EPA Smog Standard Attacked by Industry, Science Advisers

The Environmental Protection Agency is weakening the critical standard for city air this winter in such a way that higher levels of pollution will be permissible next summer when the smog season returns. The EPA is making the change under duress. The oil industry, acting through its Washington, D.C., political agency, the American Petroleum Institute, has applied a series of legal prods since 1976 to make EPA rewrite its standard for photochemical oxidants—or smog. It looks as though the industry will win a partial victory. The change, incidentally, is being made without approval of EPA's scientific advisers.

At present, the standard for smog is set at 0.08 part per million (ppm) of pollutant, and measured only in terms of ozone concentration. Ozone has been used as an index because it is the most plentiful oxidant in smog and the easiest to detect—though probably not the most toxic. The EPA now proposes to make several changes in policy, two of which are important. The first is to narrow the definition of the standard so that it will apply only to ozone and not to any of the other chemicals in smog. If the EPA wishes to regulate other smog toxins in the future, it will have to write a new standard for them, which will be difficult to do for political reasons.

The second proposal is to raise the permissible level of pollutant from 0.08 ppm to 0.1 ppm or higher. Until recently, the 0.08 standard served only as a goal and a record-keeper's index. But now the deadline for enforcement draws near, and the states must file written plans next January explaining precisely how they will get smog under control. Enforcing the 0.08 standard, or even a lenient standard of 0.1 or 0.2, will cost billions of dollars a year. For this reason there is tremendous political pressure to push the number as high as possible.

The Cost of Clean Air

Members of President Carter's White House staff sided with the industry in this campaign, calling EPA's smog standard "inflationary." Among those who collaborated in chiding EPA are William Nordhaus, a member of the Council of Economic Advisers, Barry Bosworth, director of the Council on Wage and Price Stability, and Carl Gerber, of the Office of Science and Technology Policy. In a 31-page economic brief filed 16 October, the White House inflation-fighters claim that the cost of meeting even the 0.1 ppm standard for smog will be twice what EPA estimated: not $7 to $9 billion a year, but $14 to $19 billion. The White House paper faults the data on which the decision is being made and urges EPA to let the standard slip by as much as 100 percent, not by 25 percent, as the EPA staff recommended. Lastly, the President's economists tell EPA that it should not be preoccupied with the most vulnerable 1 percent of the population (asthmatics and people with emphysema), as it is in this case. The paper says that EPA should not base its policy on the problems of marginal people but should try to make its decision "consistent with the preferences and behavior of the general population."

The EPA will accede partway to these demands. The major revision it plans to make, however, runs against the grain of the scientific experts' advice. Ernst Linde, a staff member on the agency's science advisory board, said the board will not be asked to comment on the final paper justifying the smog standard, even though board members have rejected all earlier drafts of the paper. The EPA plans to go ahead, with or without a formal scientific blessing. The official who actually drafted the proposed new standard—Michael Jones—claims that he received verbal approval from the science advisers, but he cannot find any written record of it.

Some members of the scientific board objected to EPA's plan to narrow the definition of smog from a general one that covers all photochemical oxidants to a much more specific standard that would cover only ozone. When EPA was created, it was given the task of monitoring and reducing the level of all photochemical oxidants. In fact, it has never gotten around to doing this. It has monitored only one of the oxidants—ozone—because it was the easiest to measure and because it is a reliable indicator of the rise and fall in levels of other oxidants. The EPA has always known that other potent poisons were present in smog, but it has stuck with the ozone index because it is convenient.

With a petty kind of consistency, EPA now informs us that because ozone was the only thing it measured in the past, ozone is what it ought to measure in the future. In its diligence to document the hazards of ozone inhalation, EPA may have missed the main point. It seems to have narrowed the definition of the problem to match the narrowness of its own capabilities.

One person who does not agree with the new rationale for the smog standard is the chairman of the scientific committee assigned to help EPA: James Whittenberger, head of the physiology department at Harvard's School of Public Health and a widely respected expert on environmental policy. His group was known officially as the Subcommittee on Scientific Criteria for Photochemical Oxidants. When Whittenberger's group was shown a draft "criteria document" in 1977 justifying EPA's proposed change in the smog standard, the members agreed that the paper desperately needed rewriting. As one member put it, "The document was in general poorly done, scientifically, technically and even from an editorial point of view. It was hard to follow."

Weak Scientific Evidence

Whittenberger himself said that he doubted that ozone was quite the hazard in low concentrations that the EPA staff made it out to be. He and his colleagues asked for many detailed revisions and specifically raised the issue of the paper's narrow scope. The consensus of the group, Whittenberger said in 1977, was that the standard should *not* be narrowed to ozone, but should be kept as it was—covering all photochemical oxidants. That was in November, 1 year ago. In February 1978 the subcommittee read a second draft, made many of the same criticisms, and rejected the paper again. Finally, on 15 March, the last time the group was asked to look at the proposal, the paper was rejected. Whittenberger wrote that the authors had "responded insufficiently to many criticisms made by the members of the subcommittee" and that "the health risk assessments are largely speculative, incomplete and heavily dependent on studies of questionable value." That was the last bit of written advice he gave, and now his subcommittee has dissolved. In a recent interview, Whittenberger said that as a result of its refusal to listen to his committee's advice, EPA may find that its ozone regulation is vulnerable to scien-

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tific and legal attack. "Will it hold up in court?" he asked.

EPA tried to compensate for narrowing the standard from all oxidants to ozone by loading the case heavily against ozone. The standard up to this time has been set at 0.08 ppm for oxidants (measured as ozone), but EPA was unable to come up with any persuasive American research showing that ozone has a measurable effect on human health at levels below 0.37 ppm. It found a Canadian study, done under protocols precisely similar to those in the American study reporting effects at 0.37 ppm, which reported effects at 0.25 ppm. That was thrown into the record. Also cited was an American study that reported increased bronchial airway resistance and subjective "tightness of chest" feelings in runners who were exposed to 0.15 ppm ozone under laboratory conditions. And then there was a study reporting that laboratory animals seem to be made more vulnerable to bacterial infection when dosed with 0.1 ppm ozone. Mixing this information together with some mathematical calculations of probable health risk, the EPA staff decided that the standard should be set no higher than 0.1 ppm. The industrial petitioners think it should be set no lower than 0.25 ppm—or at the very lowest, 0.2 ppm. The White House wants 0.12 to 0.16 ppm. Industry people rightly point out that the EPA has very weak evidence for calling ozone a health hazard at less than 0.2 ppm. Soon EPA administrator Douglas Costle will choose a number—and the number will almost certainly be more than 0.1 ppm.

"The trap has now been sprung," James Pitts, Jr., director of the Statewide Air Pollution Research Center at the University of California, Riverside, said recently. Whittenberger asked him to sit on the review committee because of his expertise in photochemistry. Pitts believes that EPA has made "a very substantive change" in narrowing the standard to ozone alone. "What one breathes in smog is not just ozone, but it is PAN [peroxyacetyl nitrate], nitric acid, formic acid, formaldehyde, particulates—one has a very complex mixture." The trap, according to Pitts, is that if one bases a health assessment on ozone alone, one probably must settle for a high level of pollution because pure ozone does not seem to produce noticeable effects at low levels. "It seemed to me and to Jim [Whittenberger] and a number of others that it is an important concept that people breathe real air."

Pitts said that he "pointed this out strongly. . . . I put it in writing. I pointed it out at the committee meetings. I've written to the EPA in detail, and we presented testimony in a public hearing to the EPA." It is "one of the real concerns that I have as an atmospheric scientist, that we are losing sight of the whole synergism involved in photochemical oxidants." One of his great disappointments in sitting on the advisory committee was that "we never had a chance to really examine or sit down with our colleagues at the EPA and debate this at the length a subject as important as this requires." There is a Catch-22 that operates at EPA, Pitts said, making it difficult to gather evidence on pollutants that are not already regulated. "If you don't have an air quality standard defined for a pollutant, there's no money to go out and really make the measurements you have to have to get the standard. You see that catch? . . . If you don't have a regulation, you can't measure it; and you can't measure it until you have a regulation." He did not want to drop the nonozone oxidants from the list of regulated substances because he thinks it will take forever to get them restored.

Ozone Rule Defended

Jones, the author of the EPA staff paper on ozone, said recently that "we could have done it either way," meaning he could have included all oxidants or limited the standard to ozone. He added, "Maybe Jim Pitts is right . . . but I don't think we're giving anything away." Jones explained that there were two reasons for isolating ozone. First, it seemed to make sense to regulate the same substance that was being monitored. Second, it enabled EPA to dismiss a number of complaints from city governments arguing that their brew of photochemical pollutants was unique and required a unique standard. Ozone is the same everywhere; it is the most abundant constituent of smog; and when ozone pollution is reduced other oxidants are reduced as well. "We felt that it would be easier to enforce the standard this way," Jones said.

No doubt the standard will be easier to enforce, but will it have the same meaning? If the oil and auto industry researchers prove that ozone is hazardous to health only in strong doses, will EPA relax its enforcement accordingly? One can only speculate about this, but one knows the American Petroleum Institute already has an answer.

—ELIOT MARSHALL

Election Results Worry NSF

Senator Charles McC. Mathias, Jr. (R-Md.), has not made up his mind, but the mere possibility that he might leave the Senate appropriations subcommittee that approves the budget for NASA and the National Science Foundation makes some people jittery. With the defeat of Senator Edward Brooke in November's election, a place has opened up on another, possibly more attractive subcommittee that deals with the Departments of Labor and Health, Education, and Welfare. Mathias's seniority entitles him to take Brooke's place as ranking Republican on the Labor-HEW panel, a post that a number of Senate staffers believe he would like to have.

Mathias is now the ranking Republican on the independent agencies subcommittee, where he often finds himself defending the NSF budget against attacks from chairman William Proxmire. The NSF is terrified by hardened budget-slashers like Proxmire, who delight in ridiculing scholarly research even as they wield the ax. The NSF is justifiably worried this fall because two of its friends have already been knocked off the subcommittee. Mathias could be the third to go—leaving the agency at the mercy of the slashers. The other lost friends were Senator Clifford Case (R-N.J.), who was defeated in the primary, and Brooke. Both sat on the appropriations panel. If Mathias decides to leave, the next ranking Republican in line for his seat is Senator Henry Bellmon of Oklahoma, a man who has never exhibited a keen interest in scientific research. He sponsored the legislation that limits faculty salaries on NSF-funded projects to $47,500.

Mathias's assistant on the subcommittee, Robert Clark, would not discuss his boss's plans. He was frankly annoyed by an inquiry on the day after election: "Don't you just love it the way they begin speculating?" he asked. Then he ran down a list of good reasons why Mathias might want to stay where he is, concluding that the curious will be able to learn of the senator's decision when he makes it—probably sometime in early January.—E.M.

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