

NUCLEAR JUNKIES: TESTING, TESTING, 1, 2, 3 —FOREVER

By FRANK VON HIPPEL and TOM ZAMORA-COLLINA

A bogus ban would suit the nuclear lobby just fine.

Like Count Dracula, nuclear testing is hard to kill, even though the East-West arms race, which drove the testing juggernaut for four decades, is long gone. Last year, Congress, in a deft piece of legislative maneuvering, attempted to end nuclear testing once and for all by incorporating a comprehensive test ban (CTB) amendment into the FY 1993 Energy and Water Development Appropriations Act.

Although President Bush opposed the ban, he signed the bill on October 2, 1992, because it included funding for projects he felt vital to his reelection, such as the Superconducting Supercollider, which was being built in his home state, Texas.

The test-ban amendment did not simply declare a moratorium on testing until a CTB could be negotiated. Rather, it established a three-step approach.

- The legislation instituted a nine-month moratorium on all U. S. nuclear testing, beginning at the time the bill was signed.

- After the end of the moratorium, up to 15 tests could be conducted for limited purposes, principally to enhance stockpile safety.

- All testing would cease by September 30, 1996, as the United States led the way to a multilateral CTB.

A further requirement of the amendment:

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Before *any* testing could be resumed, the president was required to submit a report to Congress explaining the reasons for the tests he proposed and outlining his strategy for achieving a CTB. The nominal deadline for that report was March 1, 1993.

CTB Lite

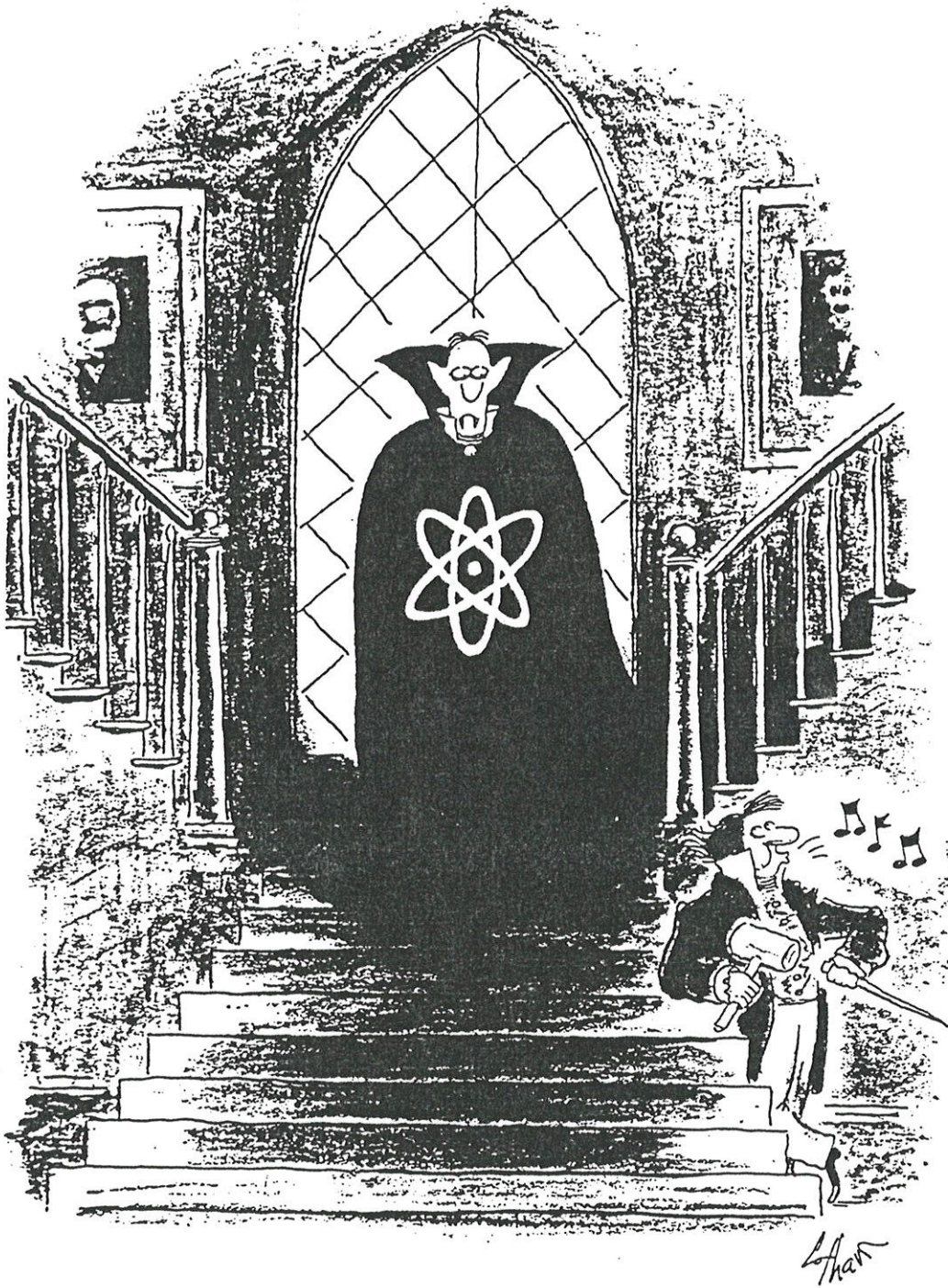
March came and went with no report from the administration. No surprise there. The Clinton administration was new and it had a lot on its plate, from the worsening crisis in Bosnia to health-care reform.

But in late April, rumors surfaced in Washington that an interagency task force (composed of representatives from the Defense, Energy, and State Departments, as well as the Joint Chiefs of Staff, the Arms Control and Disarmament Agency [ACDA], and the National Security Council) had drafted a report, but had not yet submitted it to the president.

The report was said to recommend a resumption of testing: All 15 tests that were permitted by the 1992 law before the September 30, 1996, cut-off of testing would be conducted.

But the report's most controversial recommendation dealt with what would happen after September 30, 1996. Rather than cease testing weapons, the United States would continue testing nuclear devices with yields of one kiloton or less. Further, the United States would push for a one-kiloton-threshold version of a CTB—a kind of CTB Lite.

Advocates of a *comprehensive* comprehensive test ban were appalled. Testing after



September 30, 1996, would be a clear violation of the intent of Congress, which had gone on record with its 1992 vote as wanting to end all U.S. testing in 1996. (The only escape clause was the language that said the United States could resume testing if "a foreign state conducts a nuclear test after this date.") "It's not a limited ban," said Sen. Mark Hatfield on May 8. "It's a ban. B-A-N."

Further, if the Clinton administration had actually announced such a testing policy, it would have encouraged the Russians and the French (both of which had testing moratoria in place) to resume testing. It might have doomed efforts to achieve a true CTB. And it could have torpedoed the prospects for an in-

definite extension of the Nuclear Non-Proliferation Treaty (NPT), which will be up for review in 1995.

Compromising positions

When Congress approved the U.S. moratorium in 1992, Russia and France had already declared testing moratoria of their own. Russia had not tested since 1990; France had not tested since 1991. And because Britain uses the U.S. test site in Nevada, it is bound by U.S. policy. That left only China among the five declared nuclear-weapons states without an official testing halt in place.

Thus the Clinton administration had an his-

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toric opportunity to move the world quickly toward a CTB, if it so chose. Unfortunately, many of Clinton's key nuclear-policy advisers not only initially endorsed the one-kiloton idea, but in doing so they proposed a strategy that clearly would have put the administration at odds with Congress's phase-out law.

That such a strategy was proposed, even briefly, testifies to the hardness of the testing lobby. After all, both President Clinton and his secretary of defense, Les Aspin, made it clear before the election that they understood the importance of a CTB to the future of the nuclear nonproliferation regime. For instance, in a June 1, 1992, commencement address at the Massachusetts Institute of Technology, Aspin said:

"In the days when we relied on nuclear weapons as the equalizer versus Soviet conventional forces, it was necessary to conduct nuclear weapons tests primarily for modernization. But no more. That means there is no compelling reason to do it anymore. In addition, there is also an affirmative reason to stop doing it. We've been preaching nonproliferation to other nations, but we haven't been willing to give much on our own nuclear program. Here's our chance. International cooperation is at the core of nonproliferation efforts and that cooperation is going to be difficult if the United States insists on continuing nuclear testing."

If that wasn't clear enough, consider what candidate Clinton said September 18, 1992, while visiting Sandia National Laboratory:

"I know there is a big dispute about [a ban], but let me say that France has stopped testing; Russia has stopped testing. And I perceive the biggest threat in the future to be, as I've said earlier, the proliferation of nuclear technology . . . and I think to contain that, we ought to get out there and join the parade on working toward a comprehensive test ban, and then focus our energies on this proliferation issue."

But after the election, the National Security Council (NSC) tried to broker an agreement between Defense, Energy (including its weapons labs), State, the Joint Chiefs of Staff, and ACDA on how to actually bring nuclear testing to an end. Regardless of the intent of Congress as expressed in 1992, it soon became apparent that the representatives of Defense, Energy, and the Joint Chiefs did not want testing to end any time soon.

John Deutch, undersecretary of defense for acquisition, was a strong proponent for testing beyond 1996, although he was a little oblique about it. On May 3, he testified before Congress that "the Department of Defense supports the resumption of nuclear testing at the earliest possible time under the provisions

of the [law] to prepare for the 1996 cessation of testing." What he failed to share with Congress was that his definition of "cessation" would allow tests of up to one-kiloton. The Joint Chiefs and Energy shared that view.

In contrast, ACDA—which the Clinton administration was then considering abolishing by folding its functions into the State Department—was the only agency participating in the group that spoke up for nonproliferation concerns. Acting Director Thomas Graham Jr. argued that a CTB should ban the testing of all nuclear devices with yields above a few hundred pounds of TNT.

Meanwhile, instead of backing ACDA and lending critical support to non-proliferation arguments, the State Department waffled. Represented by Lynn Davis, under secretary-designate for international security affairs, State tried to push a compromise that pleased no one—tests with a maximum yield limit of a few hundred tons of TNT equivalent.

The NSC had to choose between complying with Congress's phase-out law or compromising with the agencies. It chose compromise. The chair of the interagency task force, Robert Bell, a senior director for defense policy and arms control at the National Security Council and a special assistant to the president, should have known better. He had been on the staff of the Senate Armed Services Committee when the testing legislation was passed last year. Presumably, he was familiar with the intent of Congress.

The result of the compromise was the fatally flawed one-kiloton proposal for U.S. testing. It was further suggested by the interagency group that the limit could be used in defining a comprehensive test ban, although the negotiating history of the NPT makes it clear that all nuclear explosions with yields of more than a few hundred pounds of TNT equivalent would be banned.

Let the sun shine in

The one-kiloton proposal was eventually knocked down by exposing it to the light of day. Sunshine, as the journalistic cliché goes, is a great disinfectant. CTB advocates—including experts at a number of arms control groups—persuaded key members of the administration and Congress that the proposal was a classic non-starter.

When word of the interagency report was picked up by the press, Senators Mark Hatfield, George Mitchell, and James Exon—the main sponsors of the 1992 legislation—wrote to Anthony Lake, the president's national security adviser. The one-kiloton idea, they said, was "an unacceptable alternative to a truly comprehensive test ban." Further, it would

“undermine” U.S. efforts to end the threat of nuclear weapons and proliferation.

By mid-May, Les Aspin was leading the charge. The secretary of defense, according to *Defense Daily* (May 14, 1993) had “flatly turned down the urgings of two top advisers, the Joint Chiefs of Staff, the Energy Department and the directors of the three U.S. nuclear weapons laboratories to defy a substantial majority in the Congress and continue to test nuclear warheads through the 1990s.”

The close-out tests

Although the one-kiloton idea is dead, for now at least, the administration may well come forward with a proposal to carry out most of the safety, reliability, and British tests permitted by the 1992 law—up to a total of five tests each year for three years. However, while the proposed number of tests would be consistent with the requirements of the law, their purposes might not be.

Safety tests. The weapons labs and weapons experts sold Congress on the idea that warhead safety was the primary reason for permitting a limited schedule of tests. However, the air force, the navy, and the Defense and Energy Departments have all concluded that the safety modifications proposed by the labs are not worth the cost.

The safety modification that has been central to the debate is the use of “insensitive high explosives” (IHE) in warheads mounted on Trident submarine-launched ballistic missiles. IHE, which reduces the risk of an accidental chemical explosion that would disperse plutonium, is already in all other U.S. nuclear warheads that are scheduled to be kept in the stockpile.

But rebuilding Trident warheads with IHE has been rejected by the military, along with Energy Department proposals for installing fire-resistant plutonium “pits” in nuclear bombs and cruise-missile warheads. Two recent comments:

■ Regarding the possible detonation of a third-stage on a Trident D-5 missile with W88 warheads: “We believe there would be no gain in safety in changing to insensitive high explosive.” (Rear Adm. John T. Mitchell, Director, Strategic Systems Program Office, U.S. Navy, before the Senate Subcommittee on Nuclear Deterrence, Arms Control, and Defense Intelligence, May 11, 1993.)

■ On adding IHE to Trident warheads and modifying the D-5 missile: “I would think that we are not convinced that such safety improvements would be worth the very considerable cost [of more than \$3 billion]. . . . I would say that there are operational steps that one can take to . . . ameliorate the safety

problems when you mate the warheads to the missiles that are being looked into, but I would not think this an immediate problem that we would come forward to, even if the test has been undertaken successfully.” (John Deutch, undersecretary of defense for acquisition, before the House Military Application of Nuclear Energy Panel, May 3, 1993.)

Operational procedures for enhancing the safety of existing warheads include loading Trident warheads onto missiles after the missiles have been placed in the submarine, thus avoiding the possibility of dropping a missile with warheads in place. Meanwhile, the air force no longer keeps nuclear weapons on bombers and on runway alert—thus greatly reducing the possibility that these warheads might be exposed to fire.

Despite the general lack of interest in safety upgrades, except among the weapons labs, the interagency task force stipulated in its draft report that Energy could carry out safety tests and produce prototype warheads *without* a Defense commitment to deploy the warheads. Although this solution dealt with the administration’s internal politics, it violated the 1992 testing law in two ways.

■ The law permits testing to upgrade the safety of warheads that are intended to still be in the active U.S. nuclear stockpile as of September 30, 1996. It does not allow weapons to be tested that have not been requested by Defense.

■ The law says that the need for safety modifications must be “determined after an analysis of the costs and benefits of installing such [safety] feature or features in the warhead.” Such an analysis has not been produced, for the obvious reason that without a commitment from Defense to deploy the warheads, there would be no safety benefits gained from the tests.

Other tests. The weapons labs also proposed carrying out the three reliability tests permitted by Congress, and the interagency task force agreed to it. However, in 1987, Ray Kidder, a weapons expert with Lawrence Livermore National Laboratory, was asked by a group of pro-test ban congressmen to conduct a comprehensive analysis of historical test data. He found that the testing and replacement of non-nuclear parts would be sufficient to maintain the reliability of already well-tested designs. Nuclear tests were simply not necessary. In the absence of any specific problems in the stockpile, it seems gratuitous to propose to test three already well-tested warheads one more time.

The weapons labs also proposed, and the task force agreed, that three of the tests out of the congressionally permitted 15 be “U.K. tests.” However, the British nuclear-weapons

The law bars tests of weapons Defense doesn’t want.

The labs may also want to use some tests as a "cover" for secret tests.

design program is almost fully integrated into the U.S. program, and therefore should not have any greater need of tests. Moreover, the British apparently want to use their allotted tests to develop a new tactical nuclear warhead, possibly for use as a new gravity bomb or on a new air-to-ground missile. Given the end of the Soviet threat to Western Europe, there is simply no justification for the president to declare—as he must under the 1992 legislation—that development of a new tactical warhead by Britain is "in the national interests of the United States."

Finally—and also troubling—is the probability that the weapons labs are planning "piggyback" tests. That is, additional test explosions would be carried out simultaneously with some of those permitted by Congress. The collective yield of the multiple tests would comply with the 150-kiloton Threshold Test Ban Treaty.

The idea of multiple detonations in a single "test" is not new. According to congressional testimony in March 1992 by George Miller, associate director for defense systems at Livermore National Laboratory: "To maintain a modest but effective program, we have tried to compensate for the steady decline in nuclear tests. . . by testing, when possible, more than one nuclear device on a single event."

It is unclear how common this practice has been over the years, because the Energy Department does not announce the number of devices in each "event." But it is not likely that Congress had multiple simultaneous tests in mind when it voted to permit additional tests.

Tests after 1996. While the one-kiloton proposal was shot down, the idea could be reborn at a later point. Its supporters argue that seismic identification of an underground nuclear test below one kiloton could be evaded—at least in theory—by a "big hole" decoupling technique. Because of this, we should not even try to ban sub-kiloton tests.

In fact, decoupling is difficult, uncertain, and susceptible to being revealed by human intelligence, as well as by surveillance from space. It is extremely doubtful that any sustained program of clandestine testing would remain undetected.

It is also unlikely that France or China would accept a one-kiloton threshold test ban as a substitute for a comprehensive test ban. While one-kiloton tests might give the U.S. military greater confidence in the continuing reliability of U.S. warheads, the French and Chinese militaries might be interested in testing at higher yields and would feel freed to do so by low-yield U.S. testing.

And even if a one-kiloton threshold test ban were achieved, continued testing at low yields would foster fears of the development of

"mininukes," designed for use in Third World conflicts. (See "Those Lovable Little Bombs," page 22.) Unfortunately, the Energy Department's budget provides ammunition for such allegations. It includes a request for funding to study a "Precision Low-Yield Warhead."

Take the lead

The April-May one-kiloton fiasco may be history. But as of this writing, the Clinton administration has not yet said what its nuclear testing policy will be. However, the administration's main options are clear:

■ It can use the momentum created by the Russian-French-U.S.-British test moratoria to move directly to a comprehensive test ban.

■ Or it can go ahead with the tests permitted by the 1992 law, and see Russia, France, and Britain resume testing as well.

It's a stark choice. A resumption of U.S. testing would break the growing momentum toward a CTB at a time when the non-nuclear weapons states within the NPT are insisting that the nuclear weapons states end testing as a condition for an indefinite extension of the NPT in 1995. To them, nuclear testing at any yield and for any purpose suggests that the nuclear weapons states regard nuclear weapons as potentially useful in war.

Although Russia and France are expected to extend their moratoria as long as the U.S. keeps its moratorium, they are widely expected to resume testing if the U.S. begins testing. Once revived, their testing programs would be harder to stop—simultaneously or individually. A CTB might be easy to sell to Russia today. In 1996, it might be much more difficult, particularly if hard-line nationalists have taken power.

Further, if the testing moratoria were ended now, the international solidarity that is essential to end Chinese testing and to prevent key "threshold" nations such as India and Pakistan from bringing their nuclear arsenals out of the closet would be lost.

However, even if China, France, or Russia tests again, the United States should not respond in kind. U.S. security is now more dependent on strengthening the nonproliferation treaty than conducting a few more tests. Therefore, the United States should lead the way out of the nuclear testing era the same way it began—by setting an example.

Given the broad political costs of resumed U.S. testing, the Clinton administration should lead the transition from the current U.S.-Russian-French-British moratoria directly to a CTB. And if it does not, Congress should disallow all nuclear testing as long as the administration fails to comply with the phase-out law. It's time to drive that wooden stake home. ■