

surrounding the CBW program, has urged the Administration and the Congress to conduct a close review of CBW activities, and has charged that the United States, by using chemicals to kill food crops and tear gas to drive enemy soldiers out into the open where they can be killed by conventional weapons, has imperceptibly drifted into a policy of "limited chemical warfare" in Vietnam. McCarthy has also urged that the United States ratify or support various existing and proposed arms control measures. But his campaign has been hampered by lack of a convenient forum. He attracted relatively little support until he hit upon tangential safety and pollution issues that excited the interest of some of his colleagues. Then the rush to hold hearings on an issue that touched deep public antagonism toward both the military and pollution turned into a small stampede.

The incident that provoked Congressional interest was McCarthy's revelation, in early May, that the Army planned to transport 27,000 tons of surplus chemical weapons across country by train and then dump them into the Atlantic Ocean. The weapons were to be moved in 809 railroad cars from as far away as Denver, Colorado, to the Naval Ammunition Depot at Earle, N.J., where they were to be loaded on four old Liberty ships, towed at least 145 miles out to sea, and then sunk with the ships in at least 7200 feet of water. McCarthy expressed concern that a railroad accident might spray the lethal chemicals over the countryside and cause a massive disaster, particularly since the proposed train routes passed through such cities as Indianapolis, Dayton, Philadelphia, and Elizabeth, N.J. He also questioned the ecological consequences should any of the gas leak out of its containers under the ocean. The material to be dumped included about 2152 tons of GB, a nonpersistent nerve agent, which was contained in rockets and bombs; 4786 tons of mustard agent, which was held in steel containers; and 3.4 tons of CS, a military tear gas.

After McCarthy revealed the Army's plans, congressmen from the states to be traversed raised shouts of alarm, and at least three Congressional subcommittees—representing the Senate Commerce Committee, the House Foreign Affairs Committee, and the House Merchant Marine Committee—held hearings on the plans. Under the barrage of criticism, the Army quickly

McElroy Discussed as NSF Director

The word on Capitol Hill is that the successor to Leland J. Haworth as director of the National Science Foundation is likely to be William D. McElroy, chairman of the biology department at Johns Hopkins. There have been no hints from the White House about the appointment, but as *Science* went to press McElroy's name was going through the customary clearing process with key congressional Republicans. It would not be surprising if the appointment were getting special handling because of the uproar that ensued when the Administration backed away from naming Franklin A. Long to the NSF directorship after congressional pressure was exerted (*Science*, 18 and 25 April and 2 May 1969). McElroy, 52, did his undergraduate work at Stanford and earned his Ph.D. at Princeton. A member of the National Academy of Sciences (biochemistry section) and a trustee of Brookhaven National Laboratory, he served on the President's Science Advisory Committee from 1962 to 1967 and was president of the American Institute of Biological Sciences in 1968.—J.W.

announced that it would hold up its shipments until the National Academy of Sciences and other federal agencies had a chance to review the plans. An Academy panel, headed by George B. Kistiakowsky, Harvard chemist and former Presidential science adviser, is expected to report its findings shortly.

Haphazard Planning

Though the experts have not yet rendered their verdict, the various hearings produced some interesting insights into the hit-or-miss planning that governs some CBW activities. The Army said one reason for dumping the weapons in the ocean is that it would be too dangerous to take the weapons apart and neutralize the chemicals—a dilemma which suggests that whoever designed the weapons in the first place didn't give much thought to the disposal problem. The Army also said that, on three previous occasions, it had dumped chemical weapons into the ocean but had made no effort to determine whether there was any effect on marine life. Several Congressmen also complained that there were few safety requirements imposed on CBW shipments. They said other federal agencies gave the matter only perfunctory attention, and thus much of the responsibility for safe transport was left to the carrier.

Under the original plans, the weapons-carrying trains were not required to follow a prescribed route to avoid cities, they were not limited as to speed, and they did not have to be paced by a pilot train to lessen the chance of collision or accident. The

plans did call for buffer cars to separate the lethal cargo from the rest of the train, for specially trained Army guards to accompany the shipment, and for civilian authorities along the route to be alerted—but McCarthy questioned whether even some of these safeguards were being carried out.

After hearing the Army's presentation, Senator Vance Hartke (D-Indiana), chairman of the Senate subcommittee on surface transportation, called the Army's attitude "cavalier." Senator Harrison A. Williams, Jr. (D-N.J.), said that the Army's plan for a "poisonous parade across America" was a "bizarre scheme" that represented "the ultimate in railroading risk."

Late in May, just as the hubbub over the dumping plan was temporarily quieting down, the Army was again called on the carpet. A House subcommittee on conservation, chaired by Representative Henry S. Reuss (D-Wis.), held hearings on environmental dangers of open-air testing of CBW agents. According to a key staff assistant, Reuss became interested in the matter partly because of McCarthy's vigorous campaign, and partly because of a recent issue of *Environment* magazine that was devoted to the nerve gas accident that killed some 6000 sheep outside the Dugway Proving Ground in Utah last year.

The Reuss hearings were remarkable for their skeptical and hostile tone. Reuss took the unusual step of actually swearing in the Army witnesses and he repeatedly reminded them that they were under oath. "Do you swear to tell the truth, the whole truth and