

Nuclear Weapons and Extended Deterrence in the U.S.-ROK Alliance*

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I . Introduction

Since the end of the Korean War, nuclear weapons have girded the US extended deterrence commitment to the Republic of Korea (ROK). That commitment is a pillar of the broader US-ROK security relationship. This article addresses a basic question: What is the current and future role of nuclear extended deterrence in Korea? The article focuses on two driving forces behind this question: the trend toward reduced reliance on nuclear weapons across US security policy, and evolving security conditions on the Korean peninsula. Are these two driving forces pulling policy in opposite directions? In addressing these questions, this article's analysis highlights the vital role served by conventional capabilities, such as ROK maritime forces, in deterring smaller-scale Korean peninsula threats.

II . Background: US Nuclear Policy

The trend toward reducing the size of the US nuclear arsenal has been apparent for over four decades. According to US government data, the US nuclear stockpile reached a peak of 31,255 warheads in 1967, and has been steady or declining since that time.¹⁾

With the end of the Cold War, the George H.W. Bush administration oversaw from 1989-93 a halving of the overall US nuclear arsenal, to

1) See US Department of Defense, "Fact Sheet: Increasing Transparency in the US Nuclear Weapons Stockpile", May 3, 2010, www.defense.gov/npr/docs/10-05-03_Fact_Sheet_US_Nuclear_Transparency_FINAL_w_Date.pdf. The Soviet stockpile, at its peak, has been estimated at 45,000. Robert S. Norris and Hans M. Kristensen, "Global Nuclear Weapons Inventories, 1945-2010", *Bulletin of the Atomic Scientists* 66 (July/August 2010), pp. 77-83.

fewer than 11,000 warheads. These reductions were propelled by the first US–Russia START in 1991 and the landmark START II treaty in 1993, stipulating reduction of deployed strategic nuclear warheads to 3,000–3,500 on each side. In this context, the Bush administration in 1991 also withdrew nuclear weapons from US surface naval vessels and ground–based tactical weapons from the ROK.

The George W. Bush administration’s 2001 Nuclear Posture Review (NPR), though generating contention and debates over U.S. nuclear composition and planning, validated that the end of the Cold War had removed justifications for a large US strategic arsenal.²⁾ The 2002 U.S.–Russia “Moscow Treaty” projected reducing each side’s “operationally deployed strategic warheads” to 1,700–2,200 each by 2012—a target the United States met three and half years early.³⁾ In the end, the size of the US nuclear arsenal under the Bush administration was again cut in half, to a total of 5,113 warheads in 2009.⁴⁾

While the 2001 NPR ratified the general trend of reducing nuclear arsenals numerically, the debates over the direction of US nuclear policy that it ignited also demonstrated that the potency of US nuclear threat–making capacity can be largely independent of numerical arsenal sizes. It became clearer that, with respect to the nuclear arsenal, it’s ultimately not about how many weapons you have, but what you can (and plan to) do with them. For example, the 2001 NPR’s anticipation of a wider range of nuclear weapons use options for counter proliferation

2) The NPR was first publicly summarized at a Department of Defense briefing on January 9, 2002. The classified review was subsequently obtained by the *Los Angeles Times* and the *New York Times*. Substantial unofficial excerpts are available at GlobalSecurity.org <www.globalsecurity.org/wmd/library/policy/dod/npr.htm>. For an assessment of these nuclear policy debates, see Wade L. Huntley, “Threats All The Way Down: US Strategic Initiatives in a Unipolar World”, *Review of International Studies* 32 (January 2006), pp. 49–67.

3) Hans Kristensen, “United States Reaches Moscow Treaty Warhead Limit Early”, Federation of American Scientists (FAS), FAS Strategic Security Blog, February 9, 2009, <www.fas.org/blog/ssp/2009/02/sort.php>.

4) Department of Defense, “Fact Sheet: Increasing Transparency in the US Nuclear Weapons Stockpile”.

purposes was directly meaningful in Korean contexts. If the potency of nuclear weapons threats draws on factors other than numerical arsenal size, then the credibility of US extended deterrent guarantees to its East Asian allies may depend less on warhead quantity than on how deployed warheads are configured and postured.

The Barack Obama administration's policies reducing the overall size of the US arsenal simply continue the trend reaching back as far as President Nixon. The Obama administration's emphasis on pursuing a broader arms control and nonproliferation agenda distinguishes it from George W. Bush administration, but returns to the orientations of most prior presidents. President Obama has been more ground-breaking in explicit advocacy of nuclear disarmament; his April 2009 Prague speech clearly articulated his administration's commitment to the long-term disarmament objective enshrined in Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).⁵⁾ Yet even President Obama's disarmament advocacy was hardly radical. Prior to his election, a bipartisan resurrection of nuclear disarmament as a centerpiece of US nuclear policy was already emerging. This movement was epitomized by the January 2007 op-ed in the *Wall Street Journal* by four prominent former US senior officials (three of them Republican), calling on the United States to take the lead in "setting the goal of a world free of nuclear weapons".⁶⁾ This movement provided pre-existing trans-partisan senior-level support for President Obama's embrace of the disarmament objective.

The Obama administration's first NPR, issued in April 2010 (just prior to the NPT Review Conference), placed disarmament aspirations at the center of US policy.⁷⁾ But this NPR also reflected the limitations

5) Barack Obama, "Remarks By President Barack Obama", Prague, April 5, 2009, <www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered>.

6) George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "A World Free of Nuclear Weapons", *Wall Street Journal*, January 4, 2007, p. A15. This "senior statesmen" statement represented the collective viewpoint of sixteen other bipartisan, high-level specialists participating in a conference convened for the purpose of articulating this viewpoint.

of articulating this objective in the context of the contemporary security environment. Most salient for East Asia, the NPR explicitly recognized the role of US nuclear forces in girding extended deterrence security guarantees to key allies, as well as their own nuclear forbearance:

By maintaining a credible nuclear deterrent and reinforcing regional security architectures with missile defenses and other conventional military capabilities, we can reassure our non-nuclear allies and partners worldwide of our security commitments to them and confirm that they do not need nuclear weapons capabilities of their own.⁸⁾

The 2010 NPR's announced policy shift on "negative security assurances" also illustrates quandaries of the disarmament commitment. Many had long urged unqualified declaration that the United States would not use or threaten use of nuclear weapons to deter non-nuclear threats from non-nuclear states.⁹⁾ The NPR moved U.S. policy closer to this position, but added a crucial qualification that non-nuclear NPT parties must be "in compliance with their nuclear non-proliferation obligations".¹⁰⁾ The NPR explained this qualification:

In the case of countries not covered by this assurance-states that possess nuclear weapons and states not in compliance with their nuclear non-proliferation obligations-there remains a narrow range of contingencies in which US nuclear weapons may still play a role in deterring a "conventional or (chemical or biological weapon) attack" against the United States *or its allies and partners*.¹¹⁾(Emphasis added)

7) US Department of Defense, "Nuclear Posture Review Report", April 6, 2010, <www.defense.gov/npr/>.

8) "Nuclear Posture Review Report", p. 7.

9) See, for example, Scott D. Sagan, "The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapon Attacks", *International Security* 24 (Spring 2000), pp.85-115.

10) "Nuclear Posture Review Report", p. 15.

11) "Nuclear Posture Review Report", p. 16.

One state to which this qualification obviously applies is North Korea. The 2010 NPR clearly judged that there remained value in the US threat to respond with nuclear weapons to non-nuclear attacks by North Korea on US allies, e.g. the ROK. That value could obtain from deterrence, reassurance, and/or compliance incentives. Hence, the NPR concluded that, despite a renewed commitment to eventual disarmament, there remained utility in relying on threats of *first use* of nuclear weapons to satisfy US security commitments to key non-nuclear allies. The NPR anticipated retaining the nuclear forces and supportive capabilities requisite to this role.

The NPR thus faced, but could not resolve, a principal problem: how can the United States reduce its own nuclear arsenal to very low numbers while maintaining credible extended deterrence for US allies whose own non-nuclear status relies in some measure on those extended deterrence commitments? Unfortunately, this question receives less attention than it needs. On the one hand, much recent discussion of U.S. nuclear reductions has skirted the issue of extended deterrence impact.¹²⁾ On the other hand, recent and wide-ranging discussion of extended deterrence among non-nuclear US allies in East Asia has lacked specific attention to the consequences of continued US reductions to a dramatically smaller nuclear arsenal.¹³⁾

12) See, for example, Catherine McArdle Kelleher and Judith Reppy, eds., *Getting to Zero: The Path to Nuclear Disarmament* (Stanford University Press, 2011), and James Acton, *Deterrence During Disarmament: Deep Nuclear Reductions and International Security*, Adelphi Paper 417, March 2011.

13) See, for example, Jeffrey Lewis, "Extended Nuclear Deterrence in Northeast Asia", Nautilus Institute Special Report, August 1, 2012, <http://nautilus.org/napsnet/napsnet-special-reports/extended-nuclear-deterrence-in-northeast-asia/>; Rory Medcalf and Fiona Cunningham, eds., *Disarming Doubt: The Future of Extended Nuclear Deterrence in East Asia* (Lowy Institute and the Center for the Promotion of Disarmament and Non-Proliferation, Japan Institute of International Affairs, 2012); James L. Schoff, "Changing Perceptions of Extended Deterrence in Japan", in Toshi Yoshihara and James R. Holmes, eds., *Strategy in the Second Nuclear Age* (Georgetown University Press, 2012); Paul J. Saunders, *Extended Deterrence and Security in East Asia: A US-Japan-South Korea Dialogue*, Center for the National Interest, January 2012, www.cftni.org/2012-Extended-Deterrence-In-East-Asia.pdf

This article contributes to bridging this gap by focusing on the future of extended deterrence in the US–ROK relationship. The analysis utilizes a basic framework for assessing extended deterrence commitments, addressing four factors:

- Perception of the threat of aggression to be deterred
- Capabilities available to defend or threaten retaliation to aggression
- Will (or commitment) of the deterring parties to follow through with threatened retaliation in the event threatened aggression takes place
- Assurance among allies that security commitments will be upheld

The following section applies this framework to assess recent developments in extended deterrence in the U.S.–ROK alliance relationship.

III. The Republic of Korea¹⁴⁾

Nuclear weapons and extended deterrence have played a seminal role in the relationship between the ROK and the United States since the 1953 armistice concluding the Korean War and the subsequent establishment of the US–ROK Mutual Defense Treaty. To be sure, the two countries' broad extended deterrence posture also included extensive conventional force capabilities, a joint military command, regular military exercises, an annual US–ROK Security Consultative Meeting (SCM) and other

and Richard C. Bush III, "The US Policy of Extended Deterrence in East Asia: History, Current Views and Implications", Brookings Institution Arms Control Series, February 2011, <www.brookings.edu/research/papers/2011/02/arms-control-bush>.

14) Research for this section was supported by Jinho Park, "Literature Survey Paper on the Potential Impact on the Korean Peninsula of US Reductions of Its Nuclear Forces", December 9, 2012. Material drawn from this work includes an applicable notation to "KBP" (Korea Background Paper). The author happily acknowledges the indispensable contribution to the present article that this background researcher provided.

forms of policy and defense coordination, Nuclear deterrence was only a small part of this array, but both parties throughout the Cold War period viewed the “ultimate weapon” as an indispensable bulwark of the full defense posture.¹⁵⁾

1. Nuclear Weapons in Korea

As the Soviet Union achieved strategic parity, the United States sought to sustain the credibility of the nuclear core of the Korean posture by deploying tactical nuclear weapons in the ROK. Beginning in 1958, the United States reportedly deployed a variety of nuclear weapons systems, reaching a peak of approximately 950 warheads in the late 1960s.¹⁶⁾ From the South Korean as well as American points of view, these nuclear weapons played a discernable role in both girding the extended deterrence posture against a clear and imminent threat and providing a continuing broader reassurance of the ROK’s vitality in the wider Cold War context.¹⁷⁾

In the 1970s, the United States and Soviet Union took a number of steps, including several nuclear arms control treaties, aimed at moderating their competition and reducing the sharpest risks of nuclear war. For this and other reasons, the number of US nuclear weapons deployed in the ROK declined significantly in this period. By the 1980s, this

15) The original Mutual Defense Treaty contained no specific US provision of extended nuclear deterrence for the ROK; this came later, at the 11th SCM in 1978. Subsequently, “the annual SCM has concluded each year with a specific expression of the US commitment to provide its nuclear umbrella”. Cheon Seong Whun, “The Significance of Forming a ROK-US Extended Deterrence Policy Committee”, Korean Institute for National Reunification, November 3, 2010, p. 4, <[www.kinu.or.kr/upload/neoboard/DATA02/co10-39\(E\)1.pdf](http://www.kinu.or.kr/upload/neoboard/DATA02/co10-39(E)1.pdf)>.

16) Hans Kristensen, “A History of US Nuclear Weapons in South Korea”, The Nuclear Information Project, September 28, 2005, <www.nukestrat.com/korea/koreahistory.htm>.

17) Jae-bong Lee, “Namhanui haekmoogi baechiwa bookhanui haekmoogi gaebal: Hanbandoui bihaekhwaul wihayeo” [Deploying nuclear weapons in South Korea and North Korea’s development of nuclear weapons: Toward Denuclearization of the Korean Peninsula] *Peace Studies* 9 (December 2008), pp. 31-33 [as cited in KBP, p. 1].

deployment had dropped to a level of 150 nuclear bombs and howitzer shells.¹⁸⁾

The end of the Cold War changed the strategic calculus fundamentally. In September 1991, President George H.W. Bush initiated US withdrawal of all tactical nuclear weapons deployed on US surface naval vessels and in overseas ground locations (except a selection of nuclear bombs left under NATO control in Europe). Withdrawal of nuclear weapons from the ROK was completed in December.¹⁹⁾ Formally, the ROK embraced the move; in November, President Roh Tae-woo announced the “Non-Nuclear Korean Peninsula Peace Initiatives”, declaring that “the Republic of Korea will use nuclear energy solely for peaceful purposes, and will not manufacture, possess, deploy or use nuclear weapons”.²⁰⁾

In withdrawing nuclear weapons from Korea, US strategic planners also had determined that evaporation of the Soviet Union’s conventional military threat obviated the need for forward deployed nuclear weapons to support US defense commitments to the ROK. Reportedly, US decision makers also hoped that the withdrawal of US nuclear weapons would prompt North Korea, at that time stalling its accession to the NPT, to complete its safeguards agreement and open its nuclear facilities to inspection.²¹⁾ This dual-track reasoning is significant, because both elements of this justification—the utility of tactical nuclear weapons for supporting the ROK’s own defense and the

18) Hans Kristensen, “A History of US Nuclear Weapons in South Korea”, The Nuclear Information Project, September 28, 2005, <www.nukestrat.com/korea/koreahistory.htm>.

19) Hans Kristensen, “The Withdrawal of U.S. Nuclear Weapons from South Korea”, The Nuclear Information Project, September 28, 2005, <www.nukestrat.com/korea/withdrawal.htm>.

20) As quoted in KBP, p. 2; an English version of the declaration is available at the Federation of American Scientists’ website, <www.fas.org/news/skorea/1991/911108-d4111.htm>.

21) Hans Kristensen, “The Withdrawal of U.S. Nuclear Weapons from South Korea”. These two justifications are also somewhat contradictory, as North Korea itself accurately, if bombastically, recognized when its reported commentary on the announced planned withdrawal observed that, with its intercontinental reach, “the US nuclear threat to us would not be dispelled, even though nuclear weapons are taken out of South Korea”. *Rodong Sinmun*, November 1, 1991 [as cited in Kristensen, “The Withdrawal of U.S. Nuclear Weapons from South Korea”].

impact on North Korean decision making—have reemerged in current South Korean extended deterrence debates.

Nuclear developments on the Korean peninsula since the end of the Cold War continued to reshape strategic circumstances. The 1994 “Agreed Framework” successfully “froze” the North Korean plutonium-based nuclear program. But this arrangement had not reached the planned stage of reversing the program when it collapsed in 2002–03 in the wake of US charges that North Korea had developed a parallel uranium enrichment effort. The revived crisis reached a new nadir in 2006, when North Korea conducted a series of missile tests, including a long-range missile launch, and crossed a glaring red line with its first nuclear test.²²⁾

Hopes for kickstarting greater positive engagement under the Obama administration were vanquished when, in April 2009, North Korea launched another long-range missile and conducted its second nuclear test. In November 2010, North Korea unveiled a surprisingly sophisticated and rapidly constructed new uranium enrichment facility at Yongbyon that North Korean officials maintained was already producing low-enriched uranium.²³⁾

In 2010 Korean security conditions also deteriorated more broadly. On March 26, the ROK’s corvette *Cheonan* sank near the inter-Korean maritime border; a subsequent joint inquiry identified a North Korean torpedo as the cause. On November 23, North Korean artillery shelled the ROK island of Yeonpyeong, killing two soldiers and injuring twenty others, including three civilians. These incidents stoked inter-Korean animosity and renewed concerns over conflict escalation on the peninsula. These incidents also brought seriously into question the sufficiency of deterrence on the Korean Peninsula, including the role of nuclear extended deterrence.

22) For a review of this period, see Wade L. Huntley, “US Policy toward North Korea in Strategic Context: Tempting Goliath’s Fate”, *Asian Survey* 47 (May/June 2007), pp. 455–480.

23) Siegfried S. Hecker, “A Return Trip to North Korea’s Yongbyon Nuclear Complex”, Center for International Security and Cooperation, Stanford University, November 20, 2010.

In this context, the expanding role of China emerged as another seminal element of the evolving Korean strategic environment. Relatively passive in the 1990s, China in the 2000s deepened its existential support for North Korea but also became a top economic partner for the ROK. China gradually took on a more leading role in the six-party talks, in large measure driven by wider regional strategic considerations.²⁴⁾ China's rising regional activism has begun to rekindle Cold War type concerns in the ROK over whether US strategic nuclear forces alone sufficiently deter conflict in Korea that might expand to involve China.

These developments highlight the roles of the contextual aspects of extended deterrence noted above: threat perception and reassurance. North Korea remains the principal threat concern defining ROK security outlooks, reinforced by convergence with US viewpoints and the socializing effect of deep and enduring defense cooperation with the United States. During the Cold War, US nuclear weapons in Korea were intended to support the extended deterrence posture and also to reassure the ROK. Dissolution of the Soviet Union eliminated the credibility—providing justification for that deployment, and the weapons were withdrawn. But in the ensuing two decades, North Korea and China have both progressed in developing their own nuclear weapons capabilities, eroding some ROK confidence in deterrence sufficiency at the nuclear level.

Against this backdrop, the *Cheonan* and Yeonpyeong incidents raised new questions of the present role of US extended deterrence in ROK security. In particular, these incidents spotlighted a key question: can a posture relying fundamentally on threats to use nuclear weapons provide sufficient deterrence against such smaller-scale conventional threats?

24) For an elaboration of this interpretation, see Dongjin Jeong, "China's Foreign Policy Toward North Korea: The Nuclear Issue", Masters Thesis, Naval Postgraduate School, December 2012.

2. Consultations

This context framed South Korean reactions to the Obama administration's 2010 NPR. President Obama and Secretary of State Hillary Clinton sought to assure their ROK counterparts that the planned reduction in numbers and roles for US nuclear weapons would not diminish US extended deterrence to Korea.²⁵⁾ The US and ROK governments subsequently took steps to regularize and institutionalize this initial dialogue by forming an Extended Deterrence Policy Committee (EDPC). The ROK saw the committee's role as increasing extended deterrence-related information sharing, evaluating the effectiveness of extended deterrence, and formulating "policy alternatives for deterring North Korean provocations and preparing for the possible threat of nuclear weapons and weapons of mass destruction".²⁶⁾

The EDPC developed quickly. In November 2011, the EDPC conducted an inaugural "Tabletop Exercise" to implement the process of identifying ways in which the full range of ROK-US Alliance capabilities could be leveraged to maximize deterrent effects.²⁷⁾ At the 44th SCM in October 2012, the two countries charged the EDPC with developing joint deterrence strategies that would be tailored to the specific types of threats posed by North Korea's broad capabilities.²⁸⁾

25) "Mi haekmoogi gamchook choojinhaedo hankookeh haekwoosan gyesok jeahgong" [Continuing the provision of nuclear umbrella to Korea while reducing US nuclear weapons], *Dong-A Ilbo* 2, April 2, 2010, <news.donga.com/3/all/20100402/27299519/1>; Advance Consultation Held on the US Nuclear Posture Review, Press Release, ROK Ministry of Foreign Affairs and Trade, April 6, 2010 <www.mofat.go.kr/ENG/press/pressreleases/index.jsp?menu=m_10_20> [as cited in KBP, p. 7].

26) "S. Korea-U.S. to organize a joint committee for extending nuclear deterrence", Hankyoreh, October 9, 2010, <english.hani.co.kr/arti/english_edition/e_northkorea/443035.html>. See also Cheon Seong Whun, "The Significance of Forming a ROK-US Extended Deterrence Policy Committee", p. 5.

27) US Pacific Command, "Presence with a Purpose", November 2011, www.pacom.mil/about-uspacom/presence-with-a-purpose/201111.shtml. See also "S. Korea, U.S. to conduct exercise on deterrence", Yonhap News Agency, November 4, 2011, <english.yonhapnews.co.kr/national/2011/11/04/64/0301000000AEN20111104002800315F.H TML>. [also cited in KBP, p. 6].

As this activity emerged, discussion of the scope and expected outcomes of these consultations also unfolded. Some analysts have advocated developing an equivalent to the NATO Nuclear Planning Group (NPG).²⁹⁾ However, the opportunity for institutionalization of consultation with the ROK on extended deterrence has opened precisely because its non-nuclear elements (strategic defenses and other conventional capabilities) have become so meaningful.³⁰⁾ This broader focus builds on planning for the joint defense of the ROK that has entailed emphasis on conventional capabilities (with a “counter-nuclear” option) for some time.³¹⁾

In this context, interest in equating the EDPC to the NATO NPG evinces continued adherence to a more nuclear-centered understanding of the basis for US extended deterrence, and of ROK security fundamentally. This outlook is also expressed in the renewed popular interest in having nuclear weapons deployed in the ROK in some form.

3. Korean Nuclear Redeployment

Advocacy in South Korea for the redeployment of US tactical nuclear

28) “S. Korea, U.S. agree to set N. Korean nuclear deterrence policy by 2014”, Yonhap News Agency, October 24, 2012,

english.yonhapnews.co.kr/national/2012/10/24/58/0301000000AEN20121024006651315F.HTML and “South Korea, US to Devise Detailed Deterrence Posture Against North”, Global Security Newswire, October 25, 2012,

www.nti.org/gsn/article/south-korea-us-2014-devise-detailed-deterrence-posture-against-north/.

29) Chang Kwoun Park, “ROK-US Cooperation in preparation for hostile actions by North Korea in possession of nuclear weapons”, *Korean Journal of Defense Analysis* 22 (December 2010), Korea Institute for Defense Analyses (KIDA), p. 512 [as cited in KBP, p. 6.]. Cf. Jeffrey Lewis, “Extended Deterrence Policy Committee”, October 19, 2010, lewis.armscontrolwonk.com/archive/3057/extended-deterrence-policy-committee; and Jeffrey Lewis, “Extended Nuclear Deterrence in Northeast Asia”.

30) Jeffrey Lewis, “Extended Deterrence Policy Committee”.

31) “Seoul Moves to Enhance Nuclear Deterrence”, *Korea Herald*, October 13, 2006, as cited in Jeffrey Lewis, “Extended Nuclear Deterrence in Northeast Asia”.

weapons in the ROK—or (to a lesser extent) the development of an independent ROK nuclear weapons capability—gained traction after North Korea’s nuclear tests in 2006 and 2009, and with 2010’s the sinking of the *Cheonan*, shelling of Yeonpyeong Island, and revelation of North Korea’s uranium enrichment facility.³²⁾ In early 2011, some members of the ROK National Assembly officially raised the issue of reintroducing US tactical nuclear weapons, garnering national media attention. The ROK prime minister and ministers of foreign affairs and defense issued statements acknowledging the suggestion but reaffirming commitment to Korean peninsula denuclearization and support for global nonproliferation objectives.³³⁾ The US government officially stated that it had no plan to redeploy tactical nuclear weapons in Korea in a State Department press briefing in May 2012.³⁴⁾

Advocates of redeploying US nuclear weapons in Korea are often concerned that a rising China will increasingly impinge the credibility of US strategic nuclear threats, while at the same time nuclear weapons in North Korea undercut US extended deterrence guarantees that lack a nuclear emphasis. This school of thought is a branch of a larger community of security analysts and politicians concerned about the credibility of US extended nuclear deterrence generally. This branch is particularly skeptical that US conventional military capabilities can sufficiently reinforce the posture.

32) Duyeon Kim, “Tactical Nuclear Weapons and Korea: A Temporary or Perennial Debate?” Center for Arms Control and Non-Proliferation, June 2011,

armscontrolcenter.org/issues/northkorea/articles/tactical_nuclear_weapons_and_korea/.

33) “Cheongwadae, cheonsoolhaek sinjoong··kookbangwehgyodangkookja ‘bookjoong abbak wehgyo” [Blue House, prudent about tactical nuclear weapons··Defense and Foreign Affairs government officials ‘diplomacy pressuring North Korea and China] *Korea JoongAng Daily*, March 1, 2011 [as cited in KBP, p. 3].

34) “U.S. denies tactical nuke redeployment in Korea”, *Korea Times*, May 16, 2012 <www.koreatimes.co.kr/www/news/nation/2012/05/116_111097.html>. See also “Cheonsoolhaek chaebaechi nonran” [Controversial redeployment of tactical nuclear weapons] Segye Ilbo, March 2, 2011, <www.segye.com/Articles/News/Opinion/Article.asp?aid=20110302005223&subctg1=02&subctg2=01> [as cited in KBP, p. 5].

Notably, this vein of thinking has not exhibited significant attention to specific numerical levels of the US nuclear arsenal, focusing instead on local remediation. Advocates of redeployment of nuclear weapons in the ROK implicitly evince the viewpoint, noted in the earlier discussion of US nuclear policy in this article, that the potency of nuclear deterrence threats often depends more on nuclear weapons policies and deployment postures than on overall numerical arsenal size alone.

The push to return tactical nuclear weapons to the ROK rests on one or both of two lines of reasoning. The first judges current, regionally-based US capabilities to be insufficient in light of a growing North Korea threat. Some advocates specifically cite the pending retirement of the Tomahawk nuclear-tipped missiles in this context.³⁵⁾ The second line of reasoning focuses on increasing coercive pressure on North Korea to surrender its own nuclear capabilities. For example, one Korean analyst argues that the incentive of providing North Korea with a negative security assurance if it returns to NPT and dismantles its nuclear weapons is proving ineffective and weakens the apparent US commitment to defend the ROK.³⁶⁾ Some analysts refer to the continued US deployment of nuclear weapons in Europe as an alternative strategic model.³⁷⁾ One suggestion would have the ROK deliver an ultimatum

35) Il-do Hwang, "Obamaeui daegyoomo haek pyegi, hanbando haekwoosan chulsoohana: bookhani hwahaktan ssado haekeungjing mothae haek jakgyeseo bookhan sakjehdeol soodo" [Obama's massive reduction of nuclear weapons, withdrawing nuclear umbrella from Korea], *Shindonga* 53 (April 2010), pp. 276-77.

<shindonga.donga.com/docs/magazine/shin/2010/04/02/201004020500017/201004020500017_1.html>. See also "Conservatives renew call for nuclear weapons on Korean Peninsula", Hanhkyoreh, March 1, 2011.

<www.hani.co.kr/arti/english_edition/e_northkorea/465872.html> and "Cheonsoolhaek option choonbidae itda" [Tactical nuclear option is ready] *Munhwa Ilbo*, March 2, 2011, <www.munhwa.com/news/view.html?no=2011030201070523116002> [as cited in KBP, pp. 5, 12].

36) Seong Whun Cheon, "Migookeuh daehan haekwoosanjeongchaekkeh gwanhwan yeongoo" [Study of US nuclear umbrella policy over Korea], (October, 2012) pp. 168-69 [as cited in KBP, pp. 12-13].

37) "Bihaekhwa geobooga jachohanun nam cheonsoolhaek chaebaechi" [South Korea's redeployment of nuclear weapons caused by refusing denuclearization], *Dong-A Ilbo*, May 15, 2012. See also Chul-ho Chung, "Migook 2012 shingookbangcheonryakgwa hankookeui goonsacheonryak balcheonbanghyang" [US 2012 New Defense Strategy and Korea's

that US nuclear weapons will be redeployed if North Korea fails to surrender its nuclear weapons program by a negotiated deadline.³⁸⁾

A smaller number of ROK politicians and analysts urge the ROK's acquisition of its own nuclear weapons arsenal. A similar two lines of logic support this viewpoint. Some advocates consider an independent capability to be a "back-up" option in the event that the United States refuses an official ROK request to redeploy nuclear weapons or for some reason withdraws its nuclear deterrence guarantee entirely.³⁹⁾ Others stress the prospect of greater ROK capacity to achieve North Korean denuclearization.⁴⁰⁾

Public opinion polling in South Korea provides evidence of growing support for such thinking. For example, a series of five polls conducted by the East Asia Institute from 2004 to 2011 showed a steadily increasing rate of support for ROK possession of nuclear weapons, totaling to a 22 percent shift between 2004 and 2011.⁴¹⁾ Another poll by a second organization in March 2011 found that 69.1 percent of respondents

development of military capabilities], Situation and Policy, The Sejong Institute, February 2012, p. 28, <www.sejong.org/Pub_ci/PUB_CI_DATA/k2012-02_7.PDF> [as cited in KBP, pp. 4, 7].

38) Seong Whun Cheon, "Migookueh daehan haekwoosanjeongchaekkeh gwanhwan yeongoo" [Study of US nuclear umbrella policy over Korea], pp. 221–22 [as cited in KBP, p. 4].

39) Hee-sang Kim, "Haek hwaksangwa hanbando/dongbookaheui cheonryak gyunhyung-bookhan haekmoonjeh" [Nuclear proliferation and the Korean Peninsula], presented at Korea Foundation Global Seminar, Konjiam Resort, Gwangju City, Gyeonggi Do, Korea, March 25, 2011; [as cited in KBP, p. 11; English language program available at <http://www.kf.or.kr/eng/09_pro/pro_sem_01.asp>].

40) "South Korea should get nuclear weapons: Rep. Chung", *Dong-A Ilbo*, June 4, 2012, <english.donga.com/srv/service.php3?biid=2012060446358> [as cited in KBP, p. 3]. See also Duyeon Kim, "Tactical Nuclear Weapons & Korea: A Temporary or Perennial Debate?" *Book2cha haeksilhoum leehoo* [After North Korea's second nuclear test], *Segye Ilbo*, May 28 2009 [as cited in KBP, p. 4]; and Seung-joo Baek, "Cheonsoolhaekmoogieui hanbando jaebanip gwanryun anbojeok silik pyongga" [Analyzing security cost and benefit caused by the redeployment of tactical nuclear weapons], *Northeast Asia Strategic Analysis*, Korea Institute for Defense Analyses (KIDA), June 11, 2012, <www.kida.re.kr/nasa/report/upload_report/N120612.pdf> [as cited in KBP, p. 6].

41) Data from polling by the East Asia Institute <www.eai.or.kr/type_k/p1.asp?catcode=1116100000>; some English EAI poll data summaries are at <<http://www.eai.or.kr/type/p1.asp?catcode=1411000000>>. Supplementary data provided by EAI Senior Researcher Chung Wonchill for KBP on December 7, 2012.

supported the ROK's development of nuclear weapons to deter North Korea's nuclear threats, while only 17.3 percent of respondents indicated that nuclear weapons were not necessary.⁴²⁾ North Korea's third nuclear test in February 2013 further fueled attention to proposals to introduce nuclear weapons back into the ROK in some form. Two polls conducted after the February test indicated that two-thirds of the South Korean public continued to support ROK acquisition of its own nuclear weapons.⁴³⁾

The increased prominence of the idea of reintroducing nuclear weapons to the ROK likely signifies growing frustration at the inability of a nuclear-focused extended deterrence posture to prevent North Korea's acquisition of nuclear weapons or muzzle its more recent smaller-scale belligerence. As discussed above, the capabilities posture of the alliance has already been broadening in response to the more complex threat environment. But the nuclear promise remains perceived by many in the ROK to be an indispensable pillar of the deterrence posture. For this reason, nuclear weapons remain important to allied assurance, and therefore integral to extended deterrence credibility, beyond the level that strategic logic alone would suggest.

Both the material and perceptual elements of the extended deterrence relationship were on display during the 2013 US-ROK annual joint military exercises. March that year marked an apex of North Korean belligerence, including its announcement of withdrawal from the Korean War Armistice agreement and all other non-aggression agreements with the ROK. In this context, the United States announced that it was significantly increasing regional missile defense deployments,

42) Seong Whun Cheon, "Migookeuh daehan haekwoosanjeongchaekkeh gwanhwan yeongoo" [Study of US nuclear umbrella policy over Korea], pp. 221-22 [as cited in KBP, pp. 4-5].

43) "2/3 of S. Koreans Support Nuclear Armament", *The Chosun Ilbo*, February 21, 2013, <http://english.chosun.com/site/data/html_dir/2013/02/21/2013022100645.html>; Martin Fackler and Choe Sang-hun, "South Korea Flirts With Nuclear Ideas as North Blusters", *New York Times*, March 10, 2013, <<http://www.nytimes.com/2013/03/11/world/asia/as-north-korea-blusters-south-break-s-taboo-on-nuclear-talk.html?pagewanted=all&r=1&>>.

but also sent two nuclear-capable B-2 Stealth bombers non-stop from Missouri to undertake a simulated bombing run in Korea – and took the unusual step of publicly confirming the mission.⁴⁴⁾ While much media portrayed these actions as intended to display defense prowess to North Korea, allied reassurance was as important.⁴⁵⁾ But one may discern an even more focused message here: the unprecedented public participation of B-2 bombers in the Korean military exercises demonstrated the US capability to utilize nuclear weapons in Korea without the need for nuclear deployments on the Korean peninsula.

IV. Toward a Broader Extended Deterrence Concept

The question of returning tactical nuclear weapons to the ROK in some form is the sharp point of the central question of the evolving role of nuclear weapons in the broader US-ROK extended deterrence posture. This question turns on the application of the basic strategic logic of deterrence and extended deterrence to the Korean peninsula's extant security environment.

The rationale for increasing emphasis on conventional capabilities in US extended deterrence policy builds on a twin set of observations. The first is that tactical nuclear capabilities are now unnecessary to credibly deter the use of non-conventional weapons (WMD) and major attacks against core US allies. US strategic nuclear capabilities are

44) "North Korea ends peace pacts with South", BBC News, March 8, 2013, <<http://www.bbc.co.uk/news/world-asia-21709917>>; "Missile Defense Announcement as Delivered by Secretary of Defense Chuck Hagel", U.S. Department of Defense, March 15, 2013, <<http://www.defense.gov/speeches/speech.aspx?speechid=1759>>; Thom Shanker and Choe Snag-hun, "U.S. Runs Practice Sortie in South Korea", *New York Times*, March 28, 2013,] <www.nytimes.com/2013/03/29/world/asia/us-begins-stealth-bombing-runs-over-south-korea.html>.

45) Thom Shanker and Choe Snag-hun, "U.S. Runs Practice Sortie in South Korea", *Ibid*,

sufficient for this purpose. The second observation is that nuclear weapons in *any* deployment setting are not credible to deter *smaller-scale* provocations and coercive efforts against US allies. Tailored conventional capabilities are required to deter, defend against and/or respond to these contingencies.

In this view, the core deterrence problem on the Korean peninsula today is not that capabilities are insufficient. The problem is also not particularly a lack of will to use these capabilities, in the appropriate circumstances. Few outside North Korea doubt that use of a nuclear weapon by Pyongyang against a target in the ROK would trigger a massive and devastating response that would likely end the existence of the DPRK as a state. It is reasonable to presume that leaders in Pyongyang understand this prospect too.

Rather, the core problem is that use of such overwhelming force in response to smaller-scale aggression is not credible. Such a threat is not credible because carrying out that threat would likely be both strategically inadvisable and ethically problematic. For example, use of nuclear weapons in retaliation for North Korea's sinking of the *Cheonan* or its artillery bombardment on Yeonpyeongdo would have been wholly inappropriate to the circumstances and would have been globally condemned as grossly disproportionate. It is reasonable to presume that leaders in Pyongyang understood this too, which is why the material possibility of nuclear retaliation did not inhibit these North Korean aggressions.

If the presence of nuclear weapons on US B-2 bombers did not deter North Korea from attacking the *Cheonan* or bombarding Yeonpyeongdo, it is unlikely that the presence of tactical nuclear weapons in the ROK would have made a deterrence difference. Neither Pyongyang nor most anyone else would have deemed the threat to respond to such incursions with nuclear retaliation from Korea as any more credible than nuclear retaliation from Kansas. The situation is simply an example in action of the "stability/instability paradox", which states that the increasing

stability of nuclear deterrence will tend to decrease stability at lower levels of conflict.⁴⁶⁾

This observation shows why carefully delineating the threats that are to be deterred is a vital element of any successful deterrence posture. These incidents clearly revealed the insufficiency of a US-ROK allied posture emphasizing massive force capabilities to deter smaller-scale DPRK provocations. Rather, deterring smaller-scale aggression requires possessing capabilities whose threatened use is *credible* and *costly* in the eyes of the party being deterred. Pyongyang must believe that the retaliatory threat will actually be carried out, and it must judge that the cost of the retaliation exceeds the benefit of the initial attack. Detering a wide range of potential smaller-scale aggressive acts therefore requires a broad array of conventional capabilities useful for deterrence as well as defense across a range of threat scenarios.

Securing capabilities at varying levels of potential conflict, however, is insufficient. Preserving Korean peninsula stability also requires that strengthening deterrence of smaller-scale DPRK provocations also minimizes risks that carrying out retaliatory threats will catalyze rapid conflict escalation. The *Cheonan* and Yeonpyeongdo incidents elicited US-ROK reaffirmation of their strategic deterrence commitment, and also ROK drove declaratory policy shifts toward “proactive deterrence” and “manifold retaliation”. Despite these reactions, forging reliable stability-enhancing deterrence of smaller-scale aggression remains a work in progress.

ROK maritime forces should be a major element of a credible conventional deterrence posture. In this context, the roles that ROK maritime forces are currently playing and might potentially play in supporting smaller-scale deterrence may be as important as the roles these forces play in establishing a robust defense. A particularly salient question becomes whether ROK maritime forces offer opportunities for

46) Classic statements of the “stability/instability paradox” include Glenn Snyder, *Deterrence and Defense* (Princeton: Princeton University Press, 1961) and Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca: Cornell University Press, 1984).

relatively *more forceful* but *less escalation-prone* provocation response, thereby enhancing smaller-scale deterrence credibility. In the current security environment, this is a vital measure of deterrence contribution.

The importance of conventional forces in the current ROK-US extended deterrence posture increases the importance of the final element of any allied security structure: assurance between the allies that commitments will be upheld. Ultimately, the success of extended deterrence in Korea will be determined at least as much by South Korean perceptions of its sufficiency as by North Korean perceptions of its credibility.

Nuclear weapons may or may not be *necessary* for deterrence in Korea, but they are certainly not *sufficient*. A robust deterrence posture built on a finely tuned array of conventional capabilities, strategic defenses, and the lurking shadow of nuclear retaliation may, in reality, be Pyongyang's worst nightmare. But this posture still cannot work if its embrace by both alliance partners is not equally robust. In addition to a broad array of conventional capabilities, US-ROK harmony is required to display convincingly the *commitment* of these partners to countenance the actual use of any capabilities, conventional or nuclear, under the appropriate triggering conditions. For this purpose, nuclear weapons are secondary to issues of joint strategy and purpose that are essentially political and social in nature.

Of course, the extensive consultative mechanisms now open between the United States and the ROK, most notably the EDPC, are mainly aimed to engage and wrestle with exactly these challenges. The depth of the challenges suggests that future success of the consultative processes can be measured at two levels. Substantively, the two countries will work to develop a precise common understanding of the nature and function of extended deterrence in their security relationship. This understanding will also have to be dynamic enough to rapidly adapt to changing conditions on the peninsula and in the region. The second measure of success will be the meaningfulness of the process itself:

how effectively the forums for discussion promote the growth of mutual understanding and respectful trust atmospherically.

Some observers speculated that South Korea's December 19, 2012, election of Park Geun-hye as its next president could prove palliative to the US-ROK security relationship.⁴⁷⁾ But the challenge of mutual allied reassurance transcends political transition, and the objective must be a relationship solid enough to ride out the transient political tempests that both countries experience. It remains to be seen whether the ROK and the United States can refine an extended deterrence posture that sufficiently meets smaller-scale threats while also managing the transition to greater ROK autonomy in the security relationship.

In this evolving relationship, the decline in the size of the US nuclear arsenal may be strategically secondary, but it remains important symbolically. The broader capabilities that the United States and the ROK maintain on the Korean peninsula to meet North Korean threats are central to defense success. But deterrence success also hinges on the will and capacity of the two countries to build general and mutual socio-political reassurance of each partner's commitments to the alliance relationship. The historic role of nuclear weapons in girding this relationship necessitates careful management of mutual alliance reassurance as the role of the nuclear dimension wanes. Increasing mutual confidence in the sufficiency of other conventional forces to meet smaller-scale deterrence requirements will go a long way toward meeting that need.

47) See, for example, Paul J. Saunders, *Extended Deterrence and Security in East Asia: A US-Japan-South Korea Dialogue*, op. cit., note 13.

Abstract

Nuclear Weapons and Extended Deterrence in the U.S.-ROK Alliance

The future role of nuclear extended deterrence in the security alliance between the United States and the Republic of Korea is currently a central concern. The gradually lessening role of reliance on nuclear weapons in US security policies broadly, combined with increasing North Korean nuclear capabilities and belligerence, raise fresh questions about the sufficiency of the “nuclear umbrella” as a pillar of the US-ROK defense posture. This article addresses the current and future role of nuclear extended deterrence in Korea in this dynamic context. The article reviews the longstanding trend toward reducing the overall size of the US nuclear arsenal, and assesses developments in US-ROK outlooks toward extended deterrence in response to the Obama administration’s nuclear policies and North Korea’s recent smaller-scale aggressions. The analysis finds that the challenges of deterrence credibility and allied reassurance are difficult and long-term. The analysis explains how these challenges emerge less from a shrinking US numerical arsenal size than from the sufficiency of specific nuclear and non-nuclear capabilities to meet emerging smaller-scale threats. The analysis also highlights the importance of broader strategic and political interaction in sustaining allied confidence in any joint security posture. The evaluation concludes that a strong US-ROK alliance relationship can be maintained while the size of the US nuclear arsenal continues to decline, in part because nuclear weapons in any deployment configuration are relatively ineffective means for deterring smaller-scale aggression. Nevertheless, continuing adjustment of the US-ROK extended deterrence posture to the evolving, complex and uncertain Korean peninsula security environment

will remain an ongoing challenge. Finally, the article encourages further examination of the potential specific role ROK maritime forces might serve in enhancing deterrence of smaller-scale threats while minimizing risks of conflict escalation.

요 약

핵무기와 한·미 핵 확장억제 능력

웨이드 헌트리 *

미래 한·미 안보동맹에 있어 핵 확장억제 능력은 중요한 현안이다. 북한의 핵무기 제조 능력이 증대되고 더욱 위협적으로 진화하는 가운데, 미국 국가안보정책 추진에 있어 오바마 대통령의 핵없는 세상 선언 등에 의해 핵무기에 의한 억제 능력이 점차 감소되고 있다. 이는 한·미 연합방위태세의 중요한 한 축인 한국에 대한 “핵우산(nuclear umbrella)” 능력이 과연 충분한가에 대한 새로운 의구심을 낳게 한다.

본 논문은 상기와 같은 상황 하에 핵 확장억제의 현재와 미래 역할에 대해 평가할 목적으로 작성되었다. 이를 위해 우선 전체적인 미국 핵무기 재고 감소 추세에 대해 평가를 하고, 다음으로 최근 북한의 국지 군사도발 양상과 미국 오바마 행정부의 핵정책 그리고 이에 대응해야 하는 한·미 핵 확장억제 전망에 관해 분석을 한다. 이를 통해 본 논문이 얻는 결과는 북한의 핵위협을 억제시키는 억제력의 신뢰성과 동맹국에 대한 확실한 보증이 어렵고 장기적이라는 것이다. 아울러 북한의 소규모 핵위협 또는 재래식 무기 위협에 대해 충분히 대응할 수 있는 정도의 핵무기 재고가 점차 축소되는 추세에 어떻게 한·미 양국이 대응해야 하는가를 과제로 제시하고 있다. 또한 본 논문은 한·미 간에 연합방위태세 유지를 위해 지속적이고도 전략적이며 정치적 상호협력을 강화하여 한·미 안보동맹의 신뢰도를 증진시켜야 한다는 과제를 제시하고 있다.

본 논문은 북한의 핵위협 또는 대규모 재래식 위협에 대응하기 위해 미국이 대규모 핵무기를 보유하는 것은 비효율적 전략인 바, 이를 극복하기 위해 강력

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한 한·미 연합방위태세를 지속적으로 유지 발전시켜야 한다는 것을 결론으로 제시한다. 특히 북한의 핵위협과 대규모 재래식 위협에 직면해 있는 한반도의 불확실성, 복잡성 그리고 위기상황에 대비하기 위해 한·미 간 핵 확장억제 능력을 지속적으로 협의하여 발전시켜야 할 것으로 판단되며, 이를 위해 한국 해군의 역할을 증대시켜야 한다는 것을 한·미 안보동맹의 중·장기 현안으로 제시하고 있다.

궁극적으로 본 논문은 한미 양국이 한반도 주변해역에서 발생하는 북한과의 해양분쟁이 전면전으로 확대되는 것을 최소화시키고 동시에 북한의 소규모 위협(smaller-scale threats)에 대응할 수 있는 한국 해군력 발전을 고려해야 한다고 주장하면서 이에 대한 심층적인 연구가 추가로 있어야 할 것이라고 제안하고 있다.

키워드: 핵확장억제, 핵무기감축, 핵우산, 오바마정부 핵정책, 소규모 위협

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