Joint Nuclear Tests Raise Questions About Administration Policy

IN JOINT EXPERIMENTS at the Nevada and Semipalatinsk nuclear test sites later this summer, U.S. and Soviet officials will be assessing the impact of the tests on the yields of two underground nuclear explosions. The elaborate tests, though designed to uphold international verification techniques favored by the Reagan administration to verify the Threshold Test Ban Treaty (TTBT), generated data that raised questions among testing experts about the necessity of the administration’s intensive verification method.

The tests, known as the Joint Verification Experiment (JVE), were developed by U.S. and Soviet scientists in the late 1970s and defined in the meeting since 1968 to discuss methods for verifying the 150-kiloton yield limit of the TTBT and the complex provisions of the Peaceful Nuclear Explosions Treaty (PNET). Although the treaties remain unratified, the data could be used in the mid-1980s when both nations have expressed their intent to abide by the yield limit.

The administration has insisted that seismic sensors, the traditional means of yield verification, are inadequate to meet the test limits of the TTBT. The administration’s preferred method, called CORTEX, requires that a long-range balloon be launched to within a few meters from the buried warhead. The yield is measured by the rate at which the cable is crushed by the shock wave. Administration officials hoped the JVE would convince the Soviet Union to accept CORTEX as a routine means of test monitoring.

The United States, host of the first experiment, exploded a nuclear warhead at the Nevada Test Site on August 17. The test followed weeks of preparation during which a team of Soviet technicians, under close U.S. observation, installed CORTEX-like cable monitors at the test site. The U.S. also placed two CORTEX monitors to measure the nuclear test. In the second experiment, the Soviet Union detonated a warhead at its Semipalatinsk test site on September 14. Each side again used two cable monitors. More than 140 U.S. scientists and engineers lived and worked at the Soviet test site for at least 12 months to prepare for the blast. No official results have been released on either test.

Although the JVE did not provide for special “close-in” placement of seismic monitors, it required each side to share results from five of their usual seismic monitoring stations. Close-in seismic measurements were first suggested by the Soviet Union as an uncalculated failure, however, by a joint team of scientists from the Natural Resources Council, a private U.S. group, and the Soviet Academy of Sciences.

Ambiguous Results

According to the administration, the U.S. warhead in the Nevada test was designed to produce an explosive yield in the “140-kiloton range.” Although government data are being withheld, U.S. defense official Assistant Secretary of Defense for International Security James Leitao said the “ Algerian" hearing that the weapon was up to 240-kilotons.

These results may reflect statistical uncertainties and do not necessarily indicate a U.S. Violation of the Threshold Test Ban Treaty. Administration sources have claimed the CORTEX method has a 50 to 60 percent margin of error. The State Department said the test was “in conformity” with the 150-kiloton limit.

Another potential embarrassment for the administration was that official U.S. seismic sensors reported readings of roughly 145 kilotons for the Nevada test, according to the Post. If the U.S. claim that the Nevada test did not exceed the 150-kiloton limit is correct, then the seismic measurement showed more accurate results than CORTEX.

To obtain a better determination of the probable yield, the administration is conducting a radiochemical analysis of a core sample from the explosion. This technique gives a more precise, though still inaccurate, measurement of yield.

The data from the first JVE test emphasizes the statistical uncertainties inherent in yield monitoring. Even with a perfect administration’s CORTEX system, occasional inaccurate measurements will indicate a threshold violation where none has occurred. In this respect, the ambiguous results from JVE raise questions about administration claims that a number of past Soviet tests have been less than the 150-kiloton limit.

On August 29 in Geneva, the superpowers agreed to “step-by-step” test negotiations, in which the United States proposes to “continue to press for agreement” on verification. Although the JVE did not provide for international monitoring, some observers noted that the West German government, which has no basis for the administration’s charges, highlighted the uncertainty, noting that the Soviet test in question “could actually be at or below the 150 kiloton limit but, have higher yield estimates due to random fluctuations in the seismic signals.”

While geological experts say it is difficult to draw conclusions from a single test, advocates of seismic verification argue that the JVE will probably show that seismic measurements are not conclusive. “I don’t know how you can argue against seismology any more,” said Jack F. Evernden, a senior physicist at the U.S. Geological Survey. Evernden also pointed out that CORTEX does not use as accurate a measurement of low-yield nuclear tests as close-in seismic methods, and therefore would not be as useful for verification of a low-yield threshold limit, a suggested goal of the U.S.-Soviet talks. CORTEX would be irrelevant for a comprehensive test ban, JVE has stated that the tests will show whether to detect clandestine tests at unannounced locations.

Evernden said the administration’s insistence on the use of CORTEX is a stallin tactic to prevent progress in the EEC test-ban talks. The JVE is $26 million to discredit seismic monitoring. Frank Gaffney, Jr., a former senior official of the Reagan Defense Action Group, said that the administration is using the JVE to prop up its unsuccessful test verification efforts.

The JVE is a major demonstration of the fissile warheads, and it has been rendered obsolete by the French test on July 29, 1968. The Soviet Union has also been working on a new type of fissile warhead, and it has been rendered obsolete by the French test.

The Soviets are believed to have used fissile warheads in their tests, and the French have used fissile warheads in their tests. However, the French have not been able to use fissile warheads in their tests, and the French have used fissile warheads in their tests.

U.S. Begins INF Missile Destoructions With Pershing Frings

ON SEPTEMBER 8, the United States destroyed the rocket motors of two Pershing missiles at the Longhorn Army Plant in Karnak, Texas. These were the first American weapons to be eliminated under the Intermediate-Range Nuclear Forces (INF) Treaty signed by the two nations in December 1987.

Top officials from both the United States and the Soviet Union, including Vice President Bush and a team of 12 Soviet on-site inspectors, watched as the rocket motors were destroyed by static firing. The motors of one Pershing Ia and one Pershing Il were secured in steel harnesses and then ignited. After the solid propellant in each of them burned, the motor shells were crushed and buried on-site.

According to an Army spokesman, the static firings went smoothly, and both American and Soviet observers were pleased with the day’s events. An Army official presented three pieces of the crushed motor casing to Vice President Bush, who kept one for himself, one for President Reagan, and presented the third to a member of the Soviet inspection team as a gesture of good will.

The rocket motors were the first of a total of 1400 missiles to be destroyed at the Longhorn over the next three years. After each missile is destroyed, the warhead and guidance system is removed.

—Evelyn J. Wong

The first Pershing rocket destroyed under the INF Treaty. After the solid rocket fuel is burned out of a Pershing motor stage by static firing, the casing is crushed.

U.S. Charges Iraqi Gas Warfare Against Kurds

THE UNITED STATES has charged Iraq with using chemical warfare against its Kurdish minority, an action the U.S. commanders Call "an act of war." A new Iraqi offensive against Kurdish separatist guerrillas has left thousands of casualties in its wake and is carrying gruesome stories of chemical bombardment.

Secretary of State George Shultz told Iraqi Foreign Minister Saddam Hammadi on September 8 that the use of chemical weapons was "unacceptable to the civilized world." Shultz told Hammadi that the United States "did not intend to pursue" its decision to send "a new supplemental resolution to the Security Council" that would affect the United States, but said that on the whole, he found the U.S. military "very forthcoming.”

—Natasha Bower

Meanwhile in Congress, the Senate unanimously passed a bill charging Iraq with "genocide" against the Kurds, and imposing sweeping sanctions. An identical bill is being considered by the House, but is opposed by House Republicans. The bill requires that the Senate pass within 60 days after adoption of the bill, and that the President take all necessary steps to ensure that the sanctions are imposed.

The latest action comes after repeated Iraqi use of gas warfare in its war with Iran. In violation of the 1925 Geneva Protocol banning the use of chemical weapons, Iraq has also been charged with using chemical warfare in its war with Iran. The United States has imposed economic sanctions against Iraq, and has been pressing for international condemnation.

—Matthew Bower
What Next For Arms Control?

Building on the Achievement. With the ratification of the INF Treaty, the Reagan administration has taken a positive step for arms control. The strong bipartisan support for arms control rekindled during the ratification process has improved the prospects for an historic agreement on strategic arms reductions. A broad agenda of other important issues faces the next administration, including conventional forces in Europe, chemical weapons, a nuclear test ban, and nonproliferation.

Protecting the Antiballistic Missile Treaty. Amid these hopeful developments, the Reagan administration is still pursuing its campaign to revise the ABM Treaty to facilitate early deployment of a strategic defense system. The “broad” interpretation would lead to the immediate erosion and eventual collapse of the ABM Treaty, the cornerstone of arms control, and would prevent further progress on strategic arms reductions.

Keeping the Arms Control Vigil. During the crucial coming months, it will be important for arms control supporters to keep a careful watch over developments. The Arms Control Association analyzes unfolding events in all areas of arms control, and disseminates this information through its press and public education programs.

YOU CAN HELP. As a member of ACA, you will receive Arms Control Today, the monthly journal that gives comprehensive coverage of developments in this vital field. And best of all, you can support ACA’s work and play a more effective role in the current debate.

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