By Carolyn Raffensperger

Science At Nexus Of NAAQS Decision

At the heart of the D.C. Circuit Court's decision striking down EPA's national air quality standards, which it held to be an unconstitutional delegation of authority by the Congress and the Executive Branch, is its finding that the agency lacked an "intelligible principle" for setting the standards in the face of scientific uncertainty. Ironically, after telling the other two branches how they must interact in rulemaking where substantial scientific uncertainty exists, the court introduced its own infringement of the separation doctrine by legislating the scientific structure of an appropriate rulemaking under such circumstances.

In *American Trucking Association v. EPA,* the petitioners had challenged the agency's revised national ambient air quality standards, or NAAQS, for particulate matter and ozone. In its surprising decision, the court (among other things) limited EPA's ability to enforce the ozone NAAQS, decreed that the agency must consider the health benefits of ozone in setting the standard, and declared that its choice of 10 microns as the regulatory threshold for particulate matter was an arbitrary and capricious indicator for the disease-causing pollutant.

The explicit basis for the court's decision that separation of powers had been violated was its finding that the agency lacked a principle to deal with scientific uncertainty in setting the standard. Without such a principle, the agency had so loosely interpreted Sections 108 and 109 of the Clean Air Act that in effect it was legislating, thus rendering the standards unconstitutional delegations of legislative power. The court conceded that the agency had used reasonable factors in determining the public health concerns involved, but said EPA had no basis for applying those factors because it could not take uncertainty about health effects into account to adequately accomplish Congress's goals in those sections. As an illustration of its concern, the court went on to say that this lack of a principle meant the agency could have set a standard for particulates anywhere between the levels found in London's 1952 Killer Fog, which killed 4,000 people, or peak background levels.

Here's how EPA might establish a scientifically defensible rule that meets constitutional muster, according to the court. The rule must make explicit a principle for a numeric standard in the face of uncertainty over health risks (although cost-benefit analysis is necessarily ruled out because of the act's instruction that harm to human health is to be the guiding factor). Second, the court seemed to advocate balancing tests using scientific data of benefits and harms, particularly for setting the ozone standard. Such prescribed balancing, however, creates vastly more uncertainty.

The court went on to challenge EPA to develop a "rough equivalent of a generic unit of harm that takes into account the population affected and the severity and probability of that harm." The judges suggested that Oregon's method for determining eligible conditions for medical treatment of the poor was a useful analogue for such a "principled structure." Oregon determined the amount of improvement in "quality-adjusted life years" divided by the cost of treatment and then ranked treatments. Apparently, without considering cost, EPA is supposed to create a similar mathematical formula for establishing a particulate matter standard. This is not going to be short division.

In another blow to environmental and public health protection, the majority found that EPA explicitly disregarded the alleged health benefits of ozone. As we all know from the depletion of stratospheric ozone because of now-banned chemicals, ozone is an essential barrier to solar radiation. At sea level, of course, this short-lived, three-atom version of oxygen is more often called "smog," and it can have severe effects on human health, particularly lung function. In the proceedings, the American Trucking Association presented evidence that ground-based ozone helps to prevent cataracts and skin cancers. The court then interpreted the Clean Air Act's command that EPA must consider "all identifiable effects on public health" to include beneficial effects. This ruling, of course, presents a dilemma for the agency. Is there really a way to set a standard for ozone where we don't get skin cancer and we don't get asthma?

The dissent written by Judge David Tatel presents the method EPA actually used to determine the levels for ozone and particulates "requisite to protect the public health" based on criteria reflecting the "latest scientific knowledge" and with an "adequate margin of safety," as specified in the Clean Air Act. The ozone standard was determined using two parameters: It was above peak background concentrations and at the point where the most certain health effects are not transient and reversible. The fine-particle standard was selected because it occurs at the lowest long-term mean concentration demonstrating a statistically significant relationship between the particles and adverse health effects. The implication in the dissent was that this was a sufficiently clear principle to establish a standard and meet EPA's legislative mandate to protect public health using science and a margin of safety.

The preamble of the Constitution declares as a central purpose "to promote the general welfare." The very next sentence, the first sentence of Article I, says that "all legislative powers herein shall be vested in a Congress of the United States." If the court was right that EPA is guilty of legislating in promulgating the NAAQS, the court is equally guilty in its decision.

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