

The rest of the damage came when Webb told the Senate Space Committee that NASA plans not to include North American among the contractors to be considered for the Apollo Applications Program. This decision was made, explains deputy administrator Robert Seamans Jr., to protect the company from a "burden of diversity" that it might not be able to handle.

Among the prospects for industry that will be part of the multi-billion-dollar Apollo Applications Program are orbiting laboratories, workshops, manned and unmanned experiments, and other projects making use of hardware that has already been designed for Apollo. Leaving North American out of the bidding means that the company will be out in the cold as soon as the projects get either sophisticated or big enough not to need NASA's Apollo space capsules.

So far, according to Webb, the delay in the Apollo program has cost North American "several million dollars." but this will only be in the form of incentive payments not made since there are no penalty clauses in the space craft contract.

The space agency administrator also revealed that when the contractor was being picked to build the spacecraft, North American was second overall to the Martin Co. on the NASA technical evaluation board's rating list. NASA heads overruled the board, however, because of North American's excellent record in previous Government contracts; because of the company's experience with rocket motors in the X-15 program; and because, while Martin had a 3.5 percent technical edge, North American had a 30 to 40 percent edge in cost estimates.

Defense Money . . .

Conversion of the Navy to nuclear power has been a tooth-pulling operation from the days of the first nuclear submarine, with Congress doing most of the yanking.

The House Armed Services Committee added another pull last week by recommending that two guided-missile frigates, requested by the Department of Defense, be driven by nuclear reactors. DOD wanted them to be gas-turbine powered. The House authorization bill contained an \$83 million increase to pay for the more costly atomic vessels. The change had been recommended by the House Armed Services Committee.

Over the years, DOD's reluctance to spend money on nuclear power, whether for submarines, aircraft carriers, or escort ships, has been based on the price tag.

While submarines and carriers are now built with nuclear power almost as a matter of course, other types of ships have not been so graced. The Navy now has one nuclear cruiser, the Long Beach, and one frigate, the Bainbridge. Another frigate, the Truxton, will be commissioned for service May 27.



Navy

USS Bainbridge under atomic power.

The Senate Armed Services Committee earlier approved the request for non-nuclear frigates. If the two Houses pass conflicting bills, differences will have to be worked out in conference.

. . . ABM, in Abeyance

Defense Secretary Robert McNamara's position that defensive weapons are offensively unsettling in a nuclear stalemate found little sympathy in the Committee.

But DOD's budget request for \$377 million to begin deployment of a Nike-X antiballistic missile system satisfied both sides in the controversy. Committee members, joined by the Joint Chiefs of Staff, feel that amount will make a good start in building the system, which they would like to see underway at once. And the civilian chiefs of the Defense Department feel that amount will be needed if efforts to agree with Russia on limiting the construction of ABM systems fall through. Pending these negotiations, they can refuse to spend the money.

The House Committee, like the Senate Armed Services Committee earlier this year, agreed with the Joint Chiefs, and urged McNamara to spend the \$377 million.

As a first step, the Committee urged, a thin defense of ABM missiles should be deployed. This level of defense, costing about \$4 billion, would protect against small attacks.

. . . While Themis Rolls

Money for basic research funds, generally less than last year, was approved by the Committee to the tune of \$615 million.

This military sciences budget supports the Naval Research Laboratory, the Cambridge Research Laboratory, Rand Corp., and most other in-house and external basic research operations.

Among the programs approved was Project Themis, under which centers of study will be set up in various universities to develop competent research personnel. Themis, which got \$18 million last year, receives \$27 million in the current bill.

The Defense Department has narrowed the possible recipients of Themis aid to 69 universities, with 107 separate projects. About 50 projects will be chosen by the end of the summer. A minimum of \$200,000 per year for each center was set by the Committee.

Project Themis is part of a larger, Government-wide program to develop Centers of Excellence in all parts of the country.

The program has come under criticism recently for drawing off research money from established institutions. Dr. Jerome B. Wiesner, who helped give birth to the Centers of Excellence idea when he was the President's Science Adviser, claimed in a recent article in *TECHNOLOGY REVIEW* that current austerity in research budgeting makes illogical any spreading of the resources. Dr. Wiesner is now dean of science at Massachusetts Institute of Technology.

Congress, looking to its constituency, is likely to see more logic in developing university centers in other parts of the country, austerity or no.

200 BEV Full Steam

Congress is willing to let President Johnson cut corners on some non-military programs in the face of the growing cost of the war in Vietnam.

But where there is an influential Congressional Committee—like the Joint Committee on Atomic Energy—and it has a project it considers important—like the 200 billion-electron-volt accelerator being planned for Weston, Ill.,—the Congressmen dig in their heels.

And a JCAE subcommittee dug in its heels against a cut last week, insisting on full funding for the huge particle accelerator, to its full energy re-