

Mini-Nukes and Preemptive Policy A Dangerous Combination

by Charles V. Peña

Executive Summary

Currently, the United States relies on conventional bunker-busting bombs—such as the GBU-28, which was used in both Afghanistan and Iraq—to destroy hardened, underground targets. Legislation is pending in Congress that would provide funding for research—but not engineering or development—for low-yield, earth-penetrating nuclear weapons for targets that cannot be destroyed by conventional bunker busters.

Advocates of these mini-nukes argue that they are needed for underground targets that potential adversaries are building, largely to conceal and protect their weapons of mass destruction (WMD) programs. They also argue that mini-nukes would deter rogue states from using WMD and even dissuade them from developing such weapons in the first place.

Critics contend that even very small-yield warheads detonated deep underground will produce significant blast damage as well as fairly widespread radioactive fallout. They also believe that mini-nukes would threaten international arms control and nonproliferation efforts.

The reality is that mini-nukes won't deter countries from taking actions that they perceive to be in their self-interest, such as the acquisition

of nuclear weapons thought to be the only way to deter the United States from engaging in preemptive regime change. And neither will arms control agreements and a nonproliferation regime.

In the final analysis, mini-nukes and preemption are a dangerous combination that could undermine deterrence and make the United States less secure. If rogue state leaders believe that the United States has targeted them for regime change—regardless of any actions they might take short of abdicating power to a new leader deemed acceptable by the United States—and is willing to use nuclear weapons preemptively, they may feel they have nothing to lose by using what they can—including WMD—to strike at the United States first.

Furthermore, if rogue state leaders do not possess the long-range military capability to directly attack the United States, and if preemptive regime change is thought to be inevitable, the natural barriers for those leaders to form alliances with terrorist organizations will be eroded and the incentive for them to see terrorism—and possibly supplying terrorists with WMD—as the only way to retaliate against the United States will increase.

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Introduction

When the Nuclear Posture Review was unveiled in January 2002, much of the reaction to it was focused on the notion that the United States would hold nuclear warheads in reserve (a so-called responsive force) and that those warheads would not be counted in the pledged reduction from the current force level of more than 7,000 strategic nuclear warheads to 1,700 to 2,200 operationally deployed warheads.¹ Lost in the shuffle was the NPR's response to hardened and deeply buried targets (HDBT). According to unclassified excerpts from the NPR:

A majority of strategic facilities are deep underground facilities. These facilities are generally the most difficult to defeat because of the depth of the facility and the uncertainty of the exact location. . . .

With a more effective earth penetrator, many buried targets could be attacked using a weapon with a much lower yield than would be required with a surface burst weapon. This lower yield would achieve the same damage while producing less fallout (by a factor of ten to twenty) than would the much larger yield surface burst.²

J.D. Crouch, assistant secretary of defense for international security policy, confirmed that the Pentagon was exploring ways to hit deep underground targets, including nuclear weapons: "We are looking at modification of existing (nuclear) weapons, and also looking at non-nuclear ways to do it."³

But because the attention of the media and Congress was focused on U.S. military action in Afghanistan and then Iraq, the issue of low-yield, earth-penetrating nuclear weapons—so-called "mini-nukes"—did not really surface until early 2003, more than a year after the NPR was released. When asked by Sen. Carl Levin (D-MI) about the Bush administration's requested funding "to study a so-called nuclear earth penetrator weapon,"⁴ Secretary

of Defense Donald Rumsfeld replied:

The world is experiencing an enormous amount of underground tunneling and activities; activities underground that are for production, that are for manufacturing, that are for development, for storage. And the problem of not having visibility into them, and when one has visibility, not having the ability to penetrate and reach them, creates a very serious obstacle to the U.S. national security. And to the extent we say to ourselves, well, that's going to be the ultimate solution, we're unwilling to even study the idea of penetrating capability, and therefore, we make it advantageous for people to engage in that type of tunneling, I think that it would create an incentive rather than a disincentive.⁵

With that statement, Rumsfeld took the administration's case for mini-nukes public.

The Fiscal Year 2004 defense budget—sent to Congress in the beginning of March—included a request to repeal the 1993 Spratt-Furse law,⁶ adopted as part of the FY 1994 Defense Authorization Act,⁷ which prohibits "research and development that could lead to the production of low-yield (five kilotons or less) nuclear weapons."⁸ At the same time, the administration also requested \$21 million for nuclear weapons research, of which \$15 million was for a robust nuclear earth penetrator (RNEP), a high-yield nuclear device "designed to dig into the ground before it explodes and crushes any facility buried beneath it."⁹

The future of Spratt-Furse and funding for RNEP are still uncertain.¹⁰ But the FY 2004 defense budget request leaves no doubt that the administration is serious about wanting the ability to use nuclear weapons to destroy bunkers and other underground facilities. The administration's determination is underscored by a conference in August 2003 at the U.S. Strategic Air Command headquarters in Nebraska, where one of the panels addressed mini-nukes against underground targets.¹¹

A relatively little known fact is that the United States already possesses a nuclear bunker buster: the B61-11 nuclear gravity bomb. The B61 is a nuclear bomb that can be configured with yields ranging from 0.3 kilotons (kt) to 340 kt¹² (the two lowest yields—0.3 kt and 1.5 kt—fall into the mini-nuke category). The B61-11 variant has a hardened casing to provide earth-penetrating capability of 15 to 25 feet.¹³ About 50 B61-11 bombs are believed to be deployed.¹⁴ The question is whether the United States needs to develop and deploy more nuclear bunker busters in the form of mini-nukes.

The Case for Mini-Nukes

According to the House Policy Committee, Subcommittee on National Security and Foreign Affairs, hard and deeply buried targets are a growing concern that need to be countered:

Our potential enemies are burrowing in their chemical weapons capability, their conventional capability, their command and control, biological and nuclear weapons programs. Our current weapons systems cannot destroy targets that are deeply buried in tunnels. They were not designed to.

In the 2001 Defense Authorization Bill, the Congress directed NNSA [National Nuclear Security Administration] to study whether we can take an existing nuclear weapon and encase it in such a way so that it will penetrate the earth before it explodes. The intent is to hold at risk hard and deeply buried targets.¹⁵

And according to one Pentagon official: “What’s needed now is something that can threaten a bunker tunneled under 300 meters of granite without killing the surrounding civilian population.”¹⁶

The concept of using low-yield nuclear weapons to destroy underground targets pre-

dates the Bush administration’s NPR. In 1991, Los Alamos National Laboratory nuclear weapons scientists Thomas Dowler and Joseph Howard II argued that an earth-penetrating 10-ton nuclear warhead (1,000 times smaller than the bomb dropped on Hiroshima) could destroy hardened and deeply buried targets.¹⁷ According to a June 2000 Los Alamos National Laboratory report, “Nuclear Weapons in the Twenty-First Century,” by Stephen M. Younger: “A 5-kiloton nuclear explosive detonated on a 30-foot-thick missile silo door will vaporize that door, destroying the missile inside. With precision delivery many hard targets might be able to be defeated with nuclear explosives having lower yield than we might currently employ.”¹⁸

The prospect of being able to destroy heretofore indestructible underground targets is made tantalizingly possible by advancements in precision delivery and depth penetration, capabilities demonstrated by conventional weapons in both Afghanistan and Iraq, such as:

- The Joint Direct Attack Munition, which is the result of mating previously “dumb,” or gravity, bombs (the 2,000 pound BLU-109/MK 84 and 1,000 pound BLU-110/MK 83) with global positioning system (GPS) technology to create a weapon accurate to within 13 meters or less.¹⁹
- The GBU-28, which is a 5,000 pound laser-guided bomb that uses the BLU-113 hardened steel-tipped warhead to penetrate more than 30 feet of concrete and a delayed-action fuse to penetrate the structure before exploding, thereby concentrating the destructive force on the inside of the target instead of on the surface.²⁰

Although it is possible to destroy underground structures such as missile silos and bunkers with a nuclear weapon, doing so usually requires a large-yield weapon. An above ground detonation causes most of a nuclear weapon’s tremendous destructive energy to

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be reflected back into the air rather than directed into the ground. Thus: "Several meters of dirt will protect most hardened structures from all but the highest-yield weapons. Consequently, until recently the 9-megaton B53 warhead was required to destroy hardened underground targets like Soviet command and control bunkers."²¹

Conversely, the destructive shock of a nuclear explosion even only a few meters below ground is amplified compared to a weapon of the same yield detonated above ground. The result is that "less than one meter of burial increases the energy coupling by more than an order of magnitude. The warhead is thus more likely to destroy a buried hardened structure if it first penetrates into the ground near the target before detonating."²²

Mini-nuke proponents argue that the combination of being able to place a warhead almost exactly on top of a target and the ability to penetrate a buried target before detonating means that a lower-yield weapon can be used to destroy the target. And because the weapon has a relatively small yield, it is less destructive and therefore more useable—that is, it would be relatively benign compared to using a nuclear weapon detonated above ground because it would inflict less collateral damage.

A second rationale for mini-nukes is deterrence. Advocates believe that because mini-nukes would be more useable they would be more credible weapons and, therefore, a more effective deterrent. Keith Payne, a former deputy assistant secretary of defense in the current Bush administration, argues:

We need research on new, low-yield nuclear weapons because that research may contribute to a deterrent that is believable, i.e., a deterrent that works. Our existing arsenal's generally high yields and limited precision could inflict so many innocent casualties that enemies may believe the U.S. president would be paralyzed by self-deterrence. America's popular aversion to causing collateral damage is well known.

Precision, low-yield weapons that would inflict a much lower level of civilian casualties will appear much more credible to some opponents, and thus constitute a better deterrent to war.²³

It is important to note that Payne argues that mini-nukes could be a "deterrent to war," and the implication is that they could deter all possible conflicts. But deterrence is not about preventing all war in the general sense. Rather, it is about preventing catastrophic action against the United States. During the Cold War, that meant preventing a Soviet nuclear attack. Conventional war between the two superpowers was also avoided because of the possibility that such a war could escalate to the nuclear level. But nuclear deterrence never extended beyond the reach of a direct U.S.–Soviet war to prevent any and all conflicts. Indeed, the vast U.S. nuclear arsenal did not prevent the North Vietnamese from waging a war against South Vietnam despite massive and direct U.S. military involvement.

The same is true today. The U.S. strategic nuclear arsenal serves as an effective deterrent against nuclear attack or other catastrophic action by another nation state. But it cannot be expected to deter all lesser hostile actions by potential adversaries. Indeed, U.S. nuclear superiority (as well as conventional military superiority) did not prevent Saddam Hussein in 1991 from challenging the United States by invading Kuwait (although it can be argued that U.S. nuclear weapons did deter Iraq from using chemical or biological weapons, which could be categorized as catastrophic action). So it is not plainly obvious how mini-nukes would be any more effective in deterring similar conflict situations that do not involve a direct attack against the United States.

The final argument for mini-nukes is that the ability to destroy deeply buried facilities used in the production of chemical, biological, or nuclear weapons would dissuade rogue states from developing such weapons in the first place. Payne argues that mini-nukes would cause rogue states to have less incentive to acquire weapons of mass destruction

because “a working U.S. nuclear deterrent . . . can help to devalue rogue WMD, by credibly threatening a costly reply if those WMD were ever used.”²⁴ The logic is that if rogue states believe that the United States could credibly destroy their WMD (or WMD programs), they would have less or no incentive to pursue WMD. Baker Spring, a research fellow at the Heritage Foundation, is reported to have said: “There also appears to be growing acceptance that a key role for nuclear weapons today is to make enemies question the wisdom of stockpiling chemical and biological weapons. . . . If the United States can destroy such stockpiles with nuclear strikes, hostile countries will be less inclined to build them.”²⁵ In other words, the threat of usable mini-nukes in a limited strike against selected targets would have the same effect as Israel’s June 1981 airstrike to prevent Iraq from developing a nuclear capability by destroying the Osirak nuclear reactor before it became operational.

Mini-Nukes Criticism

Arms control advocates contend that mini-nukes would threaten international arms control and nonproliferation efforts. Charles D. Ferguson and Peter D. Zimmerman at the Monterey Institute of International Studies succinctly summarize the arms control argument against mini-nukes:

Even if a strong case can be made for new U.S. nuclear weapons, development and production of these weapons would undermine U.S. commitments under the nuclear Non-Proliferation Treaty. Along with the other four *de jure* nuclear weapons states, the United States pledged under Article VI of the NPT “to pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.” Although this

article does not specify a time-bound commitment, production of new nuclear weapons would take steps backwards from the treaty’s obligations “to pursue . . . nuclear disarmament.”

In addition, the United States would put itself in a hypocritical position if it proceeded with nuclear weapons development. In essence, the United States would be saying to aspiring nuclear weapons states, “Do as I say, not as I do.”²⁶

Writing for *Arms Control Today*, Sidney Drell (professor emeritus of physics at Stanford University and a senior fellow at the Hoover Institute), James Goodby (former adviser to President Clinton on the Comprehensive Test Ban Treaty), Raymond Jeanioz (professor of earth and planetary science at the University of California at Berkeley), and Robert Peurifoy (vice president of Sandia National Laboratories) state: “The world’s only superpower would send a negative signal to the non-nuclear states if it felt the need to develop new types of nuclear weapons.”²⁷ The other related arms control objection is that development of mini-nukes might result in nuclear testing:

Such an initiative would further undermine the NPT if it led to a resumption of nuclear explosive testing in order to deploy new weapons designs. In 1995, many of the world’s non-nuclear nations made it clear that their continued adherence to the NPT was contingent on the cessation of all nuclear-yield testing. Although it has adhered to a self-imposed moratorium on such tests for more than a decade, the United States has refused to ratify the Comprehensive Test Ban Treaty, thereby forgoing the opportunity to strengthen the NPT regime. A decision to resume testing to build low-yield nuclear weapons could deal the regime a fatal blow while providing the United States with a capability of questionable military value.²⁸

The logic is that if rogue states believe that the United States could credibly destroy their WMD, they would have less incentive to pursue WMD programs.

Another concern with mini-nukes is that if they are viewed as more usable weapons, a president might employ them to honor a commitment, even when their use of such weapons is not otherwise warranted.

Bruce Blair, president of the Center for Defense Information, raises other problems associated with mini-nukes. According to Blair, the Pentagon wants mini-nukes because “die-hard nuclear war planners actually have their eyes on targets in Russia and China, including missile silos and leadership bunkers.” Whether or not a mini-nuke could destroy such targets, Blair raises the more important question: “Why would we want to do that if Russia is no longer the enemy?” In other words, as the U.S.-Russian relationship continues to move toward a stronger friendship, deterrence—and the need for each country to target each other with nuclear weapons—becomes less and less of an issue. Moreover, the evidence of the Cold War is that deterrence worked, and there is no compelling reason to believe mini-nukes would be required for deterrence to continue to work.

Blair also believes that the real driving force behind the quest for mini-nukes “is the U.S. national security establishment’s desire to preserve—indefinitely—a nuclear weapon design capability at the national laboratories, particularly Los Alamos and Lawrence Livermore.”²⁹ In other words, Blair argues that mini-nukes are more for bureaucratic self-interest than national security reasons.

A more esoteric argument against mini-nukes is the “commitment trap.” Scott Sagan, codirector of the Center for International Security and Cooperation at Stanford University, argues:

The greatest danger created by U.S. nuclear threats is that they provide an incentive to respond with nuclear weapons, for the sake of maintaining the reputation for honoring one’s commitments, to attacks that otherwise would be responded to with conventional retaliation only. The problem here is one of degree: it is unlikely that any U.S. president would respond with nuclear weapons to a very small-scale chemical or biological weapons attack; yet a president’s belief that his or her statements, or those of subordinate

officials, had created a commitment in the eyes of allies and future adversaries could tip the balance between nuclear and conventional response in more serious contingencies.³⁰

The concern with mini-nukes is that if they are viewed as more usable weapons, a president might indeed feel it is easier to use them to honor a commitment, even when the use of such weapons is not otherwise warranted. Compounding this potential slippery slope problem is that mini-nukes might actually “encourage nuclear planners to identify shallower targets and lesser contingencies for ‘credibly’ threatening the use of nuclear weapons.”³¹ The irony of this possibility is that the current crop of conventional precision munitions was developed originally as part of efforts to find ways to destroy targets that previously required nuclear weapons to destroy, such as underground command-and-control bunkers.

The strongest argument against mini-nukes is technical. Critics challenge the notion of “usability,” that is, that the damage—particularly collateral damage—caused by such weapons would be relatively minimal. An extensive study by Robert W. Nelson, a physicist at Princeton University and senior fellow at the Council on Foreign Relations, concluded:

A low-yield nuclear EPW [earth-penetrating weapon] would still only be able to destroy facilities relatively close to the surface. Despite the increased coupling of a buried explosion, even a 1-kiloton nuclear weapon cannot destroy a structure protected by more than about 30 m[eters] of concrete from the point of detonation. Very large yield [at least 100-kt] weapons are still required to destroy facilities buried under the equivalent of 100 m of concrete.

The penetration capability of kinetic energy weapons is limited by the strength of the missile casing, and the

ability of the weapon components to withstand the shock associated with ground impact. We have shown that 3-meter long missiles, constructed from the hardest steels, cannot penetrate deeper than about 12 m of reinforced concrete. A nuclear explosion at this depth will simply blow out a large crater and generate radioactive material which rains down on the local population as fallout.³²

Nelson also used actual data from shallow-buried nuclear tests (named “Plowshare”) conducted in the early 1960s to illustrate the effects of using a low-yield weapon against an underground target:

- “A one kiloton weapon detonated at a depth of 30 meters in dry soil or soft rock will produce a crater with an apparent radius . . . more than a football field in diameter . . . and with an extended lip of ejecta two to three times this radius. Between 10 to 50% of the total mass ejected from the crater settles as local radioactive fallout.”³³
- “The 2.3 kiloton Cabriole Plowshare test was buried at a depth of 52 meters. It produced a crater 36 m deep and 110 m in diameter. The highly radioactive base surge reached a diameter of approximately 2.5 [kilometers].”³⁴

Nelson also calculates that a “one kiloton earth-penetrating ‘mininuke’ used in a typical third-world urban environment would spread a lethal dose of radioactive fallout over several square kilometers, resulting in tens of thousands civilian casualties.”³⁵

In another report for the Federation of American Scientists, Nelson states: “In order to be fully contained, nuclear explosions at the Nevada Test Site must be buried at a depth of 650 feet for a 5 kiloton explosive—1300 feet for a 100-kiloton explosive. Even then, there are many documented cases where carefully sealed shafts ruptured and released radioactivity to the local environment.”³⁶

Thus, the empirical data suggests that even relatively low-yield weapons detonated at a depth greater than what BLU-113 earth-penetrating warhead can achieve will produce significant blast damage that is not contained below the surface, as well as fairly widespread radioactive fallout. In other words, it is not likely to be a “clean, very precise strike,” which is how retired Air Force Gen. Larry Welch (and a former Air Force chief of staff) defended the usability of mini-nukes.³⁷

Interestingly enough, although Los Alamos’ Stephen Younger argued that more precise smaller yield nuclear weapons might be able to destroy certain targets that currently require a large yield, he did not originally argue that mini-nukes could be used against hardened and deeply buried structures:

- “Some very hard targets require high yield to destroy them. No application of conventional explosives or even lower-yield nuclear explosives will destroy such targets, which might include hardened structures buried beneath hundreds of feet of earth or rock [e.g., caves].”
- “Superhard targets, such as those found under certain Russian mountains, may not be able to be defeated reliably by even high-yield nuclear weapons.”³⁸

So, even a supporter of the mini-nuke concept acknowledges its potentially limited utility and effectiveness against the very targets that mini-nuke advocates claim such weapons would be used to destroy.

The Problem of Preemption

Arms control and technical considerations aside, perhaps the most troubling aspect of the Bush administration’s pursuit of mini-nukes is in the context of the new national security strategy’s explicit endorsement of preemption³⁹ without clear evidence of an imminent threat:

- “America will act against such emerging threats before they are fully formed.”

Perhaps the most troubling aspect of the Bush administration’s pursuit of mini-nukes is the new national security strategy’s explicit endorsement of preemption without clear evidence of an imminent threat.

The real danger is not that mini-nukes are more likely to be used but that there is no other purpose for mini-nukes than to be used, especially in a preemptive fashion.

- “We must be prepared to stop rogue states and their terrorist clients before they are able to threaten or use weapons of mass destruction against the United States and our allies and friends.”
- “To forestall or prevent such hostile acts by our adversaries, the United States will, if necessary, act preemptively.”⁴⁰

Preemption is also explicit in the administration’s strategy to combat weapons of mass destruction: “U.S. military forces and appropriate civilian agencies must have the capability to defend against WMD-armed adversaries, including in appropriate cases through preemptive measures.”⁴¹

Although Daniel Gouré of the Lexington Institute does not specifically mention mini-nukes, he argues that “nuclear weapons are likely to be required as a means of guaranteeing the ability to successfully preempt rogue states’ efforts to acquire or employ WMD. The tendency of these states to harden and bury critical military facilities and assets means that there are targets that no non-nuclear conventional strike capability can hold at risk.”⁴²

Various opponents of mini-nukes have expressed concern that because low-yield weapons are perceived to be less destructive they are more likely to be used.⁴³ The real danger, though, is not that mini-nukes are more likely to be used but that there is no other purpose for mini-nukes than to be used, especially in a preemptive fashion. Gouré argues the more general case, but it is easy to make the inference to mini-nukes:

In those instances where the United States contemplates regime change it must address the very real risk that the targeted state will employ WMD early in the conflict. As a result, the ability to deny the rogue regime the ability to employ its WMD assets through a combination of defenses and preemption may be more important as a deterrent than a large strategic nuclear arsenal devoted to inflicting retaliatory damage.⁴⁴

Similarly, the administration does not explicitly link preemption with the use of nuclear weapons or mini-nukes in public sources. At best, one can make the inference on the basis of the language of the NPR and the new national security strategy.⁴⁵ But a classified version of National Security Presidential Directive 17 signed by President Bush in September 2002 reportedly authorizes “preemptive strikes on states and terrorist groups that are close to acquiring weapons of mass destruction or the long-range missiles capable of delivering them. And “the directive names Iran, Syria, North Korea, and Libya among the countries that are the central focus of the new U.S. approach.”⁴⁶

The problem with combining mini-nukes and preemption is that the Bush administration’s threshold for preemption—and thus the possible use of nuclear weapons—is at best, ambiguous, and at worst, dangerously low. By the standards set forth in the “National Security Strategy of the United States”—to “act against such emerging threats before they are fully formed”⁴⁷—the simple existence of conditions where one of many possible outcomes might be the emergence of a threat (without having to take into account likelihood)⁴⁸ is sufficient to preempt. Thus, the litmus test is the plausible allegation of a potential threat but not the convincing proof of the existence of such a threat. Speculation about unknown future intentions and capabilities of potential enemies becomes a *casus belli*. Thus, mini-nukes would allow the nuclear threshold to be crossed—because they are perceived as relatively low-damage weapons and thus more usable—without clear evidence or provocation to justify their use.

Furthermore, combining preemptive regime change with mini-nukes undermines the assertion of mini-nuke advocates that those weapons would effectively deter WMD use or acquisition. The threat of using the so-called Osirik option as a deterrent to WMD use or development (assuming that mini-nukes could be used in a limited-strike fashion with “acceptable” civilian casualties,

which is a questionable assumption) is plausible if it does not otherwise threaten the existence of the regime. But if a rogue state leader already believes he is a “dead men walking” because of a U.S. declared preemptive regime change policy, then he would have no assurances that what the United States threatens or claims to be a limited strike intended only to destroy WMD (or a WMD program) is not simply the first step of a larger military campaign of regime change. In fact, mini-nukes that are perceived to be capable of precise, limited damage strikes against buried WMD facilities would also be effective against underground leadership bunkers and, thus, instruments of regime change.

A preemptive use of mini-nukes also raises the larger issue of changing the nuclear or other WMD calculus and threshold for other countries. If other countries know that the United States has no compunction about using nuclear weapons preemptively—particularly with a stated objective of regime change—leaders of those countries would have less incentive to be restrained in their actions. Knowing that they have been put in a “nothing-to-lose” position, this could precipitate the first use of WMD (the very action that advocates of mini-nukes claim such weapons are intended to deter) in an effort to avoid having their WMD destroyed by a U.S. preemptive attack.

Preemptive regime change—particularly with nuclear weapons—could also erode the natural barriers for rogue state leaders to form alliances with terrorist organizations. If those leaders believe regime change is a foregone conclusion, the incentive for them to see terrorism as perhaps the only way to retaliate against the United States increases, including the possibility of providing WMD to terrorists. This was exactly the point that CIA director George Tenet made to the Congress in October 2002 as it debated whether to grant President Bush authority to use military force against Iraq. According to Tenet, Saddam Hussein was “drawing a line short of conducting terrorist attacks with conventional or chemical or biological weapons,” but if

Saddam concluded that a U.S.-led attack against Iraq could not be deterred “he probably would become much less constrained in adopting terrorist action.”⁴⁹

The Iraq war demonstrates the problem of combining mini-nukes and preemption. Prior to going to war, the administration alleged that Iraq had weapons of mass destruction and supported al Qaeda,⁵⁰ both seemingly sufficient criteria to invoke preemption—including the possibility of nuclear preemption—under National Security Presidential Directive 17. But more than six months after the president declared an end to major combat operations on May 1, 2003, WMD have yet to be found and no demonstrable connection between the former regime and al Qaeda has been established. Before and during the Iraq war, administration officials implied that the United States was relatively certain where WMD was located.⁵¹ But after nearly six months of searching, David Kay—who is heading up the U.S.-led, 1,400 person inspection team in Iraq—testified before Congress that the United States has “not yet found stocks of weapons” and has only discovered “WMD-related program activities.”⁵² And President Bush admits that “there is no evidence that Saddam Hussein was involved with September 11.”⁵³

That hardly creates confidence that mini-nukes would only be used when circumstances warrant. In fact, the Iraq war suggests just the opposite. If the administration had mini-nukes (which it clearly wants), it might have used them in a preemptive fashion on the slim pretext that alleged WMD—which apparently don’t exist—would be given to al Qaeda terrorists—who haven’t been discovered to have been supported by the former regime in Baghdad.

The inability to find any WMD to date—when previously the administration seemed to intimate that the location of WMD was known—highlights another problem with the possible use of precision mini-nukes to destroy WMD facilities. According to Stephen Younger at the Los Alamos National Laboratory:

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A word of caution is needed on the use of precision munitions for high-value strategic targets: The Kosovo conflict demonstrated very clearly that just the ability to place a weapon on the designated aim point is not enough to ensure mission success. Inaccurate target coordinates provided to pilots sometimes resulted in weapons being delivered very precisely to the wrong spot. Effective utilization of precision munitions demand that a premium be placed on the collection and the analysis of target information.⁵⁴

In other words, the Iraq war demonstrates the possibility that if the administration had mini-nukes, it might have used nuclear weapons against suspected WMD facilities that did not contain any WMD.

The Iraq war also calls into question the usability of mini-nukes. Presumably the B61-11 nuclear bunker buster can be configured with yields low enough to be categorized as a mini-nuke and, theoretically, outfitted with GPS guidance. Therefore, it has the potential to be used as a precise, earth-penetrating low-yield nuclear weapon against very high value underground targets. On at least two occasions U.S. intelligence indicated that Saddam Hussein was thought to be in underground bunkers that were subsequently attacked with conventional weapons.⁵⁵

If Hussein was arguably the highest value target in Iraq during the war, then a good case could be made for using a nuclear weapon like the B61-11 to assure killing him and decapitating the regime, which was part of the overall U.S. war strategy. But the fact that the United States chose not to use the B61-11's during the Iraq war suggests that either (a) even a relatively low-yield nuclear weapon detonated underground would produce too much damage, particularly if located in a densely populated urban area such as Baghdad or (b) there is a real stigma or aversion to U.S. first use of nuclear weapons, even against adversaries who cannot retaliate in kind.

Trying to Deter the Undeterrable

Another argument made by critics of mini-nukes is that they would provide an incentive for countries to acquire nuclear weapons. A group of prominent nuclear weapons scientists, including Hans Bethe, Sidney Drell, and Richard Garwin, wrote a letter to U.S. senators in May 2003, stating: "The perception that the United States is pursuing these weapons and considering their use would give legitimacy to the development of similar weapons by other countries, and would be an incentive to countries . . . to develop their own nuclear weapons as a deterrent."⁵⁶ Mini-nuke advocates, such as Payne, counter: "Potential enemies want WMD for their very own reasons—not just because we have a nuclear arsenal. They have calculated that WMD can serve their political and military purposes against regional foes or trump U.S. conventional military advantages. If we gave up nuclear research, or even our entire nuclear arsenal, rogues would still have the same incentives to acquire WMD."⁵⁷

Both sides are partially right. U.S. mini-nukes would provide increased impetus for those countries to accelerate their programs to obtain nuclear weapons. But mini-nukes per se would not be the driving force. Rather, the Bush administration's policy of preemptive regime change is what is creating strong incentives for rogue states to acquire nuclear weapons in an effort to have some hope of being able to deter U.S. military action. As Ted Galen Carpenter, vice president of defense and foreign policy studies at the Cato Institute, observes:

In his 2002 State of the Union address, President Bush explicitly linked both North Korea and Iran to Iraq in an "axis of evil."

It would hardly be surprising if Pyongyang and Tehran concluded they would be next on Washington's hit list unless they could effectively deter an attack. Yet neither country could hope

to match the conventional military capabilities of a superpower.

The most reliable deterrent—maybe the only reliable deterrent—is to have nuclear weapons.

In other words, U.S. behavior may have inadvertently created a powerful incentive for nuclear weapons proliferation—the last thing Washington wanted to occur.⁵⁸

North Korea's nuclear weapons program⁵⁹ and allegations that Iran has weapons grade uranium⁶⁰ supports this thesis. Indeed, citing a "hostile policy" against the North by the United States, North Korea claimed it had "made a switchover in the use of plutonium churned out by reprocessing spent fuel rods in the direction [of] increasing its nuclear deterrent force."⁶¹ In effect, North Korea is claiming to be building nuclear weapons as a deterrent against the United States in direct response to a hostile U.S. policy.

Yet the mini-nuke advocates fail to grasp the logical implications of their own—correct—conclusion. Indeed, rogue states have their reasons for wanting nuclear weapons apart from U.S. development of mini-nukes. One of the primary reasons is to deter U.S. military action, including preemptive regime change. In other words, rogue states are acting in their perceived self-interest for purposes of survival. If acquiring nuclear weapons is seen by leaders of rogue states as the only possible way to deter the United States and ensure the regime's continued survival, then U.S. mini-nukes will have little effect in deterring rogue states from seeking to acquire such weapons. Therefore, as long as preemptive regime change is a core component of U.S. policy, rogue states will likely continue to pursue nuclear weapons development even if the United States develops and deploys mini-nukes.

Mini-Nukes Are Not the Solution to Proliferation

North Korea seems intent on becoming a

nuclear power even in the face of overwhelming U.S. conventional military and strategic nuclear superiority. The United States already has the nuclear capability to destroy the North's nuclear and other WMD programs, albeit with tremendous destruction and collateral damage. It is not obvious that a less destructive nuclear capability (but one that would still cause significant damage) would have a greater deterrent effect.

And despite U.S. conventional bunker-busting capabilities, countries such as North Korea continue to build underground facilities. A mini-nuke capability to destroy hardened and deeply-buried targets will likely result in countries simply burying complexes deeper underground, making them more difficult (if not impossible) to destroy. The result is that a larger yield or deeper penetrating weapon would be needed in response. In turn, this would probably generate a counter-response—for example, widely dispersing facilities or placing them near civilian facilities. While not an arms race, the United States could find itself in a continuous and potentially expensive⁶² action-reaction cycle with no real military or deterrent benefit.

The answer, however, is not a more robust arms control strategy or nonproliferation regime. Rather, the United States must come to grips with the fact that it may not be possible to prevent countries such as North Korea and Iran from eventually acquiring nuclear weapons. And it is important to understand these countries' motivations for wanting such weapons. It is not necessarily the case that so-called rogue states seek nuclear weapons because they want to attack, threaten, or blackmail the United States. Regional power is often the most powerful motivation for any country's quest for nuclear weapons—this is clearly the case with both India's and Pakistan's nuclear capabilities, as well as Israel's. And it is certainly easy to understand why countries would want nuclear weapons to deter the United States from preemptive regime change.

One way the United States could provide less incentive for other countries to acquire nuclear weapons is to adopt a less interven-

If acquiring nuclear weapons is seen by leaders of rogue states as the only way to deter the United States, U.S. mini-nukes will have little effect in deterring rogue states from seeking to acquire such weapons.

Ultimately, mini-nukes could undermine deterrence and make the United States less secure, especially when combined with a policy of preemptive regime change.

tionist foreign policy. Since the end of the Cold War, the United States is in a unique geostrategic position. The military threat posed by the former Soviet Union is gone. Two great oceans act as vast moats to protect America's western and eastern flanks from conventional attack. And America is blessed with two friendly and stable neighbors to the north and south. Thus, the American homeland is safe from a traditional conventional military invasion, and the U.S. strategic nuclear arsenal acts as an effective and credible deterrent against possible nuclear attack—even against rogue states that might eventually acquire nuclear weapons.

Therefore, the United States can pull back from the Cold War-era extended security perimeter (with its attendant military commitments overseas). Rather than being the world's emergency first responder in every region around the world, the United States should allow a natural balance of power to develop (as the dominant military power in the world, the United States could always step in as a balancer of last resort if a serious imbalance that jeopardized vital U.S. national security interests were to develop).

In the case of North Korea potentially becoming a nuclear power, the United States should allow South Korea and Japan to assume responsibility for their own defense and take responsibility for balancing against North Korea⁶³—including making their own decisions about whether to acquire nuclear weapons. Conventional wisdom holds that a situation in which more countries have nuclear weapons is inherently dangerous and unstable. But it is not rational for the United States to be willing to trade Los Angeles for Pyongyang as a guarantee of security on the Korean peninsula when there is no vital U.S. national security interest at stake—that is, when the territorial integrity, national sovereignty, or liberty of the United States is not at risk. And which is worse—a nuclear monopoly on the Korean peninsula held by a communist, authoritarian dictatorship or a nuclear balance of power where nuclear weapons are also controlled by two liberal democracies friendly to the United States?

This is not to say that the United States (and other nuclear powers) should do nothing to prevent nuclear proliferation. But the approach to nonproliferation cannot be an “either/or” strategy where “either” means a country giving up its nuclear ambition and “or” means preemptive U.S. military action. Indeed, the United States may have to learn to live in a world—however undesirable—where rogue states have a small number of nuclear weapons. And in such a world, a more important issue will be ensuring that those countries do not transfer weapons, materials, or technology to terrorists. On this point the United States should be abundantly clear and unambiguous: such action will be no uncertain cause for immediate and swift regime destruction using any and all means necessary within the full spectrum of U.S. military capabilities.

Conclusion

Critics of mini-nukes believe that a non-proliferation regime will contain the spread of nuclear weapons. Advocates argue that mini-nukes will deter countries from acquiring nuclear weapons. They are both wrong. Ultimately, countries will act in what they perceive to be their strategic self-interest. The actions of North Korea and Iran suggest that countries that feel threatened by the United States (both North Korea and Iran were named part of the axis of evil in President Bush's 2002 State of the Union address) have tremendous incentives to acquire nuclear weapons as perhaps the only way to deter the United States from engaging in preemptive regime change. That the United States was successful in conducting regime change against a non-nuclear Iraq (the other country named in the axis of evil) only reinforces this incentive.

Mini-nukes are not the answer to trying to deter the undeterrable—that is, countries acting in their own self-interest, particularly when the survival of the regime is at stake. Nor are mini-nukes, or nuclear weapons in general,

likely to deter conventional conflict. The problem is that too many people expect too much of deterrence. It is often pointed out that the U.S. nuclear arsenal did not deter Saddam Hussein from invading Kuwait in 1991. But deterrence isn't intended to prevent any and all possible actions counter to U.S. interests or desires. Rather, deterrence is about preventing another country from engaging in actions that would be catastrophic to the United States. And the U.S. strategic nuclear arsenal serves as a credible deterrent against direct nuclear attack or other catastrophic action by another nation-state.

Ultimately, mini-nukes could undermine deterrence and make the United States less secure, especially when combined with a policy of preemptive regime change. If rogue states believe that the United States has a nuclear capability that it is willing to use preemptively, leaders of those countries may feel they have nothing to lose by striking first at the United States (knowing that waiting means certain defeat). If they possess WMD and are willing to give those weapons to terrorists—because being dead men walking reduces or removes all previous restraints to work with terrorists—then the United States will be vulnerable to potentially catastrophic attacks that can neither be deterred nor adequately defended against.

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