintenance of the NAAQS at issue within the state.[11]

In addition to the NAAQS/SIP process, two other major programs were added to the CAA in 1970. Section 111 established the New Source Performance Standards (NSPS) program, under which new sources of pollution in designated industrial categories are assigned technology-based emissions standards developed by EPA.[12] Section 112 established the national emission standards for hazardous air pollutants (NESHAPs), under which EPA develops emission limits applicable to stationary sources for pollutants that cause irreversible or incapacitating illness at low concentrations.[13] Finally, these two source-focused programs were augmented in 1977 by the addition of the Prevention of Significant Deterioration (PSD) and nonattainment new source review (NNSR) programs.[14] These programs also apply directly to sources, depending on the pollutants at issue and their attainment status at the source location, through case-by-case application of best available technology or lowest achievable emission rates.

Thus, overall, the CAA contains a four-pronged approach to the protection of air quality. Three of those prongs—the NSPS, NESHAP, and PSD/NNSR programs—regulate *sources* of air pollution.[15] The NAAQS/SIP prong, in contrast, creates obligations for *states*, which are charged with implementing control measures designed to attain the NAAQS, as discussed in more detail below.

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[9] *See* 40 C.F.R. Part 50 (National Primary & Secondary Ambient Air Quality Standards).

[10] 42 U.S.C. § 7407(d)(1). Unclassifiable areas are effectively treated as being in attainment in most instances.

[11] *Id.* §§ 7410(a)(2) (required elements of infrastructure SIPs), 7502(c) (required elements of nonattainment SIPs).

[12] *See* 42 U.S.C. § 7411.

[13] *See id.* § 7412.

[14] Pub. L. No. 95-95 (1977); CAA Subchapter I, Parts C & D.

[15] The Title V operating permit program, discussed further below, also applies to sources but does not impose new substantive requirements on such sources. Several other programs (*e.g.,* the acid rain and stratospheric ozone programs) are not relevant to this paper.

II. States Are Responsible for Implementing NAAQS Through SIPs

Once EPA establishes a new or revised NAAQS, the SIP development process is set in motion in each state. The legislative history of the 1970 CAA demonstrates the importance that Congress ascribed to the SIP development process:

> The establishment alone of ambient air quality standards has little effect on air quality. Standards are only the reference point for the analysis of the factors contributing to air pollution and the imposition of control strategy and tactics. This program is an implementation plan.... [T]he implementation plan is the principal component of control efforts for pollution agents for which national standards are established.... The Committee expects that appropriate Federal, State, and local officials, citizens and affected industry groups will consider the development of the implementation plan the central element of this aspect of the legislation.[16]

The CAA prescribes an implementation timeline for the attainment of new or revised NAAQS of up to approximately five years, total. As an initial matter, EPA has two years under Section 107 to make its designations (attainment, nonattainment, or unclassifiable) for the areas within each of the states.[17] The designations are based on recommendations by each state's governor for areas within that state; if EPA disagrees with a recommendation, it is required to notify the state of any intended modifications prior to EPA's promulgation of the final designation.[18]

EPA makes attainment and nonattainment decisions on a NAAQS-by-NAAQS basis using a combination of regulatory criteria and guidance.[19] A measured or modeled exceedance of a NAAQS at any given location, such as an individual facility, does *not* equate with "nonattainment." Rather, EPA typically

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[16] S. Rep. No. 91-1196, at 10-11 (1970).

[17] 42 U.S.C. § 7407(d)(1)(B)(i). The deadline may be extended for up to one additional year if the Administrator has insufficient information to promulgate the designations. *Id.*

[18] *Id.* §§ 7607(d)(1)(A) & (B)(ii) Areas of the country currently designated as nonattainment are listed at www.epa.gov/airquality/greenbook/astate.html. Arkansas has only one county, Crittenden, which is in marginal nonattainment for the 8-hour ozone standard. *Id.* That county did not actually exceed the NAAQS; rather, EPA believed it was contributing to an exceedance in neighboring Shelby County, Tennessee, due to meteorological conditions and ozone precursor emissions from mobile sources and small ("area") sources. www.epa.gov/ozonedesignations/2008standards/documents/R46_Memphis_TSD_Final.pdf.

[19] Because NAAQS are not emissions standards, limitations, or applicable requirements, they are not "violated" but rather "exceeded." *See, e.g.*, 40 C.F.R. § 50.1(l) (definition of "exceedance" with respect to NAAQS).

looks at *average* values over a multi-year period at an EPA-compliant monitoring location to determine compliance with annual NAAQS standards, and it typically excludes a certain number of high data points when determining compliance with short-term NAAQS, such as 1-, 8-, and 24-hour standards.[20] This approach makes sense given the conservative nature of the NAAQS themselves, as discussed above.

Next, within three years after the promulgation of a new or revised NAAQS, states must adopt and submit what is generally referred to as an "infrastructure SIP," which shows they have the basic air quality management program components in place to implement the specific NAAQS at issue—including ambient air quality monitoring and data systems, programs for enforcement of control measures, and adequate authority and resources to implement the plan.[21] EPA reviews the submitted SIP and proposes to approve or disapprove of all or part of it based on whether the minimal requirements are met.[22] Upon approval, the provisions in the SIP become federally enforceable.[23] If the SIP is disapproved, EPA must develop a federal implementation plan (FIP) to implement the NAAQS within two years, unless the state corrects the deficiency.[24]

Finally, within 18 months to three years after designations are made, states with nonattainment areas must submit SIPs outlining the specific strategies and emissions control measures that will be employed to attain the relevant NAAQS by a specified deadline no later than five years after the nonattainment designation.[25] Nonattainment SIPs must include several specific program requirements aimed at tracking and reducing the emissions of the nonattainment pollutant.[26]

Three important conclusions flow from the structure that Congress selected. First, Congress did not envision a "one-size-fits-all" strategy for attaining the NAAQS. Instead, it recognized that the strategies for attaining and maintaining the NAAQS would differ from state to state and for the various areas within the states. Second, the process of coming into attainment with

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[20] *See, e.g.*, 40 C.F.R. Part 50, Appendices H, I, K, N, & P (discussing criteria for nonattainment determinations). EPA can also designate an area in nonattainment regardless of the results of monitoring if the area "contributes" to nonattainment in another area. 42 U.S.C. § 7407(d)(1)(A)(i).

[21] 42 U.S.C. § 7410(a)(2).

[22] *Id.* § 7410(k).

[23] *See id.* § 7413(a)(1), (b)(1), (c)(1), (d)(1)(A).

[24] *Id.* § 7410(c).

[25] *Id.* § 7502.

[26] *Id.* § 7502(c).

the NAAQS, or providing for continued maintenance of the NAAQS, was not designed to occur instantly, but over a period of years. Congress did not intend or expect that emission reductions aimed at achieving the NAAQS would occur until this process played out. Finally, both Congress (in the CAA) and EPA (in its implementing regulations) provide for public notice and comment opportunities at numerous stages throughout the SIP development process.[27] This evidences a clear intent to allow for ample public input into the strategies used to achieve the NAAQS in each state.

EPA has emphasized that states should consider a wide range of options and their potential benefits while developing their SIPs. The development process is not intended to focus solely on large stationary sources, as those sources are already covered by the NSPS, NESHAP, and PSD/NNSR programs discussed above. Instead, relevant "control strategies" apply to all types of sources, stationary and mobile, and include but are not limited to:

- Economic incentive or disincentive programs;
- Scheduling, relocation, and closure programs;
- Mobile source inspection and maintenance programs;
- Fuel or fuel additive programs for mobile sources; and
- Emissions limitations on stationary sources.[28]

EPA furthermore stipulates that nothing in its regulations should be construed, among other things, "[t]o encourage a State to adopt any particular control strategy without taking into consideration the cost-effectiveness of such control strategy in relation to that of alternative control strategies," "[t]o encourage a State to prepare, adopt or submit a plan without taking into consideration the social and economic impact of the control strategy set forth in such plan," or "[t]o encourage a State to adopt a control strategy uniformly

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[27] *See, e.g.*, *id.* § 7409(a)(1)(B) (requiring EPA's promulgation of NAAQS to occur "after a reasonable time for interested persons to submit written comments thereon"); *id.* § 7410(a)(1) (requiring states' infrastructure SIP submittals to EPA to occur "after reasonable notice and public hearing"); *id.* § 7410(a)(2) (requiring states' adoption of infrastructure SIPs to occur "after reasonable notice and public hearing"); *id.* § 7502(b) (same for nonattainment SIPs); *id.* § 7410(l) (requiring each SIP revision to be adopted by states "after reasonable notice and public hearing"); 40 C.F.R. § 51.102 (requiring states to provide notice, opportunity to submit written comments, and opportunity for public hearing prior to adoption and submission to EPA of enumerated SIP materials); *see also* S. Rep. No. 91-1196, at 11 (1970) ("Any implementation plan could be developed by a region only after participation by the public. Public participation can only be meaningful if there is reasonable notice and full disclosure of information prior to public hearings.").

[28] 40 C.F.R. § 51.100(n); *see also* 42 U.S.C. § 7410(a)(2)(A), (F).

applicable throughout a region unless there is no satisfactory alternative way of providing for attainment and maintenance of a national standard throughout such region."[29]

III. EPA Does Not Require NAAQS Implementation at the Facility Level

While states are obligated to implement the NAAQS through SIP development in accordance with the multi-step process described above, the corollary is equally true: the NAAQS themselves do *not* impose any obligation upon individual sources of air pollution with respect to their emissions. Doing so in Arkansas would significantly exceed federal requirements, to the detriment of the SIP development process envisioned by Congress.

A. NAAQS Are Not "Emissions Standards or Limitations"

If Congress had intended to make the NAAQS directly applicable to sources, it could have done so using language similar to the explicit prohibition language it employed in the Section 111 NSPS program or the Section 112 NESHAP program.[30] Instead, it chose to make NAAQS attainment a *state* obligation to be addressed through the development of a SIP. As EPA has explained:

> *The NAAQS should not be confused with emission standards.* The latter standards apply to individual sources of air pollution or categories of industrial sources. The NAAQS, on the other hand, serve as benchmarks from which each state derives the total emission reductions necessary to be accomplished in a given area. The requisite total emission reductions are translated into specific emission limitations that sources must meet on a continuous basis. Consequently, EPA does not enforce the NAAQS *per se*. Instead, EPA enforces emission standards designed to contribute to achievement and maintenance of the NAAQS.[31]

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[29] 40 C.F.R. § 51.101. Arkansas law echoes these directives in Ark. Code Ann. § 8-4-312, which requires that in the discharge of their duties that the APC&EC and ADEQ consider a list of factors including economic and industrial development of the state, the social and economic value of emission sources, economic feasibility of pollution control, effect of controls on industrial efficiency, etc.

[30] Pub. L. No. 91-604, §§ 111(e) ("After the effective date of standards of performance promulgated under this section, it shall be unlawful for any owner or operator of any new source to operate such source in violation of any standard of performance applicable to such source"), 112(c) ("After the effective date of any emission standard under this section … no air pollutant to which such standard applies may be emitted from any stationary source in violation of such standard…").

[31] Clean Air Act Compliance/Enforcement Guidance Manual (U.S. EPA, 1986), *available at* http://envinfo.com/caain/enforcement/caad131.html (emphasis added).

By the same token, "the overwhelming weight of case law" holds that the NAAQS themselves are not "emission standards or limitations" that are enforceable by citizen suit under CAA Section 304.[32] As one court noted, "[a] cornerstone of this Court's interpretation of the citizen suit provision is the principle that an air quality standard established under the Clean Air Act is not an 'emission standard or limitation'."[33] Instead, in order to maintain a citizen suit for violation of an emission standard or limitation (either by a regulated source or a governmental agency), a plaintiff must allege a violation of a specific provision in the SIP, and describe with some particularity the respects in which compliance with the provision is deficient, rather than alleging a violation of the NAAQS itself.[34]

B. NAAQS Are Not "Applicable Requirements"

EPA re-examined the issue of whether NAAQS are directly applicable to sources when it developed the Part 70 regulations to implement the Title V operating permitting program in accordance with the Clean Air Act Amendments of 1990.[35] Title V permits must include all pollution control obligations under the CAA that are applicable to a source under a SIP (or FIP), the acid rain program, the air toxics program, or other provisions of the Act and must assure compliance with each applicable standard, regulation or requirement.[36] EPA perceived a major benefit of the Title V permitting program to be the codification of all CAA requirements that apply to a source into a single document, thus enhancing compliance with the Act.[37]

EPA proposed to require states to issue Title V permits that include all "applicable requirements" of the Act or the state's SIP, and EPA envisioned objecting to permits that failed to assure compliance with the applicable requirements.[38] EPA interpreted "applicable requirements" to include "limitations, standards, and/or requirements directly applicable to sources."[39]

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[32] *Cate v. Transcontinental Gas Pipe Line Corp.*, 904 F. Supp. 526, 530-31 (W.D. Va. 1995) (citing *Coal. Against Columbus Ctr. v. New York*, 967 F.2d 764, 769 (2d Cir. 1992); *Atl. Terminal Urban Renewal Area Coal. v. N.Y. City Dep't of Envtl. Prot.*, 697 F. Supp. 157, 161 (S.D.N.Y. 1988); *Citizens for a Better Env't v. Deukmejian*, 731 F. Supp. 1448 (N.D. Cal. 1990), *modified*, 746 F. Supp. 976 (N.D. Cal. 1990); *League to Save Lake Tahoe, Inc. v. Trounday*, 427 F. Supp. 1350 (D. Nev. 1977), *aff'd* 598 F.2d 1164, 1173 (9th Cir. 1979)).

[33] *Coal. Against Columbus Ctr.,* 967 F.2d at 769.

[34] *E.g.*, *Wilder v. Thomas*, 854 F.2d 605, 610 (2d Cir. 1981); *Cate*, 904 F. Supp. at 531.

[35] *See* Pub. L. No. 101-549 (1990), CAA Subchapter V, 42 U.S.C. §§ 7601a-7601f.

[36] *See* 42 U.S.C. §§ 7661a(b)(5)(A), 7661c(a), 7661(b)(1).

[37] Operating Permit Program; Proposed Rule; Notice of Opportunity for Public Hearing, 56 Fed. Reg. 21,712, 21,713 (May 10, 1991).

[38] *Id.* at 21,738.

[39] *Id.*

NAAQS, EPA reasoned, do not fall into this category because they impose planning obligations on *states*, not on individual sources. Thus, EPA would not require Title V permits to assure attainment and maintenance of the NAAQS.[40] Nor would it object to a permit on the grounds that it does not assure attainment of the NAAQS: "It is the State's responsibility to decide what limits the SIP should impose on the various sources. … EPA's review of individual permits will not be the appropriate forum for reviewing the adequacy of such planning decisions."[41]

EPA adopted this approach in the final Part 70 rules—for all but "temporary sources," whose permits are expressly required by CAA Section 504(e) to assure compliance with the NAAQS.[42] Some commenters argued that NAAQS should not be excluded from the "applicable requirements" in Title V permits for permanent facilities, because it would be "anomalous" for Congress to impose more comprehensive permit requirements for temporary sources than for permanent ones.[43] EPA rejected those comments. It reasoned that permits for temporary sources, unlike for permanent ones, must include the ambient standards as applicable requirements because states were unlikely to have performed attainment demonstrations on temporary sources as part of SIP development.[44] But to require ambient demonstrations with respect to the NAAQS (*i.e.*, air quality modeling) for all sources, it reasoned, would be overly burdensome and of little overall value:

> To require such demonstration … on every permitted source would be unduly burdensome, and in the case of area-[w]ide pollutants like ozone where a single source's contribution to any NAAQS violation is extremely small, performing this demonstration would be meaningless. Under the Act, NAAQS implementation is a requirement imposed on States in the SIP; *it is not imposed directly on a source*.[45]

Thus, EPA's Part 70 rules define "applicable requirement" as including, *inter alia*, "[a]ny national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, *but only as it would apply to*

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[40] *Id.*

[41] *Id.*

[42] Operating Permit Program; Final Rule, 57 Fed. Reg. 32,250, 32,276 (July 21, 1992); 42 U.S.C. § 7661c(e).

[43] 57 Fed. Reg. at 32,276. In any event, this logic is completely inconsistent with normal principles of statutory interpretation. Congress' decision to require NAAQS compliance at temporary sources is evidence that no such requirement was intended for other sources.

[44] *Id.*

[45] *Id.* (emphasis added).

temporary sources permitted pursuant to section 504(e) of the Act."[46] In sum, just as the NAAQS are not enforceable "emission standards or limitations" under the CAA, they are also not "applicable requirements" to permanent facilities under the CAA Title V permitting program, because the NAAQS are implemented at the state level through SIPs, not at the individual facility level.

Time and again, EPA has affirmed this principle in response to petitions to object to proposed Title V permits. For example, one petitioner argued that a Title V permit's failure to include enforceable heat input limits meant it would not ensure compliance with the NAAQS for SO_2. The Administrator refused to object to the permit on this ground, observing:

> [T]he NAAQS themselves are not 'applicable requirements,' rather, the measures contained in each state's EPA-approved SIP to achieve the NAAQS are applicable requirements. … As EPA has explained in prior orders, a NAAQS by itself does not impose any obligation on sources. … It is the EPA-approved measures contained in the Kentucky SIP that assure the attainment and maintenance of the NAAQS and that constitute the applicable requirements for purposes of Title V.[47]

Similarly, the Administrator refused to object to a Title V permit for a paper-waste recycling facility on the grounds that it did not assure compliance with the new NAAQS for $PM_{2.5}$, rejecting the petitioner's argument that the state must implement the $PM_{2.5}$ NAAQS with respect to the facility at issue for environmental justice reasons:

> EPA finds DEP's plan to act in accordance with federal requirements regarding $PM_{2.5}$ acceptable. EPA establishes [NAAQS] for certain pollutants, pursuant to section 109 of the CAA, 42 U.S.C. § 7409, and States are required to attain those standards. The SIP is the means by which States comply with CAA requirements to attain the NAAQS, pursuant to section 110(a) of the CAA… The national designations for the $PM_{2.5}$ NAAQS were published in the Federal Register on January 5, 2005. … Under the Clean Air Act, New Jersey is required to submit its SIP for any area designated by EPA as non-attainment showing how it will attain the new $PM_{2.5}$ standard no later than three years from the effective date of the non-attainment designation (*i.e.* by April 5, 2008).

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[46] 40 C.F.R. § 70.2 (emphasis added); *see also* CAA section 504(e), 42 U.S.C. § 7661c(e).

[47] *In re E. Ky. Power Coop.*, Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit (Adm'r Dec. 14, 2009).

> The new $PM_{2.5}$ standard does not by itself impose any obligation on sources. *A source is not obligated to reduce emissions as a result of the standard until the State identifies a specific emission reduction measure needed for attainment (and applicable to the source), and that measure is incorporated into a SIP approved by EPA.*[48]

This opinion is particularly instructive because it demonstrates that EPA does not expect or anticipate that facilities should demonstrate NAAQS compliance or implement emissions reductions measures upon promulgation of a new or revised NAAQS. Rather, *facilities are not subjected to new obligations until the SIP-development process has played out in accordance with the CAA requirements*.

IV. Except for PSD Permits, the CAA Does Not Require Modeling of Ambient Air Quality Impacts to Ensure Attainment and Maintenance of the NAAQS

EPA has been very specific about what types of permits require modeling to determine potential impacts on attainment and maintenance of NAAQS: PSD permits require modeling, but no such requirement exists for other permits, including Title V and minor source permits.

A. Modeling Is Required for PSD Permits

In 1972, one court concluded that EPA, in exercising its SIP approval authority, had a duty to prevent the degradation of existing clean air in attainment areas.[49] In response to the court's preliminary injunction, EPA developed the first PSD regulations.[50] Not long thereafter, Congress formally adopted detailed "Prevention of Significant Deterioration of Air Quality" permitting requirements into the statute as part of the CAA Amendments of 1977.[51]

The PSD preconstruction permitting program is intended to ensure that large new facilities, or major modifications to existing large facilities, do not cause air quality to deteriorate beyond prescribed levels in areas that are in

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[48] *In re Marcal Paper Mills, Inc.*, Order Granting in Part & Denying in Part Petition for Objection to Permit (Adm'r Nov. 30, 2006) (emphasis added).

[49] *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 256 (D.D.C. 1972), *aff'd per curiam*, 4 E.R.C. 1815 (D.C. Cir. 1972), *aff'd per curiam by an equally divided Court, sub nom. Fri v. Sierra Club*, 412 U.S. 541 (1973).

[50] *See* Approval and Promulgation of Implementation Plans; Prevention of Significant Air Quality Deterioration, 39 Fed. Reg. 42,510 (Dec. 5, 1974).

[51] Pub. L. No. 95-95 (1977), CAA sections 160-169, 42 U.S.C. §§ 7470-7479.

attainment with the NAAQS.[52] New and modified sources subject to PSD must demonstrate that construction will not cause air quality to degrade beyond specified "increments" above existing baseline concentrations of pollutants in attainment or unclassifiable areas.[53] The PSD "increments" for criteria pollutants represent the maximum allowable increases in pollutant concentrations over baseline levels—*i.e.*, the amount of pollution an area is allowed to increase up to the maximum levels, which are the NAAQS.[54] Permittees must also employ "best available control technology" to minimize air pollution.[55]

An applicant for a PSD permit is required to conduct an air quality modeling analysis of the ambient impacts associated with the construction and operation of the proposed new source or modification.[56] The main purpose of the air quality analysis is to demonstrate that new emissions emitted from the proposed new source or modification, in conjunction with other applicable emissions increases and decreases from existing sources, will not cause or contribute to a violation of any applicable NAAQS or PSD increment.[57] The modeling is generally required to be conducted in accordance with specifications set forth in EPA's *Guideline on Air Quality Models*.[58]

When it developed the first PSD regulations, EPA was confronted with the issue of which sources should be subject to PSD permitting requirements. From the outset, the agency recognized that it was "not possible" to conduct preconstruction review for each and every source.[59] Instead, the agency chose early on to "concentrate the effort on the important large sources," and thus confined the program requirements to certain "major" stationary sources.[60] In describing how large stationary sources would determine their incremental impact, EPA observed:

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[52] *See id.* The 1977 Amendments also established a detailed NNSR program for major sources located in nonattainment areas, but that program does not require modeling. *See* 42 U.S.C. §§ 7501-7509a.

[53] *Id.* § 7473, 7475.

[54] *Id.*

[55] *Id.* § 7475(a)(4).

[56] *Id.* § 7475(a)(3),

[57] *Id.*; 40 C.F.R. §§ 51.166(k), 52.21(k).

[58] *Id.* §§ 51.166(l), 52.21(l); *see also* 40 C.F.R. Part 51, Appendix W ("Guideline on Air Quality Models").

[59] Approval and Promulgation of Implementation Plans; Prevention of Significant Air Quality Deterioration; Proposed Rule, 39 Fed. Reg. 31,000, 31,003 (Aug. 27, 1974).

[60] *Id.*

> It should be noted that the impacts of sources which are not subject to the review procedures are not necessarily reviewed unless a major source proposes to locate in the area. This feature is necessary because the impact of the very large numbers of very small sources could only be assessed by either modeling or air quality measurement. *To model each individual source during an individual pre-construction review would be an extremely laborious task, and the end result would be of questionable accuracy*.[61]

Thus, EPA recognized from the beginning of the PSD program that it was necessary to set some sort of threshold for sources that would be subject to ambient impact assessment. The approach that ultimately prevailed, which Congress adopted in the 1977 CAA Amendments, was to apply the PSD permitting program to "major emitting facilities," which are defined by CAA section 169 as sources in any of 28 categories that have the potential to emit 100 tpy of any pollutant, or any other source with the potential to emit more than 250 tpy of any pollutant.[62] Accordingly, under EPA regulations, PSD requirements apply only to "new major stationary sources" and "major modifications" of existing major stationary sources.[63]

The PSD program represents the considered judgment of Congress and EPA regarding the measures that are necessary to preserve air quality in areas that are already in attainment with the NAAQS. Requiring routine air quality modeling for other types of permitting goes beyond what Congress envisioned and EPA requires in order to prevent air quality degradation in clean air areas.

B. Modeling Is Not Required by EPA for Other Permits

Since before the establishment of the PSD program, the CAA has required states to address minor sources (i.e., sources that are not "major" sources subject to PSD or NNSR permitting) through so-called "Minor NSR" programs in their SIPs.[64] Specifically, Section 110(a)(2)(C) requires each SIP to "include a program to provide for the … regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that the national ambient air quality standards are

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[61] *Id.* at 31,005.

[62] 42 U.S.C. § 7479(1).

[63] 40 C.F.R. §§ 51.166(a)(7); 52.21(a)(2).

[64] *See* Clean Air Amendments of 1970, Pub. L. 91-604 at §§ 110(a)(2)(D), 110(a)(4) (requiring procedure for review of location of new source prior to construction or modification to ensure it will not prevent attainment or maintenance of the NAAQS).

achieved."[65] The basic requirements for Minor NSR programs are set forth in EPA regulations.[66]

Despite this longstanding requirement to consider the ambient air impacts of *all* new and modified stationery sources prior to construction, EPA has never interpreted the CAA as requiring air quality modeling for minor sources (meaning non-PSD sources). It is clear from the preamble to the 1978 PSD regulations that, while modeling is required for PSD permitting, EPA presumed that non-PSD sources do *not* require modeling:

> *The rulemaking allows States generally to exempt from air quality reviews those sources with minimal emissions*. Only those sources which would have allowable emissions equal to or greater than [PSD emissions thresholds], or would impact a class I area or an area where the increment is known to be violated, must receive an ambient review.[67]

This presumption remains true today, as recently illustrated by EPA's "Model Rule for Minor NSR Program"[68] which was released in 2012 as part of its "Tribal NSR Implementation Manual."[69] The model rule does not require routine modeling. Rather, it provides that the permitting authority *could* require an air quality impacts analysis from a minor source or modification only if it is "concerned" that the construction of the minor source or modification would cause or contribute to a NAAQS or PSD increment violation.[70]

The point is further echoed in the Title V context. As EPA recognized in its original Part 70 rulemaking to implement the Title V program, requiring modeling demonstrations for every permitted source would be "*unduly burdensome*."[71] In that rulemaking, EPA also declined to require Title V permit applications to include ambient impact assessment information (*i.e.*, source-specific data necessary for input to air quality impact dispersion models, such

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[65] *Id.* § 7410(a)(2)(C).

[66] *See* 40 C.F.R. § 51.160.

[67] Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Prevention of Significant Air Quality Deterioration, 43 Fed. Reg. 26,380, 26,381 (June 19, 1978) (emphasis added).

[68] EPA, Model Rule for Minor New Source Review Program, *available at* http://www.epa.gov/air/tribal/pdfs/model_rule_for_minor_nsr_program.pdf (hereafter, "Model Minor NSR Rule").

[69] The entire Manual and appendices are available at http://www.epa.gov/air/tribal/tribalnsr.html.

[70] Model Minor NSR Rule at 9.

[71] 57 Fed. Reg. at 32,276 (emphasis added).

as stack parameters and building height).[72] EPA explained that, in addition to the NAAQS not being an applicable requirement, "[a]ir quality modeling is not typically required for individual sources by the Clean Air Act (*i.e.*, *it is normally assumed that no individual source can affect attainment or maintenance of an ambient standard on an area-wide basis*)."[73]

Thus, under the federal CAA regulations, air quality modeling is not required for any type of permitting other than PSD permits. Under EPA's interpretation of the CAA and its regulations, PSD-triggering projects are the threshold at which ambient air quality modeling is presumed necessary, and thus required.

V. Nothing in the APC&EC Regulations Makes NAAQS Directly Applicable to Arkansas Facilities, Except through the PSD Program

The APC&EC regulatory provisions that have been SIP-approved by EPA are identified at 40 C.F.R. § 52.170. These include (but are not limited to) most provisions of Regulation 19 and parts of Regulation 26. Nothing in those SIP-approved provisions or any other APC&EC regulations requires NAAQS to be stated or enforced as permit limits in any state permit or to be modeled as part of the permitting process, except for PSD permits.[74]

A. Regulation 18

Regulation 18 is a state-only regulation; none of its provisions are part of any EPA-approved Arkansas SIP.[75] Thus, from a federal perspective, none of the provisions of Regulation 18 are requisite to satisfy Arkansas' obligation to achieve and maintain the NAAQS. Nothing in Regulation 18 imposes an obligation on ADEQ to evaluate whether a source will cause an exceedance of the NAAQS as part of the permitting process.

Regulation 18.302 provides as follows:

> No permit shall be granted or modified under this chapter unless the owner/operator demonstrates to the reasonable satisfaction of the Department that the stationary source will be constructed or

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[72] *Id.* at 32,273.

[73] *Id.* (emphasis added).

[74] As discuss below, only SIP-approved provisions that are specifically applicable to emissions units at sources subject to Title V permits are "applicable requirements." The mere fact that EPA has approved a state submission as part of the SIP does not automatically make that provision applicable to all sources.

[75] *See* 40 C.F.R. § 52.170.

> modified to operate without resulting in a violation of applicable portions of this regulation and without causing air pollution.

Further, "air pollution" is defined under Regulation 18 as:

> [T]he presence in the outdoor atmosphere of one (1) or more air contaminants in quantities, of characteristics, and of a duration that are materially injurious or can be reasonably expected to become materially injurious to human, plant, or animal life or to property, or that unreasonably interfere with enjoyment of life or use of property throughout the state or throughout the area of the state as shall be affected thereby.[76]

One might contend that, with respect to criteria pollutants, "air pollution" is determined by reference to the NAAQS (such that pollution levels that exceed the NAAQS are deemed to be "air pollution" for the purpose of permit decisions under Regulation 18.302).[77] This interpretation cannot be correct. First, the Regulation 18 definition of "air pollution" is identical to the statutory definition in the Arkansas Water & Air Pollution Control Act;[78] thus, its purpose is to implement the state statute, not the federal Clean Air Act. Second, such an interpretation ignores the fact that Regulation 18 separately defines "conditions of air pollution" as follows:

> "Conditions of air pollution" *as distinguished from "air pollution"* in a given area shall be deemed to exist when the Director finds that the National Ambient Air Quality Standards, as established from time to time by the EPA, have been exceeded in such area, or when the Director finds that extraordinary measures are necessary to prevent them from being exceeded.[79]

The term "condition of air pollution" is used in another Regulation18 definition: "air contamination" means "the presence in the outdoor atmosphere of one (1) or more air contaminants which contribute to a condition of air pollution."[80] Therefore, under Regulation 18, the term "air contamination," not "air pollution," is linked to an exceedance of a NAAQS. Regulation 18 only uses the term "air contamination" in one instance: in Chapter 13. In that chapter, the APC&EC established that ADEQ's authority to address areas "affected by levels of air contamination" (*i.e.* areas where the NAAQS are exceeded) is

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[76] APC&EC Reg. 18, Ch. 2.

[77] *Id.*

[78] Ark. Code Ann. § 8-4-303(5).

[79] APC&EC Reg. 18, Ch. 2 (emphasis added).

[80] *Id.*

limited to those that "constitute a *significant departure* from the [NAAQS]."[81] Thus, Regulation 18 has a wholly distinct set of terms for air quality that exceeds the NAAQS, which is purposefully distinguished from the definition of "air pollution." Interpreting the term "air pollution" as being equivalent to "conditions of air pollution" would vitiate the distinct meaning given to those terms by the APC&EC. Moreover, to the extent Regulation 18 addresses exceedances of the NAAQS, it limits the ADEQ's authority to instances of *significant* departures.

In sum, Regulation 18.302 does not obligate ADEQ to assess a stationary source's emissions against the NAAQS during routine permitting. Furthermore, nothing in Regulation 18 purports to impose modeling requirements on permittees.

B. Regulation 19

In general, Chapter 3 of Regulation 19 delineates the responsibilities of ADEQ and of regulated sources, respectively, in meeting and maintaining the NAAQS. Specifically, Regulation 19.303 provides that regulated sources must do three things to prevent any of the NAAQS from being exceeded: (i) obtain a permit from ADEQ prior to construction of a new source or modification of an existing source of federally regulated air pollutant emissions; (ii) operate equipment in accordance with applicable permit requirements and regulations, and (iii) repair malfunctioning equipment and pollution control equipment as quickly as possible, and if the malfunctioning equipment is causing or contributing to a violation of the NAAQS, cease operating the affected equipment until it is repaired.[82]

Notably, Regulation 19.303 does *not* include a general requirement for all regulated sources to demonstrate in routine permitting that the NAAQS will not be exceeded (much less a demonstration through modeling). The only specific modeling requirement applicable to sources is contained in Regulation 19, Chapter 9, the Arkansas PSD program. Arkansas incorporates by reference the federal PSD regulations in which air quality modeling requirements are limited to the permitting of major stationary sources and major modifications.[83]

Regulation 19.302 sets forth the "precautions" ADEQ is responsible for taking to prevent the NAAQS from being exceeded:

> (A) Ambient air monitoring in any area that can reasonably be expected to be in excess of the NAAQS.

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[81] APC&EC Reg. 18.1301 (emphasis added).

[82] APC&EC Reg. 19.303.

[83] APC&EC Reg. 19.904, incorporating by reference, *inter alia*, 40 C.F.R. § 52.21(k).

(B) Computer modeling of regulated air pollutant emissions for any area that can reasonably be expected to be in excess of the NAAQS, and review of the ambient air impacts of any new or modified source of federally regulated air emission that is the subject of the requirements of this Plan. All computer modeling shall be performed using EPA-approved models, and using averaging times commensurate with averaging times stated in the NAAQS.

This regulation does not obligate ADEQ to ensure that the NAAQS are met at every geographic point for every permit that it issues. The only "computer modeling" required by this provision is for "area[s] that can reasonably be expected to be in excess of the NAAQS." Where there is no such reasonable expectation, the provision does not compel ADEQ to perform modeling. The "review" required for new or modified sources is a separate obligation from the "computer modeling." As with the federal Minor NSR requirements, there is no reason to assume that this review should routinely include modeling.[84]

Nor does Regulation 19.402 (the "Approval Criteria") provide a basis for requiring modeling as a routine requirement for all permits. This provision states:

> No permit shall be granted or modified under this chapter unless the owner/operator demonstrates to the reasonable satisfaction of the Department that the stationary source will be constructed or modified to operate without resulting in a violation of applicable portions of this regulation or without interfering with the attainment or maintenance of a national ambient air quality standard.

First, this provision does not apply to major sources. It is part of Regulation 19, Chapter 4, which is titled "Minor Source Review." It is also SIP-approved to meet the federal Minor NSR requirements.[85] As described above in Section IV.B, above, EPA does not generally require modeling as a part of Minor NSR, and therefore SIP approval of this particular provision could not be construed as an EPA requirement to model.

Regulation 19.402 has existed in some form since before the federal PSD program was enacted—*i.e.*, before the federal regulations divided sources into "major" and "minor" categories such that construction of major sources and

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[84] *See generally* Section IV.B, *supra*.

[85] Approval and Promulgation of Implementation Plans; Arkansas; Regulation 19 and 26; Final Rule, 65 Fed. Reg. 61,103, 61,104 (Oct. 16, 2000).

major modifications required air quality impact analyses, but minor sources did not.[86] Subsequently, Arkansas divided and recodified its regulations such that Chapter 4 prescribed the permitting procedures for *minor sources*, and Chapters 9 and 11 prescribed the permitting requirements for *major sources*.[87] The fact that Arkansas chose to preserve this requirement only in the "Minor Source Review" section evidences the intention that it not apply to major sources. From the standpoint of the federal interpretation and enforceability of Chapter 4, EPA's understanding is that "[t]he provisions of Regulation 19, Chapter 4 *apply only to sources which are not 'major' under [the federal CAA] definition*."[88]

In addition, Regulation 19.402 is further restricted by its plain language to apply only to permits to "construct" or "modify" a source. It does *not* apply to operating permits or renewals thereof. Moreover, Regulation 19's definition of "modification" is limited to a "physical change in, or change in the method of operation of, a stationary source which increases the emission rate of any federally regulated air pollutant over permitted rates or which results in the emission of a federally regulated air pollutant not previously emitted."[89] In addition to other explicit exceptions, it expressly *excludes* changes which meet the "*de minimis*" criteria set forth in Regulation 19.407(C).[90] Thus, the provision cannot apply to modifications whose associated emissions increases are reasonably expected to be relatively insignificant.[91]

Finally, Regulation 19.502 provides:

> No person shall cause or permit the construction or modification of equipment which would cause or allow the following standards or limitations which are in effect as of the effective date of this regulation, to be exceeded:

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[86] For example, an earlier version of the provision as published in the 1973 Arkansas Air Code applied to all permits, just as the CAA did not distinguish between "major" and "minor" sources for preconstruction review purposes prior to the 1977 Amendments. Ark. Air Pollution Control Code, As Amended (July 30, 1973), Section 3(f) (Section 3 applied to all "permits and registrations").

[87] Regulation 19, Chapter 9 is the PSD program; Chapter 11 provides that sources subject to the Arkansas operating permit program are required to have their permit applications processed in accordance with the procedures of Regulation 26, which it incorporates by reference.

[88] Approval and Promulgation of Implementation Plans; Arkansas; Regulation 19; Proposed Rule, 65 Fed. Reg. 26,792, 26,795-96 (May 9, 2000) (emphasis added).

[89] APC&EC Reg. 19, Ch. 2.

[90] *Id.*

[91] See APC&EC Reg. 19.407(C)

(A) Any National Ambient Air Quality Standard or ambient air increment (as listed in 40 CFR 52.21)....

Thus, like Regulation 19.402, this provision is limited only to permits to "construct" or "modify" and does not apply to routine permitting of sources with *de minimis* emissions, *i.e.*, emissions less than the threshold amounts set forth in Regulation 19.407(C)(2). These are essentially the same as the PSD Significant Emissions Rates (SERs), the threshold levels at which PSD requirements apply to new major sources or existing sources making modifications that result in significant (*i.e.* PSD-level) emission increases.[92] For all intents and purposes, non-PSD permits are excluded from the requirements of Regulation 19.502.

C. Regulation 26

Regulation 26 sets forth the requirements of the Arkansas Operating Air Permit Program. Regulation 26.304 requires operating permits to include all "applicable requirements" for all relevant emissions units in the source. The Regulation 26 definition of "applicable requirement" is virtually identical to EPA's definition of that term.[93] It includes, *inter alia*, "*[a]ny national ambient air quality standard* or increment or visibility requirement under part C of Title I of the Act, *but only as it would apply to temporary sources* permitted pursuant to section 504(e) of the Act."[94] Thus, the Arkansas operating permits program, like the federal Title V rules, expressly provides that the NAAQS do *not* impose direct regulatory obligations on any *non-temporary* stationary sources permitted under that program. To construe the NAAQS as "applicable requirements" to such sources would be squarely at odds with the state and federal regulatory definitions of that term, which explicitly exclude the NAAQS from direct application to non-temporary sources. It would also be in direct opposition to EPA's longstanding interpretation that the NAAQS are not "applicable requirements" for such sources.[95]

"Applicable requirements" also include "[a]ny standard[s] or other requirement[s]" provided for in the SIP that implement requirements of the CAA, "*as they apply to emissions units in a part 70 source*."[96] Put simply, this means "all the requirements in the SIP *which are applicable to a particular*

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[92] *Compare* APC&EC Reg. 19.407(C)(2) *with* 40 C.F.R. § 52.21(b)(23)(i).

[93] The only material difference between the two definitions is that the EPA definition includes "[a]ny standard or other requirement under section 126(a)(1) and (c) of the Act," while the Arkansas definition does not. *Compare* APC&EC Reg. 26, Ch. 2 *with* 40 C.F.R. § 70.2.

[94] APC&EC Reg. 26, Chapter 2 (emphasis added).

[95] *See* Section III.B, *supra*.

[96] APC&EC Reg. 26, Chapter 2 (emphasis added).

source."[97] Thus, all Arkansas SIP provisions are not automatically imposed through the operating permits program as "applicable requirements" on all permit holders. Rather, only those SIP provisions that apply to a particular source are "applicable requirements" to that particular source.[98] SIP requirements that impose obligations on ADEQ, rather than on sources (such as Regulation 19.302), are not "applicable requirements" for *any* source. Any contrary interpretation would result in the absurdity that all SIP provisions would be applicable to all sources, simply because EPA had approved them. There is no support anywhere for that proposition. Moreover, as discussed above, Regulation 19 does not establish NAAQS compliance as a source-specific obligation for any type of source. Thus, NAAQS "compliance" is not an "applicable requirement" under Regulation 26 for any non-temporary sources.

The logical interpretation that flows from the language, organization, and history of Regulations 18, 19 and 26 is that no facilities in Arkansas are subject to NAAQS as emissions standards or limitations or applicable requirements, and no such facilities should routinely require modeling to analyze their effects on NAAQS attainment and maintenance, except where PSD requirements apply. Routine modeling for all permits would be just the type of exercise that EPA described as "unduly burdensome" and potentially "meaningless."[99]

VI. Conclusion

Congress envisioned that states, in the first instance, would determine both the amount of pollution control necessary to achieve and maintain NAAQS and the most appropriate control strategies, in light of the costs and benefits of each available tool in the broad toolkit available to the states. Neither Congress nor EPA—nor the APC&EC—require the application of NAAQS to individual stationary sources, except where PSD requirements are triggered.

Arkansans should be proud that their state is overwhelmingly in attainment with all NAAQS at almost all locations. To the extent the APC&EC and ADEQ are concerned with achieving or maintaining the NAAQS, they should follow the process envisioned by Congress. Air quality is impacted by

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[97] U.S. EPA, Office of Air Quality Planning & Standards, "White Paper for Streamlined Development of Part 70 Permit Applications" (1995).

[98] *See generally* EPA Region 9, "Title V Permit Review Guidelines" (draft), at III-7 (instructing Title V permit reviewers to identify "applicable requirements" by scanning the contents of an approved SIP, identifying each provision potentially related to the source at issue, and "determin[ing] if it is applicable to the source based on source size, fuel type, source construction or modification dates, or other criteria given in the rule."). *Available at* http://www.epa.gov/region9/air/ permit/titlev-public-part.html (*see* Chapter III, "Applicable Requirements").

[99] 57 Fed. Reg. at 32,276; *see also* 43 Fed. Reg. at 26,381.

many types of sources, mobile and stationary, from residential to industrial. All options should be explored, and a reasoned SIP should be developed as needed. It is equally clear that the state should *not* exceed the federal requirements for NAAQS by making those standards disproportionally applicable to certain stationary sources through routine modeling requirements or NAAQS permit limits.