

Science Officials Bow to Military on Weather Modification

The Department of Defense (DOD) sent only one official witness to last week's hearings on weather modification held by a subcommittee of the Senate Foreign Relations Committee, but DOD had several spokesmen there anyway, including key Administration science officials.

The hearings were held by Senator Claiborne Pell (D-R.I.), chairman of the subcommittee on the oceans and international environment. Pell has proposed a draft treaty banning geophysical warfare, but the primary purpose of the hearings was to review recent allegations of United States' rainmaking for military purposes in Indochina and their implications for foreign policy and world science (see *Science*, 16 June).

The DOD declined to send either Secretary Melvin R. Laird or science chief, John S. Foster, Jr. Instead, a rather lowly official appeared: Benjamin Forman, an assistant general counsel for international affairs. Pell asked Forman a series of prepared questions concerning the Indochina allegations and others, such as the rumor that the United States has engaged in weather modification over Cuba. Not only was the subcommittee insulted by Forman's blanket refusal to answer most of the substantive questions, but, with some prodding, Pell eventually drew out of Forman an admission that he was under instructions to remain silent on the rainmaking charges. Pell said that in all his years in the Senate he had never seen such an unresponsive witness.

However, DOD could well afford to send a nonwitness such as Forman; it had three other mouthpieces—Herman Pollack, director of the Bureau of International and Scientific and Technological Affairs of the State Department; Robert White, administrator of the National Oceanic and Atmospheric Administration (NOAA); and Gordon MacDonald of the Council on Environmental Quality. Despite the fact that many civilian weather scientists are known to vigorously oppose the use of weather modification in war, these science officials adhered unanimously to the line which had been worked out at a National Security Council meeting the previous Thursday afternoon.

Herman Pollack, whose office has kept briefs on the international policy implications of weather modification for a mere 10 years, testified that further study was needed. "There is too much uncertainty about essential facts," he said, for any "fundamental discussions" on Pell's proposed treaty.

But while claiming such a dearth of information on weather modification, Pollack breezily went on to make a sweeping policy statement about climate modification—a field which, it is generally agreed, is even more remotely understood. "It goes without saying," Pollack said, "that the Administration would not use techniques for climate modification for hostile purposes even should they come to be developed."

Pollack wavered on the issue of whether he had ever been informed, either during the 1960's or now, about the reported military rainmaking in Indochina. But Robert White, of NOAA, left no doubt that he had never been let into the picture. Under questioning, White

admitted he had no knowledge of classified weather modification operations, a situation which is all the more remarkable considering he holds the job of the government's number one weather man.

Compared with the fluff proffered by most of the government witnesses, White made the candid admission that allegations of military, offensive use of rainmaking will hurt international cooperation among weather scientists. Speaking for the scientific community, White said, "The United States must conduct its civilian programs with maximum openness." But then came the DOD kicker, "... and within the framework of specific safeguards designed to protect the interests of the United States. . . ."

Gordon MacDonald added his own two-step to White's, Forman's, and Pollack's dance on the head of a pin. "No project to control or modify the weather should be done by the United States," he said, without "reasonable assurance" that the results will be foreseen. But MacDonald did not explain whether or how this principle will apply to military activities.

The final opponent of the proposed ban on geophysical warfare was the Arms Control and Disarmament Agency, which is known to have a history of concern about DOD's weather activities in Indochina. Nonetheless, deputy director Philip Farley testified, "we are not prepared to endorse" resolutions leading to the treaty, "or take positions on the substance of the matter"—which pretty well sums up the Administration's position.

The Pell hearings barely got any publicity because the DOD declined to send its big guns to the Hill, and because neither Pell, nor the witnesses, provided the media with suitably dramatic bits of theater.

But publicity isn't everything; the hearings did accomplish something. By its reticence to discuss the "substance of the matter," the Administration boxed itself into appearing to attach great strategic importance to cloud-seeding as a weapon—a technology which some civilian scientists doubt is particularly effective.

Further, it is clear that the civilian science administrators, who could have had a moderating influence on DOD's inevitable wish to keep its options open, either tried and failed, or never tried, to bring the Administration around to a more open posture.

At a press conference last May, when presidential science adviser Edward E. David, Jr., happily announced the signing of a science and technology cooperative agreement with the Soviet Union, he mentioned weather modification as a possible area of joint research no less than four times. Later Pollack testified before Congress that weather modification would be among the "particularly rewarding common efforts" between the two countries.

But last week, when David announced the final signing of the agreement between the United States and the U.S.S.R., weather modification had been dropped from the list. The fears of some scientists that DOD's prerogatives on weather technology might hurt international scientific work may already be coming true.

—DEBORAH SHAPLEY