Assessing the International Response to the Robust Nuclear Earth Penetrator

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The Bush administration's recently declared doctrine of preemption, coupled with Congress's decision to repeal the Spratt-Furse amendment and fund the study (and potential development) of new nuclear weapons, is eliciting a negative response from members of the international community. Although the robust nuclear earth penetrator (RNEP) currently being studied will not significantly improve the U.S.'s nuclear capability, it is being decried by the Russian Federation and the Chinese government as a symbol of the Bush administration's nuclear policies. As the FY2005 Defense and Energy and Water appropriations requests are debated in Congress in the coming months, and the U.S. prepares for the 2005 Nuclear Nonproliferation Treaty Review Conference, it is important that policymakers consider the ramifications of funding new nuclear weapons programs.

Background

The stage was set for the current debate when Congress appropriated the Bush administration's FY 2003 budget request of $15 million for the research, and possible development, of a new earth penetrating nuclear weapon (hereafter EPNW). Dubbed the robust nuclear earth penetrator (hereafter RNEP), the Air Force-led study seeks to discern the viability of enhancing the capabilities of two existing, high yield nuclear warhead types (the B-61 and the B-83) to penetrate more deeply underground to destroy hardened, deeply buried targets (hereafter HDBT).

The subsequent FY 2004 request of $15 million was met with much criticism, however, and the budget deliberations were contentious. The Senate's FY 2004 energy and water appropriations bill (approved September 16, 2003) honored administration requests to fully fund the RNEP study and accelerate nuclear test readiness. By contrast, the House version (approved July 28, 2003) made considerable cuts to these items. A conference committee decision to reconcile these differences was announced on November 3, 2003 with the following compromise:

1. The Spratt-Furse prohibition on developing low-yield nuclear weapons was repealed (section 3136 of the National Defense Authorization Act for Fiscal Year 1994).
2. Proposals to research new EPNW were approved.
3. The time required to prepare for a full-scale nuclear test was reduced from 24 to 18 months.
4. EPNW may not be engineered, developed or tested without further Congressional approval.
5. The $15 million requested for EPNW research was cut to $7.5 million ($4 million of which is unavailable until DOE presents documentation on nuclear stockpile reductions).

The EPNW issue promises to be even more divisive this year than it was last. The Bush administration is seeking to boost FY 2005 funding for the RNEP study by 271 percent (FY 2005 $27.6 million).[1] Additionally, although administration officials argue that they are merely interested in conducting research, the FY 2005 budget request lays out a five year research and development schedule for RNEP. According to the NNSA plan, research will conclude at the end of 2005, and will be followed by a three year development phase slated to begin in 2006. This is to culminate in the production and induction of the warhead into the U.S. arsenal in 2009. As noted above, pursuant to the FY 2004 Defense Authorization Act, Congressional approval is required in order to move from the research to the development phases.

Perceived Uses

As articulated by Ambassador Linton Brooks, Under Secretary of Energy for Nuclear Security and Administrator, National Nuclear Security Administration, in his 24 March testimony before the Senate Armed Services Committee's Subcommittee on Strategic Forces, the challenges posed by the increased construction of HDBT in rogue states represent the principle justification for developing RNEP. By holding such targets at risk, the administration hopes to dissuade adversaries from even attempting the acquisition of weapons of mass destruction and systems for their delivery.[2]

RNEP represents one of the three legs of the Bush administration's new nuclear triad as articulated by the 2001 Nuclear Posture Review (NPR). The NPR posits that new nuclear weapons designs, rather than the existing B61-11 or conventional munitions, should be employed to destroy HDBT suspected of housing WMD production and storage facilities. This argument is predicated upon the assertion that conventional weapons are prone to disperse rather than destroy biological agents and, by providing U.S. leadership with the means to destroy HBDT with a minimal threat to civilian populations, EPNW represent an effective and efficient means of dissuading rogue nations from pursuing WMD programs. Indeed, the rational proffered by the Secretaries of State, Defense, and Energy for the repeal of the Spratt-Furse legislation lays out the administration's argument for "credible deterrence":

A key strategic goal of the United States is to deter aggression; deterrence is in the eye of the adversary leadership and involves its perception of both the capability and will of the United States to respond to aggression. In light of the widely-held view that the United States goes to great lengths to limit collateral damage, would a rogue state leader contemplating use of WMD consider credible a response employing warheads with yields in the range of tens or hundreds of kilotons that could cause considerable collateral blast damage and radioactive contamination to civilian populations? Would such a leader think that the United States would risk a large number of civilian casualties? There is no way of knowing. In seeking, however, to minimize any misperceptions about U.S. capabilities or resolve, it is prudent, as called for in the NPR, at least to explore whether there are ways to provide the nuclear weapons stockpile with capabilities more appropriate for deterring 21st century threats in such areas as precision delivery, reduced collateral damage, earth penetration and agent defeat.[3]

The Bush administration asserts that there is a clear military utility for EPNW and, if developed, RNEP will facilitate U.S. counterterrorism efforts.[4] Specifically, EPNW advocates point to the WMD programs of Iran and North Korea as imminent threats and highlight their potential to facilitate catastrophic terrorism. Additionally, an 11 September 2003 Statement of Administration Policy argued that EPNW "will help lay the foundation for transforming the nation's Cold War era nuclear stockpile into a modern deterrent suited for the 21st century."

Questionable Utility

Given the proposed mission of using EPNW to destroy HDBTs at depths of 300 meters or greater in rock while largely containing the blast and fallout, RNEP does not represent a practical addition to our nuclear stockpile for the following reasons:

1. To be effective against HDBTs, RNEP must achieve penetration in excess of current capability. Tripling the penetration depth of a 1 kt to 10 kt EPNW to 10 meters in dry hard rock (the probable physical limit), only increases the depth of the damage zone by about 15 meters.
2. Because of the threat to civilian populations posed by the radioactive fallout of a shallow nuclear blast, the tactical flexibility and moral acceptability of RNEP as an instrument of preemptive warfare are limited.

These conclusions are not lost on the international community. The Russian Federation and the Chinese government are both capable of making an accurate technical assessment and are unlikely to consider RNEP to represent a meaningful change in the status of U.S. threat. However, as a symbol of the United States's recently declared preemptive doctrine, RNEP is eliciting a vociferous negative response. The Russians and the Chinese both feel threatened by the Bush administration's aggressive nuclear policies and evidence suggests that they are responding by investing resources to expand their nuclear deterrent capabilities.

Russia

The Russian government has voiced its clear displeasure over the U.S. decision to research (and presumably develop) new nuclear weapons. As EPNW advocates are quick to point out, the Russian Federation is incapable, even if it wanted to, of pursuing an all-out arms race with the U.S. However, the Bush administration's decision to pursue RNEP does appear to be pushing Russia away from its decade-long policy of de-emphasizing nuclear reliance.

Some analysts argue that the principle targets for RNEP are in Russia and include the command facilities inside the Yamantau and Kosvinsky mountains.[5] Both of these facilities trace their origins to the Cold War when U.S. strategic doctrine emphasized targeting the Communist Party's leadership complex. Indeed, Yamantau and Kosvinsky were designed and built to prevent a decapitating first strike by U.S. strategic nuclear forces.

Yamantau

Although construction of the command center at Yamantau began in the Brezhnev-era, the Russian Federation has remained committed to completing the facility. Yamantau has proven controversial and has allegedly drawn the ire of U.S. nuclear war planners.[6] In a 1997 Congressional finding, the U.S. House of Representatives noted (that) "the Yamantau Mountain project does not appear to be consistent with the lowering of strategic threats, openness, and cooperation that is the basis of the post-Cold War strategic partnership between the United States and Russia."[7] The finding goes on to quote the Segodnya newspaper which claimed in 1996 "that the Yamantau Mountain project was associated with the so-called 'Dead Hand' nuclear retaliatory command and control system for strategic missiles."[8] A 1997 CIA report was less confident, noting "The rationale for the Yamantau complex is unclear."[9] Owing to the facility's location inside a rock quartz mountain (about 3,000 feet straight down from the summit), it is reportedly unsuitable for use as a command post. The silicon-rich quartz interferes with radio signals broadcast from within the facility, rendering communications links tenuous at best. Yamantau's communications capabilities are therefore limited to the use of transmitters broadcasting from outside the facility, which are vulnerable to existing weapons in the U.S. nuclear stockpile (and would be even more vulnerable to new bunker busters). Thus, rather than being associated with the so-called "Dead Hand" nuclear retaliatory command and control

system, it is thought that Yamantau's principle purpose is to provide a wartime relocation facility for the Russia's top political leadership.[10]

Kosvinsky

A 1997 CIA report states, "The command post at Kosvinsky appears to provide the Russians with the means to retaliate against a nuclear attack."[11] According to Bruce Blair, "Kosvinsky is regarded by U.S. targeters as the crown jewel of the Russian wartime nuclear command system, because it can communicate through the granite mountain to far-flung Russian strategic forces using very-low-frequency (VLF) radio signals that can burn through a nuclear war environment."[12] Additionally, unlike the facility at Yamantau, this command center plays a critical role in Russia's 'Dead Hand' communications network, and is designed to ensure semi-automatic retaliation to a decapitating strike.[13] Blair argues,

Kosvinsky came on line recently, which could be one explanation for U.S. interest in a new nuclear bunker buster. If there's a new item on the target list, U.S. strategy requires a weapon to destroy it. Even with a "robust nuclear earth penetrator," … destroying Kosvinsky is not an easy assignment; the command center is protected by roughly 1,000 feet of granite. More importantly, why would we want to if Russia is no longer the enemy?[14]

Russian Response

The Russian General Staff appears to have seized on the development of RNEP as a symbol of the growing security threat posed by the U.S. doctrine of preemption and the overall context of evolving U.S. military capability. Indeed, Colonel-General Yuri Baluyevsky, the first deputy chief of the General Staff of the Russian armed forces, cited Moscow's concerns over U.S. development of RNEP as the reason for Russia undertaking a huge military exercise in January and February of this year. The exercise (which included numerous launches of ballistic missiles and flights of strategic bombers) was largely prompted by Russia's concern about the development of EPNW in the U.S., which Baluyevsky described as "destabilizing."[15] The Colonel-General went on to say that the United States is "trying to make nuclear weapons an instrument of solving military tasks, lower the threshold of nuclear weapons use. Shouldn't we react to that, at least at the headquarters level? I'm sure that we should and we are doing that."[16]

That the Russian Government would adopt this tack was predictable. Although RNEP is not envisioned as possessing a low-yield, on April 4, 2002, Russian President Vladimir Putin explicitly warned against the dangers of pursuing new nuclear weapons:

We hear statements and proposals for developing low-yield nuclear charges and their possible use in regional conflicts. This, to a very low bar, to a dangerous line, lowers the threshold of possible nuclear weapons use. The very approach to this problem may change, and then it will be possible to speak of a change of strategy. In this case nuclear weapons from weapons of nuclear deterrence go down to the level of weapons of operational use, and, in my opinion, this is very dangerous.[17]

A July 2002 report released by the British American Security Information Council (BASIC) rather prophetically asserts that, "to ignore such a warning would smack of contempt for the Russian President and could well undermine the burgeoning US-Russian relationship. A hardening of attitudes on the Russian side could easily result."[18] The U.S. decision to fund RNEP research appears to have strengthened the resolve of some Russian security planners to revise their nuclear policy and rethink doctrine. Indeed, as well as sending U.S. policymakers a message, the recent Russian exercise was also apparently intended to help develop weapons systems "capable of providing an asymmetric answer to prospective (U.S.) weapons systems."[19]

Owing to a number of contributing factors, the Russian Federation is feeling pressure to increase its reliance on nuclear weapons, including (but not necessarily limited to): uncertainty about U.S ambitions; concerns over the preemptive nuclear policies articulated in the NPR; the perceived threat posed by the eastward expansion of NATO; the establishment of U.S. military bases in Uzbekistan and Kyrgyzstan; the prohibitive expense of maintaining conventional forces large enough to protect its vast expanses of territory; abrogation of the ABM treaty and the U.S. deployment of a ballistic missile defense system; Russian popular opinion; and, the existence of a sizeable and well entrenched group of policy entrepreneurs (including former defense minister Igor Sergeyev) who maintain that Russia's nuclear forces are needed to preserve a global leadership role and therefore must receive funding priority. However, it is safe to say that the Russian leadership appears alarmed, deeply concerned, and indeed threatened by the U.S. decision to repeal Spratt-Furse and appropriate funds to research (and presumably develop) RNEP. Policymakers should be made aware of the apparent degradation in U.S.-Russian strategic relations that the Bush administration's doctrine and programs have engendered.

China

By declaring its doctrine of preemption and redefining the role of nuclear weapons in its strategic policies, some experts in U.S.-China relations argue that the Bush administration is encouraging China to rethink its own approach to nuclear weapons, potentially diminishing its interest in international agreements and perhaps even spawning an arms race.[20]

Historically, China's nuclear policies have been reactive, or defensive, in philosophy and approach. China maintains its nuclear forces only for retaliatory purposes, and its no-first-use philosophy forms the core of Chinese nuclear doctrine. Over the last 12 years, China has been committed to reducing its reliance on nuclear weapons.[21] It demonstrated its commitment to multilateral arms control regimes by signing the Nuclear Non-Proliferation Treaty and the Chemical Weapons Convention.

Additionally, China has signed a number of bilateral agreements, especially with the United States. China strengthened controls on arms exports through the Regulations on Export Control of Military Items in 1997 and the Export Control Laws on Dual Use Nuclear Goods and Related Technology in 1998. "All of these steps suggest that the Chinese leadership has been taking a longer term view of China's interests, recognizing that proliferation of weapons of mass destruction may hurt China's own interests, diminish China's international respectability, and threaten relations with the United States, on which China depends not only for the military technology it needs for its own military modernization, but also other technology, investment, and markets."[22]

Therefore, it is not surprising that the aggressive policies articulated in the Bush administration's 2001 NPR have engendered a negative Chinese response. The Chinese understand the U.S. doctrine of preemption to be directed against them. Specifically, China has been outraged by the U.S. pursuit of new EPNW.[23] Indeed, Chinese officials assert that by pursuing EPNW, the U.S. is raising the profile of nuclear weapons. According to over sixty anonymous interviews of relevant Chinese officials conducted by Joanne Tompkins:

Chinese analysts in both Beijing and Shanghai vigorously objected to the idea of using tactical nuclear weapons to attack deeply buried or hardened targets, as suggested by the NPR. Placing nuclear weapons in a conventional role, several Chinese arms control experts in Beijing argued, would lower the threshold for their use and blur the distinction between conventional and strategic weapons. It would become easier to think about fighting and possibly winning a nuclear war, and nuclear conflict would therefore become more likely.[24]

Additionally, the pursuit of EPNW has raised Chinese concerns over the possible resumption of U.S. nuclear testing. Several Chinese analysts have warned that should the U.S. conduct a nuclear test, China, which has yet to ratify the Comprehensive Test Ban Treaty (CTBT), would have no choice but to follow suit. By repealing Spratt-Furse and appropriating funds to study RNEP, the Bush administration has undoubtedly strengthened, rather than assuaged, Chinese concerns.

The Chinese government is currently modernizing and expanding its nuclear arsenal. While it is not pursuing an offensive capability, China is improving its obsolete weapons in an effort to maintain the current nuclear balance. Additionally, China fears its silo-based missiles are vulnerable to U.S. attack. Thus, in an effort to improve its survivability, China appears to be developing a more mobile missile force. This more mobile force may include building sea-based missiles and/or developing and deploying multiple independently targetable reentry vehicles (MIRVs).

The rethinking of Chinese nuclear policy and the modernization of its nuclear forces are not driven solely by concerns over the U.S. development of EPNW. The Chinese government is clearly discomfited by the Bush administration's policies towards Taiwan, nuclear disarmament, and missile defense. Indeed, it must be noted that some analysts argue that the Moscow Treaty and the RNEP study have not had a significant impact on Chinese thinking about nuclear weapons. Rather, they point to the doctrine of preemption coupled with the impending deployment of a U.S. missile defense system (and the withdrawal from the ABM Treaty) as substantially influencing China's ongoing plans to modernize and expand its nuclear forces.[25]

Europe

The European response to the U.S. push to study RNEP is difficult to discern. The U.S. currently deploys nuclear weapons at bases in seven NATO countries: Belgium, Germany, Greece, Italy, the Netherlands, Turkey and the UK. Despite the 2001 release of the NPR, the U.S. has thus far refrained from pushing for a change to NATO nuclear doctrine. However, it is clear that most NATO member countries are discomfited by the proposed use of nuclear weapons against non-nuclear states. As most European governments have thus far refrained from publicly commenting on the subject of RNEP development, it is probable that the U.S. study has had elicited little official response from NATO member states.

Diplomatic Challenges

The Bush administration has been accused by many of taking a hypocritical tack with regard to its non-proliferation policies. While decrying the proliferation of WMD abroad, the U.S. is concurrently investing heavily in the development of new weapons systems and testing facilities at home. The diplomatic efforts to remedy the North Korean and Iranian proliferation dilemmas may be hampered by the U.S. push to develop RNEP. Also, both China and Russia have distanced themselves from the Bush administration's Proliferation Security Initiative.

With the impending 2005 Nuclear Nonproliferation Treaty Review Conference, the Bush Administration will be hard pressed to justify a program that violates two of the 13 dictates of the Nuclear Non-Proliferation Treaty (NPT), of which the U.S. is a ratified signatory. Specifically, the push for RNEP represents a failure to ensure "a diminishing role for nuclear weapons in security policies" and to grant "negative security assurances" to non-nuclear states. Also at risk is the Comprehensive Test Ban Treaty (CTBT) which the U.S. has signed but not ratified. Should the U.S. demonstrate either the willingness or the intent to test RNEP, the authority of this treaty will be compromised.

Conclusion

While its impact has been significant, U.S. research into RNEP is merely one of many factors driving the current shift in Russian and Chinese strategic thinking. The doctrine of nuclear preemption, deployment of a missile defense shield, the Bush administration's "new triad," and the repeal of Spratt-Furse all play an integral role in shaping Russian and Chinese nuclear policy. U.S. policymakers should be made aware of the apparent degradation in U.S.-Russian and U.S.-Chinese strategic relations engendered by the decision to pursue new nuclear weapons. On balance, it is doubtful that the negligible benefits that RNEP might provide are sufficient to offset the threat posed by the weakening of cooperative arms control endeavors.

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4. It is worthwhile to note that in an 8 April 2003 Senate hearing, Ambassador Brooks denied the existence of a military requirement for the development of new EPNW.

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6. Ibid.

7. U.S. House of Representatives, Providing for Consideration of H.R. 1119, National Defense Authorization Act for Fiscal Year 1998, June 19, 1997, p. H3943.

8. Ibid.

9. Bill Gertz, "Moscow Builds Bunkers Against Nuclear Attack," *Washington Times*, 1 April 1997, p.1.

10. Blair, "We Keep Building Nukes For All the Wrong Reasons."

11. Gertz, "Moscow Builds Bunkers Against Nuclear Attack."

12. Blair, "We Keep Building Nukes For All the Wrong Reasons."

13. Bruce Blair characterizes the 'Dead Hand' communications network as follows, "This doomsday apparatus, which became operational in 1984 during the height of the Reagan-era nuclear tensions, is an amazing feat of creative engineering. It features hard radio nodes near Moscow that can use remote control to launch communications rockets, which in turn can launch virtually the entire Russian missile force without human intervention. But the Moscow-area radio nodes have grown vulnerable over the past 20 years. Kosvinsky restores Russia's confidence in its ability to carry out a retaliatory strike." (Ibid.)

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