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COLLOQUIUM

Science and Public Policy: New Ambient Air Quality Standards Under the Clean Air Act

WILLIAM F. PEDERSEN*

I. Introduction

A. The Legal Framework

Establishment of National Ambient Air Quality Standards (NAAQS)¹ is governed by Sections 108² and 109³ of the Clean Air Act (CAA). Except perhaps for the environmental impact statement provisions of the National Environmental Policy Act of 1969 (NEPA),⁴ these have been the most written about provisions in proportion to their length in all of environmental law. Because they were part of the original 1970 Clean Air Act,⁵ they naturally attracted the attention of those who wished to enter what was then a new field. We can attribute the NAAQS publications of a generation of academics in part to the intellectual investments they made in the 1970s. Of course, the NAAQS provisions also have extraordinary

* Shaw, Pitman, Potts & Trowbridge, Washington, D.C. I would like to express my appreciation to the University of Michigan Law School for the appointment as Visiting Professor during the 1997-98 academic year that allowed me to write this article. This article was based on a conference presentation given in January 1998. Since that date, the D.C. Circuit has invalidated the air quality standards discussed in this article. *See American Trucking Ass'n v. EPA*, 175 F.3d 1027 (D.C. Cir. 1999) *pet. for rehearing pending*.

1. 42 U.S.C. §§ 7409-7410 (1970).
2. 42 U.S.C. § 7408 (1970).
3. 42 U.S.C. § 7409 (1970).
4. 42 U.S.C. § 4332(c) (1994).
5. Pub. L. No. 91-604, 84 Stat. 1676 (1970).

practical importance and some unique design features that contribute to this continued interest. Two of those features hold particular relevance for this conference. They are: 1) the constricted range of factors that Environmental Protection Agency (EPA) considers in setting these standards;⁶ and 2) the requirement that EPA receive formal, outside, scientific advice before setting them.⁷

B. EPA's New Air Quality Standards

It was EPA's promulgation in July 1997 of much tighter air quality standards for particulates and ozone that drew new attention to the NAAQS provisions and made this conference particularly timely.⁸ According to EPA's hotly contested projection, the new particulate standard will prevent hundreds,⁹ or perhaps even thousands of deaths a year.¹⁰ This benefit, if true, is almost off the upper end of the scale for an environmental rule. By contrast, EPA admits that the benefits of the ozone standard will be exceeded by its imple-

6. See Clean Air Act (CAA) of 1997, §§ 108(b)(2), 109(d)(2)(c), 42 U.S.C. §§ 7408(b)(2), 7409(d)(2)(C). Section 109(b)(1) of the CAA requires "primary" air quality standards to "protect the public health" with an "adequate margin of safety." See CAA § 109(b)(1), 42 U.S.C. § 7409(b)(1). Section 109(b)(2) requires "secondary" standards to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." See CAA § 109(b)(1), 42 U.S.C. § 7409(b)(2). Although other provisions of the NAAQS framework refer to the consideration of economic and technical feasibility, it has long been EPA's position that because the passages quoted do not refer to anything other than the impact of the pollutant itself on health or welfare, only facts relating to that impact can be considered in setting a NAAQS. See CAA §§ 108(b)(2), 109(d)(2)(c), 42 U.S.C. §§ 7408(b)(2), 7409(d)(2)(C).

7. See CAA §§ 108(b)(2), 109(d)(2)(c), 42 U.S.C. §§ 7408(b)(2), 7409(d)(2)(C).

8. See National Ambient Air Quality Standards for Ozone, 62 Fed. Reg. 38,856 (1997) (to be codified at 40 C.F.R. pt. 50); National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. 38,652 (1997) (to be codified at 40 C.F.R. pt. 50); Revised Requirements for Designation of Reference and Equivalent Methods for PM_{2.5} and Ambient Air Quality Surveillance for Particulate Matter, 62 Fed. Reg. 38,764 (1997) (to be codified at 40 C.F.R. pts. 53 and 58).

9. See National Ambient Air Quality Standards for Particulate Matter, 62 Fed. Reg. at 38,656.

10. 143 CONG. REC. H8291-2b (daily ed. Oct. 1, 1997) (statement of Carol Browner).

mentation costs. Although the exact magnitude of those implementation costs has been much debated for both sets of standards, it seems reasonably clear that they will be the most expensive NAAQS since the original 1971 promulgations.¹¹ And while the standards issued in that now far distant day took effect without legal challenge, I can tell you from personal knowledge, as can most of the other speakers, that there is absolutely no chance of the same result here.¹²

Despite these health and cost stakes, the impact of these new standards on the shape of the CAA's control strategies may be their most important legacy. By EPA's own account, it now seems clear that the pollutants these two NAAQS will require to be regulated often travel hundreds or even thousands of miles from their point of emission to their point of impact.¹³ Since the existing CAA does not really focus on any region larger than a state,¹⁴ and largely restricts its effective NAAQS mandates to requiring states to adopt measures to attain the standards within their boundaries,¹⁵ it is badly suited to spur the multi-state approach that will be required to effectively control ozone and fine particulates. To solve this problem, EPA has called for voluntary cooperation between groups of upwind generator states and downwind recipient states to devise control plans.

11. EPA estimates the cost of achieving the ozone standard at \$96 billion per year. See EPA REGULATORY IMPACT ANALYSIS FOR PROPOSED OZONE AMBIENT AIR QUALITY STANDARD at E9-12 (1997). EPA estimates the cost of achieving the particulate standard at \$37 billion per year, see EPA "Regulatory Impact Analysis for Proposed Particulate Matter National Ambient Air Quality Standard" at ES-13, 9-1 (1997).

12. Approximately fifty challenges each to the ozone NAAQS and particulate NAAQS were filed and consolidated together as *American Trucking Assoc. v. EPA*, No. 97-1440, 1998 WL 65651 (D.C. Cir.). The cases were argued together on December 17, 1998 and decided in May 1999. My firm served as lead counsel to the challengers in the particulate case.

13. The best discussion of these complexities is in an EPA document, "Advance Notice of Proposed Rulemaking: Implementation of New or Revised Ozone and Particulate Matter (PM) National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations." *Implementation of New or Revised Ozone and Particulate Matter (PM) National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations*. 61 Fed. Reg. 65,764 (1996).

14. See CAA § 107, 42 U.S.C. § 7407.

15. See *id.*

History counsels skepticism about the extent to which A will voluntarily assume a burden for B's benefit, whether A is a state or an individual. It is largely because of that unwillingness that we have law and government. Although the existing CAA gives EPA the formal power to compel interstate cooperation,¹⁶ such formal powers tend not to be used effectively, unless Congress sets them in a context of precise commands and implementing mechanisms to give them credibility and reduce the transaction costs. The interstate provisions of the Clean Air Act largely lack such a context. Whether EPA has the will and the power to act effectively without it over the next few years remains a very open question.

Accordingly, EPA's current control approach seems likely to fail even if the new NAAQS survive judicial and political review. But if they survive, that very failure will become part of the legislative agenda for the next revision of the CAA and will furnish arguments for re-orienting the statute to a more regional focus even in these basically conservative times. Indeed, only such a regional approach would be able to attain the NAAQS that EPA has promulgated. Arguments for a more national approach to air pollution control can be made that are not based on the NAAQS. Regional air pollution contributes to degraded visibility in national parks and wilderness areas¹⁷ and to water pollution in areas like the Chesapeake Bay. However, these arguments are far less potent than an argument based on the need to protect public health as codified in a NAAQS.

C. Opinions on this Matrix

Very often, in environmental regulation, public opinion of the sort that determines what can be done - or even seriously considered - is one thing, and academic opinion on what should be done is another. The NAAQS provide a leading example of that phenomenon.

16. See 42 U.S.C. § 7426.

17. See Regional Haze Regulations, 62 Fed. Reg. 41,138 (1997) (EPA's proposed "Regional Haze" rule).

On the public opinion side, the “consider health only” rule has become politically untouchable, as a series of industry and conservative proponents of legislative change have discovered to their loss and sorrow over twenty years. Academics have heavily criticized that very same feature of the NAAQS. Most obviously, they have labeled it a prescription for cost-ineffective regulation, either in general or in particular geographic areas.¹⁸ How can we define health as our absolute goal without considering what it will cost to get there? Some academics have argued, for some of the same reasons, that the restricted set of factors discourages informed public debate by artificially making some clearly relevant factors inapplicable. Turning to what may be another side of the same coin, others have contended that the command to “protect public health” with an “adequate margin of safety” “represents the unhappy legacy of a bureaucratic past that too readily delegated basic value choices to bureaucratic experts.”¹⁹

II. Discussion

A. The Good Points of the “Health Only” Test

1. At Least it is Health

As much as analysts and professors may disapprove, the vast majority of legislative commands to protect the environment are just like the NAAQS, in that they restrict the regulatory agency to considering a limited set of factors. Moreover, in the opinion of many observers, which I do not necessarily share, those provisions that do allow the agency to consider all the logically relevant factors before acting have too often led to “paralysis by analysis” and inaction, rather than balanced progress.

Against that background, the “health only” approach has two major benefits. First, at least it points to environmentally relevant factors. That makes it different from the typical

18. See Krier, *The Irrational National Air Quality Standards: Macro and Micro Mistakes*, 22 UCLA L. REV. 323 (1974).

19. ACKERMAN & HASSLER, CLEAN COAL/DIRTY AIR 124.

environmental control provision, which simply calls on a defined set of sources to install the "best technology" to reduce releases.²⁰ Often these provisions make the environmental benefits of the technology expressly irrelevant to the control decision. There is no reason to believe in advance that installing "best technology" measured under such a test on some subset of our society's institutions will be too little, too much, or just enough to solve environmental problems, much less that it will pass any kind of cost/benefit test.²¹ In fact, we have learned from our experience in imposing "best technology" on water discharges that a Best Available Technology (BAT) approach tends to leave out those sources that are politically inconvenient to regulate and thus to fall short of any coherent environmental goal.²² Moreover, the focus on BAT tends to draw both EPA and private resources into defining the state of technology in a given industry (or a lot of industries) at a given point in time, rather than into deepening our understanding of environmental problems.

Measured against this alternative, rather than against the alternative of an unreal ideal cost/benefit approach, the NAAQS provisions look a lot better. The standards for decision NAAQS prescribe focus on real environmental problems for all their incompleteness. By giving health, and to a lesser extent, welfare, the central role in the regulatory architecture, they make information about the health and welfare effects of pollutants central to justifying or questioning a NAAQS. In that manner they draw both public and private investment into improving our understanding of health and welfare. That is a lot better than drawing them into improv-

20. See, e.g., Clean Air Act §§ 111(a)(1), 112(d)(2); Federal Water Pollution Control Act § 304(b) (1996).

21. See CAA §§ 108, 109(d), 42 U.S.C. §§ 7408, 7409(d) (1994).

22. Congress and EPA have exempted such undeniably important sources of water pollution as farms, dams, and return flows of irrigation water from technological controls. See generally William F. Pedersen, *Turning the Tide on Water Quality*, 15 *ECOLOGY L.Q.* 69 (1988). Such small-scale sources are politically inconvenient to regulate because there are so many of them and their owners are politically vocal. See *id.* The fact that such sources are often also poorly suited to "best technology" regulation provided another ground for selecting the expedient course of granting them a virtually complete exemption from controls. See *id.*

ing our understanding of technology. Since the influence of air pollution on health and welfare is a permanent topic of environmental concern, the NAAQS test keeps us focused on the real issues.

Congress' requirement that all NAAQS be reviewed in detail by an outside scientific advisory body multiplies the benefits of this focus on a real issue. Providing for review by an expert panel, not just by the courts, enforces a minimum level of scientific competence and articulation from all participants in the process and thus reinforces the statutory focus on the merits of health protection. Most of the advocacy in setting NAAQS now takes place before the Clean Air Scientific Advisory Committee (CASAC). Even though I argue below that the CASAC framework is too narrow, the debate that does go on there is clearly a good thing.

To put it another way, it is a benefit, not a detriment, of the legal framework for establishing NAAQS that twenty-five years after NAAQS were first established we are still discussing the meaning of the London Fog Studies of the 1950s for particulate control,²³ and the effect of ozone on plants. What it says about our public investment priorities may be another matter.

2. A NAAQS Based Only on Health can Stimulate Debate on Policy

It may be, I will suggest for the sake of argument, that those academics who believe that to prohibit considering costs in setting NAAQS is to stifle public debate have taken too restricted a view of the matter. The use of a full cost/benefit analysis to establish NAAQS might well have led to livelier debates than we have now before EPA, but the discussion would basically have ended there. Once the agency had balanced the factors and resolved the issues, its decision would enjoy all the normal presumptions of validity in both legal

23. See EPA AIR QUALITY CRITERIA DOCUMENT, EPA REP. NO. EPA-60018-029a, -029b, -029c, at 14-24 (1982).

and political forums, which in turn would naturally diminish both the heat and the light from any subsequent discussion.²⁴

The current approach, by contrast, may increase the focus on air quality policy among the larger public precisely because it presents to the public a lopsided decision that by its ostensible refusal to consider any questions of practical implementation aggressively calls on the public for its own opinion of those questions. That would be clear if the NAAQS were set in the same manner as at present, but lacked legal effect. Under such an approach, the Federal government would formally define "health protective" air quality levels and leave attaining them purely to the states.²⁵ That in turn would compel states to decide how much of an investment to make based on the new information and analysis that the NAAQS embodied. The basic impact of the NAAQS on public debate really should not be markedly different under that approach than under our current system. The potential range of reactions to the NAAQS is the same in each case, ranging from an assertion that the health effects at issue are so trivial or so costly to prevent that no additional public resources should be devoted to preventing them, to an assertion that society should accept preventing these effects as an absolute command to be achieved by any means necessary. The two approaches differ, not in the fundamental public policy issues they raise, but the burden of effort toward attainment they

24. A broad cost/benefit balancing test might also increase the chances that the agency would perpetually analyze the issues and never take action. However, that danger, if it is a danger, seems only marginally greater than the danger that the agency, under the existing approach, will perpetually analyze the health issue. In both cases, the time-honored solution would be the same, namely the imposition of a deadline for action that would be enforceable in turn by citizen suit.

25. This is not at all an absurd idea in theory. There are clear economies of scale in reviewing and assessing the science of air quality once, at the federal level, rather than leaving each of the fifty states to cope with that task as best it can. But why should the federal government dictate to the people of each state the political choices they make on the basis of that information? Perhaps the biggest practical advantage of the national approach is that it is better able to handle interstate effects than a decentralized matrix. Specifically, a decentralized approach would have to decide how to react when a downwind state like Vermont set very tight air quality standards and then called on upwind states to take all steps necessary to meet it.

command. But if we are debating policy from the beginning, the place on the spectrum of possible attainment efforts towards the NAAQS that Congress has currently elected in no way prevents us from arguing that we should choose a different place in the future. In this perspective, the fact that the currently chosen place is burdensome may actually spur debate.

Has the inability of the Interior Department to consider costs in listing endangered species led to more or less political, academic, or general public debate on endangered species policy than a rule that allowed a full cost-benefit balancing?

3. One-Sided Goals Can Also Stimulate Technological and Social Change

Beyond encouraging public debate, let me suggest two other related public advantages in setting a goal that does not take much account of costs and practicalities. The first concerns technology; the second, what, for want of a better word, I call public opinion.

a. Technological Change

Encouraging technological advances is only part, and perhaps a diminishing part, of the solution to our environmental problems. To the extent that achieving our environmental goals does depend on the application of technology, a cost/benefit approach to standard setting will reflect the government's estimate of what technology can now accomplish. As a judgment of current technology, that estimate may be either too pessimistic or too optimistic, perhaps depending on whether the government believes industry cost estimates or its own. It will, most likely, be too pessimistic a reflection of what can be accomplished in the long run, meaning twenty years or more. Our environmental statutes are beginning to inch toward acknowledging the fact that adequately addressing our environmental problems will take, has taken, that

much time.²⁶ Over such a long scale, there is much to be said for establishing a goal toward which technology can strive, even if we cannot yet see how it will get there.

b. Social Change

Encouraging technical innovation by itself will not solve our environmental problems. In fact, the focus on technical change can provide an easy political out for those who wish to advertise, to the public at large, the benefits of a clean environment while concealing its costs. By claiming that industrial innovation can solve our problems, the speaker overlooks the inconvenient fact that in many cities clean air will be permanently out of reach without measures to curb traffic growth, or that good visibility in national parks may depend on restricting urban sprawl in their vicinity.

Strong and somewhat absolute goals, like the NAAQS, can serve to raise to public attention costs of environmental protection that politicians and advocates would be tempted to suppress if the regulatory framework allowed it. If the NAAQS cannot be achieved without restricting traffic, then the establishment of that NAAQS will give the question of traffic restrictions a permanent place on the public agenda. In order for agenda-setting to be effective, it may, once again, be advisable that the legislative framework should give costs a subordinate role. Restricting traffic in a city to achieve air quality standards may well pass a strict economist's cost/benefit test. Indeed, the regulated might save money from the restrictions. But no statutory cost/benefit test I know of restricts, or should restrict, its definition of "costs" so narrowly. If EPA were allowed to base its NAAQS decisions on a more broadly defined cost/benefit test, it would be empowered, and thus tempted, to use that discretion to avoid setting standards with politically inconvenient and socially disruptive consequences.

26. To pick the most notable example, while the 1970 Clean Air Act commanded the attainment of all NAAQS nationwide within three to five years, the 1990 Amendments allow up to twenty years for attainment. See Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (Amended 1970); Clean Air Act, Pub. L. No. 101-549, 104 Stat. 2399 (Amended 1990); § 181(a)(1), 42 U.S.C. 7511(a)(1).

Let me stress that I am not saying that in an ideal world, EPA would set absolute air quality goals and everyone else would fall into line. As I said before, in a world with many voices and many ways to avoid unpleasant issues, the establishment of an absolute standard may be the best way for EPA to start the debate on whether and how much our society should invest in change to attain it.

B. Problems With the NAAQS System

1. Excessive Cost

Although our NAAQS provisions may stimulate debate on public policy and encourage technical and social innovation, they do so precisely by imposing such heavy burdens on people that they compel debate and force innovation. Isn't that a lot to pay to start a conversation? We might well agree that absolute standards have their benefits, while contending that those benefits are outweighed by the attendant burdens.

Indeed, the way our political system operates makes such an unfavorable cost/benefit result likely. Under our political system, whoever is on top at the moment tends to push their advantage for all it is worth. The focus on almost total health protection under the short-term deadlines originally embodied in the CAA stands as one example of how the environmentalists have played that card.²⁷ That approach was meant to convince the industrial community that pollution control needed to be taken seriously, and to create a position that would be hard to change in the light of any future reversal or moderation of political opinion. Whether it led to rational investment in innovative new technology, or rational consideration of social change, are different questions.

However, if reasonably absolute goals are defensible, as I largely claim, then the way to mitigate their costs is by making the actions mandated to attain them less burdensome. The CAA has already moved a long way in that direction from the three to five year deadlines backed up by gasoline rationing of the 1970 statute,²⁸ to the up to twenty year deadlines

27. See CAA § 110, 42 U.S.C. § 7410(k)(2), 42 U.S.C. § 7511(a)(1).

28. See Clean Air Act, Pub. L. No. 91-604, 84 Stat. 1676 (Amended 1970).

with much weaker federal default powers of the 1990 amendments.²⁹ Our implementation framework is probably still not as long term as it should be. Certainly, it is not long term enough to reflect the time it will actually take to attain the standards.

But, on the other hand, we cannot simply set generic decades-long attainment deadlines and leave it at that. Instead, both rational technology-forcing and encouraging social change will depend on making the moderate burdens implicit in such a long-term approach as believable as, or ideally, more believable than the heavy short-term burdens required (but often never implemented) under the 1970 amendments.³⁰

Absent some crisis, a technology-forcing goal will be far better pursued with moderate means applied consistently over time than with short-term crash programs. As we look to such environmental problems of the future as global climate change, the ability to generate a moderate, sustained, and believable pressure for investment in environmentally benign new technologies will become even more important than in the past.

Similarly, any change in basic social patterns in this free country will require that citizens themselves voluntarily change their minds. A regulatory structure that continually emphasized the importance of the goal that requires those changes, while leaving citizens themselves free to make them, would be far more likely to succeed in the long run than any attempt to compel a change of heart.

2. Granting EPA Too Much Discretion

How can we make the NAAQS program both more cost-effective and sounder in policy without sacrificing the advantages of a relatively absolute decision-making framework? I

29. See Clean Air Act, Pub. L. No. 101-549, 104 Stat. 2399 (Amended 1990).

30. Although the courts upheld the legality of control provisions that could have required up to a 90% reduction in motor vehicle fuel supply in order to attain the standards, the provisions were never implemented. See *City of Santa Rosa v. EPA*, 534 F.2d. 150 (9th Cir. 1976).

think a slight shift in the currently accepted decision-making criteria would help move us in that direction.

Let me suggest that the most serious objection to the currently accepted NAAQS framework is that at least until now, it has given EPA essentially unconfined discretion to pick any number within a very wide range and make it legally binding on the whole country as a NAAQS.³¹ Such discretion, in which issues receive different treatment for no publicly discernible reason, tends to undermine the virtues of the NAAQS approach in promoting the public dialogue and technical and social change that I have praised above.

The scientific review process that Congress has required³² does not restrict that unaccountable discretion as much as you might think. EPA probably could not set a numerical NAAQS limit that CASAC, as an institution, had affirmatively rejected. That provides an important protection against decisions that are simply scientifically wrong. I gave full credit to that important "design principle" earlier.

But CASAC typically approves a broad range of standards of widely varying health, welfare, and economic significance for presentation to the Administrator. All of the standards, in CASAC's view, would be scientifically acceptable. Beyond that, EPA claims the right to set standards that do not enjoy the institutional support of CASAC, and has done so, in my opinion, in the case of its PM_{2.5} standard.

When EPA operates in this range, neither the law nor any rational argument places any effective limits on its discretion to choose among the many possible standards that CASAC has either endorsed or not rejected.

The lowest point on the CASAC approved range would be one logical alternative, but EPA has long since rejected any such decision rule as both impractical and so politically unwise as to put the NAAQS framework itself in jeopardy. Nor is the concept of "safety" a reliable harbor in itself. The Supreme Court has cautioned that the words "safe" or "safety," as used in a regulatory statute like the CAA, gener-

31. See 42 U.S.C. § 7408.

32. See 42 U.S.C. §§ 7408, 7409(d).

ally do not mean “risk free,” but instead must be interpreted in the light of the risks that are generally considered acceptable “in the world in which we live.”³³ Since the Court also said that driving a car was generally considered “safe,”³⁴ although the risks we run when we drive are orders of magnitude above those that result from most pollutant exposures, this formulation does nothing to guide the agency’s decisions. In fact, the Court gave “breathing city air” as another example of a “safe” activity.³⁵

In the normal world, when we must make a decision based on uncertain data, we try to look at that decision from as many different angles as possible, in the hope that one angle will give us the clue to a sensible choice even if the others do not. And it often does. However, over the past twenty-five years, EPA has systematically rejected any such right to use practical tools, holding that the costs of a standard,³⁶ or our technical ability to implement it, or the disruption it may cause to existing regulatory systems, or the damage to health it may cause by increasing unemployment, or by reducing our shield against other environmental dangers like ultraviolet light, are all “totally foreign” both to the task of establishing the basis “health protective” NAAQS itself and to the establishment of a “margin of safety.”³⁷ Although this position has increasingly established itself with time, nothing in the text or legislative history of the CAA originally required it. The result has been a system in which the factors on which the decision is ostensibly based cannot explain the decision.

In my own view, EPA has not always resisted the temptation that such a matrix inevitably presents to tailor its NAAQS conclusions, within the broad limits of CASAC’s failure to disapprove, more to political expediency than to any

33. See *Industrial Union Dept., AFL-CIO v. OSHA*, 448 U.S. 607 (1980).

34. See *id.* at 642.

35. See *id.*

36. See *Natural Resources Defense Council v. Admin.*, 902 F.2d 962, 972-73 (D.C. Cir. 1990); *Lead Indus. Ass’n v. EPA*, 647 F.2d 1130, 1148-51 (D.C. Cir. 1980).

37. See generally, *National Ambient Air Quality Control Standards for Particulate Matter*, 62 Fed. Reg. 38,652, 38,683-38,689; 38,878-38,883 (1997) (EPA’s discussion of these matters in the final particulate rulemaking).

view of the merits that exhibits consistency from NAAQS to NAAQS. The most dramatic illustration of such yielding is EPA's almost universal failure to set secondary NAAQS tighter than primary NAAQS.³⁸ Nothing in the statutory tests prescribes different decision rules for secondary versus primary standards.³⁹ It seems clear, from common experience, that the welfare effects of air pollution are at least as widespread and obvious as the health effects and that the impacts of pollution in decreasing visibility or damaging plants and streams are at least as noticeable as its impact on health. Against that background, EPA's relative inaction on welfare effects requires some explanation. One might suggest that EPA has been more reluctant to follow the strict letter of the law to set welfare-protective NAAQS than it has been to set health-protective NAAQS out of a concern that a strict secondary NAAQS that clearly did not consider practical factors might trigger a debate that would endanger the NAAQS framework itself. Since that framework serves primarily to expand EPA's unreviewable discretion, it confers an entitlement on the regulators that we might expect they would be reluctant to put at risk. So, it seems, they have.

In the field of health based standards, the very size of the issues has tended to insulate the agency's decisions from review. When the agency sets a tight standard, it could defend it by pointing to the public health benefits, the only statutorily relevant factor. When it set a more lenient standard, or declined to regulate, it could rely on the dictum that "safe" does not mean risk free, and put the court in the uncomfortable position of requiring the agency to regulate both more tightly than it wanted to and more tightly than most people who balanced all the issues in a real-world way might think justified.

Until 1997, that strategy, if it was a strategy, worked to perfection. Even though the D.C. Circuit has now, for the first time, required EPA to explain why a stricter NAAQS than

38. *See id.*

39. NAAQS for Ozone, 62 Fed. Reg. 38,856, 38,876 (1997) (to be codified at 40 C.F.R. pt. 50).

the agency had set was not justified,⁴⁰ that decision, as was to be expected, only took the form of a remand for further explanation.⁴¹ Given the complexity of most NAAQS records and the ability to view them in more than one light, it is much too early to say that the discretion EPA enjoys under the present NAAQS regime has been materially undermined.

III. A Final Suggestion

In short, I think that there is much to be said for the current CAA approach that places the focus of standard-setting primarily on protection against adverse health effects. It encourages public debate, and can encourage both technical innovation and at least the consideration of more basic changes in our collective habits, although all this comes at a considerable cost. But I believe that we can preserve these benefits while at the same time narrowing the discretion that the current decision rules afford the agency, a discretion so wide as to at least present the danger of abuse.

The approach I recommend has been suggested before,⁴² but that is not an objection to it. Under this approach, EPA would be required to set NAAQS tight enough to protect against all clearly demonstrated health or welfare effects. However, in evaluating ambiguous data, and (what may be the same thing) in setting a "margin of safety," EPA would be allowed to consider costs and technical feasibility. If that door were opened, probably the most important new factor that would come into play would not be the burden to industry as such. Indeed, it would be the balance between acting now on imperfect data, with the risk of making a mistake, as opposed to waiting until research clarified the issues, with the opposite risk of foregoing the benefits of early action. A change in the decision-making matrix that made that question expressly relevant to EPA standard-setting seems like a good idea to me.

40. See *American Lung Ass'n v. EPA*, 134 F.3d 388 (D.C. Cir. 1997).

41. See *id.* at 393.

42. See *Natural Resources Defense Council v. EPA*, 824 F.2d 1146 (D.C. Cir. 1987).

Let me close by saying that I am not sure that EPA would have reached a different decision on its most recent NAAQS revisions under this approach, although a number of litigants, including my clients, are urging the adoption of such an approach in litigation.⁴³ From our perspective, the real chance that the agency might have reached a different result is enough. From the perspective of this conference, the question is whether such a relatively modest change in the decision making matrix represents a change worth making.

43. The major thrust of the challenge to the PM_{2.5} NAAQS involves a completely different issue, namely EPA's asserted failure to make critical data concerning the evaluation of the health effects of PM_{2.5} available to commentators. See, e.g., George D. Thurston, *Mandating the Release of Health Research Data: Issues and Implications*, 11 TUL. ENVTL. L.J. 331 (1998).