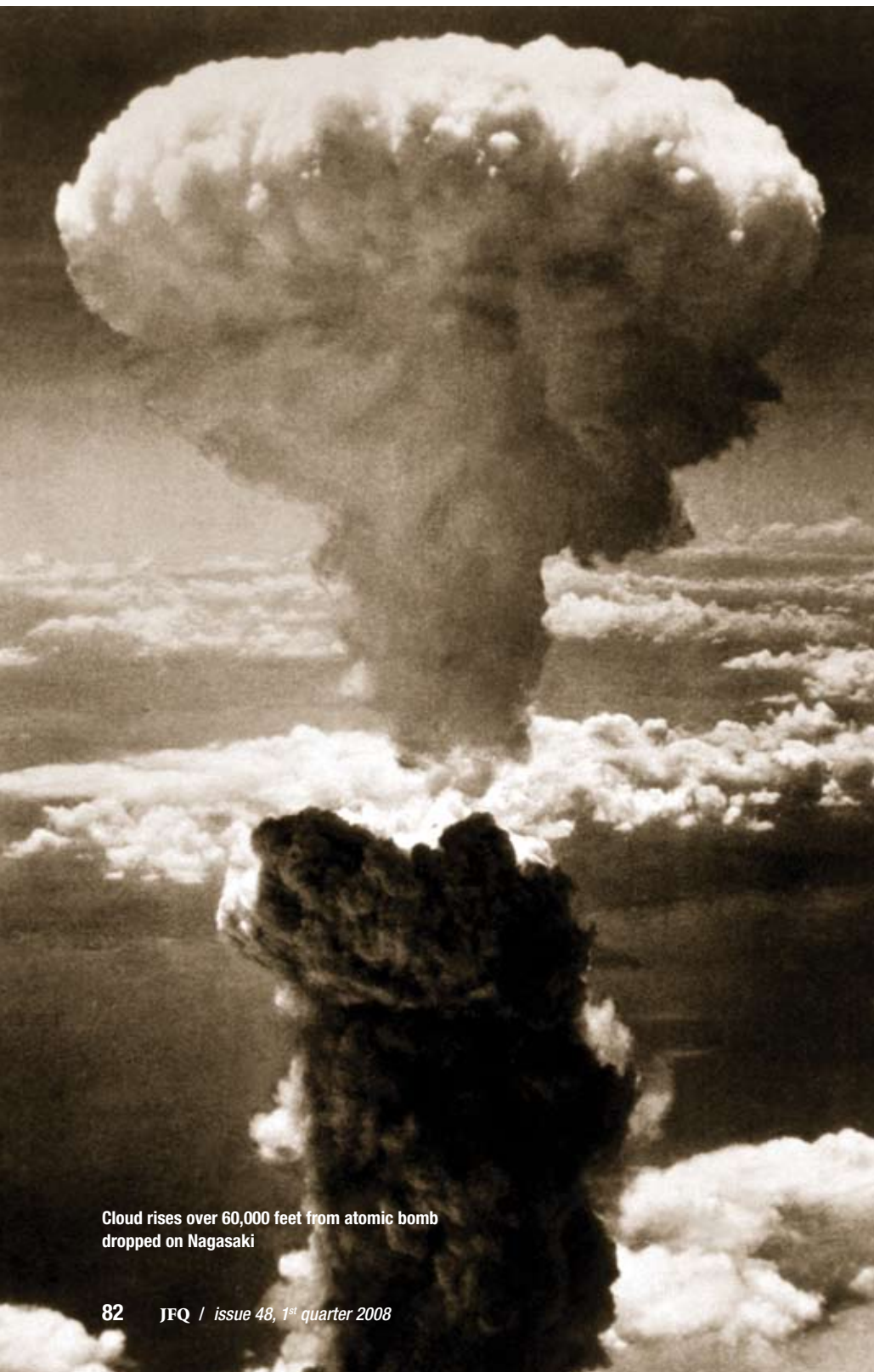


Reconstituting Capability to Conduct a CRISIS NUCLEAR DETONATION

By DREW MILLER



Cloud rises over 60,000 feet from atomic bomb dropped on Nagasaki

In making decisions on future nuclear forces and nuclear test readiness, we are ignoring a vital but decaying capability that could make the difference in deterring an aggressor's use of weapons of mass destruction (WMD). When we stopped nuclear weapons testing in respect of the unratified Comprehensive Test Ban Treaty, we retained the ability to conduct a test for two basic purposes: to fix a problem with a nuclear weapon, or to detonate a nuclear weapon at the Nevada Test Site (NTS) as a flexible deterrent option¹ (FDO) to show resolve. But this latter “demonstrative detonation” capability has decayed to the point where we can no longer conduct a quick “nuclear warning” FDO. We need to reconstitute this capability since it might be our best means of avoiding enemy use of WMD.

While the Office of the Secretary of Defense (OSD) Program Analysis and Evaluation test scenarios for assessing nuclear test readiness included a “demonstrative test,” the Nuclear Test Organization² is focused on nuclear weapons test issues and ignores readiness to conduct a quick demonstrative detonation. A September 2002 report by the Department of Energy (DOE) Office of Inspector General noted that the ability to resume underground nuclear testing (UGT) within 3 years was “at risk” due to staff losses, obsolete equipment, and fewer facilities dedicated to testing.³ Improved *data* test readiness is getting some attention—but not demonstrative detonation readiness. Occasionally, the Department of Defense (DOD), DOE, or National Nuclear Security Administration mentions conducting a very fast demonstrative detonation at the NTS, but the test readiness program is *not* addressing this second and different UGT mission.

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DOD

While a demonstrative detonation is much simpler than a complicated data test, the time deadline to get the device detonated will be far more demanding: days, not months. Inability to quickly conduct this nuclear demonstration of U.S. resolve may eliminate an FDO that could be the only means left to dissuade an enemy from a WMD attack or the only alternative to launching a U.S. preemptive nuclear strike.

A DOD Threat Reduction Advisory Committee report released in March 2005 warned that UGT resumption may be driven by a sudden crisis, demanding a test that “would be urgent and unscheduled, necessitating the use of stockpile weapons with minimum diagnostics” conducted very quickly “to show national determination and will, to assure allies and deter aggressors.”⁴ Since the national emergency that triggers a Presidential decision to signal U.S. resolve through a demonstrative detonation could arise with little or no warning, the time from go order (or warning) to detonation could be a few days. This is a far more stringent preparation time than a data test and the 24-month readiness level the Nuclear Test Organization is working on.

Sending a Strong Message

An aggressive opponent with WMD may believe that a superpower unwilling to conduct nuclear tests and clearly deterred by heavy troop casualties would probably never use nuclear weapons in combat. Wishful thinking or misinterpretation of reported nuclear weapons reliability concerns might bolster doubts about the viability as well as U.S. willingness to employ such weaponry. With nuclear weapons not used in combat for over 60 years and not even tested for 15 years (the last UGT was in 1992), and with such strong U.S. aversion to losing troops or causing collateral damage, we should be prepared for opponents who believe that the United States will never use nuclear weapons unless the survival of the American home population is at stake.

By detonating a nuclear weapon at the Nevada Test Site as a flexible deterrent option, the United States could send the clear, strong message that:

- Our nuclear weapons work.
- We believe the threat of enemy WMD use has risen to a point where we must dem-

onstrate that we are both gravely concerned and prepared to use nuclear weapons.

- We are willing to use nuclear weapons on our own soil to demonstrate our resolve—and we are willing to use them on foreign soil if necessary.

The timeframe for a demonstrative detonation FDO is not 24 months or even 6 months—6 days would be closer and 6 weeks would probably be too late. In 1998, National Nuclear Security Administration “ASAP” studies found that demonstrative detonations taking roughly 6 months are more accurately

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described as relatively fast data tests, not crisis detonations, with a true emergency level of around-the-clock effort and resources. There is not a single real barrier to a 6-month or less UGT listed in the 1998 ASAP reports.⁵ What is clear is the National Weapons Laboratories/testing bias. The laboratories point to challenges such as “incremental funding for a ‘pre-do’ philosophy competing with other needs within constrained funding.” Obviously, the National Weapons Laboratories are concerned that UGT readiness will take funds away from their own research and facilities.⁶

Ignoring immediate demonstrative detonation readiness could result in catastrophically wrong decisions on NTS facility maintenance. The Nuclear Test Organization is currently pursuing a maintenance policy of abandoning and destroying facilities, inventory, or materials that can be readily obtained or otherwise reconstituted within the 18-month execution period. This is an irresponsible policy if it leads to destruction of resources needed for a very quick FDO detonation. It may be acceptable for a data test to abandon a cheap resource that can be purchased and received on site in a few months, but it could be disastrous if loss of that resource delays a demonstrative detonation needed in a short time to avert war.

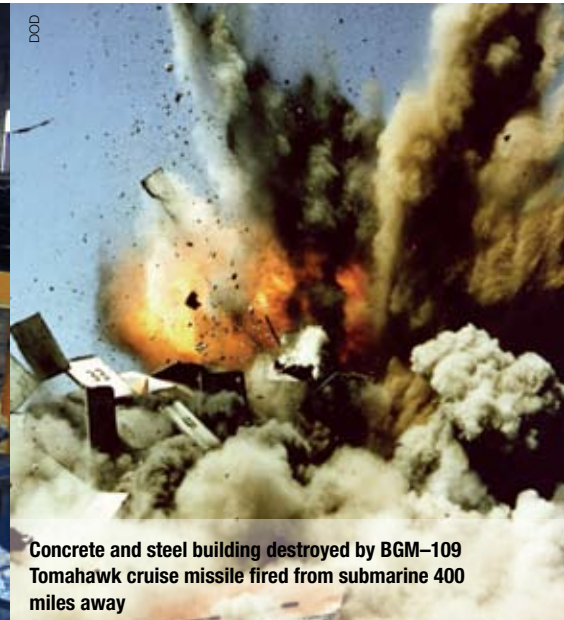
Two major arguments used against funding UGT readiness are that the Stockpile Stewardship Program (SSP) or Reliable Replacement Warhead (RRW) will work, which eliminates a need for UGT; and approval to test if SSP fails would never be granted anyway due to regulatory and political barriers. Both of these arguments implicitly refer to a data test that the Nuclear Test Organization focuses on most of the time. For a demonstrative detonation, they are irrelevant points. Test readiness funding based on maintaining a quick detonation capability is needed regardless of SSP or RRW success. While resistance to conducting a UGT might stop a data test, the crisis conditions that could lead to interest in a



Signal cables at Nevada Test Site are lowered into chamber to transmit data from underground explosion

National Nuclear Security Administration

Massive Ordnance Air Blast weapon is U.S. military's largest nonnuclear conventional weapon



Concrete and steel building destroyed by BGM-109 Tomahawk cruise missile fired from submarine 400 miles away

demonstrative detonation would be far more likely to overcome these barriers. It may well take a situation of imminent enemy WMD use or nuclear exchange to get the President to order a nuclear detonation at the NTS.

Lining Up Funding

A related problem with the current test readiness mindset, which a shift to a demonstrative detonation focus could alleviate, is what department (DOE or DOD) we should look to for comparing the cost of test readiness and then justifying funding. As a data test-focused program, test readiness looks to DOE. The result is an inadequate funding level of \$20 million⁷ and fights with the National Weapons Laboratories to spend this on real UGT readiness issues. Test readiness funding should not be competing with the National Ignition Facility; it should be regarded as a means of both assuring the stockpile and providing a vital deterrence option. In its February 2005 report to Congress, the National Nuclear Security Administration estimated that it would cost \$150 million to have a 6-month data test readiness level. The costs for a demonstrative detonation (without data collection and testing) would be much less, around \$75 million.

DOD should insist that the National Nuclear Security Administration promote demonstrative UGT readiness as an equally vital mission and start managing the test readiness process with a view to promoting both 24-month data test readiness and

X-day demonstrative detonation readiness. The Defense Threat Reduction Agency, U.S. Strategic Command, OSD Policy, and other offices concerned with nuclear war-related FDOs and test readiness issues should first order the Nuclear Test Organization to immediately halt the policy of abandoning and destroying facilities or materials that can be reconstituted within 18 months if they are needed for X-day demonstrative detonation readiness. DOD groups need to work with the National Nuclear Security Administration to lay out a good description of the scenarios and crisis environment that could lead to a demonstrative detonation and do a realistic estimate of the timetable for an underground peaceful nuclear explosion designed not to collect data but—as quickly as possible—to signal U.S. resolve and perhaps avoid WMD use that could kill millions. The National Nuclear Security Administration should then manage the test readiness program to achieve both 18-month data test and X-day demonstrative readiness.

The combined appeal of these two different missions, with increased support requested from DOD, should help the Nuclear Test Organization receive the funding needed. They can then identify and line up all the resources required for X-day demonstrative detonation readiness, improve personnel test readiness by practicing with and maintaining NTS resources, and get the authorization basis documents (especially safety) completed now for very fast demonstrative detonation readiness.

If a future President faces a crisis that threatens WMD use or massive loss of U.S. troops, he should have a flexible deterrent option to demonstrate American resolve with a very quick detonation at the Nevada Test Site. This ready capability might well make the difference in averting enemy WMD use or nuclear war. **JFQ**

NOTES

¹ Joint Publication 1-02, *DOD Dictionary of Military Terms*, defines a flexible deterrent option as “a planning construct intended to facilitate early decision making by developing a wide range of interrelated responses that begin with deterrent-oriented actions carefully tailored to produce a desired effect.”

² The Nuclear Test Organization consists of representatives from a mix of government agencies and other organizations that are directly involved in the whole system of underground nuclear testing, including the National Nuclear Security Administration, DOD, and National Weapons Laboratories.

³ See Jonathan Medalia, *Nuclear Weapons: Comprehensive Test Ban Treaty* (Washington, DC: Congressional Research Service, November 5, 2002), 3.

⁴ Bechtel Nevada, Assessment of “ASAP” Scenario, white paper for internal review, September 1998, “Underground Nuclear Testing: Issues Regarding Resumption,” Report of the Threat Reduction Advisory Committee, March 2005, 5.

⁵ *Ibid.*

⁶ *Ibid.*, section 2.3, 9.

⁷ The DOE budget request for test readiness for fiscal year 2008 is zero funding. DOE has apparently decided to suspend any underground testing readiness efforts.