

Blast is unnecessary and d

In November 1971, the Atomic Energy Commission, in cooperation with the Department of Defense, plans to detonate an atomic device of about 5 megatons on Amchitka Island in the Alaskan Aleutians. This test has been severely criticized repeatedly by other agencies within the government and by private individuals and organizations who have argued that the explosion is dangerous, ill-advised and unnecessary. Objections to the test fall into five main categories: 1) the danger of an earthquake and/or tsunami (tidal wave) being triggered by the explosion; 2) the danger of inadvertent release of radioactive materials into the water (and subsequently, marine life) or air; 3) the obsolescence of the warhead which the test was originally designed to test; 4) the arrogant and secretive manner in which the test was planned and information on it withheld from the U.S. Congress; and finally, 5) the danger that the test might jeopardize the Strategic Arms Limitation Talks (SALT) now in progress between the United States and the Soviet Union.

BACKGROUND

The 5 megaton shot planned for Amchitka in 1971 is the largest yield underground explosion ever undertaken by the AEC. All previous underground tests have been 1 megaton or less. The Long Shot test on the Island in October, 1965, was 80,000 kilotons (less than 1 megaton); the Milrow detonation in October, 1969, was 1 megaton. Amchitka was chosen for testing because of its remoteness from human population, 800 miles from the Soviet Union, 1400 miles from Anchorage, and because the 5 megaton blast was considered too large for the testing sites in Nevada. The cost of the shot is \$127 million, of which \$100 million had been spent by the end of July, 1971.

In 1969 the U.S. Congress established the National Environmental Policy Act which gives the Environmental Protection Agency jurisdiction over the actions of all agencies of the federal government which might pose a danger to the environment. Among other things, agencies must furnish complete statements regarding the impact of such actions on the environment, and a discussion of alternative to the planned action. The AEC released its first environmental impact statement in June of 1970, and a revised statement in April, 1971. In discussing the alternatives AEC stated that the Cannikin test (code name for the November 1971, test) is considered of prime significance to national security requirements, and that its cancellation would severely hamper the development of nuclear weapons technology. The AEC also stated its belief that the possibility of radioactive materials leaking from the test site is remote, that the possibility of the blast triggering major earthquake activity is very unlikely, and that the possibility of the generation of a tsunami is even more unlikely. All of these judgments by the AEC have been called into question by competent experts in and out of government.



SEA OTTER

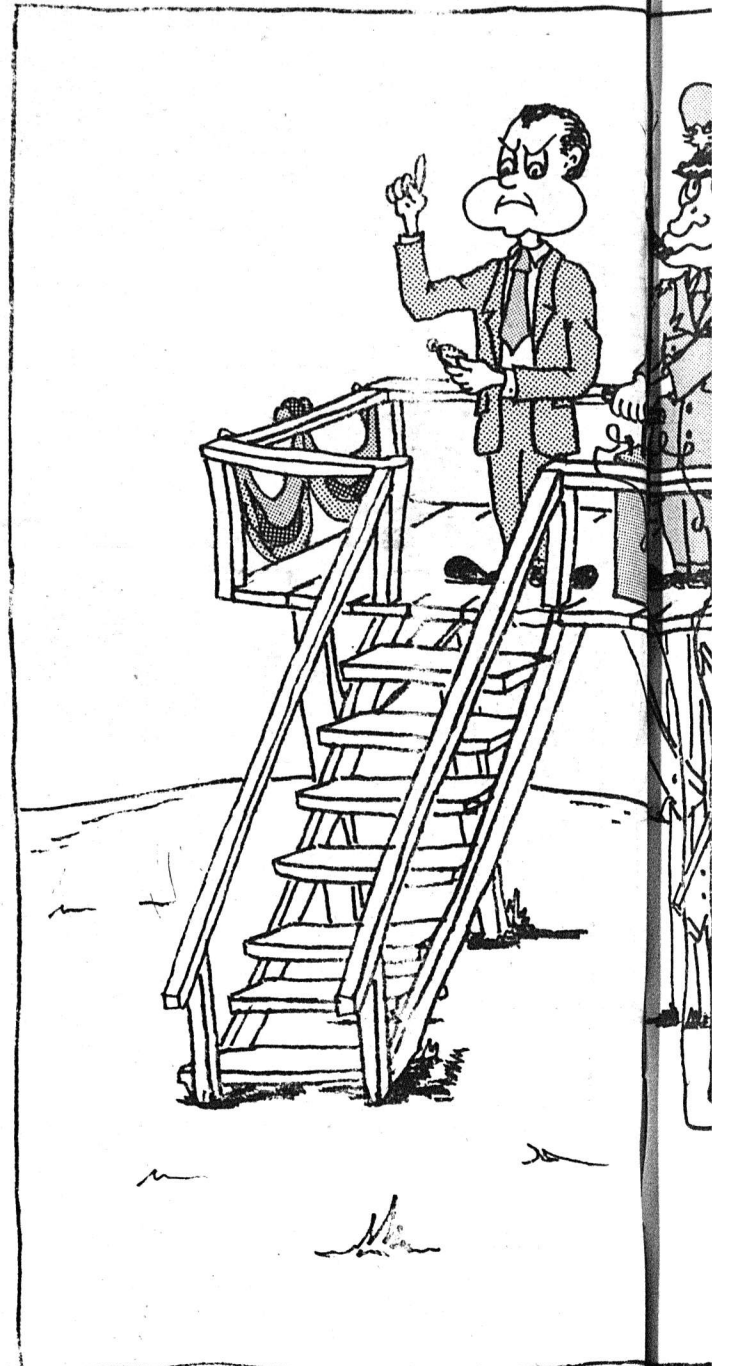
EARTHQUAKE AND TSUNAMI ACTIVITY

The planned blast at Amchitka in November is expected to generate a shock of approximately 7.0 on the Richter scale. The 1964 earthquake in Alaska measured 8.5 on that scale. The blast is not expected to be felt more than 200 miles from the test site, and there, not as anything more than a slight motion. The danger, however, is that the

shock may trigger a major quake (defined as equal to or more intense than the shot itself) which is imminent, just about to occur. The AEC discounts this possibility, but frankly admits that because the understanding of earthquake mechanisms is still developing and is not yet sufficient for exact calculations, the possibility of such an occurrence cannot be ruled out. (AEC Environmental Impact Statement, Revised, April 30, 1971). The fact is that Amchitka Island is very near the Aleutian Thrust Fault, a major fault in the Circum-Pacific Seismic Belt, and in an area of extreme seismic activity. Moreover, the entire fault system of the Northern Pacific and Pacific areas has been very active this year (a manifestation of which was the Los Angeles quake in February which killed 39 persons.) Because of the enormous magnitude of this blast, 5 times that of any previous explosion underground, the test is fully an experiment, with totally unpredictable results. The AEC bases its arguments on the fact that the 1969 Milrow shot did not cause significant quake activity. But the Milrow shot was only 1 megaton and cannot be used as evidence against quake activity. It is known that quakes have thresholds; that is, they occur when the geologic stresses reach a certain point. No one knows what the point is for the Aleutian Thrust Fault this year. If the triggering blast on Amchitka is below the threshold, it would not result in quake activity; if it were above, and there were a major quake waiting to go off, it would. There are hundreds of quakes along the fault near Amchitka each year, several above 6.0 range. It is simply not known what the earthquake effects of this blast will be. Further, in 1964 the AEC claimed that underground tests would not trigger natural earthquakes except under unusual circumstances. By 1970, however, on the basis of the Amchitka blasts and the series of underground tests at the Nevada sites, the AEC admitted that it had learned that large explosions invariably trigger earthquakes (see Congressional Record, July 29, 1971, H-7410). In addition, it is now suspected that great earthquakes (magnitude 8.5 or more) consist of a superposition of quakes of the 6.0 or 7.0 variety triggered in succession by one another, building from low to high magnitude as each triggers another. The great Alaska earthquake of 1964 was triggered by a shock of about 6.5 and peaked at 8.5! Moreover, a tsunami is generated by a quake of 7.5 or greater. Finally, a study done in 1968 at the request of the AEC headed by the then president of Stanford University, Dr. Kenneth S. Pitzer, concluded that "...the need for these tests as planned should be compelling if they are to be conducted in the face of the possible risks that have been identified." (quotation included in the testimony of Dr. Jeremy Stone of the Federation of American Scientists in his statement before the AEC hearings conducted in Anchorage on May 28, 1971.). 28, 1971). It is clear that the effects of this blast in terms of earthquake and tsunami activity are not known, in fact, are totally unpredictable, and further, that the risks, therefore, are very great indeed.

RADIOACTIVE LEAKAGE

The radioactive consequences of the planned Amchitka blast are at least as grave as the seismic consequences, and the AEC has as little reliability in terms of prediction as with earthquakes. The AEC has been most concerned in its testing program with the problem of leakage of radioactive materials because of the tremendous destructive qualities of such materials. It has been stated that there will be no leaking from the Cannikin test. Yet, when asked by Representative Begich of Alaska in April of this year, Chairman Seaborg of the AEC admitted that of over 200 tests at the Nevada sites between August of 1963 and June of 1971, 17 released radioactivity which was detected beyond the limits of the site. Following one test, Beneberry in December, 1970, fallout from the explosion was detected in environmental samples from most of the Western United States. Perhaps more significant for the Cannikin test is the



problem of seepage of underground water from the test cavity to be created by the blast. One result of the test will be a large highly radioactive lake as the cavity fills with water. The AEC predicts that this lake will remain in the cavity for hundreds of years. But it admits the possibility that a series of interconnected rock faults could bring some of this water to the surface within 2 or 3 years. In addition, Cannikin may create an escape passage for the radiated water now underground contaminated by the Milrow test in 1969. The Milrow test site is just over 2 miles from the Cannikin test chamber. Moreover, the Cannikin site is only 45,000 feet from the Bering Sea. If even a rumor of a radioactive leak, detected through discovery of dead fish due to radioactive leak, were to circulate, the Alaskan fishing industry could be destroyed or severely curtailed for many years, perhaps more than a decade. Again, the risks are great and the effects of the blast not entirely predictable, as the AEC's unreliable predictions in the past make quite clear.

MILITARY NECESSITY

It is now fairly clear that the Cannikin test blast is not actually necessary for our military preparedness program, for our national security. Originally, Cannikin was planned to test a warhead for the Spartan missile, the basic missile in the Anti-ballistic Missile Defense system (ABM). The original plans for the test were drawn in 1966. In 1969, however, partly because of opposition of the U.S. Congress, our defensive missile strategy was changed. The original, basic Spartan missiles are to be replaced with an Improved Spartan missile, which will carry a much smaller magnitude warhead. It will travel at much higher velocity than