

Ozone and the Constitution at the EPA with Randall Lutter

AEI on the Issues

January 1, 2000

A recent court decision that struck down Environmental Protection Agency air quality standards on constitutional grounds has revealed a serious problem with the Clean Air Act. The act directs EPA to set air standards that "protect public health," but this gives the agency too little legislative guidance where low levels of pollution present some health risks. The constitutional problem would be solved if EPA set standards that balanced health benefits against the costs of achieving them. An examination of one aspect of EPA's standards shows how the agency's aversion to considering costs can be bad for the environment as well as the Constitution. In May 1999, the U.S. Court of Appeals for the District of Columbia Circuit blocked the Clinton administration's national air quality standards for ozone and particulate matter, which had been issued with great fanfare in July 1997. The decision, *American Trucking Associations v. U.S. Environmental Protection Agency*, is a victory for constitutional democracy over bureaucracy. The court found that EPA's standards amounted to sheer, unbridled policy judgments—expressions of bureaucratic willfulness rather than applications of policies articulated in the Clean Air Act. EPA thereby ran afoul of the "non-delegation doctrine," which courts use to enforce the Constitution's assignment of "all legislative powers" to Congress.

The court decision was based on other considerations as well, including EPA's failure to consider research, including work by one of us (Lutter), showing that atmospheric ozone has significant health *benefits*. But it is the constitutional issue that has shaken Washington's rulemaking industry to its foundations. Judges routinely strike down regulations for being "arbitrary and capricious" (a catch-all standard of administrative law), but a constitutional holding is another matter—it casts doubt on the authorizing statute itself, not just on an agency's application of the statute. If upheld by the Supreme Court, *American Trucking* could have profound implications for regulatory programs affecting telecommunications, financial markets, and much else. It could curtail Congress' ability to declare itself for clean air, safe products, low prices, and other velleities while leaving the real and frequently controversial policy choices—that is, the lawmaking—to unelected officials and civil servants and the hordes of lawyers that attend and assist their every move.

When EPA announced its new air quality standards, it cited reams of scientific evidence about health problems associated with airborne ozone and particulate matter. It also offered detailed estimates of the likely consequences of different levels of both pollutants. But when it came to explaining its decision—why it chose certain levels rather than others as national standards—EPA simply said that higher levels than the ones chosen would allow more serious and more

certain harms to public health, while lower levels would avert less serious and less certain harms. The Court of Appeals found that this was not merely "arbitrary" but vacuous: it fell short of the constitutional requirement that regulatory decisions be based on "intelligible principles" derived from statutory policies. If EPA could not come up with any such principles, the court suggested, then the statute itself must be unconstitutional.

We are dealing here with matters of degree. The power of the executive branch is clearly too great if, as the appeals court put it, EPA is "free to pick any point between zero and a hair below the concentrations yielding London's Killer Fog" (which killed 4,000 people in a week in 1952). When de facto legislative power resides in the executive branch, political accountability and the separation of powers are undermined. So too is the rule of law: if Congress permits regulators to do pretty much as they please, judicial review of regulatory decisions—the law's protection of individual rights against arbitrary administrative power—is lost. At the same time, however, regulators are not robots on statutory autopilot; they must be permitted some latitude for judgment. And there are limits to logical demonstration when one is dealing with one choice within a range of plausible alternatives, notwithstanding that the choice has immense social and economic consequences, as EPA's choices often do.

We think *American Trucking's* constitutional holding was correct. But whatever its fate on further appeal or in subsequent cases, the decision has revealed a serious problem at the heart of our environmental laws. The problem is not simply a matter of executive-branch usurpation or legislative-branch abdication; it is inherent in the tension between rigid legislation and fluid science.

Science and Statutes

In 1970, when Congress directed EPA to set air quality standards "requisite to protect the public health" with an "adequate margin of safety," it assumed that epidemiologists and biologists could determine "threshold" levels dividing serious health risks from negligible risks. That assumption, we now know, is often wrong. For ozone, EPA's Scientific Advisory Board reported in 1996 that there is no threshold level below which health risks disappear. Instead, as ozone declines to natural background levels, ozone-related respiratory problems decline more or less continuously. For particulate matter, EPA could not determine whether a threshold exists.

Now the health effects of air pollution, at the low levels currently at issue in national environmental policy, are usually highly uncertain or exceedingly small. For ozone, EPA estimated that moving from the current standard down to a new one of 80 parts per billion would (a) very slightly reduce the number of hospital admissions of asthmatics and (b) reduce the incidence of temporary "lung function impairments" among individuals exercising continuously for several hours (generally detectable not by the individuals themselves but only by

monitoring equipment in laboratory tests). But given that air pollutants at very low concentrations present *some* health risks, what "intelligible principle" should a conscientious EPA apply "to protect the public health" with an "adequate margin of safety"?

The literal approach would be to set air quality standards at zero pollution (or perhaps at near-zero levels involving de minimus health effects). The Court of Appeals noted helpfully that zero would be sufficiently "determinate" to pass constitutional muster. Determinate, but impossible. Attempting to achieve zero or near-zero pollution would damage the economy so severely as to degrade, among many other things, environmental conditions and public health.

A more realistic solution would be for Congress to rewrite the Clean Air Act. Congress could write its own air quality standards into the act (a prospect that horrifies everyone from the Sierra Club to the American Coal Foundation). Or it could charge EPA with setting the standards under updated and more precise legislative principles. For example, Congress could direct EPA to balance health and amenity benefits against the costs of achieving them, and to set standards at the level where the benefits of additional controls would not be worth the additional costs. We favor this approach on policy grounds. Pollution control, no less than national defense or any other important government activity, should operate within a budget. This approach has the additional advantage of neatly resolving the constitutional problem. Setting a standard based on two factors—one decreasing and the other increasing as the standard changes—produces, in principle, a determinate result. Implementation would require lots of technical information and analysis of both the benefits and costs, but these are things that regulatory agencies are supposed to be good at—and that, in any event, fit within their constitutional role.

We believe that this approach could be adopted without new legislation—that EPA has discretion to balance the costs and benefits of its air quality standards under the Clean Air Act *as presently written*. EPA and the courts, including the court in *American Trucking*, disagree, but the fact that considering costs as well as benefits resolves the constitutional dilemma provides strong support for our position. Statutes are to be construed so as to avoid constitutional problems, and it is reasonable to assume that Congress, in directing a regulatory agency simply to "protect public health" (or to pursue some other public good), means that the agency should do so "within reason" or "up to a point." One sensible interpretation of this implicit, constitutionally necessary qualification is that statutory goals are to be pursued insofar, and only insofar, as their benefits appear greater than the costs of achieving them.

Indeed, EPA *already does* consider the costs of its air quality standards without saying so. That is why its various air standards (six in all) have vastly different marginal health benefits rather than being equally protective. A prime example is the ozone and particulate matter standards at issue here. Although the two

standards were adopted at the same time and were based on the same rulemaking record, the health benefits of the new particulates standard were approximately one hundred times more valuable than those of the new ozone standard. EPA's calculations suggested that tightening the particulates standard even further would have provided vastly greater health protection than anything it might have done with the ozone standard—but at vastly greater cost. Our point is not that EPA is evading the mandate of the Clean Air Act, but rather that cost considerations are an inherent and necessary condition of that mandate. It would be much better if those considerations were public and explicit rather than surreptitious. For one thing, explicit public consideration of costs would help clarify the point, so often confusing to regulators themselves, that the costs of a policy are to be evaluated in light of the policy's social benefits—not in light of the political influence of one or another industry group or of a regulatory official's private and amateur opinions about an industry's "importance to the economy."

The Court of Appeals in *American Trucking* could not adopt this position because it was bound by its own, D.C. Circuit Court precedent to the contrary (the Supreme Court has never ruled on the question). The court did, however, take a significant step in the direction we advocate by requiring that EPA consider *health* costs as well as benefits in setting air quality standards. Public commentary on the decision has almost entirely overlooked the importance of this aspect of the court's decision.

The Case of Ozone

In the case of the ozone standard, the appeals court in effect required EPA to pursue a special application of the benefit-cost approach—limited just to health effects. Research in the EPA rulemaking record showed that reducing atmospheric ozone has significant health costs as well as benefits. EPA refused to consider that evidence, essentially on grounds that the Clean Air Act is not concerned with any *negative* health effects of pollution reduction. All three judges disagreed, including one who dissented from the two-judge constitutional holding; they directed EPA to consider all the identifiable health effects of ozone, negative and positive, and to adopt a standard intended to produce *net benefits* to public health. If EPA had done that in the first place, it might have avoided the constitutional problem as well—because considering health costs and benefits, like considering all costs and benefits, would have yielded a determinate result.

As is well known, ozone in the stratosphere (above about ten kilometers) plays an important role in protecting against exposure to the sun's ultraviolet (UV) radiation, which contributes to skin cancer (both melanoma and nonmelanoma), cataracts, and other ills. That is why the United States and other nations have, at substantial cost, banned substances that contribute to ozone depletion. But recent research—including an article by Randall Lutter and Christopher Wolz published in *Environmental Science & Technology*¹, which was included in the EPA rulemaking record and cited by the Court of Appeals—demonstrates that

ozone near the ground, where EPA's air quality standards have their effect, provides additional, independent protection against solar UV radiation. Lutter and Wolz show that the health benefits of that protection are as well understood as the respiratory problems caused by ozone. Their research suggests, moreover, that EPA's ozone standard could increase UV-related health problems by more than it reduces respiratory health problems.

Prompted by this and other research, EPA conducted its own internal study, which went beyond the earlier work and took a stab at quantifying the UV-related harms likely to result from the new ozone standard. The EPA study noted that the methods for estimating changes in UV exposure and the incidence of skin cancer associated with various ozone levels are "well established." Using these methods, it projected that lowering the ozone standard would cause an additional 700 nonmelanoma skin cancers each year. Regrettably, EPA did not pursue the matter further. The agency did not include the study in the rulemaking record submitted to the Court of Appeals, and it stated in the record that the health benefits of limiting UV exposure could not be adequately quantified.

A Bottom Line

We are not so overwhelmed by the measurement problems, which are no more difficult than estimating the respiratory health benefits of ozone reductions. Lutter and Wolz estimate that an *across-the-board* reduction of ten parts per billion in ozone concentrations would result in an additional 4,200 to 8,100 cases of nonmelanoma skin cancers per year. They cite a Department of Energy study finding that the same reduction would result in an additional 2,000 to 11,000 nonmelanoma skin cancers, 130 to 160 melanoma skin cancers (25 to 50 of them fatal), and 13,000 to 28,000 cataracts per year. The EPA study reduces the nonmelanoma skin cancer estimate down to 700 primarily (not entirely) because it looks at actual reductions in ozone concentrations expected to result from the new standard, which are not uniform but rather vary with the time of day, season, and location. We think it is reasonable to assume proportionality in the various health effects of UV radiation. On that assumption, EPA's analysis suggests that the lower ozone standard would yield, in addition to the 700 nonmelanoma skin cancers, 8 to 55 melanoma skin cancers (2 to 17 of them fatal) and 800 to 9,700 cataracts per year.

How do those ill effects compare with the respiratory health improvements of a lower ozone standard? EPA and other regulatory agencies have well-developed procedures for valuing, in monetary terms, the costs of deaths and various forms of disease and incapacity. Applying those procedures, EPA estimated that the respiratory health improvements from the new ozone standard would be worth \$21 million to \$34 million per year. The agency did not, of course, value the health costs, but its valuation methods yield a value of \$3.3 million for averting the 700 nonmelanoma skin cancers that it found would result from the new rule. Nonmelanoma skin cancers, however, are a very small part of the health costs of

UV radiation—in the range of 3 to 5 percent. That relationship suggests that the total health costs of the standard would be \$70 million to \$96 million per year—more than twice the health benefits.

These estimates involve significant uncertainties. EPA's analysis of UV-related health damages uses several assumptions we would quarrel with, some increasing and some decreasing its estimate of the number and consequences of nonmelanoma skin cancers. The same could be said of the agency's estimate of health benefits. Nevertheless, we think it likely that the damage to health from UV exposure under EPA's new ozone standard would be greater than the respiratory health benefits. The standard would produce a small net deterioration in public health. A better standard under the Clean Air Act's health protection mandate is the current standard.

Setting air quality standards in this manner, as the court directed, is a far cry from our preference for standards based on all social benefits (amenity as well as health) and all social costs (economic as well as health). The total cost of attaining the new ozone standard would be about \$10 billion per year according to EPA, much higher according to outside observers. This means that the ozone rule would have net costs of billions of dollars per year according to the EPA's own calculations (even considering ancillary benefits that the agency did not take into account). Costs of that magnitude, by reducing the resources that firms and households have available for other purposes—including controlling other health and environmental risks—could very well increase risks far beyond the extent suggested here.

Technocrats or Theologians?

It is extremely unlikely, however, that EPA will willingly go down the path of formally considering the costs of its standards in any form, including the health costs of increased exposure to UV radiation. EPA Administrator Carol Browner has said repeatedly that the standards were based on the "best available science." But she has also called the Court of Appeals' unanimous finding on UV health effects "one of the most bizarre sections of the decision . . . [seeming] to conclude that more pollution could even be good for public health—that skies dark with pollution will help prevent skin cancer." This is, to put it politely, disinformation. Ozone at the levels in question is invisible and, indeed, requires sensitive monitoring equipment to detect, while its health benefits are (partially) documented in EPA's own research.

Some EPA watchers have long suspected that the agency's unspoken agenda is progressively to ratchet down all pollution standards to zero—which, in public, it opportunistically justifies with health considerations one day and other considerations (aesthetics, global warming, whatever) the next. The impulse driving this agenda may be mere bureaucratic power-seeking or misguided environmental idealism. Other observers have seen the agency as a well-

intentioned, competent, but beleaguered technocratic protector of our environment. EPA's handling of the UV issue in this critically important case shows which view is correct: The agency flatly dismisses the UV-related health benefits of ozone because environmental theology forbids their existence. *American Trucking* has placed that theology in a vise between science and the Constitution.

Note:

1. R. Lutter and C. Wolz, "UV-B Screening by Tropo-spheric Ozone: Implications for the National Ambient Air Quality Standard," *Environmental Science & Technology*, Vol. 31, No. 3 (1997), p. 142A.

Randall Lutter is a resident scholar at the American Enterprise Institute and Christopher DeMuth is AEI's president; both are fellows of the AEI-Brookings Joint Center for Regulatory Studies. Mr. Lutter's research on the effects of atmospheric ozone in reducing the risks of skin cancer was cited by the U.S. Court of Appeals in striking down the EPA air quality standards discussed in this essay.