

A Missile Test Tests CTBT In the two-day debate in early September over the foreign operations appropriations bill for fiscal 1999 (S 2334), the Senate raised two disparate yet somewhat related topics: the launching of North Korea's new intermediate-range ballistic missile over Japan's Honshu island and an amendment to allocate \$28.9 million to improve the global seismic monitoring system, which would be used to verify compliance with the Comprehensive Test Ban Treaty (CTBT).

Senator John McCain, the influential Arizona Republican who was a prisoner of war in Vietnam, expressed his fears about North Korea's first test of a two-stage Taepodong-1 missile, launched without warning on 31 August. Not that he believes an attack on Japan is imminent, he stated, but the test is provocative, increasing tensions in South Korea and Japan. McCain also spoke of underground construction detected by US reconnaissance satellites in a mountainous region northeast of Yongbyon and speculation that North Korea's regime could be assembling missiles or warheads there. Defectors have reported that North Korea is building another nuclear reactor in violation of a 1994 agreement with the US and other countries in exchange for financial aid, food products and oil for its power plants. "Four years and \$86 million later, we are no more confident than we have ever been about North Korea's intentions and capabilities in the nuclear realm," said McCain.

By voice vote, the Senate adopted an amendment that would cut off \$35 million of funds for an international consortium overseeing efforts to meet North Korea's energy needs with light-water reactors, unless the Administration certifies that North Korea has stopped selling or transferring missile technology to other countries and has ended all efforts to produce nuclear weapons. Later, during the floor debate, Majority Leader Trent Lott of Mississippi characterized the vote to improve the seismic monitoring system as a test for the CTBT. Although the Senate agreed, 49 to 44, to approve the upgrade, the vote was short of the two-thirds majority the Senate needs to ratify a treaty.

Reacting to the Chernobyl Fallout The alarmingly high incidence of thyroid cancer in children who were living near the Chernobyl nuclear power plant in Ukraine at the time of its fire on 26 April 1986 has led governments in France and Poland to distribute potassium iodide (KI) tablets to people living near nuclear reactors. In the United Kingdom, KI pills are stored at schools, police stations and other locations around nuclear power plants in the event of a nuclear accident. If exposure to radioactive iodine were to occur, children would take the tablets to saturate their thyroid glands with a stable isotope of iodine and thereby block the uptake of radioactive iodine, a by-product of nuclear fission that is known to cause thyroid cancer. A 130 mg dose of KI can prevent radioactive iodine from lodging in the thyroid if taken within a few hours after exposure.

The actions in Europe have stimulated discussions among radiation scientists and other experts in the US, with little agreement about the course to take. Now, after years of resistance, the US Nuclear Regulatory Commission is preparing to distribute KI tablets to states with commercial nuclear power plants. The decision was made after new evidence about thyroid cancer and the lower incidence of the disease in places where KI was taken.

The change comes at a time when the nuclear agency is revisiting its regulations and addressing what many critics of the nuclear power industry argue are the agency's weakest policies. Although the Federal government stores stocks of KI for an emergency, the commission had previously argued that

the compound might have adverse side effects and also give people a false sense of security during a reactor accident. Opponents of the old policy had accused the agency of withholding KI out of a concern that it would raise fears about anything nuclear, especially power reactors.

While KI was approved by the US Food and Drug Administration for medical use in 1978, the commission had not required states or localities to distribute it after a nuclear accident. KI is not considered a cure-all for diseases caused by radioactivity, because it blocks only one of the many radioactive isotopes that may be emitted from a reactor accident. There is also the question of legal liability if people who take the pills suffer side effects, which include the risk of cardiac arrest in people with already high levels of potassium and of goiters in people with cystic fibrosis.

NSF's \$60 Million Internet Windfall On 28 August, a Federal judge in Washington dismissed a lawsuit that had prevented the National Science Foundation (NSF) from raking in a \$60 million windfall to support research on computer networks and to expand Internet connections for university users.

In the past ten months, NSF has been unable to withdraw money from an Intellectual Infrastructure Fund that had been set up as part of a 1995 agreement between the foundation and Network Solutions Inc (NSI), a Virginia company that registers Internet domain names, which help route e-mail to on-line users. Under the current naming system, designed in 1983 by the Department of Defense's Advanced Research Projects Agency (DARPA), US addresses end in suffixes such as edu, gov, mil and org, and foreign locations end with, for example, uk (United Kingdom), fr (France) and int (for international treaty organizations).

Until March, NSI collected \$50 per year for each domain name and deposited \$15 of that sum into the fund. When the contract expired at the end of March, the US government was supposed to turn over the domain registration system to a nonprofit organization selected by the Department of Commerce after an open competition. But in March, when Commerce hadn't decided on an organization to run the Internet, NSF renewed its contract with NSI for another six months. At the end of August, the fund totaled more than \$60 million. That is nearly three times the amount Congress allocated in fiscal 1998 for NSF's share of the Next Generation Internet program, which involves five agencies, including DARPA (see PHYSICS TODAY, June 1997, page 69).

Last fall, NSF planned to award some \$23 million—half the amount then in the fund—in grants to upgrade high-speed network links at universities. In November, however, four companies and nine individuals sued NSI, claiming that the \$15 portion of each registration fee was actually a tax in disguise. Last April, Judge Timothy Hogan of the US District Court of the District of Columbia ruled that the \$15 was a tax, and therefore illegal, because only Congress can impose a tax. Even so, Judge Hogan stipulated that Congress could retroactively authorize a set aside for the fund.

Congress acted swiftly on Judge Hogan's suggestion. To a \$6 billion emergency peacekeeping and disaster relief bill (HR 3579), it attached a rider that allows the \$15 levy and enables NSF to dip into the fund and, if the agency considered it right, to spend the entire fund on Internet activities.

In dismissing the lawsuit, Judge Hogan rejected an argument the plaintiffs added later—specifically, that Congress acted deceptively and in violation of its own rules by "sneaking" the provision on the domain name fund into a bill that had nothing to do with NSF. The judge held that the court is precluded "from interfering with the internal procedures of another branch of government."

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