Administration Views on Acid Rain Assailed

A new report asserts that acid rain is a serious problem in need of prompt regulation

An expert panel of the National Research Council has issued what amounts to an indirect rebuke of the Reagan Administration over the issue of acid rain. Taking the opposite side in the current debate over amendments to the national Clean Air act, the panel concludes that the acid rain picture "is disturbing enough to merit prompt tightening of restrictions on atmospheric emissions of fossil fuels and other large sources." Emissions of sulfur dioxide, one of the precursors of acid rain, should be cut by at least 50 percent, the panel says, while emissions of nitrogen oxides, another precursor, must also be sharply cut.

The report* is likely to assume considerable importance in the growing controversy over the Administration's willingness to seek only continued study of the acid rain problem. EPA Administrator Anne Gorsuch has justified this stance with a claim that the sources of acid rain remain uncertain and the extent of its damage unknown. The policy has been pleasing to the utility and coal industries, which the research council report says are responsible for 88 percent of sulfur dioxide emissions and a huge portion of the emissions of nitrogen oxides. The bulk of this pollution is generated in Ohio, Pennsylvania, and Indiana.

But the policy has greatly angered the citizens of Canada, who must endure the adverse economic effects of American-caused acid rain on their crops, lakes, and forests. Residents of New England are similarly upset, and their representatives in Congress have begun to agitate for changes in the law that would cost power companies in the Ohio River valley billions of dollars.

The research panel argues in favor of these changes, noting that "continued emissions of sulfur and nitrogen oxides at current or accelerated rates, in the face of clear evidence of serious hazard to human health and to the biosphere, will be extremely risky." But the Administration apparently wants to head in the other direction. Drafts of its clean air amendments that have been leaked to Capitol Hill include a host of provisions that will increase the precipitation of acid rain. Utilities, for example, would no longer have to install sulfur dioxide emission controls on power plants that shift from oil to coal. Deadlines for compliance with existing sulfur dioxide and nitrogen dioxide standards would be extended. Provisions allowing New England states to force tighter controls on pollution generated outside of their region would be weakened.

One Administration proposal seems particularly remarkable in light of the details of the research panel's report. Gorsuch has proposed to double the statutory limit on emissions of nitrogen oxide from automobiles in 1983 and beyond. This reform can be accomplished "without significant harm to air quality goals," she says. The justification is that it will reduce the sticker price of a new auto by $60, which will in turn supposedly help out Detroit. But the relaxation will undoubtedly accelerate the increase in nitrogen oxide emissions that is anticipated as the result of increased burning of coal. Ambient levels of nitrogen oxides have already tripled over the last 25 years, the report says. And in the absence of further controls, "their emissions will exceed emission of sulfur oxides by the turn of the century." Most of the increase is occurring in the Boston to Washington corridor and in the Ohio region. Scientists are apparently less certain of the ecological effects of nitrogen oxide than they are of the effects of sulfur dioxide. But the panel says that in addition to boosting acid rain production, the pollutant could be causing runoff of nitrate from soils into drinking water in hazardous amounts.

The report generally highlights the relationship of coal-burning to the release of toxic metals into the environment—a secondary phenomenon of acid rain that has only recently attracted scientific notice. As the rain acidifies lakes and streams, for example, it leads to the release of aluminum from sediment and nearby soils. In the spring, when ice melts, the accumulated acid precipitate boosts aluminum concentrations so high that massive fish kills result. Manganese, zinc, nickel, lead, and cadmium also appear to be washed into lakes and streams as a result of acid rain, the panel says. Scientific models suggest that "in Lake Michigan both cadmium and zinc will reach concentrations toxic to zooplankton within the next 30 to 80 years."

The concern is that acid rain exacerbates the effects of direct emissions of toxic metals. It increases the amount and toxicity of mercury in fish, for example. "At present, there is no satisfactory technology for controlling large-scale emissions of mercury. . . . Its continued or accelerated release, especially in view of its synergism with acid deposition, may cause chronic problems in many areas in years to come," the panel says. On land, deposited nitrogen and sulfur may result in a short-term enhancement of plant growth, but "over the long term acid precipitation is likely to accelerate natural processes of soil leaching that lead to impoverishment of plant nutrients."

The utility and coal industries' response to such concerns is that others are responsible, and that the problem has not appreciably worsened in recent years anyway. William Poundstone of the Consolidation Coal Company told a congressional committee several months ago that "there is no good data or evidence linking sulfur emissions to alleged increases in acidity of rainfall in the Eastern United States. An examination of the amount of coal burned in this country during the same time span that acid rainfall allegedly increased—1955 to 1973—reveals very little change in the total sulfur dioxide levels."

The research panel, which was led by David Schindler, an American researcher at the Freshwater Institute in Winnepeg, Manitoba, challenges these assertions directly. "Although claims have been made that the direct evidence linking power-plant emissions to the production of acid rain is inconclusive, we find the circumstantial evidence for their role overwhelming," it stated.

The panel also casts doubt on the usefulness of a remedy to acid rain frequently suggested by the utility industry—the liming of lakes through airborne dumping of phosphorus and calcium carbonate. The procedure is too expensive and can cover only a small region, the report says. It concludes that "in the long run, only decreased reliance on fossil fuel or improved control of a wide spectrum of pollutants can reduce the risk that our descendants will suffer food shortages, impaired health, and a damaged environment."

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*Committee on the Atmosphere and the Biosphere, *Atmosphere-Biosphere Interactions: Toward a Better Understanding of the Ecological Consequences of Fossil Fuel Combustion* (National Academy Press, 1981).

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