

all from the Commerce Department. In a vote on the three-tenths standard proposal, three members were against it, two (including Wirtz's representative) were for it. The Department of Interior also approved it, though Interior is not technically a Council member.

Wirtz's standard will regulate the mines effectively for the present, but, with constantly increasing private processing of uranium ore, it will soon become useless since it depends on the government contract as a club. Other legislative authority must take its place, the Secretary warns.

"The ultimate question," he feels, "is whether an economic enterprise is to be required to satisfy the human values it affects or whether those values are



Looking for radon daughters.

to be compromised to serve the enterprise."

There is no excuse, he told the subcommittee, to "... warrant the deliberate condoning of an identifiable and preventable cause of death. . . ."

Atomic Black Market

The world boom in nuclear power reactors will soon create a supply of fissionable material—uranium 235 and plutonium—that will be hard to keep out of the hands of thieves, terrorists and powers that want to build their own atomic weapons.

Present safeguards will be inadequate to handle the future's bigger load, according to a report released last week by the Atomic Energy Commission. By 1980, atomic power plants will be producing 220 pounds of plutonium a day, enough for 10 A-bombs.

"Every effort should be made to in-

sure timely notification of the opening of black markets in the world for special nuclear materials. It is not clear that such markets exist today, although a panel understands that a 'fence' was involved in the recent theft of fuel elements (containing natural uranium) from the Bradwell Reactor in England" the report said.

The report, prepared by a special advisory panel, includes 13 separate recommendations to tighten the handling of the power-laden material.

Some aim at reducing the risk of nuclear material going astray in this country. Among the suggestions are stiffer punishment for theft of the material, security clearance for private industry personnel in sensitive positions, and AEC-administered rules for guarding material in privately-owned reactors.

But international controls worried the panel most. Here recommendations emphasize the role of the International Atomic Energy Agency, which has already begun inspection in several countries.

The IAEA will have to expand its staff—about a dozen employees, most of them short-term—if it is to handle the load. And its inspection will have to extend to chemical reprocessing plants as well as the research and power reactors now under its eye.

Most important, the IAEA will have to have worldwide recognition. The panel was encouraged that several Eastern European countries have said they would allow IAEA inspection, but was disturbed by the reluctance of the members of Euratom, the West European agency, to agree (SN: 5/13). Euratom has its own regional inspection system.

Draft Uncertain

In March, President Johnson asked Congress to rewrite the nation's draft laws with an eye to across-the-board fairness.

He accepted the recommendations of the National Advisory Commission on Selective Service (SN: 3/18) almost as they were sent to him, and passed to Congress proposals to lower the critical draft age to 19 and do away with postgraduate deferments for everyone except medical and dental students.

The Senate Armed Services Committee, however, is ignoring both the White House and picketers calling for an end to discrimination in drafting soldiers. It has refused to do more than recommend extension of the present draft law and wants deferments to ap-

ply to undergraduates until they receive their bachelor's degree or reach 24 years of age.

In a report recently accompanying its recommendation, the influential Committee also nudged President Johnson on postgraduate deferments. He intends to end them, by executive order, (SN: 5/6) except for medical and dental students. But in its report, the committee said it "recognizes that the President may find it necessary to extend postgraduate deferments to fields other than medicine and dentistry."

The details of the President's Executive order on deferments are still being worked out, says the Bureau of the Budget. But because the new deferment policy will affect students planning to enter graduate school in the fall, there is considerable pressure to get the policy reforms written within the next few weeks. Whether or not students in science fields other than medicine and dentistry will be deferred remains an open question.

NASA: Kick and Chop

In the latest Apollo episode, the National Aeronautics and Space Administration delivered a kick to the prestige and a karate chop to the moneybelt of North American Aviation, the spacecraft's builder.

First, NASA head James Webb announced last week, almost four months after the fatal spacecraft fire of Jan. 27, that the space agency was about to appoint a shepherd. The shepherd's job is to watch over future Apollo capsules and see that they work properly when mated to all the other Apollo lunar hardware, including the Saturn V booster. Ever since the program began, says Webb, NASA has been trying to give the shepherding job, called systems integration, to North American, which has by far the biggest share of the Apollo business. The contract was never awarded because the space agency never thought the company was up to the task.

North American has been in charge of integrating the three sections of the spacecraft itself, but the Saturn V booster has been in the hands of the Boeing Co., builder of the rocket's powerful first stage.

NASA now plans to give Boeing the task of integrating the entire package, including spacecraft and booster. Though the dollar value of the contract will not be large as Apollo costs go, it represents a deliberate slight to North American's management, which before the spacecraft fire had gotten along with no suggestion from the space agency that such supervision would be necessary.

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-