

canyons and old riverbeds, and features formed by ocean currents. "It is altogether spectacular geology," Wolff told the House oceanography subcommittee last September.

Wolff told the subcommittee that when he first saw the Sea-beam charts, he became enthusiastic about mapping the entire economic exclusion zone. NOAA's plans have been reviewed by researchers from industry, other government agencies, and universities, and they have been equally enthusiastic. "There was general applause in the academic community when we heard NOAA was going to do this," says John Knauss, dean of marine sciences at the University of Rhode Island.

Wolff predicts that the data generated by NOAA's proposed survey "will have an enormous impact on a number of U.S. economic activities." They are likely to be useful for minerals prospecting and for locating promising areas for fishing, he says. He believes, however, that "the unplanned benefits will exceed the planned benefits," because all the results of a survey of such magnitude cannot be predicted in advance.

The potential scientific payoff from Sea-beam is expected to lie in the exquisite detail it provides. This scientific potential is, in fact, already being exploited by university researchers. Three academic research vessels in the United States have recently been equipped with the technology and are using it for surveys of specific regions. Moreover, Sea-beam has also been put on ships owned by several other countries, including France, West Germany, Japan, and Canada. So far, the Defense Department has not raised objections to these activities but appears to be concerned only about the extensive, systematic mapping proposed by NOAA.

This raises an interesting paradox. Reagan has declared that there will be no restrictions on scientific research in the U.S. economic exclusion zone. Thus researchers, including foreigners, could presumably do part of what NOAA is intending. "To force the scientific community to repeat the kinds of observations that will be made [by NOAA] . . . seems to make no sense," says Ross Heath of the University of Washington.

Because the Sea-beam technology itself is declassified and so widely available, NOAA did not anticipate any objections to its plan. When objections were raised, it was generally expected that the problem would be quickly resolved. It has, however, been going on for months now, and no resolution appears to be in sight.—COLIN NORMAN

DOD Reorganizes Management

In a partial bow to his critics, Secretary of Defense Caspar Weinberger has decided to reallocate some responsibility for weapons purchases. Specifically, he stripped the Undersecretary of Defense for Research and Engineering of primary responsibility for overall production policy and some key production decisions, handing it off instead to a new office responsible for oversight, logistics, and spare parts policies. The effect is to drive a wedge of sorts between those responsible for research and development and those responsible for production, with the result that fewer faulty weapons may get from the laboratory to the factory.

Although Weinberger noted that the Pentagon "has experienced significant problems and received considerable criticism in recent years" for producing bad weapons, he was vague about why this reform is being done now. One reason may be that the position of Undersecretary of Defense for Research and Engineering is now vacant, and the previous tenant, Richard DeLauer, had opposed any reduction in his authority. Another may be the release one week earlier of a sharply critical draft report on Pentagon decisionmaking by a panel of defense experts convened by the Center for Strategic and International Studies at Georgetown University. And a third reason may have been a hearing the previous week before the oversight subcommittee of the Senate Committee on Governmental Affairs, during which a group of senior corporate executives described Defense Department weapons-buying as costly, chaotic, inefficient, undisciplined, and in need of drastic structural change.

The executives are former members of the President's Private Sector Survey on Cost Control chaired by J. Peter Grace, a blue-ribbon panel that was handpicked by the White House to identify waste and inefficiency throughout the government. One of the panel's principal criticisms, announced in 1983, was that the Undersecretary of Defense for Research and Engineering controlled most aspects of both weapons development and acquisition, a circumstance portrayed as a potential conflict of interest. In effect, it enabled the Pentagon's top scientist to pass judgment on the worth of his own creations. In addition, the panel criticized the fact that production of a weapon is supervised by the military service that places the original order, a situation that was said to inhibit the cancellation of "marginal programs" that fail to meet expectations.

The panel had recommended that responsibility for weapons research and acquisition be separated, and that production be controlled by the Defense Secretary, not the individual services. According to testimony before the subcommittee by William Tremayne, a senior vice president of the Prudential Insurance Company, these changes "would lead to significant alleviation of program instability," limit the "excessive" number of new weapons programs, and constrain the widespread practice of redesigning weapons after production has begun.

With the new reforms announced by Weinberger on 29 January, these concerns have been only partially met. Production policy will be set by the new office, but the individual services will retain control of major weapons purchases. At a news conference, Deputy Secretary of Defense William Taft IV told reporters that "we do not favor" a transfer of all purchasing responsibility away from the services. Although he provided no further explanation, Mary Ann Gilleece, an undersecretary of defense for acquisition management, had previously told Congress that the savings from such a move are unclear, while the costs of disrupting current activities are "substantial." Somewhat mysteriously, she also said that the president's commission had "looked at the acquisition function in isolation and divorced from the broader mission of DOD. Our first mission is to meet the threat of global expansionism and ensure the national security."

Executives on the cost-cutting panel are not about to abandon their fight, despite the Pentagon's negative reaction. They have formed a formal lobbying group, Citizens Against Waste, and published their conclusions as a popular book, *War on Waste* (Macmillan, New York, 1984).

—R. JEFFREY SMITH