

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 longtime 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. □

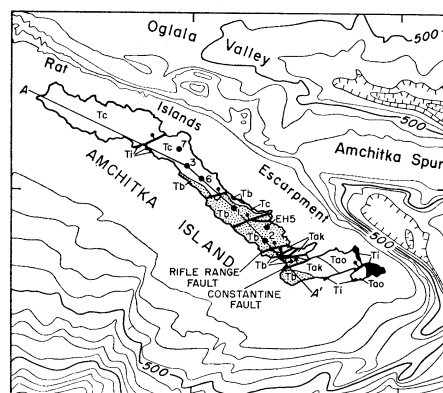
AMCHITKA A-TESTS

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