

fill it properly or he would not have accepted it, he says.

Dr. DuVal has impressive administrative and health credentials. He is a 48-year-old surgeon from New Jersey who was assistant director of the University of Oklahoma Medical School from 1962 to 1964. Since then he has proved himself as an administrator and leader at the University of Arizona in Tucson where he started and is at present dean of the college of medicine.

He is obviously acceptable to the White House, and his reputation within the medical profession has won him the enthusiastic support of the American Medical Association. And, unlike Dr. John Knowles (SN: 5/10/69, p. 451), no Senator has as yet taken offense at his political or philosophical positions or ambitions. □

MARIJUANA HEARINGS

Questioning the legal status

United States customs officials seized 104,303 pounds of marijuana in fiscal 1970. In the first nine months of fiscal 1971 they have already picked up 126,965 pounds of pot, says U.S. Commissioner of Customs Myles J. Ambrose. Facts and figures like these were presented this week as the President's National Commission on Marijuana and Drug Abuse started hearings in Washington. Hearings will continue throughout the summer.

Much will be said about the increase of marijuana use, but the primary interest of the commission is the legal status of the drug. Drs. Harold Kolansky and William T. Moore were called to restate their findings on the psychological effects of pot smoking (SN: 4/24/71, p. 277). "If nothing is done to strengthen marijuana enforcement now," added Dr. Kolansky, "heroin addiction will become as epidemic in two years as marijuana is now." As before, these views were attacked from many sides. Dr. Leon Wurmser of Johns Hopkins' Drug Abuse Center in Baltimore called the study useless and harmful because the clinical effects of cannabis do not "outweigh in seriousness or even balance the clinical effects of legal prosecution, legal inconsistency and imprisonment."

Dr. Bertram S. Brown, director of the National Institute of Mental Health, proposed that marijuana possession penalties be "minimal or non-existent." John E. Ingersol, director of the Bureau of Narcotics and Dangerous Drugs, countered that cutting the penalty "would undermine the law."

The arguments seem partly in vain because at a May 1 news conference President Nixon said he would ignore any recommendation of the commission for legalizing marijuana. □

may 22, 1971

WATCH THE BIRDIE

Politics and the AEC budget

The U.S. Atomic Energy Commission is supposed to be somewhat apart from the hurly-burly of politics. Established to be the guardian of the nation's present and long-term interest in atomic energy and related fields, it is expected, publicly at least, to pay more attention to the principles of physics than the principles of winning elections in the waterfront wards.

Last week the AEC went to the Congressional Joint Committee on Atomic Energy to ask for an amendment to its budget authorization for fiscal year 1972 that would add \$48.3 million to the original request of slightly more than \$2 billion. The questions the committeemen asked and the answers they got tend to show that several of the additional requests came about because the AEC is playing the role of birdie in a many-sided political badminton game.

One of the important, though shadowy, players is the Office of Management and Budget, formerly the Bureau of the Budget. Those whose pet projects have been cut out of Federal budgets allege that the OMB is the real power in the Government, a kind of bureaucratic Cardinal Mazarin. The OMB denies such accusations; it says it is concerned only with the Government's bookkeeping. The truth must be somewhere between since it appears from the JCAE hearings that the OMB indeed has a good deal to say about who gets how much money.

The joint committee has an old score to settle with the OMB, or whoever is behind the OMB, over the question of what to do with the AEC's three gaseous-diffusion plants that make enriched uranium for reactor fuel, and a request for an additional \$9.2 million for these plants was the occasion for airing it.

The plants, at Paducah, Ky., Oak Ridge, Tenn., and Portsmouth, Ohio, take uranium hexafluoride gas and sep-

arate it into two streams, one in which the percentage of the fissionable isotope U-235 is higher than in the natural gas and one in which it is lower. The enriched gas is used to make fuel elements. The AEC is requesting the \$9.2 million to decrease the amount of enrichment in the product of the plants, contending that increased cost of electric power makes operation at the lower enrichment level more economical.

But the joint committee has a more comprehensive plan for Cascade, as the fuel enrichment program is called, and it has authorized money for this in the past. Rep. Craig Hosmer (R-Calif.) remarked: "It does little good to authorize \$16 million and not spend it."

Sen. John O. Pastore (D-R.I.), chairman of the joint committee, added: "We get into a lot of hocus-pocus. We authorize money, and money is frozen. We get ourselves very well involved in half measures and never get to the whole thing."

The \$16 million was authorized last year as part of a program to improve the gaseous-diffusion plants and upgrade their capacity to produce the fuel. The OMB has frozen this money, and the committeemen are furious. They want to know the official reason why, but the AEC doesn't know it, and the OMB so far hasn't told.

The reason probably has to do with the Administration's desire to sell the plants to private concerns. The joint committee, fearing another Dixon-Yates affair, refuses to countenance any such thing. Instead it pushes its Cascade Improvement Program to expand the plants under Government ownership. The Administration refuses to spend the money appropriated for the purpose, some suggest, because it doesn't want to improve property it intends to sell. The AEC position in this is one of "studied neutrality," according to a spokesman. In its heart of hearts the AEC would probably like to keep and expand the plants, but it doesn't dare say so.



Portsmouth enrichment plant: Whether to expand or sell is the question.

AEC

Another item in the budget supplement is \$20.8 million for operation of the N reactor at Richland, Wash. This is one of two plutonium-producing reactors at Richland that the original AEC budget for fiscal 1972 contemplated shutting down (SN: 2/6/71, p. 96). The reason given was that the plutonium was no longer needed by the military.

But the N reactor also produces electric power, and a deal has now been made to sell the power to the Washington Public Power System. Both the JCAE and the AEC credit the Republican Governor of Washington, Daniel J. Evans, with pulling off the deal. In this case, it is said, high Administration powers decided to close the reactors for economy reasons and then reversed themselves on the Governor's intervention. The AEC flew from one side of the net to the other.

Another state Governor to get into the AEC budget is a Democrat, Robert B. Docking of Kansas. Governor Docking and a number of people and organizations in his state are worried about the AEC's proposal to use a salt mine near Lyons, Kan., as a burial place for spent reactor fuel elements (SN: 3/6/71, p. 161). To mollify Governor Docking the AEC is requesting \$1.3 million for further tests and ex-

periments relating to the public health and safety issues raised about the waste repository. The joint committee wanted to be especially sure that the Governor would be satisfied and that no radioactive material would be put into the ground at Lyons before the safety of the project had been well demonstrated. "I don't want the cat on the back of Congress alone in this," said Sen. Pastore. He was assured that every precaution would be taken.

Physical research is in the budget amendments for an increase of \$5.5 million. Of this \$400,000 is an increase for the program in controlled thermonuclear fusion (CTR). Sen. Pastore asked whether some alteration in the scientific situation with regard to CTR was behind the request for more money. Dr. Glenn T. Seaborg, Chairman of the AEC, replied that this was money the AEC had originally wanted in the CTR budget, but had had to cut. "This is an over-all cut the OMB forced you to make," said Sen. Pastore. "Now you are coming in with an amendment for more money. Why? . . . Has the OMB changed its mind?"

"We convinced them in the meantime," responded Dr. Seaborg.

"I'm wondering," said Sen. Pastore, "if there's politics in this or scientific judgment." □

found, Amchitka Island has been structurally relatively stable during recent geologic time. Marine seismic profiles suggest minor recent faulting, but mostly in basins north of Amchitka and in the Amchitka Pass area, and though minor faults and fractures are numerous, they are "not as abundant as one might expect in an area of intense volcanism and high seismicity," they say.

Measurements of ground displacement before and after the 1969 test showed that, except within about one kilometer of the test site, there was less than about 10 centimeters of vertical movement. "This is significantly less than the amount of displacement that has occurred on faults at similar distances from the same size tests in the Nevada Test Site," the geologists say. Studies of stress in shallow drill holes suggest that a relatively low state of stress exists in the surface rocks at Amchitka, even in areas near faults.

"A bigger test than Milrow," concludes Dr. Carr, "should cause no more serious problems than Milrow did, which was practically none."

All this is particularly timely because the AEC, with the clean bill of health given the area by this and other reports, is planning to detonate another nuclear device this fall. The test, called Cannikin, will explode a device of slightly less than five megatons in a hole 6,000 feet deep. Though this is the last scheduled test at Amchitka, the AEC does not rule out further tests.

The AEC says it "has every confidence the Cannikin test can be conducted safely."

An environmental impact statement drafted by the AEC for the Council on Environmental Quality and dated April 1971 says that "only minimal long-term impact on the environment is anticipated from Cannikin." Radioactivity and heat, the report says, would be contained underground. As for the earthquake danger, the AEC says, "the possibility of the Cannikin test triggering an earthquake with seismic energy comparable to or greater than that produced by the explosion itself is highly unlikely." Predicted effects on the ecosystem would be minor.

But others caution that though the Milrow test produced no ill effects, there is no assurance that a larger detonation will be equally harmless. Sen. Mike Gravel (D-Alaska), a long-time opponent of nuclear testing in Amchitka, has said that "the AEC does not know, and cannot know, what a bigger bomb will do." A spokesman for Gravel says he is certain the USGS report will not alter the Senator's stand.

At the request of Sen. Gravel and Alaska Governor William A. Egan, the AEC will hold public hearings on the issue on May 26 in Juneau and May 28 in Anchorage. □

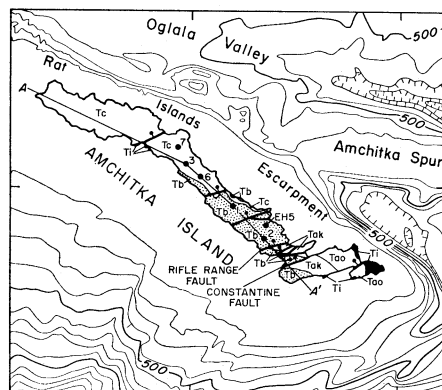
AMCHITKA A-TESTS

From Milrow to Cannikin

Amchitka Island in the Aleutians lies directly on the "ring of fire"—the belt of violent seismic activity that surrounds the Pacific. The Aleutians themselves are a subduction zone where the Pacific crustal plate is being shoved into the mantle. Thus Amchitka's selection by the Atomic Energy Commission in 1966 as a nuclear test site did not evoke unqualified delight among geologists and others. Opponents of the tests were concerned that nuclear explosions in such an active area might trigger disastrous earthquakes and generate tsunamis.

The report of a panel of the White House Office of Science and Technology, finally released less than a week before the one-megaton Milrow test on Amchitka in October 1969 (SN: 10/11/69, p. 322), pointed out that nuclear explosions in Nevada, a seismically quieter area, had set off series of small earthquakes, and warned that though the risk of conducting nuclear tests in seismic regions seemed to be small, "the consequences of accidentally releasing a large amount of tectonic strain energy could be extremely serious."

The feared disaster failed to materialize, and a preliminary report on the Milrow test found the geological effects



GSA Bulletin

Amchitka: So far, a stable test site.

to be minor (SN: 11/1/69, p. 405). Final findings, however, had to await detailed field studies. One such detailed investigation is reported in the just-published March GEOLOGICAL SOCIETY OF AMERICA BULLETIN by four U.S. Geological Survey scientists, Drs. W. J. Carr, L. M. Gard, G. D. Bath and D. L. Healey. The geologic effects, they found, indeed were minor.

They obtained their data from gravity and magnetic surveys of the area and from holes drilled at six sites in the central part of the island.

For a seismically active area, they