United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued September 5, 2000 Decided December 15, 2000

No. 99-1325

National Lime Association,
Petitioner

v.

Environmental Protection Agency,
Respondent

Consolidated with
99-1326

On Petitions for Review of An Order of the
Environmental Protection Agency

Hunter L. Prillaman argued the cause for petitioner National Lime Association. With him on the briefs were Arline M. Seeger and Kenneth A. Rubin.

James S. Pew argued the cause for petitioner Sierra Club. With him on the briefs was Howard I. Fox.

Daniel M. Flores, Attorney, U.S. Department of Justice, argued the cause for respondent. With him on the brief were Lois J. Schiffer, Assistant Attorney General, Daniel R. Dertke, Attorney, and Steven E. Silverman, Attorney, Environmental Protection Agency. Christopher S. Vaden and H. Michael Semler, Attorneys, U.S. Department of Justice, entered appearances.

William M. Bumpers was on the brief for amicus curiae the American Portland Cement Alliance.

Before: Edwards, Chief Judge, Ginsburg and Tatel, Circuit Judges.

Opinion for the Court filed by Circuit Judges Ginsburg and Tatel.*

Ginsburg and Tatel, Circuit Judges: In this case we consider petitions by the Sierra Club and the National Lime Association challenging the Environmental Protection Agency's hazardous air pollutant emission regulations for cement manufacturing. With respect to the Sierra Club petition we (1) reject its challenge to the emission standards for hazardous metals and dioxin/furan; (2) find the Agency's failure to set standards for hydrogen chloride, mercury, and total hydrocarbons contrary to the Clean Air Act's plain language; (3) direct EPA to consider the health impacts of potentially stricter standards for hazardous metals; and (4) sustain the regulation's monitoring requirements. Concluding that the National Lime Association has associational standing, we (1) reject its argument that EPA's use of particulate matter as a surrogate for non-volatile metal hazardous air pollutants violates the Clean Air Act and is arbitrary and capricious; and (2) reject its challenge to the testing method EPA adopted for determining whether a manufacturer qualifies as a "major source" of hazardous air pollutants.

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* Judge Tatel wrote Sections I and II. Judge Ginsburg wrote Sections III and IV.

I. Background

The Clean Air Act requires the Environmental Protection Agency to establish emission standards for "major sources" of hazardous air pollutants listed in the statute. 42 U.S.C. s 7412(d)(1). The Act directs the Agency to review the list periodically, and, where appropriate, to revise it by rule. Id. s 7412(b)(2). Hazardous air pollutants are known as HAPs.

A "major source" is any stationary source that emits ten tons per year or more of any single HAP or twenty-five tons per year or more of any combination of HAPs. Id. s 7412(a)(1). Under section 7412(d)(2) of the statute, emission standards must require

> the maximum degree of reduction in emissions [of HAPs] ... that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable ... through application of measures, processes, methods, systems or techniques including, but not limited to, ... process changes, substitution of materials or other modifications.

In addition to this general guidance, the statute includes minimum stringency requirements for emission standards that apply without regard to either costs or the other factors and methods listed in section 7412(d)(2). These stringency requirements differ depending on whether a source is "new" or "existing." New sources are defined as "stationary source[s], the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing" air pollution standards that will be applicable to such sources. Id. s 7411(a)(2). For new sources, the statute provides that "[t]he maximum degree of reduction in emissions that is deemed achievable for new sources ... shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator." Id. s 7412(d)(3) (emphasis added). For existing sources, defined as all stationary sources other than new sources, id.

s 7411(a)(6), the statute provides that standards shall not be less stringent than "the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information)." Id. s 7412(d)(3)(A).

EPA implements these statutory requirements through a two-step process. The Agency begins by setting the minimum stringency standards required by section 7412(d)(3) for new and existing sources. Adding confusion to this already complex statute, EPA calls these minimum stringency requirements "floors," even though they in fact establish maximum emission levels. See Sierra Club v. EPA, 167 F.3d 658, 660 (D.C. Cir. 1999) ("Sierra"). Once the Agency sets statutory floors, it then determines, considering cost and the other factors listed in section 7412(d)(2), whether stricter standards are "achievable." 42 U.S.C. s 7412(d)(2). The Agency calls such stricter requirements "beyond-the-floor" standards.

This case concerns emission standards for portland cement manufacturing plants. See National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, 40 C.F.R. ss 63.1340-.1359. Patented in 1824 by Joseph Aspdin and named for its resemblance to portland stone, limestone from the Isle of Portland, see 9 The New Encyclopedia Britannica 629 (15th ed. 1998), portland cement is a fine powder that serves as the key ingredient in the concrete used in most construction. See National Emission Standards for Hazardous Air Pollutants; Proposed Standards for Hazardous Air Pollutants Emissions for the Portland Cement Manufacturing Industry, 63 Fed. Reg. 14,182, 14,185 (Mar. 24, 1998). The cement manufacturing process begins by grinding together materials such as limestone, clay, shale, sand, iron ore, and flyash and heating the mixture in a kiln. See 40 C.F.R. s 63.1341; 63 Fed. Reg. at 14,194. Known as "clinker," the heated mixture is then cooled in a "clinker cooler" and ground to a fine powder in a mill. See 40 C.F.R. s 63.1341.

Prior to setting cement manufacturing emission standards, EPA estimated that portland cement plants throughout the country emitted a total of 290 tons of HAPs per year. 63 Fed. Reg. at 14,183. EPA found that most individual cement plants released over ten tons of hydrogen chloride ("HCl") annually, qualifying them as major sources of HAPs for which the Clean Air Act required the Agency to set emission standards. See id. at 14,192-93. In addition to HCl, EPA found that cement plants emitted significant levels of HAP metals, dioxin/furan, mercury, and organic HAPs other than dioxin/furan. See id. at 14,195-96. These HAPs were released by kilns, clinker coolers, and mills, as well as by storage and transportation of materials within cement plants. See id. at 14,183. According to EPA, the potential health effects of these pollutants include inflammation of the respiratory tract, reproductive problems, cancer, nausea, blood disorders, and damage to the immune system. See id. at 14,184.

Acting on this information, EPA began by considering emission "floors" for each of the five major categories of HAPs released by cement plants. For dioxin/furan, the Agency set emission floors for both new and existing sources. Considering particulate matter ("PM") to be an appropriate surrogate for non-volatile HAP metals--components of PM that are difficult to measure directly--EPA established emission floors for new and existing sources for PM as well. EPA set no floors--referred to as floors of "no control"--for the three remaining HAPs, HCl, mercury, and organic HAPs other than dioxin/furan.

The Agency took a technology-based approach to setting emission floors. For cement plants qualifying as new sources, EPA identified the emission control technology used by the best performing plant for which it had information and called this the MACT floor technology. MACT means "maximum achievable control technology." EPA then looked at emissions data for all plants using the MACT floor technology for which it had information, not just data from the best performing plant, and set the new source emission floor at the highest emission level reported by a plant using that technology. To set existing source emission floors, EPA followed a

similar procedure. It identified the technology used by the median plant out of the best twelve percent of plants for which it had information and set the existing source emission floor at the emission level of the worst performing plant in its database using that technology. If, as in the case of HCl, mercury, and organic HAPs other than dioxin/furan, EPA found an insufficient number of plants in its database (one for new sources or twelve percent for existing sources) controlling a particular HAP with pollution control technology, it set no standard at all, i.e., it determined that the emission floor was "no control."

Proceeding to the next stage of the emission standard setting process, EPA declined (with one exception not relevant to this case) to set beyond-the-floor standards for either new or existing sources for any of the five HAPs.

In addition to requiring EPA to set emission standards, the Clean Air Act directs the Agency to require owners and operators of major sources to conduct "enhanced monitoring" of their emissions and to submit "compliance certifications" reporting compliance with the emission standards. 42 U.S.C. s 7414(a)(3). Acting pursuant to this requirement, EPA directed cement plants to use a technique known as Fourier transform infrared spectroscopy ("FTIR") to measure their HCl emissions to determine whether they qualify as major sources. See 40 C.F.R. s 63.1352(a); id. pt. 63, app. A. Plants qualifying as major sources must conduct performance tests that measure PM emissions every five years. See id. s 63.1349(b)(1), (c). To test for compliance with PM standards between performance tests, cement plants must monitor opacity either with a continuous opacity monitor or through visual inspections. See id. s 63.1350(c). Cement plants must also develop site-specific operations and maintenance plans to be submitted to EPA for approval as part of the permitting process. See id. s 63.1350(a).

Petitioners Sierra Club and National Lime Association ("NLA") challenge these regulations. The Sierra Club mounts four specific challenges: (1) EPA's approach to set-

ting emission floors for PM and dioxin/furan both violates the Clean Air Act and is arbitrary and capricious; (2) the Agency's refusal to set standards for HCl, mercury, and total hydrocarbons violates the statute; (3) EPA's rejection of beyond-the-floor standards for mercury, total hydrocarbons, and HAP metals (for which PM is a surrogate) is arbitrary and capricious; and (4) the monitoring requirements fail to provide adequate assurance of compliance with the PM standard. NLA, a trade association representing lime manufacturers, some of which also manufacture cement, argues that (1) EPA's decision to use PM as a surrogate for HAP metals violates the statute and is arbitrary and capricious; and (2) the Agency's decision to require cement plants to use the FTIR method to determine their major source status is arbitrary and capricious. The American Portland Cement Alliance, a trade association representing cement manufacturers and marketers, intervenes in support of EPA. We consider the Sierra Club's challenges in Section II and NLA's in Section III.

II. Sierra Club Petition

A. PM and Dioxin/Furan Floors

Relying on Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 842-43 (1984) (establishing that when Congress's intent is clear, "that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress"), the Sierra Club argues that the Agency's technology-based approach conflicts with the Clean Air Act's plain language. According to the Sierra Club, section 7412(d)(3) requires EPA to set new source floors at the lowest recorded emission level for which it has data and existing source floors at the average of the lowest twelve percent of recorded emission levels for which it has data. Nothing in the statute, the Sierra Club argues, permits the Agency to set floors based on the performance of technology as opposed to the recorded performance of plants.

In resolving this issue, we do not write on a clean slate. EPA's technology-based approach to setting new source emis-

sion standards has already faced and survived a Chevron one challenge. In Sierra, 167 F.3d 658, we reviewed a new source emission standard for solid waste combustion that EPA promulgated pursuant to section 7429, which establishes emission requirements virtually identical to section 7412's. There, as here, the Sierra Club argued that EPA's MACT technology approach to setting emission standards is unambiguously forbidden by the Clean Air Act. Sierra rejected that argument, holding that EPA may estimate the performance of the best performing units and that it was not "impossible" that EPA's methodology constituted a reasonable estimation technique. See 167 F.3d at 665. Concluding that EPA could reasonably interpret the statutory phrase "emissions control that is achieved in practice" to mean emissions control that is "achieved under the worst foreseeable circumstances," see id. (citing National Lime Ass'n v. EPA, 627 F.2d 416, 431 n.46 (D.C. Cir. 1980)), we hypothesized: "perhaps considering all units with the same technology is justifiable because the best way to predict the worst reasonably foreseeable performance of the best unit with the available data is to look at other units' performance." Id. at 665. But because EPA failed to explain why it adopted the MACT approach, we remanded to the Agency for further explanation, thus never needing to determine whether the MACT approach would have survived petitioners' Chevron two or arbitrary and capriciousness challenges.

EPA has now explained why it adopted the MACT approach. In the announcement of the regulations challenged in this case, the Agency, citing Sierra, explains (1) that it must ensure that emission "standards are achievable 'under [the] most adverse circumstances which can reasonably be expected to recur,' " 64 Fed. Reg. 31,898, 31,915 (June 14, 1999) (quoting Sierra, 167 F.3d at 665), and (2) that "evaluating how a given MACT technology performs is a permissible means" of estimating the actual performance of the top twelve percent of plants. Id. EPA explains further that the emission standards it set "are based on the emission levels achieved through the application of MACT floor technologies

and account for variation in the process and in the air pollution control device effectiveness." Id. at 31,916.

The Sierra Club does not challenge EPA's extension of Sierra to existing source standards. Instead, it argues that Sierra's Chevron one analysis does not control this case because section 7412 (at issue here) differs from section 7429 (at issue in Sierra). Although the two sections contain identical stringency requirements for new sources, section 7412, the Sierra Club emphasizes, directs the Agency to base emission standards for existing sources on those plants "for which the Administrator has emissions information," 42 U.S.C. s 7412(d)(3)(A), a limitation appearing nowhere in section 7429. See id. s 7429(a)(2). According to the Sierra Club, section 7412's additional limitation implies that EPA must directly calculate the average of the best twelve percent from the data it has, thus precluding the Agency from estimating emissions based on the use of MACT technology.

We do not agree that the difference between the two sections requires a different result in this case. Section 7412's additional phrase says nothing about what data the Agency should use to calculate emission standards. It says only that standards must be based on the best performing "sources (for which the Administrator has emissions information)." 42 U.S.C. s 7412(d)(3)(A). Following this directive, EPA set standards for PM and dioxin/furan at the average emission levels it estimated the best 12 percent (for which it had information) achieved. In doing so, the Agency simply did not limit itself to consideration of data from the best twelve percent of plants; instead it used data it had from other plants that use the same technology as the best twelve percent to estimate the performance of the best twelve percent. Sierra found this approach not unambiguously forbidden by the statute. See 167 F.3d at 665.

Thus bound by Sierra's Chevron one analysis, we turn to the Sierra Club's argument that the MACT approach is both unreasonable, see Chevron, 467 U.S. at 843 ("if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is

based on a permissible construction of the statute"), and arbitrary and capricious. See 42 U.S.C. s 7607(d)(9)(A). According to the Sierra Club, EPA has never explained why emission floors set through the MACT approach accurately estimate the performance of the relevant best performing plants: "The Agency provide[d] absolutely no reason to believe that an emission level that is achievable by every source that uses a particular control technology is necessarily a reasonable estimate of the actual performance of the best performing twelve percent of sources." Sierra Club Br. at 23.

We agree that to comply with the statute, EPA's method of setting emission floors must reasonably estimate the performance of the relevant best performing plants. See 42 U.S.C. s 7412(d)(3); Sierra, 167 F.3d at 665. Yet the Sierra Club's brief does not explain why the emission standards EPA set might not accurately estimate the performance of the best performing twelve percent of plants. The brief never even suggests that the MACT approach in fact fails to predict the emission levels of the best performing sources. When we asked about this at oral argument, it became clear that the Sierra Club believes that EPA's MACT approach would not accurately estimate emission levels of the best performing twelve percent of plants if the best performing plants achieved their emission levels not just by using technology, but also by selecting cleaner manufacturing inputs. For example, the best performing twelve percent of plants might perform well because, in comparison to other plants having the same technology, they use less-polluting fuels or purer raw materials. Such plants would have predictably lower emissions than plants using MACT floor technology alone. Under such circumstances, the Sierra Club argues, because technology would represent only one of the factors determining emission levels of the best performing plants, EPA could not assume that emission levels from the worst-performing plant using MACT floor technology predict the performance of the best performing plants under the worst conditions.

Although this argument may well have merit, the Sierra Club's failure to include the argument in its opening brief

precludes us from considering it. See Corson & Gruman Co. v. NLRB, 899 F.2d 47, 50 n.4 (D.C. Cir. 1990). Claiming only that the Agency has "never explained" why the MACT approach accurately predicts the performance of the relevant best performing sources falls far short of alerting EPA to the argument we now understand the Sierra Club to be making, thus giving the Agency no opportunity to respond. The Sierra Club's failure is particularly serious because the MACT approach would accurately estimate the performance of the best performing sources of a particular HAP if pollution control technology were the only factor determining emission levels of that HAP--in other words, if emissions were unaffected by the use of either alternative fuels or raw materials. To be sure, as the Sierra Club points out in a letter submitted after oral argument pursuant to Rule 28(j) of our rules, it did raise its multiple control factors argument during the rulemaking in a comment regarding emission standards for mercury. Record comments, however, cannot cure a failure to raise a key argument here. We will therefore deny the Sierra Club's petition for review with respect to emission floors for PM and dioxin/furan.

B. Failure to set floors for HCl, mercury, and total hydrocarbons

EPA established emission floors of "no control" for HCl, mercury, and total hydrocarbons (a surrogate for organic HAPs other than dioxin/furan) because the Agency found no cement plants using control technologies for these pollutants. The Sierra Club argues that EPA's failure to set emission limits for these HAPs violates the statute's requirement that the Agency establish emission standards for each of "the hazardous air pollutants listed for regulation." 42 U.S.C. s 7412(d)(1). Defending its decision, EPA points to Sierra's suggestion that the worst foreseeable performance of the best performing unit might be predictable from the performance of the worst performing unit using the same technology. See 64 Fed. Reg. at 31,915 (citing Sierra, 167 F.3d at 665). According to EPA, if no control technology exists, then the worst foreseeable performance "could vary day by day" and

the standard must be no control. See EPA Response to Comments (May 7, 1999), at 190.

On this issue, we agree with the Sierra Club. Nothing in the statute even suggests that EPA may set emission levels only for those listed HAPs controlled with technology. To the contrary, the statute lists over one hundred specific HAPs, 42 U.S.C. s 7412(b)(1), and requires EPA to "promulgate regulations establishing emission standards for each category or subcategory of major sources ... of hazardous air pollutants listed for regulation." Id. s 7412(d)(1). The statute directs the Agency to promulgate these emission standards by November 15, 2000. Id. s 7412(e)(1)(E). Congress added the list of pollutants to be regulated, regulation deadlines, and minimum stringency requirements to the Clean Air Act precisely because it believed EPA had failed to regulate enough HAPs under previous air toxics provisions. "The [air toxics] law has worked poorly. In 18 years, EPA has regulated only some sources of only seven chemicals.... The legislation reported by the Committee would entirely restructure the existing law, so that toxics might be adequately regulated by the Federal Government." S. Rep. No. 101-228, at 128 (1989); see also H.R. Rep. No. 101-490, pt. 1, at 322 (1990) ("Since 1970, EPA has listed only eight substances as hazardous air pollutants ... and has promulgated emissions standards for seven of them.").

Contrary to EPA's argument, nothing in Sierra relieves it of the clear statutory obligation to set emission standards for each listed HAP. Although Sierra permits the Agency to look at technological controls to set emission standards, see 167 F.3d at 665, it does not say that EPA may avoid setting standards for HAPs not controlled with technology.

Although we thus believe that section 7412(d)(1)'s language disposes of this issue, we add that our reading of that section is reinforced by

the Clean Air Act's legislative history. A report by the Senate Committee on Environment and Public Works states:

> The technologies, practices or strategies which are to be considered in setting emission standards under this subsection go beyond the traditional end-of-the-stack treatment or abatement system. The Administrator is to give priority to technologies or strategies which reduce the amount of pollution generated through process changes or the substitution of materials less hazardous. Pollution prevention is to be the preferred strategy wherever possible.

S. Rep. No. 101-228, at 168.

For all of these reasons, the absence of technology-based pollution control devices for HCl, mercury, and total hydrocarbons did not excuse EPA from setting emission standards for those pollutants. We thus will remand for EPA to do so.

C. Beyond-the-Floor Standards

The Sierra Club presents a number of objections to EPA's refusal to set general beyond-the-floor emission standards for mercury, total hydrocarbons, and HAP metals (for which PM is a surrogate). Because EPA will now need to initiate new rulemaking proceedings to establish emission floors for mercury and total hydrocarbons, we need not consider the Agency's refusal to set beyond-the-floor standards for those two HAPs. We address only the Sierra Club's challenge to the Agency's refusal to set beyond-the-floor standards for HAP metals.

When determining whether to set beyond-the-floor standards, the Clean Air Act requires EPA to consider "the cost

of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements." 42 U.S.C. s 7412(d)(2). The Sierra Club argues that EPA violated the statute by failing to consider the non-air quality health and environmental impacts of potential beyond-the-floor standards for HAP metals. Again, we agree. Although EPA considered costs and energy requirements, nowhere in the record does it appear to have taken account of any non-air quality health effects.

EPA's analysis of potential beyond-the-floor standards for HAP metals suffers from a second defect. As the Sierra Club points out, EPA, responding to a comment in the rulemaking suggesting that stricter emission standards for HAP metals could be achieved if cement kilns switched to natural gas, asserted that "[t]here are no data available to EPA that indicate that [fuel switching] can or has achieved metals emission reductions." 64 Fed. Reg 31,917. Yet a study in the record contains just such information, demonstrating that switching to natural gas would in fact reduce metal emissions. See Office of Air Quality Planning and Standards, U.S. EPA, Study of Hazardous Air Pollutants Emissions from Electric Utility Steam Generating Units 13-2 (1998). EPA now tells us that fuel switching is not a viable alternative because of inadequate supplies of natural gas. In support of this proposition, the Agency points to a handwritten notation on a report in the administrative record. But that note, supposedly written by an EPA employee, is virtually illegible--even the Agency's counsel was unable to decipher it at oral argument. Therefore, the note cannot supply a basis for EPA's decision. Although the Agency's brief cites one other study in support of its assertion that the supply of natural gas is inadequate, nothing in the rulemaking indicates that EPA relied on it. "[A]n agency's action must be upheld, if at all, on the basis articulated by the agency." Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 50 (1983).

Thus, because EPA failed to consider non-air quality health and environmental impacts of potential beyond-the-floor standards for HAP metals, and because it relied on a factually

incorrect assertion in rejecting such standards, we will remand the beyond-the-floor determination for HAP metals for further consideration consistent with this opinion. In view of the Sierra Club's request that we not vacate the EPA's regulations, because "to do so would at least temporarily defeat [Sierra Club's] purpose, the enhanced protection" of the environment, Environmental Defense Fund, Inc. v. Adm'r of the EPA, 898 F.2d 183, 190 (D.C. Cir. 1990), we will leave the current PM regulations in place during remand.

D. Monitoring

In its final challenge, the Sierra Club argues that the regulation's monitoring requirements fail to provide reasonable assurance of compliance with the emission standards. Specifically, it argues that the opacity monitoring required by the regulation will not guarantee compliance with the PM standard. EPA responds that opacity monitoring promotes good operation and maintenance, which in turn reasonably ensure compliance with the PM standard. Because the Sierra Club has given us no basis for doubting this assertion, and because analysis of this issue "requires a high level of technical expertise, we must defer to the informed discretion" of the Agency. Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 377 (1989) (internal quotation marks omitted).

III. Petition of the National Lime Association

Petitioner National Lime Association (NLA) claims that two additional aspects of the portland cement rule are contrary to law and arbitrary and capricious: the EPA's use of PM as a surrogate for HAP metals, and its requirement that cement kilns use a specified technique to measure their HCl emissions under certain circumstances. We consider these arguments only after concluding that the NLA has standing to raise them.

A. Standing of the NLA

The EPA argues that the NLA lacks standing to object to the portland cement rule because it is a trade association of

lime and not of cement manufacturers. Although the EPA recognizes that some NLA members manufacture both cement and lime, the agency asserts that the NLA made no mention of its cement members during proceedings before the agency, "suggesting only that [the portland cement rule] could establish adverse precedents ... for the commercial lime industry." The EPA also emphasizes that NLA members that manufacture both lime and cement are also members of the American Portland Cement Association (APCA), which--in the view of the agency--adequately represents their cement interests. The APCA, as mentioned above, has intervened in this case in defense of the portland cement rule.

The EPA cites no authority--and we know of none--suggesting that the position taken by one association affects the right of another to seek judicial review; and although the possibility of an adverse precedent is clearly insufficient to establish the injury necessary for standing under Article III, an association anxious to avoid an adverse precedent may still bring a petition if it otherwise meets the requirements for standing. Those requirements are straightforward:

> [A]n association has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

Hunt v. Washington State Apple Advertising Comm'n, 432 U.S. 333, 343 (1977). That the NLA meets requirement (c) is unquestioned. In order to prevail on the standing question, then, the EPA must show that the NLA fails to meet requirement (a) or (b).

Requirement (a) is met if "any one" of the association's members can "make out a justiciable case." Warth v. Seldin, 422 U.S. 490, 511 (1975). The member must show (i) that it was injured in fact, (ii) that its injury was caused by the challenged rule, and (iii) that its injury would likely be redressed by a favorable decision of the court. Lujan v.

Defenders of Wildlife, 504 U.S. 555, 560-61 (1992). The NLA submits an affidavit from the "Environmental Director" of Blue Circle, Inc. affirming that Blue Circle is an NLA member, stating that it operates both cement and lime manufacturing plants, and asserting facts indicating that it meets all three elements of requirement (a). Blue Circle asserts both that the use of PM as a surrogate and the HCl measurement requirement impose "significant" monitoring and compliance costs upon its cement operations, which would be avoided by this court's favorable decision. Blue Circle's specific assertions as to harm, causation, and redressability are neither "general" nor "conclusory," as the EPA suggests. We conclude, therefore, that the NLA has at least one member that could assert a justiciable claim in its own right.

Beyond injury in fact, causation, and redressability, requirement (b) of Hunt demands that the interest an association seeks to protect be "germane to the organization's purpose." 432 U.S. at 343. This requirement of germaneness is "undemanding"; "mere pertinence between litigation subject and organizational purpose" is sufficient. Humane Soc'y v. Hodel, 840 F.2d 45, 58 (D.C. Cir. 1988). The subject of this litigation is the regulation of portland cement manufacturing; that is certainly "pertinent" to the NLA as a trade association of manufacturers of lime. Not only do some companies manufacture both cement and lime, but both industries share a critical raw material--limestone--and lime itself is sometimes used as an ingredient in portland cement. See 63 Fed. Reg. at 14,194/2; J.A.H. Oates, Lime and Limestone 81, 124 (1998). The processes underlying the two types of manufacture are also similar, as is made abundantly clear by the NLA's efforts to introduce into the record in this case data from the EPA's administrative record regarding the manufacture of lime. Ct. Op. at 24-25 below. The two manufacturing processes also emit some of the same pollutants. The regulation of portland cement thus falls well within the "specialized expertise and research resources" of the NLA. Humane Soc'y, 840 F.2d at 56.

Our analysis of germaneness is unaffected by the EPA's argument that the NLA, in advancing its lime interests, has

taken a position on the cement rule adverse to the interests of cement manufacturers. The NLA is entitled to be an advocate for a subgroup of cement manufacturers whose interests diverge from those of the run of cement producers--for example, companies such as Blue Circle that manufacture both cement and lime. Cf. National Maritime Union v. Commander, Military Sealift Command, 824 F.2d 1228, 1234 (D.C. Cir. 1987) (quoted in Humane Soc'y, 840 F.2d at 59 n.25) ("mere fact of conflicting interests among members of an association does not of itself defeat the association's standing to urge the interests of some members in litigation, even though success may harm the legal interests of some members").

Because the NLA has at least one member that could have pressed the same claims in its own right, and because those claims are germane to the organizational purpose of the NLA, we conclude that the association has standing to petition for review of the portland cement rule.

B. The Use of PM as a Surrogate

The NLA's primary objection to the portland cement rule is that it limits PM emissions from cement kilns instead of regulating emissions of HAP metals individually. The EPA justifies its decision to regulate PM as "a surrogate for nonvolatile HAP metals" by noting first that PM generated by cement kilns invariably contains HAP metals, so that preventing the emission of a unit of PM necessarily prevents the emission of some quantum of HAP metals. Using PM as a surrogate thus "achieves exactly the same level of HAP metal emissions limitation" as would be reached were the metals to be regulated directly. The agency also states that "the MACT floor equipment and level of control for HAP metals ... is identical to that for PM." Finally, the agency notes that the use of a surrogate "eliminates the cost of performance testing to comply with numerous standards for individual metals." 64 Fed. Reg. at 31,916/3.

The EPA may use a surrogate to regulate hazardous pollutants if it is "reasonable" to do so. See Dithiocarbamate Task Force v. EPA, 98 F.3d 1394, 1399 (D.C. Cir. 1996) (EPA

may attribute characteristics of a subclass of substances to an entire class of substances if doing so is scientifically reasonable); NRDC v. EPA, 822 F.2d 104, 125 (D.C. Cir. 1987) (EPA may regulate pollutant indirectly when its emissions are controllable by regulation of other pollutants). Even a reasonable surrogate, of course, may not be used where doing so would be otherwise contrary to law. The NLA does not challenge the legality of surrogacy in general, but does maintain that in this case the use of PM as a surrogate is both contrary to law and unreasonable.

1. Legality of using a criteria pollutant as a surrogate

The NLA argues first that the EPA may not use PM as a surrogate for HAP metals because PM is a criteria pollutant--one of several ubiquitous pollutants that the EPA regulates by establishing national ambient air quality standards (NAAQS) under ss 108-09 of the Clean Air Act. 42 U.S.C. ss 7408-09. The provision authorizing the EPA to regulate HAPs in the Clean Air Act is limited by the qualification that "no [criteria] air pollutant ... may be added to the list [of regulable HAPs]." Id. s 7412(b)(2). The NLA argues that although surrogates for HAPs are permissible in general, using a criteria pollutant as such a surrogate has the effect of regulating that pollutant as a HAP "through the back door" and thus illicitly supplementing (or even supplanting) the NAAQS applicable to that pollutant.

The EPA suggests first that the NLA's interpretation is inconsistent with the stated expectation of the Congress that HAP metals might be regulated under the Clean Air Act by way of a PM surrogate, but the agency's point is not well-taken. The EPA relies principally upon a report accompanying Senate Bill 1630, a version of which would ultimately become the Clean Air Act Amendments of 1990. The report, in a discussion of the EPA's discretionary authority to lower the level of emissions that qualifies a facility as a "major source" of HAPs, see 42 U.S.C. s 7412(a)(1), notes that the agency may find this power "especially useful in the control of particulate emissions including metals for some source categories." S. Rep. No. 101-228, at 151. The authors of the

report thus appear to have contemplated that the regulation of "metals" could be subsumed by controls placed upon "particulate emissions."

The report, however, was issued in conjunction with Senate Bill 1630 as it went to the floor of the Senate on December 20, 1989. In that version of the bill, the passage that would have become s 7412(b)(2) authorized the Administrator to add to the list of hazardous air pollutants any additional pollutants

> which present, or may present, ... a threat of adverse human health effects (including, but not limited to, substances which are known to be, ... carcinogenic [etc.,] but not including effects for which a pollutant has been listed pursuant to section 108 of [the Clean Air] Act).

S. 1630, 101st Cong. s 301, at 324 (1989) (emphasis added). The italicized clause in the reported version of Senate Bill 1630 does not appear in the statute as enacted. The sentence that appears in the legislation that the Congress ultimately passed, and upon which the NLA bases its statutory claim, provides: "No air pollutant which is listed under section 7408(a) of this title [i.e., s 108 of the Clean Air Act,] may be added to the list [of HAPs] under this section." 42 U.S.C. s 7412(b)(2).

The italicized clause in the unenacted bill is materially different from the statutory provision upon which the NLA bases its claim. The earlier version would have prohibited the regulation of a criteria pollutant as a HAP only if such regulation was based upon the same reason for which the pollutant was listed as a criteria pollutant under s 108. The final statute, by contrast, unqualifiedly prohibits listing a criteria pollutant as a HAP, that is, regardless of the reason. Because the comment in the Senate Report regarding PM and metals was made before the blanket prohibition upon regulating PM as a HAP was added to the statute, the report is irrelevant to our construction of s 7412(b)(2) as enacted.

The enacted statute, to which we now turn, prohibits the addition of any criteria pollutant to "the list" of HAPs, with a single exception for certain precursor pollutants not relevant

to this case. See id. This prohibition extends of necessity not only to rules that literally list a criteria pollutant as a HAP but also to any rule that in effect treats a criteria pollutant as a HAP. As the EPA shows, however, the portland cement rule does not treat PM as a HAP generally; it regulates only PM that is emitted from cement kilns. The rule does not treat PM, unlike a HAP metal, as a pollutant the emissions of which determine whether a cement plant is a "major source" of emissions. See id. s 7412(a)(1). Nor does the EPA suggest in any way that it contemplates broad regulation of PM pursuant to s 7412. To the contrary, all of the evidence upon which the agency relies to justify its use of PM as a surrogate is particular to the cement industry. See Memorandum from Elizabeth Heath, Research Triangle Institute, to Joseph Wood, EPA 2-8 (Feb. 21, 1996); Memorandum from Michael Benson, Research Triangle Institute, to Mary Johnson, EPA 1 (June 21, 1993); Portland Cement Ass'n, An Analysis of Selected Trace Metals in Cement and Kiln Dust at 3-4 (1992). We therefore conclude that the use of PM as a surrogate for HAP metals is not contrary to law.

2. Reasonableness of the PM surrogate

The NLA also contends that PM is an unreasonable surrogate for HAP metals because HAP metals make up a "very small and variable" portion of cement kiln PM emissions. The NLA faults the EPA both because it did not demonstrate and quantify a consistent correlation between PM stack emissions and their HAP metal content, and because it selected a surrogate of which HAP metals make up only "about one tenth of one percent."

The EPA acknowledges both points. The closest the agency comes to making a numerical estimate of the correlation between PM and the HAP metals it contains is the statement that "the total average HAP metal content of kiln exhaust PM is approximately one weight percent." 63 Fed. Reg. at 14,195/2. The EPA thus admits that the ratio of HAP metals to total particulates is small; and the agency nowhere discusses the variance associated with its estimated average. The EPA contends, however, that it justified the surrogacy

adequately by demonstrating that "where there is cement kiln PM, HAP metals are always in it, and when cement kiln PM is removed from emissions, HAP metals are always removed with it." According to the EPA, as long as it demonstrates that there is a correlation between HAP metals and PM, it need not quantify that correlation or assess its variability because PM control technology is such that each unit of PM emissions avoided "carries" within it some quantum of HAP metals.

The agency's analysis is not unreasonable. If HAP metals are invariably present in cement kiln PM, then even if the ratio of metals to PM is small and variable, or simply unknown, PM is a reasonable surrogate for the metals--assuming, as both the EPA and the NLA appear to do, that PM control technology indiscriminately captures HAP metals along with other particulates, an assumption about which we say more in the next paragraph. The EPA is under no obligation to achieve a particular numerical reduction in HAP metal emissions; it must reduce their emission only to the level "achieved" by the best performing facility or, for existing sources, to the level achieved by the median of the best-performing 12 percent of facilities. 42 U.S.C. s 7412(d)(3). If PM control is the only means by which facilities "achieve" reductions in HAP metal emissions, then the EPA may require PM control without quantifying the reduction in HAP metals thus achieved.

We should add, however, that the EPA may need to reconsider whether PM is an appropriate surrogate for HAP metals when, upon remand, it considers whether to establish beyond-the-floor standards for HAP metals (for which PM is a proxy). We held above, see Ct. Op. at 14, that the EPA must consider the potential impact upon emissions of changes in inputs to the cement manufacturing process, especially the possibility of fuel switching. The EPA decided to use PM as a surrogate for HAP metals because PM control technology traps HAP metal particles and other particulates indiscriminately. In considering the role of inputs, the EPA must also assure itself that fuels and other inputs affect HAP metal emissions in the same fashion that they affect the other components of PM. For example, PM might not be an

appropriate surrogate for HAP metals if switching fuels would decrease HAP metal emissions without causing a corresponding reduction in total PM emissions.

3. The NLA's other arguments against PM as a surrogate

The NLA offers several other reasons for thinking the EPA's use of PM as a surrogate for HAP metals might be unreasonable or contrary to law, but each of them is without merit. First, the NLA claims that the use of PM as a surrogate is incompatible with the agency's own methodology for setting MACT floors. According to the NLA, this methodology requires the agency to set a floor of "no control" for HAP metals because no cement plant intentionally controls HAP metals; metal emissions are controlled only incidentally by controls placed upon PM. The EPA's response is the correct one: "cement plants actually are controlling HAP metals[,] [i]ntentionally or not." The Clean Air Act requires the EPA to set MACT floors based upon the "average emission limitation[s] achieved," 42 U.S.C. s 7412(d)(3); it nowhere suggests that this achievement must be the product of a specific intent. Moreover, as we have seen, the EPA's floor-setting methodology does not permit the agency to set a MACT floor of "no control" simply because no controls are in place, see Ct. Op. at 12 above; a fortiori, the EPA may not set such a floor when the controls are in place but the cement kilns have not intentionally deployed them for that purpose.

Second, the NLA claims that the EPA, in limiting PM emissions, failed to meet the statutory requirement to "tak[e] into consideration the cost of achieving ... emissions reduction[s]" for the underlying HAP metals. 42 U.S.C. s 7412(d)(2). According to the NLA, the per unit cost of preventing HAP metal emissions is prohibitively high. Cost, however, may be taken into account only in considering beyond-the-floor emissions limitations, which in the case of PM we have remanded to the agency; cost may not influence the determination of a MACT floor, which depends exclusively upon the emissions reductions achieved by the best-performing sources. See id. s 7412(d)(3). Relatedly, the NLA also claims that in light of both the high costs and the low quantities of HAP metals to be controlled, the EPA

should read a de minimis exception into the requirement that it regulate all hazardous air pollutants emitted by major sources. The EPA reasonably rejected this argument on the ground that the statute "does not provide for exceptions from emissions standards based on de minimis principles where a MACT floor exists." Response to Comments at 211.

C. Measurement of HCl Emissions

HCl is emitted in sufficient quantity from most cement kilns to qualify each kiln as a "major source," that is, a source that "emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any [HAP]," 42 U.S.C. s 7412 (a)(1). See 63 Fed. Reg. at 14,192-93. The challenged rule allows a single technique for measuring HCl emissions from a cement kiln--Fourier Transform Infrared Spectroscopy (FTIR)-if the kiln "wishes to claim it is not a major source." 64 Fed. Reg. at 31,907/2. The EPA refused to allow kilns to use two other methods--so-called Method 26 and its variant, Method 26A--to support such a claim because, in the agency's view, these methods "may underestimate HCl emissions by a factor of 2 to 25." 63 Fed. Reg. at 14,193/1. The NLA claims that this determination was unlawful and arbitrary and capricious. It also asserts that the EPA acted unlawfully when it refused to consider NLA's comments suggesting potential improvements in Method 26/26A.

The NLA bases its claim upon data regarding Method 26/26A that it submitted to the EPA but the agency did not consider. The EPA was under no obligation to do so, however, because the materials the NLA cites were not part of the administrative record. All but one of the letters from the NLA transmitting the disputed information to the EPA are dated after June 26, 1998, the close of the comment period. 64 Fed. Reg. at 31,900/1. Information submitted to the agency out of time is incorporated into the administrative record only if the Administrator of the EPA determines that it is "of central relevance to the rulemaking." 42 U.S.C. s 7607(d)(4)(B)(i). Because she did not so determine, the NLA may not present arguments based upon that information.

The one document the NLA proffers that was submitted within the comment period is a letter dated June 22, 1998, transmitting a summary of a conference call that day between officials of the NLA and of the EPA. See Letter from Arlene Seeger, Executive Director, NLA, to Joseph P. Wood, EPA 1. The June 22 letter nowhere suggests, however, that it is being submitted in connection with the proposed portland cement rule. Instead, as is also implied in later correspondence between the EPA and the NLA, the conference call appears to have been part of an ongoing dialogue between the agency and the NLA regarding a proposed rule affecting the lime industry. The EPA is not required to consider in its deliberations here information apparently submitted in connection with a different rulemaking proceeding when no one timely asked it to do so.

The NLA also suggests that the EPA unlawfully failed to consider several pages of handwritten calculations that purport to test whether another approach to measuring HCl emissions--gas filter correlation infrared spectroscopy (GFCIR)--generates biased results relative to FTIR. The EPA concedes that this test should have been, but was not, included in the administrative record. As the EPA points out, however, the omission is immaterial because the agency used the calculations only to determine that GFCIR was too biased to be a usable testing method--and the NLA does not challenge that determination. We therefore conclude that the EPA was not required to consider the data the NLA cites in deciding that Method 26/26A could not be used to challenge "major source" determinations.

Separately, the EPA concedes that it failed to consider the NLA's properly submitted comments regarding possible improvements to Method 26/26A. We therefore remand this matter to the agency so that it may respond to those comments.

IV. Conclusion

In summary, we remand the rule to the EPA to allow the agency to (1) set "MACT floor" standards for HCl, mercury,

and total hydrocarbons; (2) consider setting "beyond-the-floor" standards for HAP metals; and (3) respond to comments suggesting improvements to Method 26/26A for measuring HCl emissions. With respect to all other issues discussed herein, the petitions are denied.

So ordered.