the company did not do everything it possibly could to protect employee health."

Norwood said that he had been informed that the Nuclear Energy Liability-Property Insurance Association, the national insurance pool that underwrites private nuclear facilities, had strongly urged the noncooperating companies to change their position.

How successful has the registry's recruitment been? No accurate figures are available, but upwards of 7000 to 8000 persons may now be employed in plutonium operations. The registry has signed up about 6000 of these workers, and some 850 of them have agreed to autopsies.

According to rough estimates supplied to *Science* by the AEC, however, about 17,000 persons are thought to have worked in plutonium operations from the beginning of the Manhattan project to the present. If so, that means the registry is monitoring only the most recent one-third of the population considered to have been occupationally "at risk" to exposure to plutonium. But finding and enlisting the cooperation of the first two-thirds has so far not been practical, Norwood said, explaining that, for one thing, early employment records are far from complete.

Even so, the apparent loss of the first 11,000 plutonium workers would seem

Briefing

NAS Okays Auto Emission Standards

The health-related auto emission standards embodied in the 1970 Clean Air Act are basically on target and there is "no substantial basis for changing the standards," according to a recently completed report by the National Academy of Sciences–National Academy of Engineering. Presumably the report will help buttress the act against weakening amendments when it comes up for review and overhaul next year. The act was supposed to be up for renewal this year, but it has been carried over with an interim appropriation.

The half-million dollar study was ordered by the Senate Public Works Committee last year following extensive hearings at which auto makers took issue with the standards, saying they were too strict and the required emission control devices were not cost-effective.

The academy committee disagrees with both contentions. While data are still inadequate, it says, the evidence that has accumulated since the standards were promulgated tends to confirm their desirability, and the safety margins are indeed "relatively modest." What's more, the report says the standards are justifiable in cost-benefit terms. It estimates the annual cost of reaching statutory emission standards at $5 to $8 billion, and assesses the benefits of clean air at between $2.5 and $10 billion a year.

The study was structured in three parts to analyze the effects on human health of specified pollutants, the relation of auto emissions to ambient air quality, and the costs and benefits associated with auto emission control.

The report estimates that air pollution can be said to be implicated in about 1 percent of all U.S. deaths each year and that automobiles contribute up to one-fourth of this pollution. So automobile exhaust fumes may send as many as 4000 people over the edge each year.—C.H.

Weather Mod Research Under a Cloud

The U.S. government has been trying to mount successful weather modification research programs since the late 1940's, but "an effective national weather modification research program has not been established," according to a recent report of the General Accounting Office (GAO).

If successful, such research could help "alleviate drought, reduce the destructive forces of hurricanes, suppress lightning . . . and dissipate fog," the study says. But the country lacks the capability to do these things operationally in part because the research has been conducted in a fragmented way by seven federal agencies and departments, the report says.

In fiscal 1974 the government spent $17.4 million on this research, but GAO concludes that the money could have been better used if all weather modification research programs were consolidated into a single agency.

The GAO employed unusually crisp language to describe the failure of the Interdepartmental Committee for Atmospheric Sciences (ICAS) in coordinating these programs. ICAS was set up in 1959 as a solution to the problem of fragmentation among agencies which was apparent even then. But now, "ICAS apparently has had little or no impact on increasing coordination and accelerating progress in weather modification research."

As an example of the inability of agencies to sacrifice their priorities to joint endeavors, GAO looked at the 5-year National Hail Research Experiment, begun in 1972, for which the National Science Foundation is chiefly responsible. After several agencies agreed on a plan, the following defections occurred: the Agriculture Department decided not to study the economic benefits of hail suppression (so NSF did) and did not make a study of lightning which was considered "imperative" to the project. The National Oceanic and Atmospheric Administratinon supplied one airplane for 1 year only, instead of the three pledged for the life of the project. The Atomic Energy Commission did not measure hailstones and make planned tracer studies. And the Department of Defense, instead of supplying two helicopters, told NSF it could have one, provided that NSF paid the bill—which NSF couldn't. GAO did not say whether the truncated project has been a scientific success: ". . . we found, comparing the planned efforts with the actual efforts that, for the most part, agencies could not and did not meet all their obligations."

Most of the federal agencies asked to comment on the study criticized it. The Agriculture Department's comment said GAO had not substantiated its premise that existing research programs were defective. Like most of the comments, it fought the proposed unified program: "I would not wish to defend a budget request on the basis that it enabled us to participate in a national weather modification program," the author said.—D.S.