

## Acid rain

# Demands for action multiply

### Washington

BUCKING the Reagan Administration line that too little is known about acid rain to take regulatory action, the White House Science Office's own panel of experts last week called for "meaningful reduction" in sulphur dioxide emissions and warned that delay could cause irreversible damage to the environment. "Actions have to be taken despite incomplete knowledge", the panel concluded, and suggested that initial "least cost" steps might include use of low-sulphur coal in summer (when wet deposition of sulphuric acid reaches a peak in North America), intensive coal washing and imposition of emission controls on non-ferrous smelters.

The White House panel, headed by William Nierenberg, director of the Scripps Institute of Oceanography, was formed to review the scientific documents produced by US-Canadian working groups set up under the "memorandum of intent" signed by the two countries. The job was to have been assigned to the National Academy of Sciences, but when an academy report in 1981 called for an immediate reduction of 50 per cent in acid deposition, Reagan officials concluded that the academy was too biased and mustered its own experts.

The administration decided at the same time not to support a second academy study, of atmospheric processes and deposition. The academy had its revenge last week when it released that study (financed by private foundations) the day after the White House panel issued its findings.

The chief conclusion of the academy group is that the conversion of acid precursors (sulphur dioxide and nitrogen oxides) to acids in the atmosphere is a linear process, when averaged over large areas and periods of one year. Thus a 50 per cent reduction in emissions over the entire eastern half of the United States will yield a 50 per cent reduction in deposition. These findings contradict the conventional wisdom — based largely on European monitoring data — that the response would be nonlinear, with perhaps even substantial cuts in emissions failing to give a commensurate pay-off in deposition.

The academy group was careful to stress, however, that current understanding and modelling is woefully inadequate to make any more refined predictions. The effect of emission controls in a particular area (such as the midwest) on deposition in a receptor area (such as the Adirondacks) cannot be evaluated, the group said.

Although Nierenberg said he hoped his panel's findings will become an administration statement, a White House official appeared to hedge when asked how the findings will be used. He skirted the issue of regulation, saying that was up to William Ruckelshaus, administrator of the

Environmental Protection Agency, to decide, and emphasized instead the panel's recommendations — which will be out shortly — on research priorities in acid rain.

Meanwhile, two bills before Congress would order action. Representative Henry Waxman (Democrat, California) and Gerry Sikorski (Democrat, Minnesota) have proposed a gradual nationwide reduction in sulphur dioxide emissions; and the Senate Environment and Public Works Committee has already approved a measure that calls for reductions in the midwestern and western states only.

Jack Calvert, of the National Center for Atmospheric Research, who chaired the academy group, said its results did not necessarily support either of these initi-

atives, and that any regulatory decision had to take into account not only scientific findings but also economic and political factors that the academy panel was not competent to assess. But he did say that its conclusions mean that "we'll guarantee an effect" if emissions are reduced — which is more than has been said until now.

The academy group's conclusion on this point was based largely on data collected at Hubbard Brook in New Hampshire, which has been intensively studied for the past 13 years. The ratio there of deposited sulphate to nitrate ions has closely paralleled changes in the emission rates of the corresponding precursors in the eastern United States. The group suggested that contradictory European data may reflect a difference in meteorology or climate, or may be due to changes in analytical and sampling techniques and laboratories over the period of data collection in Europe.

**Stephen Budiansky**

## US cooperative research

# Antitrust restraint on way out

### Washington

HIGH technology companies in the United States expect soon to be allowed to form collaborative research and development ventures with their domestic competitors without fear of violating the antitrust laws. The Senate began hearings last week on three bills that would respond to longstanding industry complaints that antitrust legislation has tied the hands of American companies seeking to respond to the technological challenge from European and Japanese rivals.

Inspiration for the measures coincided with the recent formation of the Microelectronics and Computer Technology Corporation (MCC) by 13 high technology firms. Headed by former deputy director of the Central Intelligence Agency, Admiral Robert Inman, MCC is expected to play a leading part in the development of a new generation of American computers. Establishment of the ventures, possible only after navigating tortuous legal obstacles, has become a model for similar ventures.

In hearings last week Mr Malcolm Baldrige, Secretary of Commerce, said the administration regarded collaborative ventures such as MCC as highly desirable as they promoted the efficient use of technical personnel and enabled small firms to collaborate in ambitious research projects. He acknowledged the need to change the antitrust laws to encourage joint ventures.

Baldrige claimed that the United States's major trading partners had already invested heavily in collaborative efforts, and cited Japan's ten-year joint research programme to create a fifth-generation computer. The European Economic Community, too, had exempted several joint research agreements from its antitrust restrictions.

Arguing that recent attempts by the Department of Justice to explain how the antitrust laws could be circumvented in some cases had not eased the fears of many companies, Baldrige disclosed that the administration was preparing a package of legislative reforms which would exempt joint research and development from all private antitrust actions, and from all government actions for damages based on activities that were part of a research programme that had been publicly disclosed. But the government would still be able to seek an injunction to halt any actions thought to be harmful to competition.

Although the administration package goes further than many of the measures introduced in Congress, it has come under considerable criticism from sponsors of the congressional legislation and from the industries that would benefit. Senator Charles Mathias (Republican, Maryland) warned Baldrige that by coupling the research and development exemption with more extensive changes in antitrust law, the administration might lose congressional support. Admiral Inman also warned against overloading the modest bill with too many controversial reforms.

In addition to its research and development exemption, the administration bill would end the "triple damage" provisions which have been the cornerstone of antitrust legislation for many years. While Congress is expected to support the exemption, many congressmen are likely to balk at a radical change in the general legislation. Senator Mathias described triple damages as one of the law's "historic bastions". And Senator Howard Metzenbaum (Democrat, Ohio) claimed that the disappearance of triple damages would "decimate" the antitrust regulations.

**Peter David**