

have the costs. HHS is said to be following the law in using over 20 percent of its auditing resources in checking on R & D expenditures which amount to only 2 or 3 percent of the agency's total outlays. HHS and OMB officials say they would prefer to see the auditors redeployed to Medicare, Medicaid, and Social Security programs, which are regarded as more vulnerable to mismanagement and fraud than R & D.

A major hurdle facing the experiment is getting agreement on the guidelines the private auditors would observe in looking at the books. HHS produced a bulky draft audit guide at which university officials bridled. Modifying suggestions were then made by the Council on Government Relations (COGR), the organization through which the big research universities mainly negotiate with the government on financial issues. The COGR proposals were largely ignored by HHS in providing a revised version of the guide. The universities made known their disappointment and are, in effect, waiting to see what new terms will be offered. How HHS receives the new Harvard audit by a private firm will be taken as a significant indication of HHS attitudes.

The OMB-led quest for a single audit scheme is centered on a revision of OMB Circular A-110 which contains uniform accounting requirements for universities and other nonprofit institutions. There is a precedent for the single-audit idea in the rules now being applied for auditing of federal funds spent by state and local governments. Plenty of problems remain. It is not clear that the single audit is working well with state and local governments. And the answers to questions such as the level of funding at which the single audit principle should be applied and frequency with which audits should be conducted are far from agreed upon.

At this point, the attitude of the universities toward the proposed reforms seems to be one of cautious pessimism. Conversion to a single audit and the use of independent auditors could bring welcome relief. But before that is accomplished, many hard, practical issues remained to be resolved. How, for example, would the not inconsiderable private auditors' fees be paid? Would they be chargeable as indirect costs? No answer is available. And there is skepticism that OMB could effectively enforce a revised A-110. The drawback is what might be called Catch A-21: Everyone may embrace the reform principle, but it is the interpretation by particular agencies, even by individual auditors, that continues to cause the bind.—JOHN WALSH

## The Dense Pack Debate Begins

A vigorous congressional debate is expected in the wake of President Reagan's announcement, on 22 November, that he intends to deploy the MX nuclear missile in a basing mode generally known as Dense Pack. Under his proposal, 100 MX's will be placed in a series of closely spaced missile silos, to be constructed between 1984 and 1989 on remote plains to the northeast of Cheyenne, Wyoming.

According to the Pentagon's best estimates, the construction of this system will cost at least \$26 billion (not including inflation), yet it will protect only a portion of the missiles, and even then for only a few hours after the start of a Soviet attack. At best, this guarantee runs only from 1989 to 1995; after that, the Soviets will have developed the means to kill all of the missiles right away, and a multibillion dollar fix will be required (*Science*, 26 November, p. 865).

Politicians in Wyoming are warm to the idea, confirming the state's long-standing reputation for hawkishness in foreign affairs. Senators Alan Simpson (R-Wyo.) and Malcolm Wallop (R-Wyo.), who are among the most business- and defense-oriented in Congress, have enthusiastically endorsed the Dense Pack proposal. Governor Ed Herschler, a Democrat, has been more reserved, calling it a mixed blessing because of its potential to boost the state's economy as well as to alter its environment. It is, he said, a little like "a teen-age daughter coming home at 3 a.m. with a Gideon Bible under her arm."

On the day before the President's announcement, Herschler joined with seven other Western governors in calling for the preparation of a formal environmental impact statement and the organization of public hearings prior to any MX deployment. The Pentagon is expected to reject this request, claiming that it would create too much delay. Congress will have to approve any exemption from the requirements for a formal statement, and the Pentagon faces a difficult fight.

Opposition to the proposal may develop among some of Wyoming's cattle ranchers or oil and gas firms. The Dense Pack scheme will remove about 20 square miles of land from prospective commercial use, all of which is now in private hands. Little opposition is expected in Cheyenne itself, which has become accustomed to the presence of 200 Minuteman III nuclear missiles at nearby Warren Air Force Base. But residents of neighboring states are apparently worried about the proximity of Dense Pack. Governor Richard Lamm of Colorado, a Democrat, says that he fears that it will make the entire region into a more attractive nuclear target.

In Washington, much of the debate is expected to revolve around the implications of Dense Pack for arms control. The Soviet Union has focused on the usefulness of the MX in a potential first-strike by the United States, denouncing the deployment proposal as "a new dangerous step on the path of stepping up the strategic weapons race, of preparing for a nuclear war." In an article in *Pravda* on 25 November, the Soviets noted specifically that it will violate a central provision of the SALT I and SALT II arms agreements—the requirement that neither side create any new fixed, underground launchers.

The Reagan Administration argues that Dense Pack skirts this provision by means of a neat technical trick. The MX, unlike existing U.S. nuclear missiles, is not actually launched from the silo itself. It is launched from a canister that sits inside the silo. The canister can be moved from place to place, although it will not be moved at all under the existing Reagan plan. Nevertheless, the Administration says that because of this, the silos are not actually launchers, the capsules are not really fixed, and no treaties will be abrogated.

As it happens, Paul Warnke, who led the U.S. negotiating effort for SALT II, disagrees vehemently with the Reagan Administration's interpretation. "Dense Pack is a violation of both SALT I and SALT II," he says. Senator Larry Pressler (R-S.D.), the chairman of a key arms control subcommittee, takes a similar view.—R. JEFFREY SMITH