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On Strengthening and Expanding the US Nuclear Umbrella to Dissuade Nuclear Proliferation

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PREFACE

This document reports the work performed by the Institute for Defense Analyses for the Advanced Systems and Concepts Office of the Defense Threat Reduction Agency. The work was done in partial fulfillment of the task entitled Alternative Nuclear Futures – Phase 2.

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CONTENTS

EXECUTIVE SUMMARY

Many experts and officials are concerned that a failure to stop North Korea from expanding and improving its nuclear weapons stocks and the continued apparent pursuit of nuclear weapons by Iran will spur substantial additional nuclear proliferation. Much of this additional proliferation could be by concerned US allies and friends in Asia and the Middle East, and possibly even by NATO allies such as Turkey. This raises the question of whether strengthening the US nuclear umbrella that protects some US allies, and perhaps expanding that umbrella to cover other US allies and even new allies, could substitute for the independent nuclear forces they might otherwise create.

This study explores this topic first by defining the nuclear umbrella – more formally US extended nuclear deterrence (END) guarantees. Under these guarantees, the US agrees to use nuclear weapons to defend other states against conventional or nuclear aggression - if no alternative ways of defending them were to prove adequately effective.

This definition reflects the most fundamental of US nuclear policies – the US seeks to minimize its dependence on nuclear weapons to defend itself and its allies' vital interests. This implies the US would bring to bear every conventional means for defending those interests and only resort to nuclear weapons in the event all else failed. And this, in turn, implies that any state that receives US END guarantees must already be a close ally of the US or be made one.

The study then explores the general pros and cons for allies of accepting US END guarantees rather than establishing their own independent nuclear deterrent forces. The more important potential pros are that the US can offer END arrangements that would put the burden of nuclear escalation on the adversary, that such guarantees can be promised but not implemented until the need is clear, that they can be dialed up and down with the need, and that they seem likely to draw less criticism from the international community than the independent nuclear deterrents they would replace.

The more important potential cons are that despite the US' best efforts the allies will always have some doubts about the credibility of US END guarantees, that maximizing the credibility of US END guarantees would likely require long-term

deployments of US forces on the ally's territory, and that in the event deterrence fails, US END guarantees could lead to a substantial amount of conventional battle on the ally's territory before nuclear escalation would be considered.

This assessment suggests that some states that decide they need the protection of a nuclear deterrent would not see US END guarantees as clearly preferable to having their own deterrent. Thus, absent some major change in world circumstances, the US might have to work hard to gain the acceptance by some states of improved or expanded US END guarantees.

The study then explores the general pros and cons for the US of providing END guarantees to states that otherwise seem likely to build their own nuclear deterrent forces. The more important potential pros include that the recipients would presumably not proliferate, that with the exception of NATO, the US would control and coordinate all of the nuclear forces of the alliances receiving its guarantees, and that by offering END guarantees the US can share the risks and burdens of nuclear deterrence and possible nuclear use. Further, US END would be a safer means of satisfying allies' security concerns and would eliminate their need to test nuclear weapons.

The more important potential cons for the US are the additional risks, costs, and potential political-diplomatic burdens that strengthening, and especially expanding, its END policies would impose on the US. And clearly, the weight of those burdens would depend upon how far the US goes with such changes.

All things considered, it appears that the pros of strengthening US END guarantees for allies that already receive them – including those that receive them implicitly because their security is already well understood to be of vital interest for the US – could easily outweigh the cons. It is also possible that providing US END guarantees to some small number of additional states as a substitute for their creation of independent nuclear forces might also be an advantage for the US and the larger global community. But doing this for any and all friendly states that might otherwise build their own nuclear forces could be expensive. It might also impose significant additional risk on the US, especially to the extent that the costs of keeping the burden of nuclear escalation on potential adversaries, and of making nuclear escalation appear to them as disadvantageous as possible are not paid in full.

The study then looks at the potential reactions of other parties. Aggressive adversaries should see US END guarantees to states they had hoped to dominate as a

great setback. Having perhaps hoped to drive the US out of their region and to thus expand its freedom of action, the adversary would instead have drawn the US further in and greatly strengthened its military presence.

The fundamental questions for the other major nuclear powers are would they oppose strengthened or expanded US END arrangements for states that might otherwise build their own nuclear deterrents, and would they be interested in providing END guarantees to potential proliferators? We speculate that they might not oppose US END guarantees that do not appear to be aimed at them. They also seem either totally uninterested in providing END to anyone, and or unlikely to be able to offer END in a way that would minimize the dependence of their alliances on nuclear weapons.

The global nuclear nonproliferation community is not of one mind in considering the overall value of improved or new END guarantees in preventing additional nuclear proliferation. While there is support from some non-proliferation experts, it seems most likely that much of this community would be strongly opposed to any strengthening or expansion of END guarantees.

The only information we found on the American public's attitudes toward US extended nuclear deterrence to allies was a study done in the late 1980's as the Cold War was winding down and the US and Russia has just agreed to eliminate their intermediate nuclear forces. This study found that the American public does not want the United States to initiate the use of nuclear weapons to defend important allies in Western Europe or the Middle East. At the same time, it found "that a majority of Americans are aware of and support the basic US security commitment to Europe," that the public "still supports extended deterrence," and that it "does not support unilateral withdrawal of nuclear weapons from Europe."

Many factors could affect how US public opinion toward strengthened or expanded END guarantees might develop if the subject were to be debated today. Certainly, how a new END policy is framed would be important. If the policy were justified as forward defense against a few aggressive adversaries that need to be contained because of the threat they could pose to the US, a majority of public support seems more likely. On the other hand, a majority of the American public could be opposed to US END guarantees aimed at providing nuclear protection to numerous states, some of which do not share fundamental Western values and have a low opinion of the US.

The study also presents a short assessment of how the US might approach strengthening US END guarantees to Japan, and if Iran continues toward nuclear weapons, to Turkey. Both states value their current US END guarantees highly and neither country seems to be seriously interested in establishing independent nuclear deterrent forces. Although Japan is capable of doing so in a relatively short period, Turkey, on the other hand, has not yet established the basic infrastructure to do so.

Neither country seems particularly interested in technical or operational changes in how the US END guarantees are implemented. In both cases, the US and the recipient have strong strategic reasons to want a strong alliance. Both states face security problems the US can help them with – most of which have little to do with nuclear protection. Japan and the US are already engaged in a series of dialogs aimed at providing a better mutual understanding of the nature of these guarantees, and these dialogs appear to be going well. Strategic dialog with Turkey on mutual defense concerns should also be a high US priority. In Turkey's case, the immediate concerns are more general. A main objective of this dialog and the actions deriving from it should be to restore the kind of strong relations that are essential to an alliance that includes END guarantees. Minimizing the potential for the emergence of an independent Kurdish state in northern Iraq, and giving high priority to a program to enable Turkey to be protected from ballistic missile attacks would do a lot to improve US-Turkish relations.

Finally, the paper provides two more general conclusions. First, no state should want to bear single-handedly the risks and responsibilities of nuclear deterrence and of nuclear use, should deterrence fail – if there is an alternative. US END guarantees can provide a good one, at least to states that are or can be made strong allies. For example, such guarantees can be implemented quickly should the need arise, thus allowing allies to avoid getting committed to long and expensive programs to build nuclear weapons. They can allow a smaller and better coordinated nuclear capability for the alliances that need them. They can be dialed up or down far more readily as the US and its allies see their needs changing than can a collection of independent nuclear deterrents.

Second, allies and potential allies will inevitably be concerned that the US cannot be relied upon to implement its END promises and guarantees. While no one can be absolutely sure, we think that allies can be sure enough. Specifically, the entire system of alliances upon which US security depends risks breaking up if the US were to ever renege on its promises of nuclear protection to any ally. In that event further nuclear-

backed aggression would seem assured, as would a cascade of nuclear proliferation. The US' reputation at home and abroad would be shattered.

I. INTRODUCTION

In the first five decades of the nuclear age, six states built and retained stocks of nuclear weapons. In contrast, three more did so in the last decade. The Democratic People's Republic of Korea (DPRK), the most recent state to build nuclear weapons, and Iran, which seems likely to be next, are considered serious threats to stability within their regions and even beyond. Concerns over nuclear proliferation within their regions now have additional states in Asia and the Middle East considering whether they might need nuclear weapons. Experts and officials in the US and elsewhere suggest that the world may be moving toward a tipping point beyond which there will be a cascade of new nuclear weapons states.[1]

This may be true, but this development is hardly preordained.[2] There are steps that can be taken that may prevent it. One would be to strengthen the US nuclear umbrella that the US provides to some allies, and to expand it to additional states.[3] Such a policy might head off nuclear proliferation by states fearful of being threatened, coerced, or attacked by aggressive nuclear-armed neighbors. Further, even the promise that US nuclear guarantees would be used to counterbalance such proliferation might dissuade it. Aggressive states that might have hoped that nuclear weapons would allow them to dominate their regions might not find proliferation so attractive if they thought it would lead to a US nuclear umbrella over their neighbors and the increased US military presence that would go with it.

Halting and ultimately rolling back nuclear proliferation is clearly important because the more states that possess independent nuclear capabilities, the more likely it is

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1 See "Report on Discouraging a Cascade of Nuclear Weapons States," International Security Advisory Board to the US Department of State, October 2007; Kathleen J. McInnis, "The U.S. Credibility Gap in the Middle East," *Washington Quarterly* 28, no. 3 (Summer 2005); "A More Secure World: Our Shared Responsibility," 2004, (report of the Secretary-General's High-Level Panel on Threats, Challenges, and Change.

2 Defense Science Board, 2007 Summer Study on Challenges to Military Operations in Support of National Interests, Report of the Panel on Nuclear Proliferation, 2007.

3 McInnis, op cit; Patrick Clawson, "Nuclear Proliferation in the Middle East: Who is Next After Iran," (paper, Nonproliferation Policy Education Center, April 1, 2003), http://www.npec-web.org/Essays/Presentation030401%20Clawson%20Nuclear%20Prolif%20TB.pdf.

that nuclear weapons will be used. Aggressive states that get nuclear weapons might calculate what they can gain by threatening war to force others to yield important interests. States that are pursuing nuclear weapons may draw preventive attacks by others. And states don't always adequately secure their nuclear weapons or materials, thus risking that they could fall into irresponsible hands.

This paper explores whether and how improved or new arrangements for providing US nuclear umbrellas – more formally, extended nuclear deterrence (END) guarantees – might make sense in the future. Chapter II defines what the concept of US END guarantees must mean given the long-standing US national security policy aimed at reducing its dependence on nuclear weapons. While the definition is consistent with the concept of END as understood during the Cold War, the terms used to define it have different implications than they did then.

Chapters III-VIII examine the more important factors that potential recipients of US END guarantees might be expected to consider in deciding whether to accept such guarantees, as well as those the US might consider in deciding whether to offer them. This examination assumes that the international security context for agreeing to offer and to accept US END guarantees is not radically different from the one we see today. Of course, how agreed upon US END guarantees would be implemented would presumably vary with changing circumstances.

Our assessment suggests that the US may not want to offer END guarantees to many new states. It also suggests that some potential recipients may not find US END guarantees particularly attractive. In contrast to the early years of the Cold War when most US allies had little choice but to accept US END guarantees, we appear now to be in more of a buyer's market. Thus, the US may have to campaign for their acceptance.

Chapter IX comments on how other interested parties – adversaries, major powers, other US allies and friends, the nuclear nonproliferation community, and the American public might be expected to react to the prospects of strengthened or new US END arrangements.

In light of the above discussions, Chapter X shifts from our more general observations about the pros and cons of END to short discussions of how strengthened US END guarantees might reasonably be viewed by the US, the recipient, and others in the specific cases of Turkey and Japan. Finally, Chapter XI closes with some general

recommendations on how the US might approach the implementation of strengthened or expanded US END guarantees and some larger conclusions from this analysis.

II. DEFINITION OF US END AND ITS IMPLICATIONS

US END can be defined as: A type of assurance – via credible guarantees and supporting arrangements – to use nuclear weapons to defend other states against conventional or nuclear aggression – if no alternative defense proved adequately effective

This definition is consistent with the definition of US END as it applied during the Cold War. Under current and foreseeable circumstances, however, the key terms used in the definition can have different meanings and implications than they did then. Thus, some initial comments on these terms are in order.

A. ASSURANCE

Assurance of allies is an explicit goal of current US defense and nuclear policies. The US wants to assure its allies that it will cooperate with them to guarantee their security.[4] Of course, some arrangements for guaranteeing their security will be more assuring than others. Allies will be less assured to the extent that alliance agreements fall sort of an explicit guarantee that they will be defended by all the necessary means available to the US. Even with such a guarantee, they would be less assured to the extent that the strategy the US plans to use for their defense seems too dangerous or risks excessive and unnecessary suffering. For example, looking back to the Cold War, West Germany was not assured by NATO's adoption of plans and capabilities for battlefield nuclear war. Exercises held to test those plans showed that West Germany might quickly suffer upwards of a million civilian casualties.[5] Nonetheless, West Germany was assured to the extent those plans and capabilities were seen to strengthen deterrence of war in Europe.

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4 Assuring US friends and allies that the US will act responsibly to protect them was given extra emphasis starting early in the first term of President George W. Bush. It appears as a main goal in the "Quadrennial Defense Review Report," Department of Defense, September 30, 2001, and was reinforced shortly thereafter in "Findings of the Nuclear Posture Review," Department of Defense, Jan. 9, 2002.

5 See Shaun Gregory, *Nuclear Command and Control in NATO – Nuclear Weapons Operations and the Strategy of Flexible Response*, (New York: St. Martin's Press, 2006).

Future US END arrangements may also have aspects that the recipients would not find assuring. For example, they may not find assurance in a US strategy that could call for preemptive use of nuclear weapons, however unlikely it may be that a US preference to do so would ever arise.[6] Similarly, an ally would not be assured if US forces were not kept sufficiently close and ready to keep it from being temporarily occupied should an adversary attack. That the US would be preparing to liberate it in a matter of months would be cold comfort.

Note that if specific security guarantees offered to our allies have features that are not assuring, US security guarantees may still be assuring when taken as a whole. During the Cold War for example, the NATO allies found substantial assurance in a strategy that risked everyone's existence because it did so in a way that made war seem extremely unlikely.

It is also important to recognize that the US would not want to assure an ally that it enjoys US protection under every imaginable circumstance. For example, the US would not want to guarantee an ally against the consequences of initiating military aggression against another state. Neither would it want to provide backing for any abuse that an allied government might impose on its citizens. Such limits on US willingness to assure allies could lead to serious political stresses and divisions within US alliances. This could work against the unity required to ensure that US alliances can withstand and prevail in crises and conflicts that could involve facing threats and possible use of nuclear weapons.

These considerations, especially the latter, can pose a difficult dilemma for the US. To our knowledge, every state that currently has explicit US END guarantees also has, to some degree, a democratic form of governance. Is stopping nuclear proliferation important enough to offer END guarantees and all such guarantees imply to a non-democratic government or one that abuses its citizens? And, from the point of view of such a recipient, is getting US END guarantees from the US so superior to other possible ways of getting nuclear protection as to warrant alliance with a nation that may seek to change its form of government?

B. CREDIBLE GUARANTEES AND SUPPORTING ARRANGEMENTS

US END guarantees and supporting arrangements would have little value if they were not deemed adequately credible by the provider, recipients, and prospective

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6 See "The National Security Strategy of the United States of America," The White House, March 2006.

adversaries. This credibility depends upon the context for such guarantees and the supporting arrangements made for implementing them.

Looking back, the credibility of US END guarantees ebbed and flowed during the Cold War. In the early years, the credibility of the US END guarantees to NATO seemed more than adequate. The context for these guarantees included recent and massive blood evidence of the US commitment to the freedom of Western Europe. The Soviet Union had no nuclear forces that could strike the US homeland. NATO had chosen not to maintain conventional forces sufficient to defend successfully against a Warsaw Pact invasion. US END was implied by the NATO treaty, by US declarations to impose massive nuclear retaliation if the Warsaw Pact were to attack Western Europe, and by a long-range, nuclear-armed bomber force that could do it. Thus, both the context and the arrangements for supporting these early END guarantees made them credible.

The Soviet Union then changed the context by deploying nuclear forces that could quickly attack the US homeland. Maintaining adequate credibility of US END guarantees became a major challenge from then on, especially in the eyes of NATO's European allies. Years of intense political debates within NATO led to a variety of changes in how US END guarantees to NATO were implemented.[7]

During the mid-1950's, the US led NATO to adopt plans for making nuclear strikes directly against Warsaw Pact forces attacking Western Europe. As part of NATO's capabilities to make such attacks, large numbers of US nuclear weapons were stored within NATO frontline states under "nuclear programs of cooperation." These weapons were to be released to those states to carry out their parts of agreed nuclear strike plans. These weapons allowed the allies to make nuclear strikes against the Warsaw Pact countries, and enabled those most threatened by invasion to defend their sectors of the battlefield as the US intended to defend its own.

In 1967, after years of intense debate, NATO formally replaced its strategy of "massive retaliation" with the "flexible response strategy." The new strategy called for strengthening NATO conventional forces. Stronger forces were intended to delay any Warsaw Pact advance long enough for orderly consultation among the NATO states on whether and when to use nuclear weapons. The flexible response strategy was intended to allow "deliberate escalation to levels of conflict appropriate to defeat the Warsaw Pact's

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7 Gregory, op. cit.

attack, with further escalation if necessary." It sought to guarantee "firm political control of NATO actions, and to offer the prospect of terminating the conflict at the lowest level consistent with NATO's objectives." NATO retained the flexible response strategy until the collapse of the Soviet Union.[8]

While various institutional arrangements were made to implement the flexible response strategy, and NATO did substantially improve its conventional forces, in the end few experts had come to believe that the flexible response strategy would have worked as intended. Nonetheless, by the time it was adopted the flexible response strategy seemed far more credible than massive retaliation, which by then was sure to be two-sided. And, while controversial, there is little doubt that the US nuclear programs of cooperation implemented within European NATO, and all the shared planning, exercises, and responsibilities that went with them, added substantial credibility to US END guarantees during the more stressing years of the Cold War.[9]

In the future, establishing and maintaining adequate credibility for US END guarantees could prove as, or even more challenging, than it was during the Cold War. The credibility of such guarantees will again depend upon the context within which they must function, as well as the supporting arrangements made to implement them. Both the context and the supporting arrangements will be substantially different from what they were during the Cold War. The more important issues involved in achieving adequate credibility for future US END guarantees are discussed later in the paper.

C. NUCLEAR WEAPONS USE ONLY IF ALTERNATIVE FORMS OF PROTECTION PROVE INEFFECTIVE

US attitudes and policies concerning nuclear weapons have changed radically since the early days of the Cold War. Then the US chose to maximize its dependence on nuclear weapons while now it is US policy to minimize it.[10]

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8 Ibid.

9 Ibid.

10 Efforts to reduce US dependence on nuclear weapons have been pursued for at least 20 years. For more recent indications, see "President Bush Approves Significant Reductions in Nuclear Weapons Stockpile," White House Press Release, December 18, 2007. It states: "The President's decision further advances policies that he has advocated since assuming office. We are reducing our nuclear weapons stockpile to the lowest level consistent with America's national security and our commitments to friends and allies." The 2002 NPR also describes other ways this dependence is being reduced, in particular by building defenses against nuclear attack, and by improving the conventional forces in

Minimizing this dependence is clearly important. One of the more compelling reasons is that if the US can defeat any plausible conventional attack without using nuclear weapons, then its adversaries would face the hard choice of either accepting their defeat or escalating to nuclear warfare. Of course, the US must do what it can to shape that choice to its advantage. It should seek to make the prospect of initiating nuclear warfare against the US or its allies look as unpromising as possible. And while it might not want to do so in advance, the US could also consider making timely offers to soften the consequences of defeat for the adversary if it foregoes use of its nuclear weapons.

If the US can win any plausible conventional war, then it would depend upon nuclear weapons primarily to deter its adversary's escalation to nuclear use. Nuclear weapons might also have some role in limiting the damage an adversary can do with its nuclear weapons, to the extent that is possible at reasonable cost and cannot be done adequately by conventional forces. Reducing US nuclear dependence to this level seems a reasonable goal. It may already have been reached for the more plausible future conflict scenarios the US and its allies might face.

An even lower level of dependence on nuclear weapons is conceivable if the US can develop non-nuclear capabilities that could defeat any adversary's capabilities to attack with nuclear weapons. Reaching this level of nuclear independence seems unlikely for the foreseeable future, but US programs to develop and deploy more effective conventional strategic strike and defense forces are aimed at this goal.

A second reason to pursue minimum dependence on nuclear weapons is that it can make the US a more desirable ally. US allies may not believe that conventional attacks against them by nuclear-armed adversaries would be reliably deterred solely by the threat of nuclear retaliation. If so, all else being equal, they should find an alliance with a US that can defend them without initiating nuclear warfare more attractive than being protected either solely by their own nuclear forces, or by an ally that must use nuclear weapons to defend them from conventional attack. This argument will be developed further in Chapter III which discusses the advantages potential recipients might see in having US END guarantees.

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ways that would allow them to perform military missions for which nuclear weapons have been judged necessary in the past. "Nuclear Posture Review," op. cit.

Finally, by minimizing the extent to which it depends upon nuclear weapons, the less nuclear damage the US and those to which it provides END guarantees might have to impose and suffer in the course of defending themselves.

D. SOME STRATEGIC IMPLICATIONS OF US END GUARANTEES AS DEFINED

The continued US pursuit of minimal dependence on the use of nuclear weapons has several strategic implications for future US END guarantees and their necessary supporting arrangements. First, it implies that any state that gets US END guarantees also gets the protection of every means the US can bring to bear to defend successfully without using nuclear weapons – which includes the protection that can be provided by the conventional components of the US New Triad capabilities, and all the other kinds of applicable US conventional forces. Thus, states that get US END guarantees must either be or become close allies of the United States. This does not imply, however, that the US would never choose to threaten and, if necessary, use nuclear weapons to deter nuclear attacks and escalation against states that are not allies.

Thus, the second implication – to the extent the US does not have or does not establish enough ready non-nuclear defense capabilities to underwrite any expansion of its END guarantees to additional allies – either the credibility of its guarantees would be increasingly suspect, or its dependence on nuclear weapons would rise.

Third, we note that this paper is not about the specific ways to implement US END guarantees. Alternatives can range from agreements, sealed with a handshake between heads of state, that the ally in question can count on the US to employ nuclear weapons in its defense if necessary, all the way to forward deployment of US nuclear weapons in the ally's country and elaborate plans and arrangements for both the US and its allies to use these weapons if ever needed. And new technical means are certainly possible as well, such as new US nuclear weapons especially designed for END applications. The US and its allies might, for example, want to incorporate features that would make any unauthorized use impossible. We should also note that modern nuclear weapons designs can enable conventional aircraft to serve as delivery systems without the extensive modifications that were needed in the past.[11] In any case, the specific means of

[11] Private communication of Dr. Robert M Allen, Sandia National Laboratories, California.

implementing long-term US END guarantees can be tailored to meet the future requirements of specific alliances.

But there are some strategic values the US and its allies may want to exploit that can be derived from contingent arrangements to strengthen or expand US END guarantees to allies on a timely basis when needed. Specifically, credible promises of such guarantees within a potential nuclear adversary's region mean that it could not expect to enjoy the nuclear dominance of the recipients that it might have hoped for. And, given the nature of US END guarantees as we have described them above, the adversary would see or even anticipate that its proliferation of nuclear weapons would likely lead to more US presence and influence in its region rather than less.

Finally, while the means of its implementation may change with time, the US can expect that once it has committed itself to provide END guarantees to a state, that commitment could be nearly impossible to withdraw from completely, at least anytime soon. Withdrawal while there is still a serious threat from the adversary could lead all US allies to question its reliability. Even without a serious threat, the continuation of US END guarantees could still be an important indication of the closeness and trust between the US and the recipient. At a minimum, if a serious threat exists, the US should not withdraw or significantly compromise its END guarantees to a state until that state has had time to make adequate alternative arrangements.

Given this general understanding of what US END guarantees must be, the next three chapters discuss the more important factors that prospective recipients can be generally expected to weigh in deciding whether to seek or accept them.

III. POTENTIAL PROS FOR ALLIES OF HAVING US END GUARANTEES

We see at least five significant potential pros for allies.

A. US END GUARANTEES CONVEY SUPERIOR PROTECTION

There are several ways that END guarantees – as the US would want to implement them – would be superior to the deterrent protection that allies could establish for themselves.

First, the US has and can be expected to maintain sufficient ready conventional forces to defeat any plausible conventional challenge. Thus, any ally that receives US END guarantees can expect that if the adversary were not deterred from making a conventional attack, it would soon find itself facing the hard choice between seeing its attack fail or escalating to nuclear warfare.

Recipients of US END guarantees should prefer this situation to one where they have their own nuclear forces but must depend upon their first use to defend against an adversary's all-out conventional attack. An adversary might believe that it could defeat its victim at both the conventional and the nuclear levels of warfare, and in such circumstances see nuclear escalation by the victim as pointless and thus unlikely. Such beliefs might be reckless, but history demonstrates that ambitious leaders sometimes take risky gambles on success in war.

In any case, recipients of US END guarantees and their adversaries should have little doubt of the US' willingness to retaliate in kind for an adversary's escalation to nuclear warfare. Retaliation in kind would be driven (1) by the need to deter further use of nuclear weapons by the adversary, (2) by the increased need to speed its defeat that the adversary's initiation of nuclear warfare would create, (3) by the need to honor the END guarantees made to the allies under attack, and (4) by the need to assure the US' many other allies that its security guarantees can be relied upon.[12]

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12 It should be noted that this last point implies that the more allies the US is committed to protect, the more likely it is to honor those commitments to the extent it has the capacity to do so.

Second, for the foreseeable future, the US will have far more capable nuclear forces than any prospective new nuclear proliferator would be able to build. We note that given the ongoing modernization of nuclear forces by the other nuclear weapons states it is possible that they may have a lead in some areas. It is conceivable that a clear lead could add to the attractiveness of END guarantees that might conceivably be offered made by other nuclear states, especially if the US were to have doubts about the effectiveness of its nuclear deterrent capabilities. Absent such doubts, it would seem unlikely that any prospective ally's decision on whether to seek or accept a US offer of END guarantees would hinge on this factor. This claim will become clearer as the paper continues.

Third, recipients of US END guarantees should also benefit from the US emphasis on high technology defense programs. Examples include advanced missile and air defense systems; command, control, communications, intelligence, and surveillance systems; conventional precision strike systems; and the latest generations of fighter aircraft. Alliance with the US can also mean financial assistance for states not able to fully fund their defense.

Finally, allies could also see US END guarantees as more cost-effective than pursuing their own independent nuclear deterrents. How cost-effective they might seem is hard to say. Allies might substantially discount the conventional protection guarantees would provide, especially if they believed that the nuclear component of such guarantees, or their own independent nuclear deterrent, would be sufficient to ensure that the adversary would always be deterred. Still, allies that accept US END guarantees should be prepared to pay at least some of the associated costs. And they should be willing to occasionally support other missions the US undertakes as part of its global stabilization role.

B. US END GUARANTEES ALLOW ALLIES TO AVOID MORE TROUBLESOME APPROACHES FOR HEDGING AGAINST HIDDEN NUCLEAR PROGRAMS BY ADVERSARIES

Most states do not want to own nuclear forces. Still, if an adversary chooses to obtain nuclear forces, countermeasures of some kind would be required. Waiting until an adversary is detected building its own nuclear forces could leave a potential victim with little prospect of catching up. In order to have a timely answer to the appearance of an adversary's nuclear weapons program, a state must be able to obtain nuclear weapons quickly.

One possible way to hedge against the need to have nuclear weapons quickly is to start a weapons program and, when it is judged to be suitably close to completion, put it on indefinite hold. Another is to make reliable arrangements to buy nuclear weapons when and if the need emerges. Saudi Arabia, for example, is suspected of having provided financial support for Pakistan's nuclear weapons program with this option in mind.[13] The third way is to arrange for END guarantees from the US or some other strong nuclear power.

All three possibilities have some drawbacks. For participants in the Nuclear Non-Proliferation Treaty (NPT), as nearly all states are, a secret program that makes preparations that are uniquely required to build nuclear weapons would be against international law. If discovered, it would draw serious criticism and perhaps sanctions from other NPT members. And, if history is any guide, a states found to be pursuing a nuclear weapons program might spend years running the risk that some other state would take military action to delay, if not terminate, it. Finally, discovery of a new nuclear weapons program would discourage the remaining adherents, thus damaging the NPT.

Arrangements to buy nuclear weapons in the event of need are inherently risky. The prospective supplier could simply renege on the deal. The supplier might not have weapons to spare. Other parties might find out and prevent the transaction. And in the event the prospective buyer's need for nuclear weapons was clearly extreme, the supplier might try to extort a higher price.

On the other hand, quick arrangement of US END guarantees could meet such a need. END guarantees do not require large additional numbers of weapons since their purpose is primarily to assure the ally that, should the need arise, the US will use or enable the use of what it already owns. The US will surely have the modest numbers of weapons needed for adequate programs of cooperation for any plausible number of allies that might want them.

Pressuring a prospective recipient for valuable concessions when the need to implement US END guarantees is clear is most unlikely. Doing so would have a very corrosive effect on the US reputation and perhaps put its global system of alliances at risk.

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13 See Akaki Dvali, "Will Saudi Arabia Acquire Nuclear Weapons," NTI, Issue Brief, (March 2004), http://www.nti.org/e_research/e3_40a.html.

Timeliness would not be a problem as the President can implement initial END guarantees within a matter of hours, if necessary. Moving from such initial guarantees to those that would be suitable for the long run would, of course, take longer.

Because promised initial US END guarantees can be implemented quickly, they allow an ally to avoid seeking nuclear weapons until the threat posed by an aggressive, nuclear-armed, adversary has become clear. This should make the promise of US END guarantees particularly attractive to states that do not want to start, perhaps unnecessarily, a nuclear weapons program, but that also don't want to be left unprotected in the event a serious nuclear threat materializes.

Finally, we note that a state might consider seeking promises of END guarantees or the actual implementation of such guarantees from a nuclear state other than the US. We discuss this possibility later in the paper.

C. ALLIANCE WITH THE US REDUCES THE RISKS OF NUCLEAR DETERRENCE

The risks of greatest concern for an ally facing a nuclear-armed adversary would be that deterrence would fail, and the ensuing war would escalate to the use of nuclear weapons, or that a decision to preempt the adversary's nuclear capabilities might seem justified, but prove a mistake. Taken together, the sum of these risks seems likely to be smaller for a state if it chooses to ally with the US and receive END guarantees than if it builds its own nuclear capabilities and stands alone.

In particular, the risk of war seems smaller for a state in an alliance with the US. Given the commitment of the US, the ally would have access to conventional forces that would provide far superior protection than those it would have by itself, and, barring a substantial change from current world circumstances, superior to those of any plausible adversary. The ally would also have the assurance of nuclear forces that are far more capable than those of any other state with the possible exception of Russia. Further, an adversary would know that its continued existence could be at risk if a war with any member of the alliance escalated, while that of the most powerful member of the alliance would not be.

In addition to the capability of the alliance to defend itself successfully, it should not lack for motivation. Unless the war were over interests that were clearly less than vital for the allies, they would worry that losing would risk their continued existence. Further, at a minimum, the US would want to preserve its reputation as a reliable ally and

would not want to allow the precedent to be set that nuclear-backed aggression would be allowed to succeed.

Looking further into its prospects of prevailing, the adversary would see that it would face the burden of escalating to nuclear war. There, too, its chances should look better when facing a prospective victim that is standing alone than when facing an alliance that includes the US. A regional victim standing alone, even one with an independent nuclear deterrent, would still present a homeland that is closer, smaller, and likely more vulnerable to nuclear attacks than the US homeland. At worst the prospective victim might be the rough equal of the adversary, while in a nuclear war with a US-led alliance, any single plausible adversary would be greatly outmatched.

The risks of a mistaken decision to attack preemptively might seem larger for an alliance that includes the US than for an independent ally standing alone, but there are good reasons to think that the opposite is true. If the alliance had conventional weapons capable of effectively preempting an adversary that seems likely to launch a nuclear attack, no one should be greatly surprised if it used them. And we should expect a conventional preemptive attack by the alliance, given its far greater resources, to be more effective and to cause less unwanted damage than one done by the ally standing alone. A more successful preemption would mean that the maximum damage the war could lead to – taking likely retaliation into account – would be reduced.

If the alliance did not have conventional weapons capable of preempting with high effectiveness, but did have nuclear weapons capable of doing so, preemption would also be a possibility, but the criteria for doing so would be more stringent. The alliance would likely require that the adversary be detected unambiguously preparing to launch nuclear forces. The alliance would also likely require that preemption be seen as very likely to produce a large reduction in the numbers of casualties on both sides, compared to the results if preemption were not attempted.

If the alliance preemption policy were this conservative, we should expect that any preemptive attacks would reduce the maximum damage that could occur if the war goes to the nuclear level. Of course, the ally standing alone might also consider preempting with nuclear weapons, but it seems unlikely to be as capable of doing so as effectively and with as little unwanted damage as the alliance.

It is also possible that the kinds of highly effective preemption capabilities we have been considering may not be possible. The adversary may be able to hide its nuclear

weapons and delivery means so well that few if any can be attacked. The alliance may not be able to detect in a timely manner the adversary's preparations to use its weapons. The alliance may judge that it should accept the risk that the adversary might launch a limited number of nuclear weapons before any nuclear damage-limiting attacks are carried out. It is also possible that the US may ultimately choose not to build the types of weapons that would be required for effective preemptive attacks with minimal casualties.

As mentioned at the outset of this section, the issue for a potential ally is not the individual risks of seeking protection through alliance with the US, but the sum of those risks. In our view, the risks of war between nuclear-armed adversaries and US alliances seem very small. That said, the risks of war and its potential escalation to nuclear use seem likely to be even smaller for an alliance that included the US than for a state that chooses to build a nuclear deterrent and stand alone. And even if the possibility of a mistaken preemptive attack by the alliance were greater than that for an ally standing alone – which seems doubtful – that increased risk seems likely to be more than offset by the advantages of the alliance in reducing the risks of war and of nuclear escalation by the adversary.

D. ALLIANCE WITH THE US SPREADS THE BURDENS OF NUCLEAR DETERRENCE

We see US END guarantees spreading and perhaps reducing these burdens in at least four ways. First, past nuclear proliferation has drawn substantial international criticism and, at least in some cases, political and economic sanctions. And while invading and overthrowing a government to end its suspected pursuit of weapons of mass destruction seems unlikely to happen again anytime soon, international concerns about nuclear proliferation can be expected to lead to at least some grief for any state that leaves the NPT or is found to be violating it.

In contrast, while some international criticism can be expected if a state accepts strengthened or new US END guarantees, that criticism should be mild compared to what it would get if it were seen attempting to establish its own independent nuclear forces. Obviously the US, which is generally a strong critic of nuclear proliferators, would criticize states for accepting its END guarantees. And others should see that such guarantees reduce the number of new, independent sources of potential decisions to escalate to nuclear warfare.

Second, an alliance should spread the potential stigma that could accompany any use of nuclear weapons. While such condemnation would fall primarily on the state that made first use of nuclear weapons, all users would get a share. Every square mile of nuclear destruction would be seen to ask its makers if this was really necessary. An independent state making use of its own nuclear weapons would bear the full weight of the stigmatization. An alliance would spread this burden. Furthermore, being in an alliance might provide multiple perspectives that would lead to wiser choices on nuclear use. In turn, these wiser choices should lead to less stigmatization.

Third, an alliance can also lead the adversary to distribute the damage it causes across the alliance members in order to win the interest at stake. The alliance would want to destroy the attacking forces as quickly as possible. But pending their possible defeat, the alliance is likely to find it necessary to impose damage at least commensurate with what the adversary is imposing on it. Since a large portion of the damage to the adversary would likely be inflicted by the US, this should lead the adversary to distribute some of the damage it can cause onto US forces and bases in the region, and if possible, even to the US homeland. In contrast, a state defending itself alone could suffer all of the damage that could be done by the adversary.

Finally, while it seems most likely that the US would provide assistance to any ally or friend that suffers war damage, and to vanquished enemies as well, the US seems likely to work especially hard to assist allies that suffer as a result of fighting alongside it to protect a common interest. And, while the situation would be unprecedented, it does not seem unreasonable to suppose that even if the US had suffered a limited number of nuclear strikes in the course of defending an ally, it would try to find a way to assist an ally that had suffered similarly.

E. END GUARANTEES WOULD GIVE RECIPIENTS INCREASED INFLUENCE OVER THE US

A state deciding that it needs nuclear weapons to protect itself and to meet this need through US END guarantees becomes dependent upon the US in a fundamental way. Given this dependence, it will constantly interpret US behavior looking for signs that its choice remains sound. The US will need to provide periodic assurance of its commitment and capability to protect the ally, especially when an adversary acts in threatening ways.

The ally is not likely to be passive in this interaction. One of its greatest concerns would be that the US understands its interests well and would respect them, especially in defending against an adversary's attacks and pursuing its defeat. Assurance of this kind would require the US to demonstrate its concerns for the ally's interests regularly in peacetime. The ally would not be hesitant in asking for special considerations and the US would have to satisfy many of these requests. This kind of influence would work both ways, of course. Broad reciprocal cooperation between the allies would strengthen the alliance.

IV. POTENTIAL CONS FOR ALLIES OF GETTING US END GUARANTEES

We see three significant cons for allies.

A. ACCEPTING END GUARANTEES FORGOES THE VALUES OF HAVING AN INDEPENDENT NUCLEAR DETERRENT

We assume that the US would do its best to ensure that its END guarantees are reliable. Nonetheless, states that receive them can never be absolutely sure that US promises to use nuclear weapons if the need were to arise would be honored. In contrast, no state would have any doubts about its own independent nuclear deterrent.

Independent nuclear forces can also win a nation greater international deference to even its lesser interests. Other states will tend to think harder and consult more carefully when actions they want to take that might have consequences for a state that has nuclear arms. Similarly, developing and maintaining friendly relations will be somewhat more important with a state that has independent nuclear capabilities.

Now that six decades have passed since the invention of the atomic bomb, many in the US may think of nuclear weapons as old technology even though there have been many subsequent technical advances in nuclear weapons technology. In any case, the US was very proud of its achievement and every state that has since built nuclear weapons has been proud as well. The mastery of this technology and the production of nuclear weapons remains one of the icons of modern technology.

Building nuclear weapons can also boost the status of national leaders with their citizens. Videos of happy crowds in India celebrating its nuclear tests and of Iranians cheering progress toward their mastery of nuclear technology are vivid reminders of the domestic political values of pursuing nuclear programs. Even South Koreans take some measure of pride in the creation of nuclear weapons by the North, though, of course, they see the drawbacks as well.[14] Finally, some states, especially those that have suffered

14 Dr. Kongdan Oh Hassig, consultation with author, IDA.

occupation or colonization, can find domestic political value in defying the wishes of the West, including its hopes of preventing them from getting nuclear weapons.

In sum, the diplomatic and psychological value of building nuclear weapons can be substantial for a nation. And forgoing these values can seem a substantial cost of choosing to depend upon END guarantees from others.

B. ALLIANCE WITH THE US WILL REQUIRE SUBSTANTIAL ACCOMMODATION TO ITS INTERESTS, POLICIES, AND STRATEGIES

US interests, policies, and strategies will sometimes differ from those of its allies. The US and its allies would need to recognize these differences, find acceptable compromises, and commit to them. To do otherwise could risk the cohesion of an alliance in crisis or war. A few examples can illustrate these points.

First, the US has global interests that no ally fully shares. In particular, the US sees itself as responsible for organizing and underwriting efforts to maintain global stability. It does so by maintaining alliance relationships guaranteeing the security of many tens of states. When a US alliance fails to successfully protect an ally, the reliability of all US alliances can be questioned.

Thus, the US is especially motivated to prevail in any conflict. This usually requires imposing great damage on the adversary and suffering some of the damage it imposes on the alliance. Most of the damage would likely fall on close-in allies rather than the US. And, if the war escalates to the use of nuclear weapons, much greater damage could be suffered. Further, the US could conclude that it could not afford to lose a nuclear war. These considerations imply that an ally could find itself fighting well past the point where – save for the demands of the US – it would want to accept defeat.

Of course, US allies would expect that the END guarantees they receive would deter adversaries from starting a war. And that deterrent effect may be strengthened to the degree that the US is seen as being more likely to pursue a stronger defense than the ally might have chosen on its own.

Second, allies that would be on the front line of any conventional defense against the adversary could find it difficult to accommodate the US desire not to use nuclear weapons so long as a successful conventional defense remains possible. An allied leader whose territory and cities are being fought over could be vilified by citizens suffering and dying because the US is delaying the use of nuclear capabilities that they might hope would end the war more quickly.

This is one of the most important reasons why the US will insist on retaining the final decision on when and how to initiate the use of its nuclear weapons in defense of the alliance. Accepting this US requirement was difficult for some NATO allies through the height of the Cold War, and accommodating to it seems sure to be difficult for allies facing nuclear threats in the future.

Third, future allies would also have to expect that the US would call on them to contribute to US efforts to protect other allies or to assist with other missions, such as establishing and keeping the peace between warring factions in some unstable state. Such requests could be hard to refuse if the ally is substantially dependent upon the US for its longer term security.

Establishing and maintaining an alliance with the best possible prospects of cohering and prevailing in crisis and war, especially a war that might escalate to the use of nuclear weapons, requires that the allies find effective ways to minimize and accept their differences. Of course, this must also include US efforts to understand and accommodate the needs of the allies. Substantial failures to do so would be considered a major cost of allying with the US and would reduce the strength of an alliance.

C. ALLIANCE WITH THE US COULD BE POLITICALLY COSTLY

Allying with the US could have substantial political costs. First, it would tend to imply support or at least tolerance for US behavior that others in the international community and citizens of the recipient state could find objectionable. International disapproval of US policies and behavior can translate into disapproval of US allies and less international cooperation with them. In international and domestic relations as in the lives of individuals, you are known by the company you keep.

Second, the domestic political costs of alliance with the US could be even greater than the international costs. Given its greater military power, and the need for unity of command, alliances with the US will generally be led by a US commander. In general, a follower's role is not in itself seen as a positive political asset by any allied leader.

Further, as argued in Chapter II, US END guarantees would convey not only the protection of the US nuclear weapons, but also that of its conventional forces. This would seem likely to require that some US forces be permanently deployed on the ally's territory. While some US deployments on allied territories have been well tolerated over the years and even popular with some states' citizens, some have not. States that once suffered colonization can be particularly sensitive to the presence of foreign troops.

Of course, if an ally faces a clear threat to its security, its citizens should understand that tolerating a subordinate role in an alliance is not in itself a large price to pay for the safety gained. But reliable and capable alliances are not built overnight and the US would want to begin doing so well before a prospective ally becomes committed to a nuclear weapons program of its own. Thus, the political costs of being a follower may have to be accepted before the threat becomes clear. And if an objective of the alliance is to dissuade a potential adversary from building nuclear weapons, the construction or strengthening of the alliance would have to begin even further in advance of the emergence of a clear threat.

The domestic political costs of alliance with the US can be limited by measures such as concentrating US forces on bases in less-populated areas. Still, such arrangements have their drawbacks. Isolated bases that replicate the comforts Americans are used to at home may seem disturbingly opulent to the ally's citizens. And keeping US forces and the ally's citizens at arms length may not be conducive to the development and maintenance of the kind of allied relations that makes sacrificing heavily for each other in wartime seem right.

Of course the political costs of allying with the US depend to a great degree on how the allies and others view it. . A series of annual international polls done by the Pew Research Center shows that the image of the US held by many states has deteriorated sharply over the past five years. It is particularly bad in the Middle Eastern, Muslim states and in Western Europe. In polls by Pew and by others, some allies are reported to have said that the US represents as great a threat to peace as North Korea and Iran. Still, the poll results were not all bad. Positive opinions of the US were found among the citizens of some of its largest trading partners – India, South Korea, and Japan.[15]

In presenting the poll results, the director of the Pew Research Center argued that public opinion is an important factor in foreign policy in ways that it was not in previous generations. He noted that the US "is working cooperatively with its allies and others, but working cooperatively is easier when you are trusted and liked than when you're

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15 Forty seven nations were polled in 2007, and while anti-Americanism had not spread in the last year or two, it was reported to have become more intense and entrenched in the nations where it had been seen previously. The depth to which approval of the US by some states has fallen is disturbing. Nine percent of the Turks polled had a favorable view of the United States in 2007 compared to 55 percent in 2002. Thirty percent of Germans polled had a favorable view in 2007 compared to 78% in 2002. See "Global Attitudes: Challenges for the Next Administration?" [Rush Transcript; Federal News Service], Council on Foreign Relations, September 17, 2007.

not…and we are not trusted…and liked in many places." Entrenched negative views of the US will not be easily reversed.

Finally, US democratic values can lead it to strongly criticize governments that cause harm to their citizens. While the US may find it expedient to temper its criticism of allies most of the time, those that fail to respect the human rights of their citizens can expect public pressure to reform.

It should be noted that currently all of the US close allies are democracies. Looking into the future, however, the US may want to make close allies of some states that are not democracies. The governments of those nations are likely to find US criticism embarrassing at a minimum, and even politically dangerous. We will discuss later in the paper the political costs to the US of such alliances.

V. ASSESSING THE BALANCE OF POTENTIAL PROS AND CONS FOR ALLIES OF IMPROVED OR NEW US END GUARANTEES AS COMPARED TO AN INDEPENDENT NUCLEAR DETERRENT

The most fundamental advantage to allies of choosing US END guarantees is that they provide broadly superior protection. A second substantial advantage is that the nuclear features of END guarantees can be made clearly visible only when the adversary attempts to threaten use of its nuclear forces for coercion, and then dialed up and down as needed. A third substantial advantage of US END guarantees is that they seem unlikely to draw as negative a reaction from the international community as independent nuclear deterrents.

The other benefits of getting US END guarantees rather than establishing an independent nuclear deterrent are likely to be seen as relatively minor by allies. Many could be discounted to the extent that the prospective recipient judges that nuclear deterrence would not likely fail, however achieved. And some of other pros are double edged. For example, the expectation that the US might chose to fight harder in order to protect its global alliance relationships than the ally might to avoid its own defeat may strengthen deterrence, but if deterrence fails, then win or lose, it could cause the ally to suffer more than it might want to.

Three cons stand out as likely to be particularly weighty and collectively more important than the pros seen by allies. Perhaps the weightiest is that despite the US' best efforts, its allies will always have some doubts about the credibility of its END guarantees – while harboring essentially none about nuclear deterrents of their its own. A second fundamental con is that maximizing the credibility of US END guarantees would likely require permanent deployments of US forces on the ally's territory. The third weighty con is that in the event that deterrence fails, US END guarantees could involve a substantial amount of conventional battle on the ally's territory.

This assessment suggests to the authors that many states that might decide they need the protection of a nuclear deterrent would not see US END guarantees as clearly preferable to having their own deterrent. Thus, absent some major change in world

circumstances, the US might have to work hard to gain acceptance for improved or expanded US END guarantees.

In order to understand whether and how it could be in the US interest to improve its current END guarantees, or to provide END guarantees to additional states, we will consider the potential pros and cons for the US of doing so.

VI. POTENTIAL PROS FOR THE US IN PROVIDING IMPROVED OR NEW END GUARANTEES

We see four significant potential pros for the US.

A. RECIPIENTS WOULD NOT PROLIFERATE

Presumably the most important benefit to the US of providing END guarantees would be that the recipients would be required to agree not to create their own nuclear forces, or to take any of the steps uniquely required to do so.

B. US WOULD CONTROL THE NUCLEAR DETERRENT FORCES OF ITS ALLIANCES

The US would control all or nearly all of the alliance's nuclear deterrent forces under these agreements. This benefit has several important implications. First, the US would have the opportunity to defend its allies in a way that is more consistent with US policy goals. The US would have a strong say in how the conventional defense would be conducted given that it would be backing the alliance with essential conventional and nuclear deterrent forces. The US would also know that its chances for a successful conventional defense could not be cut off prematurely by an ally's choice to escalate to nuclear use on its own. As noted in Chapter IV, section B, the potential for such a choice by an ally with its own independent nuclear forces is substantial.

Second, the total number of nuclear weapons the US might have to provide under END arrangements would likely be substantially smaller than the total numbers the allies would build were they to create their own nuclear deterrents. Their independent nuclear deterrent forces would each have to include reserves of weapons for purposes such as maintenance, losses to enemy attack, and hedging against unexpected contingencies. US END arrangements could consolidate these needs for all its allies and meet them with far fewer weapons. Furthermore, with the US controlling the numbers of nuclear weapons and possessing significant reserves, nuclear arms competitions among regional allies and their adversaries would seem less likely.

Third, the US would be able to relax or strengthen its END guarantees as the threats that motivate them evolve. For example, if enough progress were made toward

reducing these threats, the US would be able to scale back the readiness or numbers of nuclear forces planned for use to protect threatened allies. History provides many examples of such reductions. The US once had nuclear weapons on the territories of over twice as many allies as it does today.[16] These reductions were far easier to make than would be the future elimination of independent nuclear deterrent forces created by US allies and friends.

C. US END SHARES POLITICAL RISKS WITH RECIPIENTS, WINS INFLUENCE WITH CURRENT ALLIES, AND MAY GAIN USEFUL NEW ALLIES

A third benefit for the US of providing END guarantees can be derived by involving allies in planning potential nuclear force operations, by developing and exercising procedures for consulting on when and how to escalate, and by arranging for allies to support or even carry out some of the nuclear strikes that might prove necessary. By involving allies in these ways, the US shares the risks and burdens of maintaining nuclear deterrence of aggressive nuclear-armed states and of any necessary use of nuclear weapons. If use of nuclear weapons became necessary, the US would not want to shoulder the responsibility for such momentous actions unilaterally. To the extent the allies understand and accept the responsibilities of maintaining, and if necessary employing, a joint deterrent capability, the effectiveness of that deterrent should be increased as should the strength of the alliance generally.

By providing END guarantees and the associated conventional protection to others, the US also gains influence over them in peacetime. In some cases this influence may not be of great value, but in other circumstances, for example, with states that can offer basing rights within important regions, such influence can be very valuable. . Further, in some cases, numbers of supporters count, for example in marshalling votes for important international agreements. It should be noted that when the US contribution to the defense of an alliance is large, as it would be if the US were providing END guarantees, US influence would be large as well.

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16 "History of the Custody and Deployment of Nuclear Weapons (U), July 1945 through September 1977" prepared by the Office of the Assistant to the Secretary of Defense for Atomic Energy, February 1978. Host countries are not generally named, but one can readily determine when the maximum number of countries hosted US nuclear weapons. www.nautilus.org/archives/library/security/foia/USA/CustodyTb.PDF.

Finally, some states might want to become new allies of the US to get END guarantees and the conventional protection that comes with them. Some may be good choices. Even if some are not particularly strong, assisting their development could strengthen the US system of alliances over the long run. How far the US might want to go in accepting new allies depends on a variety of factors. We will discuss this question further in the next section.

D. US END ENABLES ALLIES TO AVOID DANGEROUS PRACTICES AND TESTING

States that decide to create their own nuclear forces would likely assume serious risks. For example, building or mishandling nuclear weapons can risk contamination with radioactive and poisonous materials. Inattention to detail and a lack of funds can risk the theft and unauthorized use of nuclear weapons and materials. And proliferating states have usually needed tests to show themselves and others that their weapons work. These problems can be greatly reduced, if not altogether avoided, if states accept US END guarantees rather than build their own nuclear weapons.

US END arrangements can convey well-developed safety and surety measures. U.S. nuclear weapons capabilities and their supporting activities have safety and surety technologies that can meet very high standards. While there has been some deterioration in US practices in recent years, improvements are underway even as these words are being written.

Further, if the US chooses, it can replace some or all of its current nuclear weapons with designs that incorporate even more advanced safety and surety features. These features can make the misuse of a nuclear weapon or the salvage and reuse of its fissionable materials virtually impossible without the active cooperation of insiders who have been subjected to rigorous reliability tests.

With regard to nuclear testing, we doubt that the US will test anytime soon, and any new weapons the US might build would be designed to minimize the need for nuclear testing. Still, it is possible that the need to convince other states that they can rely on US END guarantees may increase the likelihood that the US will carry out new tests of its nuclear weapons.

Finally, while US END guarantees would require the recipients to learn the ins and outs of nuclear strategy and policy, and how to plan for and carry out nuclear

weapons operations, they would not be required to learn and implement the details of how to build and test nuclear weapons.

VII. POTENTIAL CONS FOR THE US IN PROVIDING IMPROVED OR NEW END GUARANTEES

We see five significant cons for the US.

A. STRENGTHENING OR EXPANDING US END GUARANTEES MAY IMPOSE ADDITIONAL RISKS ON THE US

Strengthening END guarantees to states that already have them or providing them to states that don't poses many military, political, and economic risks for the US. Three specific risks seem particularly important. The first is that the US would be more likely to be drawn into the recipient's conflicts with its neighbors or rebellious citizens. The second is that the US could be more likely to become involved in a nuclear war and once involved, it would risk greater damage than it otherwise might have. The third is that as a result of strengthening or expanding US END guarantees, it becomes more likely that nuclear weapons would be misused, especially in ways that impact greatly on the US and its allies. As we will discuss below, the magnitude of these risks depends on whether we are strengthening existing guarantees or providing new ones.

We look first at strengthening END guarantees to states that already have them due to formal agreements or implicitly because of the importance of these states to the US. Examples of the former include the members of NATO, Japan, and South Korea. Saudi Arabia is an example of the latter. Because these states already have actual or virtual US END guarantees, the US has accepted the risks of being their ally, including protecting them with nuclear weapons should that prove necessary. Thus, the question with these states is how the risks the US has already accepted would be changed by strengthening their END guarantees.

Clearly the primary objective of those responsible for making decisions on whether and how to strengthen current END guarantees should be to reduce the overall risk to the US and its allies, taking all the significant associated risks and tradeoffs among them into account. To the extent their decisions are well informed, carefully thought through, and properly implemented we should expect their net effect to be a reduction in risks.

Expanding US END guarantees to states the US is not yet committed to defending is a very different matter. While the potential risks would be the same in kind, the US would be accepting new risks rather than marginal changes in risks it was already obligated to take.

Of course, the US should try to minimize these new risks. To do so, the US and its allies should maintain enough ready conventional forces to keep the burden of escalating to the use of nuclear weapons on the potential adversary. This could have substantial dollar costs, as we will discuss below, especially if the US and its allies do not already have the forces and infrastructure to provide a defense that could meet this standard. They should also seek to ensure that the adversary would see itself at a disadvantage if it escalated to nuclear war.

Even if they do these things, however, the risk would not be completely eliminated. The possibility of misperception, miscalculation, and accident by the adversary, and even by the alliance, would still exist. And these risks could increase substantially if the US were to expand its END guarantees to cover a large number of additional states. Although these increases would not be strictly proportional to the number of states protected, at least some of the risk would be proportional to a small, though perhaps slightly increased, number of rogues.

Finally, the US may want to expand END guarantees to include some states that are occasionally engaged in conflict with a neighbor or in suppressing internal insurrections. In doing so, the US risks being drawn into such conflicts. And these risks may be substantial, especially when potential recipients are not democracies. In the event that preventing such states from proliferating is deemed to be more important than avoiding involvement in its conflicts, the US can only do its best to encourage and enable just and humanitarian solutions to the underlying problems. Of course, the US should have no reservations about helping an ally put down insurrections created and supported by an adversary.

B. US MAY HAVE TO ACCEPT ADDITIONAL COSTS

The costs to the US of strengthening END guarantees for allies that already have them should be relatively small. Presumably, the US would already have military capabilities sufficient to defend guaranteed allies on a timely basis. Thus, the strengthening of US END guarantees would be aimed at providing whatever additional

defense capabilities are needed to offset any growth in the potential adversary's offensive capabilities or signs of hostile intent.

In contrast, expanding US END guarantees to new allies might require costly upgrades of some allies' conventional defenses and of US capability in order to defend them on a timely basis. At the lower end of the cost range of possible defense upgrades for new allies, the US might consider deploying missile defenses to protect a new ally's capitol as well as a few other areas. These defenses might be backed up by preparations to bring nuclear weapons forward if circumstances require, fitting a squadron or two of the ally's fighter aircraft for delivery of nuclear weapons, and training their pilots for nuclear operations.

In addition, the US and its new ally might agree to deploy US forces on the ally's territory. These forces should be large enough to protect themselves and essential defense facilities until reinforcements can arrive. They should carry out training, planning, and exercises with the ally, and could provide occasional support for military operations the ally should carry out. They should gather intelligence on the potential adversary, and coordinate the ally's defense operations with those of other forces the US might bring forward. A nominal force of this kind might require stationing on the protected ally's territory perhaps 4000 military personnel, an initial investment of perhaps $2B, and a sustaining cost of perhaps $2B per year.[17] If separate forces of this modest size were stationed on the territories of several new allies, the costs would scale in proportion to the number of recipients involved.

The forces required to defend new recipients of US END guarantees could be considerably larger and more expensive if the adversary was also a large and well-funded state. Suppose that Iran created a survivable nuclear force capable of striking targets at intermediate ranges and that this force was generally seen as sufficient to deter an

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17 The $2B in initial investments assumed costs of roughly $500M for permanent basing and HQ facilities capable of accommodating 4000 personnel, plus $500M each for missile/air defenses for two city-sized areas, plus $500M for dispersed and hardened nuclear storage sites located within US bases. The $2B/year sustaining costs assumes $1B/year for direct assistance to the ally's military forces, plus $1B/year to support a well capitalized US ground force contingent of 4000 personnel permanently based within the ally's territory. Alternatively, 24 fighter-attack aircraft and 2000 USAF personnel could be substituted for half the ground force at roughly the same total cost. A substantial portion of these costs might be borne by allies that can afford them. And if US forces were not stretched as thin as they are now, additional forces for this mission might not be required. These rough estimates were derived using a variety of sources. Costs for military bases were found in "Options for Changing the Army's Overseas Basing," a CBO study published in May 2004.

intervention to overthrow the Iranian government. And with this nuclear protection, Iran severely tested the US and its allies by sponsoring insurgencies to overthrow the governments of some regional US allies. Under this scenario, the US could conceivably find itself providing security guarantees, including END, to perhaps four or five Middle Eastern/Persian Gulf states.

In such a scenario, forward US units would be actively involved in supporting long term, counter-insurgency operations within each of the allied states. It is not unreasonable to assume that forward forces sufficient to support deterrence and defense against nuclear attack as well as counterinsurgency operations would be twice as large for each country as the package postulated above. To protect five states, the total number of US personnel required would be approximately 40,000. This kind of forward support for new allies could require an investment of perhaps $20B and have a sustaining cost of perhaps $20B per year.

One might hope that allies with substantial economies receiving such guarantees might pay a significant part of these costs. But even fairly wealthy states might not offer much. They might prefer to depend more upon nuclear weapons for their security than would the US. Although they would be happy to receive the extra security provided by US conventional defenses, they could want to minimize what they pay for it. Allies will find this approach especially tempting as long as the US remains committed to keeping the burden of escalation on the adversary.

C. US MAY FACE SUBSTANTIAL POLITICAL AND DIPLOMATIC BURDENS IN STRENGTHENING OR EXPANDING ITS END GUARANTEES

As with the risks and costs discussed above, the political and diplomatic burdens involved in expanding US END guarantees will generally be larger than those involved in strengthening existing guarantees. Most of the allies that are known to be recipients of formal US END guarantees have long histories of cooperation with the US during which differences in military policies, strategies, doctrines, and capabilities have been substantially reconciled. In contrast, some other US allies and friends that might want US END guarantees are not so well prepared to play their necessary roles in the kind of close alliance that would have to be created if they are to receive such guarantees.

Three potential political-diplomatic burdens stand out. First, as noted earlier, citizens may oppose stationing US forces or having US nuclear weapons within their

countries. Such opposition may create an environment conducive to terrorist attacks against US personnel. The opposition to stationing US forces can be mitigated by locating them in less populated areas and protecting them especially well. It may also be possible to locate US forces in a nearby country where they are more readily tolerated if not welcomed. For example, the US forces needed to implement any future expansion of US END guarantees with Saudi Arabia may be located in Kuwait. Opposition to having US nuclear weapons stationed on the ally's territory can be mitigated by bringing them forward only when the threat posed by the adversary looms large. And whether nuclear weapons are forward can be kept secret by the US and its allies, unless knowledge of their presence serves to reassure frightened allied publics.

Second, strengthening or expanding US END guarantees could also require reconciling differences in the preferred strategies of the US and its allies. For example, NATO spent years attempting to resolve fundamental differences among the allies about what its nuclear strategy should be. Successive NATO policy and strategy documents papered over such differences. This became easier as the prospects of war between NATO and the Warsaw Pact became increasingly remote.

With the end of the Cold War, however, and especially since the early years of the George W. Bush administration, US policy documents and defense programs have been concerned that rogue states may not be deterred from using nuclear weapons. This, of course has made it more important that any US alliance facing such a rogue have an agreed nuclear strategy. . In addition, the US has shown serious interest in having the capability to preempt the emergence of such threats.[18] If efforts to develop and deploy a reliable combination of conventional defenses and strike capabilities that could effectively neutralize the adversary's weapons of mass destruction (WMD) weapons succeeded, much of the controversy over nuclear strategy would disappear. But if specialized nuclear weapons are deemed necessary for this purpose, there will be an intense debate within the US and among the allies about whether the benefits of having this capability outweigh the various costs of getting it.

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18 See "The National Security Strategy of the United States," September 2002, The White House, President George W. Bush, www.whitehouse.gov/nsc/nss/2006/Section V, "Nuclear posture Review [Excerpts]" Submitted to Congress on 31 December 2001, and "Foreign Perspectives on US Nuclear Policy and Posture, Insights, Issues, and Implications," Dr. Lewis A. Dunn, project leader, Mr. Gregory Giles, Dr. Jeffrey Larsen, Mr. Thomas Skypek. Study conducted for the Advanced Systems and Concepts Office, DTRA by SAIC with support from the Center for Non-Proliferation Studies of the Monterrey Institute, 4 December 2006.

There would be other controversial strategy issues to be worked through with current and any new allies as well. There would need to be agreements on how to share the responsibilities for carrying out conventional counter-WMD attacks, how to organize and prioritize allocations of missile and air defenses, how to employ nuclear weapons to retaliate for nuclear attacks that reach alliance targets, and the overall strategy each alliance would employ to defend itself.

It would be particularly important for alliances to come to some general agreement on criteria for ending any conflict with the adversary, especially nuclear conflicts. Threatening total destruction of the adversary may maximize deterrence of war. But if it fails, efforts to minimize the damage to both sides, while forcing an outcome both can tolerate, may prove the wiser course.

Of course, allies would find it easier to resolve such fundamental strategy issues if they were confident that they would be consulted in advance of any use of nuclear weapons, and that their positions on whether and how to proceed would be taken seriously. It is also conceivable that the US may be so determined that allies accept its strengthened END guarantees that it would be willing to compromise its positions on preemption and preventative war. In any case, the strengthening or expansion of US END guarantees to allies would likely place some constraints on US military freedom of action.

D. NEW END GUARANTEES MAY POLARIZE RELATIONS WITH STATES THAT NEED NOT HAVE BECOME ADVERSARIES

A fourth potential con of strengthening or expanding US END guarantees is that such actions could ruin, for an extended period, any chances of improved relations with the presumed adversary. Since it seems unlikely that there would be any doubt about which state any new or strengthened US END arrangements are aimed at, implementation of END guarantees might even spur the adversary to take antagonistic and dangerous actions. Of course, it is also possible that the threat or implementation of US END guarantees could lead the adversary to seek better relations with its neighbors and the US.

One way to minimize the possibility of unnecessarily polarizing relations with threatening states would be to hold off on implementing unambiguously focused US END guarantees as long as possible. Instead the US might establish general capabilities to implement a range of END guarantees quickly should the need arise. Friends and allies could be privately assured that they are protected by general US END guarantees and that

if and when it might prove necessary, the additional steps necessary to convince the adversary of the US' nuclear commitment can be quickly implemented. It should be noted that making such private early assurances credible could be a substantial challenge.

E. STRENGTHENED OR EXPANDED END GUARANTEES CAN BE SEEN AS INCREASING DEPENDENCE ON NUCLEAR WEAPONS

Our fifth and final substantial con of strengthening or expanding US END guarantees would be that these actions can be seen as reversing the long-standing US goal of reducing its dependence on nuclear weapons. The US could be accused of, once again, supporting nuclear proliferation by its friends rather than opposing it.

Such charges would gloss over the crucial differences between nuclear deterrence through US END guarantees and that provided by independent nuclear forces. The former would allow the US to maintain control of the alliance's nuclear weapons, while the latter would not. The former would not increase the number of states exercising independent control over nuclear forces while the latter would. And as noted earlier, US END arrangements would likely add fewer nuclear weapons to world totals than the independent nuclear deterrent forces that would be presumably built in their place. Thus, the question raised by the prospect of continued proliferation of independent nuclear deterrent forces is fundamental. Wouldn't the world be better off if the nuclear deterrent protection that states have come to demand is satisfied by END guarantees from responsible states rather than through additional independent nuclear forces?

The US could argue that by providing END guarantees to its allies, along with the best possible conventional defense, they and the US would be minimally dependent on nuclear weapons for their defense. This would be true provided the US – presumably with some help from its allies – is willing and able to pay the price to maintain enough ready conventional forces to defend its allies in an acceptable manner. But if the ready conventional forces are insufficient, the result would be some increase in the risk that the US would resort to the use of nuclear weapons to honor those guarantees.

VIII. ASSESSING THE BALANCE OF POTENTIAL PROS AND CONS FOR THE US OF PROVIDING IMPROVED OR NEW END GUARANTEES

The first three of the four pros described in Chapter VI – that recipients would not proliferate; that the US would control the nuclear deterrent forces of alliances receiving its END guarantees; and that by offering END guarantees the US can share the risks and burdens of nuclear deterrence, gain influence with current allies, and perhaps win useful new allies – all seem very substantial. The fourth pro – that provision of US END guarantees would also be a safer means of satisfying allies' security concerns than would their creation of independent nuclear deterrents, and would eliminate their need to test nuclear weapons – is also a substantial benefit.

The last two of the five cons described in Chapter VII seem susceptible to measures that could make them seem far less important than the pros. With some general preparations, improvements or expansion of US END guarantees can be implemented quickly after a potential adversary clearly has committed itself to becoming a serious nuclear threat. These guarantees can also be dialed back quickly should relations improve. And, so long as the US does not offer END guarantees to too many new states, the US should be able to argue that providing such guarantees would risk less of an increase in the world's dependence on nuclear weapons than would the equivalent number of new nuclear proliferators.

If one accepts the judgments of the preceding two paragraphs, the balance of the various pros and cons for the US in providing END guarantees would seem to depend almost completely upon the degree to which the first three pros outweigh the first three cons – the additional risks, costs, and political-diplomatic burdens imposed on the US. And clearly, those burdens would depend upon how far the US goes with any strengthening or expansion of its END guarantees. All things considered, it appears that the pros of strengthening US END guarantees for allies that already receive them – including those that receive them implicitly because their security is already well understood to be a vital interest for the US – could easily outweigh the cons.

Providing US END guarantees to a small number of additional states as a substitute for creating independent nuclear forces might also be an advantage for the US and the larger global community. But doing this for any and all friendly states that might otherwise build their own nuclear forces could be very expensive. It might also impose significant risk on the US, especially to the extent that the costs of keeping the burden of nuclear escalation on potential adversaries and of making their nuclear escalation as disadvantageous as possible are not paid in full.

IX. POTENTIAL REACTIONS OF OTHER PARTIES

Chapters III-VIII captured the more important pros and cons of US END guarantees from the point of view of the US and potential recipients and how they might balance those considerations. But other parties will also have a keen interest in whether and how the US strengthens or expands its END guarantees. And while the pros and cons for the US and potential recipients will likely count most in any decision to strengthen or expand US END guarantees, the interests of others could tip a close balance.

This section will explore the potential reactions of other parties. We will consider the reactions of adversaries with or seeking nuclear forces, major powers with nuclear weapons, other US friends and allies, the broader nuclear nonproliferation community, and finally we will offer a few observations on the potential reactions of the US public.

A. POTENTIAL REACTIONS OF ADVERSARIES

Clearly, the reactions of any nuclear adversary would be substantially influenced by how US END guarantees might affect the roles it had hoped its own nuclear weapons might play. Enabling aggression is the role that would concern the US and its allies. The adversary might have hoped to attack and defeat some non-nuclear regional state using conventional forces and had seen its nuclear forces playing the important role of deterring the US or other protectors from intervening. In this case, the capabilities and commitment represented by expanded or improved US END guarantees might be expected to deter such an attack.

Alternatively, the adversary might try to overthrow and gain control of its victim by supporting the growth of insurgencies within its territory. Given the strong alliance implied by US END guarantees, the US would presumably help its ally combat such insurgencies and reduce the discontent that might be feeding them. The alliance might also respond in kind by supporting insurgencies in the adversary's territory.

Looking at the challenges and successes the US and its coalition partners are experiencing in reducing the current civil insurgency in Iraq, it is not clear how such a future competition in supporting and suppressing insurgencies would come out. Given the potential that even this kind of competition might escalate to more violent conflict, the

adversary might be deterred from attempting to engineer the overthrow of its originally envisioned victim.

Thus, US END guarantees and all the accompanying support could frustrate an adversary's nuclear-backed aggression against its neighbors. Having, perhaps, hoped to drive the US out of the region and, in doing so, to expand its freedom of action, the adversary could find it had achieved the opposite result.

It is also possible that an adversary might not have such aggressive designs. Its adversarial behavior might have other motives, such as the desire to win the respect of other regional states or its own citizens by occasionally demonstrating a willingness to defy the major powers, especially the US. Its behavior might be driven primarily by excessive fear of being attacked if it shows any weakness in the face of perceived provocations and pressures from other powers.

Even in this case, one can argue that the nuclear forces of any adversarial state would be counterbalanced by US END guarantees to its allies. Other potential adversaries would be shown that their pursuit of nuclear weapons would not enable them to intimidate their neighbors, especially those that are US allies. And even if the US is not sure how aggressive a regional proliferator might turn out to be, prudence could call for making END arrangements with regional states that might be concerned enough to move toward developing their own nuclear weapons. Of course, there are some clues that can help us distinguish when nuclear adversaries are offensive minded or might be moving in that direction.

First, offensive minded adversaries would need to build substantial conventional forces to conquer any prospective victim. Pounding the victim into submission with nuclear weapons would greatly reduce the value of capturing it. And the use of nuclear weapons in this way would signal just how dangerous an adversary is, motivating the creation of an opposing coalition. On the other hand, if the adversary's only purpose is to deter attacks against it, it does not need large conventional forces. It only needs enough conventional capability to test an attacker's strength and intentions and to buy the time needed to get help from others or to make a considered decision to initiate the use of nuclear weapons.[19]

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19 Note that this relatively low level of conventional forces would leave the burden of nuclear escalation on the adversary, which is where it should be.

Second, an offensive minded adversary can be expected to make a case that it has intolerable grievances that have defied all peaceful remedies. In contrast, a less offensive minded adversary will be more concerned about not being subject to threats and coercion.

Third, an offensive minded adversary would need to prepare its people for a war or conquest. This would include preparing them for the sacrifices involved in such an effort and making sure that they saw the prospective victim as deserving such punishment. Adequate preparations can take months, if not years. And they must be public.

If a) the more offensive minded adversaries can be distinguished from those that are less inclined to engage in armed aggression, b) the time needed for a defensive adversary to become offensive exceeds the time needed to strengthen the alliance's END arrangements, and c) the allies are confident that they can rely on the US for protection, then the US could implement less extensive END arrangements for less offensive minded adversaries.

In any case, adversaries in general can be expected to oppose US efforts to strengthen or expand END guarantees within their region. They will mount a campaign to appeal to every group with any applicable influence. How effective such a campaign might be is hard to say. The nature of their potential appeals will be clearer at the end of our discussion of how other interested parties might react.

B. POTENTIAL REACTIONS OF OTHER NUCLEAR POWERS

At one time or another, all but one of the Permanent Five (P-5) states, the United Kingdom (UK), Russia, China, France, and the US, has indicated to some non-nuclear state a willingness to employ nuclear weapons on its behalf.[20] Russia extended nuclear deterrence to its Warsaw Pact allies during the Cold War, to China during the early years of the Cold War, and apparently to Cuba, at least for a short period. The United Kingdom provided END guarantees to NATO by committing its nuclear forces to deter any attack by the Warsaw Pact.[21] Although France withdrew its forces from the integrated NATO military structure in 1966, the means for coordinating French and NATO nuclear strikes in wartime were kept in place. It also subsequently engaged in discussions with the Supreme Allied Commander Europe (SACEUR) to coordinate nuclear targeting. And in

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20 Dunn, et al, op. cit.

21 Gregory, op. cit.

1997, France disclosed an agreement with Germany that restated the closeness of the two countries' strategic interests and the usefulness of France's nuclear deterrent as a supplement to the US extended nuclear guarantee for NATO countries.[22] Only China, it seems, has refrained from promising to use nuclear weapons on another state's behalf, which is consistent with its position that it has no allies. We also note that all of the P-5 states have found the maintenance of credible extended nuclear deterrence policies problematic at one time or another. For the US, keeping its NATO allies adequately assured of the reliability of its END guarantees required measures that were expensive in economic, military, and diplomatic terms. Russia was deeply concerned about PRC attacks against islands occupied by Nationalist Chinese forces that were actively supported by the US. The other three P-5 members found END guarantees unsatisfactory as recipients. None were adequately convinced that such guarantees could be relied upon, and all wanted a more independent foreign policy than END guarantees from others appeared to allow.[23]

As for the future of END guarantees, the fundamental questions for the other nuclear powers are: 1) would they oppose strengthened or expanded US END arrangements to states that might otherwise build their own nuclear weapons, and 2) would they be interested in providing such END guarantees themselves?

Russia would seem likely to oppose strengthened or expanded US END guarantees in a least some cases. It deeply resents the expansion of NATO into Eastern Europe and insisted from the outset that NATO not deploy nuclear weapons within the territories of its new member states. NATO, of course, continues to maintain that all of its members are protected equally and made no promises. But it did state that it foresaw no need to deploy nuclear weapons into those states.[24]

Russian resentment is also evident in its opposition to the deployment of US ballistic missile defenses in Poland and the Czech Republic, despite the fact that the planned installations would have no offensive capabilities and would be incapable of stopping any meaningful fraction of Russian missile forces.

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22 Ibid.

23 Ibid.

24 See Karsten Voigt, President of the North Atlantic Assembly, "NATO Enlargement: Sustaining the Momentum," *NATO Review* 44, no. 2 (March 1996): 15-19 and "The Alliance's Strategic Concept," approved by Heads of State and Government participating in the meeting of the North Atlantic Council in Washington D.C., April 1999.

Unless the world order changes in ways we don't foresee today, we expect that Russia would not be willing to commit to or implement meaningful END guarantees to keep states from building their own nuclear deterrent forces. Given the limits of its conventional military capabilities, and the challenge of protecting its territorial integrity from both internal and external threats, it seems unlikely that Russia would want to run even the smallest risk of becoming involved in another state's wars.

Finally, END guarantees, as Russia would likely implement them, would not be consistent with US goals for such guarantees. Russia's conventional forces are relatively weak and seem to be getting weaker. While Russia talks of transforming its conventional forces to meet the demands and fit the technical opportunities of the new century, it is instead investing in new nuclear weapons, both strategic and tactical. Russia has become more dependent on nuclear forces to protect itself – and potentially others – rather than less so.[25] Therefore, END guarantees from Russia would likely make recipients more, rather than less, dependent on nuclear weapons, which is the exact opposite of the goal of US END guarantees.

The answers to our fundamental questions for China are considerably different. China would likely oppose expansion of US END guarantees to additional Asian states. This is especially true if these guarantees can be seen as aimed at it, and even more so if new US END guarantees seem to be part of a system of alliances aimed at containing China. And clearly China would react badly to any explicit US END guarantees to Taiwan. [26]

On the other hand, China has made it clear in consultations with senior US diplomats that it sees great value in the END guarantees the US provides to Japan because they help to block the emergence of Japanese nuclear forces.[27] Still China is

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25 See "Russia's Defense Policy," summary prepared by Rashed Chowdhury, Junior Fellow with the Russian and Eurasian program at the Carnegie Endowment for International Peace, March 5, 2004; "Russia's Military Strategy: preparing for the Wrong War?" Report drafted by Dr. Marcal de Haas, Power and International News Report, January 4, 2008.

26 Dr. Yao Yunzhu, Senior Colonel, Director of the Asia-Pacific Office, "Chinese Nuclear Policy and the Future of Minimum Deterrence," *Strategic Insights* IV, no. 9 (September 2005), http://www.ccc.nps.navy.mil/si/2005/Sep/yaoSep05.asp.

27 Conference Report: U.S.-China Strategic Dialogue, Phase III: The Role of National Perceptions of Security Environments in Shaping Sino-American Nuclear Affairs, November 4-6, 2007; Honolulu, Hawaii, Conference organized by the U.S. Naval Postgraduate School and Pacific Forum-CSIS for the Advanced Systems and Concepts Office of the U.S. Defense Threat Reduction Agency (DTRA/ASCO), Report on Conference Findings by Dr. Christopher P. Twomey, and Ms. Kali Shelor;

unlikely to offer END guarantees to other states. According to reports it is generally opposed to END guarantees and to the deployment of nuclear weapons on another states' territories. China has stated that it will never deploy nuclear weapons on foreign soil.[28]

France and the UK seem unlikely to be fundamentally opposed to US expansion of its END guarantees since they attach great importance to halting nuclear proliferation. But France has had ambitions to move toward a policy of "concerted deterrence" for Europe, built around its nuclear forces and perhaps those of the UK. Unfortunately for France, the UK has not been interested, and the US has always opposed this idea. Still, strengthening or expansion of US END guarantees for NATO as a whole, or for specific states within NATO, could be seen by France as another setback for its nuclear ambitions within Europe.

Finally, some degree of acceptance by the major powers of improved or new US END guarantees should be sought since they may see a net advantage in blocking nuclear proliferation, so long as those guarantees are not aimed at them. Still, it would be difficult for Russia, for example, to believe that it was not the target of any significant strengthening of END guarantees to the new Eastern European members of NATO. Of course, if Russia or China were to become more serious threats, the US allies nearest them might see a need that only END guarantees or their own nuclear deterrent forces could satisfy.

C. POTENTIAL REACTIONS OF OTHER US FRIENDS AND ALLIES

Other US friends and allies include a variety of states operating within a wide range of security environments. These states will evaluate the implications of any strengthening or expansion of US END guarantees and reach substantially different assessments based on their particular environment.

Some may see such US initiatives as a means to increased stability in their own and other regions. Others may worry that these initiatives are the precursor to US interventions against states that only the US sees as aggressive adversaries. Some may worry that these initiatives will frighten the states at which they seem to be aimed and provoke unnecessary, counterproductive, and perhaps dangerous reactions. Others may

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see also "China wanted Japan to stay under U.S. Nuclear Umbrella," Japan Policy and Politics, Jan. 18, 1999.

28 Yao, op. cit.

worry that the US will be overcommitted and, therefore, less likely to be able to contribute adequately to the common defense at the conventional forces level. Perhaps all would be tempted to free-ride on these expanded US security commitments to the degree possible.

Some sorting out of the NATO members' views on extended nuclear deterrence, and especially US nuclear programs of cooperation within NATO, could take place as the alliance updates its strategic concept in 2009.[29] Alternatively, NATO may try to avoid this debate as long as possible since raising the issue could lead to controversy and a weakening of US END arrangements. .

If a debate does take place, some NATO states can be expected to argue that the current security environment for Europe does not require US nuclear weapons forward deployed within NATO territory.[30] Others will express concerns that Iran will build nuclear weapons as soon as it can and that NATO will need strong nuclear guarantees to back up its efforts to defend against Iranian challenges to its interests in the Middle East and the Persian Gulf. Further, some NATO states, especially those in Eastern Europe, value the presence of US nuclear weapons on NATO territory for their possible effects in dissuading any Russian temptations in the region.

No one can predict with any precision how this debate will come out. But it seems likely that some US nuclear weapons will remain forward deployed within Europe to support nuclear programs of cooperation for the foreseeable future.

D. POTENTIAL REACTIONS OF THE BROADER NUCLEAR NONPROLIFERATION COMMUNITY

When the Cold War ended, many commentators argued that there was no longer a need for the US to provide nuclear deterrence for its allies. Similar arguments are being made today. A recent report of the International Security Advisory Board to the State Department noted that the [US] nuclear umbrella is under attack on many fronts. For example, the non-nuclear states in the NPT believe that nuclear security is possible only

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29 "NATO chief calls for New Strategic Concept," *International Herald Tribune* (Europe), February 11, 2007; "Security Strategies and their Implications for NATO's Strategic Concept," NATO Defense College, Research Branch, Rome, November 2006.

30 An example non-state critical view is provided in "The Nuclear Information Project – documenting nuclear policy and operations, " update July 9, 2007, http://www.nukestrat.com/us/afn/nato.htm.

through nuclear disarmament.[31] Another recent report, by nongovernmental experts argued that the P-5 should consider withdrawing all tactical nuclear weapons deployed outside their own territories.[32]

Continuing US extended nuclear deterrence is seen as contrary to international nuclear nonproliferation efforts in several ways. Some observers argue that by maintaining extended nuclear deterrence, the world's most powerful state is supporting the notion that both it and many of its allies still need nuclear weapons to deter WMD threats.[33] Extended nuclear deterrence is also said to be a violation of Articles I and II of the NPT which prohibit states possessing nuclear weapons from transferring them and non-nuclear weapons states from receiving them. Some NATO members argue otherwise, noting that arms control agreements, including the NPT, are suspended in time of war. Another argument is that US nuclear weapons would always be subject to the control of SACEUR – who will always be an American – and, therefore, no transfer of control would ever take place.[34]

The global nuclear nonproliferation community is not of one mind on the value of END guarantees. Some non-proliferation experts see that US "security" guarantees have been the most effective nonproliferation measures ever taken.[35] Others are strongly opposed to implementing END by "nuclear sharing" within NATO.[36] It seems reasonable to assume that there would be substantial opposition to any strengthening or expansion of US END guarantees from within the nuclear non-proliferation community.

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31 "Report on Discouraging a Cascade of Nuclear Weapons States," International Security Advisory Board, a Federal Advisory Committee established for the Department of State, October 19, 2007.

32 "The P-5 and Nuclear Nonproliferation, Working Group Report," Directed by Robert J. Einhorn, December 2007.

33 Dunn et al, op. cit.

34 Karel Koster, "An Uneasy Alliance: NATO Nuclear Doctrine and the NPT," *Disarmament Diplomacy*, no. 49 (August 2000).

35 Lew Dunn, as reported by Peter Lavoy in, "Nuclear Proliferation Over the Next Decade, Causes, Warning Signs, and Policy Responses," *Nonproliferation Review* 13, no. 3 (November 2006).

36 "NATO and Nuclear Weapons – NATO's Nuclear Sharing: A Cold War Anachronism That Undermines the NPT," The ACRONYM Institute for Disarmament Diplomacy, 2007, www.acronym.org.uk/nato/npt2007.

E. POTENTIAL REACTIONS OF THE AMERICAN PUBLIC

There seems to be little recent data on the attitudes of the American public toward providing extended nuclear guarantees to US allies. When Senator Hillary Clinton was running for President, she stated that if elected she would extend the US nuclear "security umbrella" to Arab allies, on the condition that they give up any interest in developing or acquiring nuclear weapons. This drew some discussion in the media by political commentators and experts on foreign policy and nuclear non-proliferation issues. Some praised the idea as worthy of serious examination while others condemned it as harmful. This flurry of discussion was short-lived and may or may not provide clues to underlying public opinion since it is likely that reactions were colored by the discussants' preferences for who should be president.[37]

The only other information we found on the American public's attitude toward US extended nuclear deterrence to its allies was a study in the late 1980's as the Cold War was winding down and the US and Russia has just agreed to eliminate their intermediate nuclear forces. This study reviewed and analyzed over 90 public opinion surveys that had been conducted between 1945 and 1987. The study found that the American public does not want the United States to initiate the use of nuclear weapons to defend important allies in Western Europe or the Middle East. At the same time, it also noted that the American public "has a rather sophisticated set of attitudes about defending Europe." It found "that a majority of Americans are aware of and support the basic US security commitment to Europe," that the public "still supports extended deterrence," and that it "does not support unilateral withdrawal of nuclear weapons from Europe."[38]

Two decades later, the public can see a very different international security environment. If the current US administration were to move openly toward strengthening END guarantees to US allies, and especially if it were to openly expand END guarantees to new recipients, a broad and intense international debate seems likely. That debate would educate interested Americans and raise public awareness of US END guarantees.

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37 "Analysts Divided on Clinton's Arab Defense Plan," *Washington Post*, May 4, 2008.

38 Thomas W. Graham, "American Public Opinion on NATO, Extended Deterrence, and Use of Nuclear Weapons: Future Fission?" (Cambridge, MA: Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University; Lanham, MD: University Press of America c. 1989).

What factors might weigh most heavily in determining the American public's attitudes toward new US END arrangements? It seems likely that Americans would be concerned about continuing nuclear proliferation. For example, the continued expansion of North Korea's nuclear forces would likely prove disturbing. And if Iran were to build nuclear weapons and test them, the public could be most concerned, especially given the deep antagonism that has existed between the US and Iran over the last 30 years. Of course, the prospect that any ally or friend might choose to proliferate would not be as disturbing in itself, but it could suggest that a cascade of nuclear proliferation was imminent, if not underway.

In addition, the historical role of the United States as a global leader in defending international peace and stability would have some weight for the American public. But a poor outcome in Iraq and continued economic problems could make the American public and its leaders more cautious about strengthening, and especially expanding, commitments to defend others.

Attitudes toward nuclear deterrence as a strategy may also play a significant role in determining American public attitudes toward extended nuclear deterrence. The American public seems very likely to want US nuclear capabilities to be as capable as, if not more capable than, those of any other state. American faith in the deterrent value of US nuclear capabilities would be boosted by the requests of other states for shelter under the US nuclear umbrella.

Progress with US defenses against attack also seems likely to affect public attitudes toward providing other states with END guarantees. While offering US END guarantees might seem an imperative for other reasons, to the extent that the US can protect itself and its allies from nuclear attacks, offering new END guarantees will seem less risky.

How a new END policy is framed also seems likely to affect where American public opinion settles. To the extent that the policy is justified as a part of the US forward defense against one or two rogue states that need to be contained, and perhaps even defeated because of the threat they could pose to the US, the public seems more likely to support the policy. On the other hand, the American public could be less supportive of an END policy that is justified by the need to protect numerous states, especially if some do not share the more fundamental values of the US and its historical allies and have a low opinion of the US.

Finally, the credibility of the US administration and the support of other senior elected officials seem likely to be a strong influence on American public attitudes toward a new US END policy. If the President and his political appointees and advisors are seen as wise and prudent when END policy is debated and decided upon, the American public is more likely to be supportive.

X. IMPLICATIONS FOR STRENGTHENED US END GUARANTEES FOR TURKEY AND JAPAN

The previous sections have examined, in general terms, the case for the US to strengthen or expand its END guarantees to others; the recipients' case for wanting such guarantees; and how other interested parties might react to the provision of such guarantees. In this chapter we will very briefly assess the US case for strengthening its END guarantees to Japan and Turkey.

Building on the analysis of the previous chapters, we will focus on three issues in particular. First, since US END depends on a strong alliance between provider and recipient, what is the basis for believing that the US and each of these two recipients respectively are or can be strongly allied with one another? To answer this question, we will examine the hard strategic interests the US and each recipient have in being allied to each other, and then turn to softer interests that might add strength to the alliances.

Second, we will describe the security environment from the perspective of the ally or prospective ally, and the potential need the ally might see for nuclear deterrence to mitigate some of the risks of that environment.

Third, we will comment on how the US might approach strengthening its END guarantees in each case. In both of these cases, the US goal is strengthening relations between itself and these allies. While US experts may see some need for strengthening END guarantees to these two states, and may offer specific technical ideas for what might be useful, in both cases it seems important to consider the END question at a more strategic level. For both states the quality and strength of their relations with the US and how to improve these relations is the most important issue for the future of their END guarantees.

As the analysis done earlier in the paper suggests, the US might have to "sell" strengthened or expanded END guarantees if it wants allies and potential allies to accept them. In general, if the US wants to sell its END guarantees to allies it should examine the pros and cons of US END guarantees discussed in Chapters III and IV and identify and implement tailored ways to strengthen the former and weaken the latter. But it is also important to keep in mind that whatever comes out of any discussion of END guarantees

with these two allies may set important precedents for future discussions and possible actions involving other allies and potential allies.

A. JAPAN AND EXTENDED NUCLEAR DETERRENCE

The US' strategic need for Japan as an ally derives from its position and power in Asia. It has the world's second largest economy. It is well located to support efforts to suppress military aggression by North Korea. It has substantial self-defense capability. It hosts nearly 30,000 US military personnel including, among other forces, an aircraft carrier, several USAF wings, and approximately 13,000 US marines.[39] Japan provides financial support to cover more than 70 percent of the costs of these forces.[40] These forces enable the US to maintain a substantial forward presence in Northeast Asia.

Beyond its strategic value, the US has been very close to Japan ever since its defeat and occupation ended WWII. The US played a strong role in leading Japan to democracy, and has taken pride in Japan's evolution to become one of the world's most liberal societies.[41] The US has been a major market for Japanese manufactured goods thus enabling Japan's rapid economic recovery from the devastation of WWII. And while Japan has established some military capability to defend itself, in being Japan's protector since the end of the war, the US has, in effect, cosigned the promise implied in Article 9 of Japan's post-war constitution that it will never again engage in military aggression.

Japan derives important long-term international political benefits from its alliance with the US. The alliance has eased Japan's relations with Asian states it attacked during WWII. It has enabled Japan to de-emphasize the types of military forces that would most worry its regional neighbors, and to cautiously emerge as a contributor to stability within the region and to some extent beyond. The alliance has also provided extended nuclear deterrence to Japan since the beginning of the Cold War. In doing so, Japan has been freed to champion the cause of nuclear non-proliferation and disarmament as its history qualifies it so uniquely to do.

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39 "The Military Balance 2008," The International Institute for Strategic Studies, London, UK, published by Routledge, Taylor & Francis Group.

40 Reiji Yoshida, "Basics of U.S. military presence," *Japan Times*, March 25, 2008, http://search.japantimes.co.jp/cgi-bin/nn20080325i1.html.

41 See John W. Dower, *Embracing Defeat – Japan in the Wake of World War II* (New York: W.W. Norton & Company/The New Press, 1999).

To appreciate Japan's continuing strategic need for alliance with the US, we must look at its concerns within its evolving security environment. Four concerns are evident.[42]

Japan is concerned about China's military, political, and economic rise and the uncertainties about where it might lead. The 1996 crisis in the Taiwan Strait was a disturbing reminder of the potential for conflict between China and the US over Taiwan – a conflict that could draw in Japan. Another sign of this concern is Japan's decision early in 2008 to revise its military planning guidelines to focus on China's military modernization. Finally, while China now appears interested in developing better relations with Japan, we must keep in mind that there have been many periods of considerable friction between the two over many decades.[43]

North Korea's acquisition of nuclear weapons and its development and deployment of ballistic missiles with increased range is also seen as a threat to Japanese security. While Japan is not particularly concerned that North Korea or China would attack it with nuclear weapons, it is concerned that in some future crisis either one might attempt to coerce Japan with the threat of nuclear attack.

In the aftermath of the Cold War, Japan's government and political elite have become increasingly aware that its long dependence upon the US for military security has left it ill-prepared to think strategically about how Japan should address its more dynamic and uncertain security environment. The Japanese public and many elected officials pay little attention to the nation's security environment and the main bureaucratic actors have been capable of little more than reacting to events.

Finally, while the Japanese and the US policy establishment's views of security problems in the East Asia region are very similar, the Japanese fret that they could

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42 Many of the points made in this section are drawn from: "Extended Deterrence and Assurance in the Emerging Global Security Environment – Case Study, Experts workshop sponsored by DTRA/ASCO on February 1, 2008 summarized by Brad Roberts, Institute for Defense Analyses, The summary is available on request to Broberts@IDA.org or Vutgoff@IDA.org The summary does not attribute comments to any of the experts that attended.

43 See "President wraps up "warm-spring" state visit to Japan," Xinhua News Agency, May 10, 2008, http://news.xinhuanet.com/english/2008-05/10/content_8141810.htm; "Japan and China cement relations," David Pilling in Tokyo and Mure Dickie in Beijing, Financial Times, *FT.com*, May 7, 2008, http://www.ft.com/cms/s/0/8146ed7c-1c55-11dd-8bfc-000077b07658,dwp_uuid=9511df10-6d6b-11da-a4df-0000779e2340.html and Sheila Smith, "A New Agenda For Japan and China," *PacNet Newsletter* (Pacific Forum, Center for Strategic and International Studies) 28 (May 16, 2008).

diverge. While Japan had 600 non-combat troops in Iraq from 2004 to 2006,[44] the US-led invasion and subsequent counter-insurgency campaign have led to debates within the Japanese policy elite about whether US security policy will be consistent with Japan's interests in the longer term.

Collectively, these concerns appear to have raised questions about how deterrence functions in a changing security environment. This, in turn, has raised questions about the future adequacy of US END guarantees to Japan. The potential for nuclear coercion of Japan by a rising China or a North Korean dictatorship now armed with nuclear weapons is very real to Japanese policymakers and experts. The over-flight of Japan by a new North Korean long-range ballistic missile in 1998 was a shock to the Japanese public. North Korea's test of its first nuclear weapon in 2006 was even more shocking. Many Diet members, academics, and critics in Japan called for a public debate on Japan's nuclear future. Several polls conducted after the test showed strong public support for the proposition that Japan should at least discuss whether it should go nuclear.[45]

Japan has carefully examined this question over the years, and the case it sees against establishing its own nuclear deterrent appears to still be very strong, at least while it remains confident it can rely on US END guarantees. It has been reported that early in Prime Minister Sato's tenure, Japan secretly studied whether it should build nuclear weapons. Following China's first successful nuclear test on October of 1964, Sato told the US Ambassador to Japan Edwin Reischauer that Japan might develop nuclear weapons. The US reacted in 1965 by offering Japan explicit guarantees that it was protected by the US nuclear deterrent.

Several years later, Sato restated three prior non-nuclear principles for Japan – non-possession, non-production, and non-introduction, and went on to add that Japan would remain under the protection of the END guarantees provided by the US, and would promote both global nuclear disarmament, and the peaceful use of nuclear energy. Prime Minister Sato received the 1974 Nobel Peace Prize mainly in recognition of his

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44 "Japan troops withdraw from Iraq – the final batch of Japanese soldiers has left Iraq, ending the country's first foray into an active foreign war zone since World War II," *BBC News International*, 18 July 2006, http://news.bbc.co.uk/2/hi/asia-pacific/5189806.stm.

45 "Nuclear Weapons and Strategic Systems and Japan," discussion paper by Ken Jimbo (Japanese participant) prepared for US-Japan Strategic Dialog, held by the Pacific Forum of the Center for Strategic and International Studies, February 24-26, 2008.

opposition to any plans for a Japanese nuclear weapons program and his crucial role in ensuring Japan's signature on the Non-Proliferation Treaty.[46]

As part of its preparation for the NPT review of 1995, which extended the treaty indefinitely, Japan carried out another official study of its potential future need for an independent nuclear deterrent. That study concluded with seven strong arguments for why Japan should not pursue such a force. It would be imprudent and difficult for Japan to protect itself independently by nuclear means given its small size and high population density. A Japanese decision to build an independent nuclear deterrent could have a variety of adverse effects, including sparking a regional arms race and harming Japan's prestige as a champion of nuclear disarmament. It could accelerate the disintegration of the NPT which protects the global stability and security that Japan needs as a major trading nation. It could threaten Japan's access to nuclear fuel for its well developed electrical power industry. It would likely lead to the disintegration of the alliance with the US.[47] And finally, the study argued that the costs of the infrastructure needed to develop and maintain a nuclear weapons capability would be huge.[48]

More recently, a broad academic assessment of why Japan will not go nuclear under current and anticipated conditions was completed and published in early 2007 by an expert from outside Japan.[49] This outside assessment examined the international and domestic constraints binding Japan from building nuclear weapons. It noted that despite potential nuclear threats from China and North Korea, support in Japan for building nuclear weapons remains negligible and Japanese officials are instead working to strengthen Japan's other "insurance policies against nuclear threats" – multilateral nonproliferation and arms control regimes, and US extended nuclear deterrence guarantees. It also noted that the outcome of any future Japanese debates over the merits of a nuclear weapons program remain uncertain.

The assessment points out that "since the end of the Cold War and the emergence of North Korea as a nuclear weapons state (sic), Japanese policymakers have worked to

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46 See "Nuclear Weapons Program – Japan" at http://www.globalsecurity.org/wmd/world/japan/nuke.htm.

47 Roberts' Japan workshop summary, op. cit.

48 Llewelyn Hughes, "Why Japan Will Not Go Nuclear (yet): International and Domestic Constraints on the Nuclearization of Japan," *International Security* 26, no. 1 (Spring 2007): 67-96.

49 Ibid.

ensure that the US nuclear umbrella is not compromised." The author states that "during negotiations with Pyongyang over its nuclear weapons program, evidence suggests that Japanese officials lobbied the US not to offer any concessions they judged could punch a hole in the American nuclear umbrella." The author argues that "preliminary evidence also suggests that following the North Korean nuclear test…calls by Japanese leaders to debate the merits of nuclearization were partially designed to elicit confirmation of the ongoing commitment of the US to deter threats against Japan."[50]

After the DPRK nuclear test, assurances to Japan that it could rely on US END guarantees were quick and apparently sufficient to the immediate need. Secretary of State Rice visited Japan within nine days of the test, met with the Prime Minister Taro and other cabinet officials and stated publicly that "The United States has the will and the ability to meet the full range of its deterrent and security commitments to Japan."[51] The outside assessment noted that "Prime Minister Taro in an interview that December stated that the most crucial action for Japan to take following the test was to confirm the willingness of the US to defend Japan from conventional and nuclear threats, and that Secretary of State Rice's October visit achieved this objective."[52]

Soon after this first US effort to reassure Japan, experts from both countries began a series of meetings to discuss the nature of US nuclear capabilities and security strategy. As a result of these dialogs, "Japanese participants are better informed [especially on the issues involved in extended deterrence], more thoughtful, and indeed now help set the agenda."[53]

These discussions should provide further substantial assurance that Japan can rely on US END guarantees. Certainly that is the US expectation. Among other things, the dialogs have provided the US with a better understanding of the importance of making its nuclear strategy clear, especially to those who depend upon US END guarantees. Recent discussions also suggest that prior consultation with Japan when the US is approaching

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50 Ibid.

51 Barbara Starr and Jamie McIntyre, "Rice reassures Japan, discusses N. Korea worries," CNN.com, October 18, 2006, http://www.cnn.com/2006/WORLD/asiapcf/10/18/nkorea.sanctions/index.html?iref=newssearch.

52 Hughes, op. cit.

53 Roberts' Japan workshop summary, op. cit.

policy statements, such as the nuclear posture reviews required by the US Congress, would be well received by Japanese officials.

The continuing dialog has also underscored the fact that missile defense for Japan is seen as key to the credibility of US extended deterrence. It is clear that Japanese security experts want to have broad discussions about the changing role of nuclear weapons in the evolving security environment facing the alliance. Absent a shared understanding of the fundamental questions involved, Japan would be left to wonder whether the US really understands its strategic interests.[54]

Looking ahead, what more should the US do to strengthen US END guarantees to Japan? While there is very little evidence that the technical attributes of US nuclear strike forces affect Japan's confidence in the adequacy of US END guarantees, there is evidence that doubts articulated in the US about the viability and credibility of its deterrent have been heard in Tokyo and have generated concern.[55] This suggests that the US should take some care to explain to the Japanese the intensifying debate within the US about how to modernize the US nuclear deterrent as its various components approach the end of their service lives. While how the next generation should improve on the current one is being debated, there should be no doubt that current US nuclear forces can still provide adequate deterrence of all plausible adversaries.

Another important step toward strengthening US END guarantees with Japan would be to clarify how strong they really are. The Japanese should understand that US security depends upon its system of alliances. Reneging on the security promises it has made to any ally would greatly weaken, if not destroy, the entire system. Abandonment of an ally for fear of facing a nuclear armed adversary would also produce a rush of new programs to proliferate nuclear weapons.

In addition, the US would be sacrificing its image of itself as the primary underwriter of global security. The US has played this role for decades, and sacrificed an enormous number of lives and dollars to it. Of course the US cannot simply pronounce these things. Instead, a discussion of the evolving global necessities and modalities for maintaining global stability with the US' closest Asian ally should clarify mutual

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54 Discussion based on interpretations of private notes provided by Brad Roberts.

55 Roberts' Japan workshop summary, op. cit.

understandings of how important each is to the other, and accordingly that US security guarantees to Japan can be relied upon.

B. TURKEY AND EXTENDED NUCLEAR DETERRENCE

The US' strategic need for Turkey as an ally is based on several factors. First, Turkey's location makes it a unique geographic and military buffer between Western Europe and two of the more fractious states of the Middle East – Iran and Syria. In addition, Turkey has the second largest standing armed forces in NATO after the US and is capable of defending itself against conventional attack against any plausible Middle Eastern adversary. Thus, Turkey and its allies should be able to keep the burden of first use of nuclear weapons on any plausible adversary that might attack it. Clearly, any forward defense NATO and the US would want to have against an aggressive Iran would benefit greatly from Turkey as an ally.

As a reasonably stable secular democracy, Turkey is, from the US point of view, a good model for other Middle Eastern states and would seem to fit well within NATO and one would expect, the EU. The US and its partners would be delighted if Iraq evolved into a comparably stable, democratic, and religiously tolerant state.

To appreciate how Turkey should be well served by its membership in NATO and alliance with the US, we should first look at Turkey's perception of its changing security environment. Turkey appears to face five serious security challenges.[56]

The first is its long-running effort to control the Kurdistan Workers' Party (PKK), a Marxist-Leninist insurgent group whose goal is the establishment of an independent Kurdish state, at least part of which would be in southeastern Turkey. In the late 1990s the PKK, which is receiving help from Syria and other states, "moved beyond rural-based insurgent activities to include urban terrorism."[57] Approximately two hundred thousand Turkish troops are involved in fighting the PKK within Turkey, and Turkey recently attacked PKK forces in Northern Iraq. Turkey has lost an average of approximately 2000 citizens each year to PKK attacks over the last 15 years. Scaled up by the ratio of the two

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56 Many of the points made in this section are drawn from: "Extended Deterrence in the Emerging Global Security Environment – Case Study Turkey," Experts workshop sponsored by DTRA/ASCO held on August 27, 2007. Workshop summary by Brad Roberts is available on request to Broberts@IDA.org or Vutgoff@IDA.org The summary does not attribute comments to any of the experts that attended.

57 Ibid.

countries' populations, this would be about 10 times the loss rate the US has suffered in Iraq since the 2003 invasion.

The second security challenge is the rise of political Islam in the Middle East and the challenge it poses to the secular nature of the Turkish Republic, as established in the Turkish Constitution. The Army has seen it necessary to intervene on several occasions to ensure that Turkey's secular nature is not compromised.

The third challenge is Iran, which has been "more of a rival than a friend or foe."[58] Iran, in fact, has a common interest in suppressing PKK ambitions, which includes part of Iran in its hoped-for state. Also, many Turks see Iranian nuclear weapons upsetting the long established parity that has existed between the two countries for nearly 400 years.[59] While Turkey sees Iran as very unlikely to attempt to coerce it or to actually use nuclear weapons against it, Turkey does see the possibility that the US might be deterred from playing as strong a role as it has historically in the Middle East and that Iran might then be able to pursue its hegemonic ambitions more aggressively.

A fourth challenge is that Turkey expects that overt acquisition of nuclear weapons by Iran could drive Israel to declare that it has nuclear weapons, which, in turn, would lead Egypt and Saudi Arabia to seek nuclear weapons.

Finally, Turkey is frustrated by and disappointed with its relationships with NATO and the EU. NATO hesitated in both 1991 and in 2003, when the US-led interventions against Iraq began, to extend Article V protections to Turkey. More recently, Turkey has come to resent that it is expected to host part of the infrastructure for the European missile defense system, despite the fact that it will not be protected by it. Turkey believes Europe is not interested in its security problems, which it sees as problems for Europe as well. Turkey is also disturbed that its long campaign to become a member of the EU continues to run into opposition from some members.

Of course, the US can help with some of these challenges. Given the subject of this paper, we will start by noting that the US can and does help via long-standing END guarantees, which Turkey appears to value highly. Turkey sees these guarantees as essential to its own security and to supporting its decision to renounce nuclear weapons.

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58 Ibid.

59 Mustafa Kibaroglu, Associate Professor, Bilkent University and Fellow, Harvard University, "Beyond Iran: The Risk of a Nuclearizing Middle East" (presentation to The Washington Institute Policy Forum Luncheon, February 9, 2005).

It wants US non-strategic nuclear weapons to remain in Europe. While the importance of these weapons as a deterrent against Russian aggression has largely faded, Turkey now sees them in terms of their deterrent value should Iran or other regional states acquire nuclear weapons.[60] Of course, this new role depends upon the commitment of NATO and the US to protecting Turkey from nuclear-backed coercion or aggression, and, as noted above, Turkey has concerns on this score.

Perhaps most important, it seems that Turkey has begun to doubt the competence of the US, especially given how the US has pursued its interests in Iraq. The US initiation of that war, the handling of relations with its allies during the run-up to the war, and US efforts to stabilize Iraq over the last five years have done substantial political damage to the US image in Turkey. Polls show that the Turkish public is now the most anti-American of 47 countries surveyed.[61] This makes it difficult for Turkey's government to take any pro-American stance.

In any case, Turkey seems substantially isolated from the allies and friends that it stood with during the Cold War, especially the US. The US is broadly seen by the security elite within Turkey as unreliable. Iraqi Kurds are seen as the main US partner in Northern Iraq. The Turks worry that the war in Iraq will somehow result in the emergence of an independent Kurdish state supported by the US. Many Turks see the US as still angry that Turkey did not support the northern front during the 2003 invasion of Iraq. It appears that Turkey sees NATO as being weak and in a "protracted process of soul searching" since the end of the Cold War.[62]

Still, the uncertainties and risks that Turkey faces have not changed its basic security strategy even though "there is a broader discussion of alternatives than has been seen since the early years of the modern Turkish Republic."[63] And how Turkey might react to Iran's acquisition of nuclear weapons is far from clear. Some in Turkey believe that the failure of the US and others to halt nuclear proliferation by North Korea and Iran, thus far, argues for having "at least the basic infrastructure for nuclear weapons capability."[64] But it is clear that Turkey is not likely to build nuclear weapons any time

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60 See Dunn et al, op. cit.

61 See "Global Attitudes: Challenges for the Next Administration?" op. cit.

62 Kibaroglu, op. cit.

63 Roberts, op.cit.

64 Kibaroglu, op. cit.

soon since it has yet to develop any of the needed infrastructure that would be necessary, such as nuclear power generating capability. And, experts believe that a Turkish decision to acquire its own nuclear weapons would end Turkey's prospects of joining the EU, its relationship with NATO, and lead to increased energy and other costs. It might also motivate additional nuclear proliferation within the region.[65]

In any case, Turkey already has END guarantees from the US and is a member of the senior advisory groups to NATO on nuclear policy and planning. Further, we see no signs that Turkey believes that the credibility of its END guarantees requires any new kinds of US nuclear capabilities.[66] Therefore, any strengthening of US and NATO END guarantees in anticipation of the emergence of nuclear weapons in Iran should focus on the most basic goal of reestablishing the close alliance relationship between Turkey, NATO, and the US in particular. This is the sine qua non for assuring Turkey that it can rely on its alliances to help it meet the security challenges it may face in the future.

What specific initiatives might the US pursue toward this end? The first order of business would seem to be to open a strategic Turkey-US dialog. Such a dialog has been promised before, but neither side has figured out how to get one started.

This dialog should begin with exploring how the US and NATO might help to mitigate security issues of particular concern to Turkey. Perhaps the most important concern is how to minimize the PKK's opportunities to form an independent state in northern Iraq when the US departs. Discussions of the issue may identify useful steps toward this end. At a minimum, discussion of the issue would show that the US is concerned.

A second topic to explore would be joint concerns that the nuclear non-proliferation regime may be headed toward collapse. Some Turkish experts see the US as largely responsible for the fact that North Korea has nuclear weapons and US efforts to reverse or even halt that proliferation have neither achieved decisive results nor resulted in serious penalties for the DPRK. The fact that Iran has been found in violation of its NPT obligations and seems headed toward building nuclear weapons is also seen as something of a US failure. However unfair such perceptions might be, a joint review of

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65 Ibid, and see Roberts' workshop summary, op. cit.

66 None of the above references or our internet search turned up such concerns. Dunn et al, op. cit. notes that he encountered some musings on the question during his study group's interviews with Japanese experts.

the problem of nuclear proliferation and a reaffirmation of both countries' commitment to halting it could be useful.

A third possible topic could be how to arrange – sooner rather than later – for Turkey's defense from ballistic missile attacks. While the US should not dwell on technical questions, especially those involved in defending the US, protecting Turkey as other NATO allies are going to be protected would seem a hard requirement for an alliance that claims its "fundamental guiding principle is that of common commitment and mutual co-operation among sovereign states in support of the indivisibility of security for all its members."[67]

A fourth possible topic would be the upcoming revision of NATO's Strategic Concept. It would seem most reasonable that an ally whose importance to NATO and the US is rising should be consulted in detail regarding how to go about that revision and what might need to be in it.

Finally, we should note that whatever specific topic might be jointly chosen to open a Turkey-US strategic dialog, the primary goal for the US is to reassure Turkey of the US' commitment, competence, and understanding of its obligations to Turkey's security. A serious and careful approach to such talks is called for. Others will be watching and will take note.

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67 See "The Alliance's Strategic Concept," op. cit.

XI. OBSERVATIONS AND CONCLUSIONS

For a variety of powerful and well-known reasons, the US is greatly interested in avoiding nuclear proliferation, not just by rogue states, but by others as well. Looking to the past for possible help in stopping nuclear proliferation, some nuclear policy experts have begun to argue that US END guarantees might be an acceptable substitute for the nuclear deterrent forces worried US allies and friends might otherwise create.

This paper has explored whether the strengthening or expansion of US END guarantees for this purpose can be an advantage to US security, including its nuclear nonproliferation interests. Our exploration has led us to four main conclusions.

First, it is US nuclear policy to minimize the nation's dependence on nuclear weapons. Correspondingly, nuclear weapons are to be used only as a last resort to defeat a clear and immediate threat to an interest vital to the US and its allies. This implies that if the US extends nuclear guarantees to another state, it must also extend all the non-nuclear protection the US can bring to bear in its defense.

Clearly, a key goal for the conventional capabilities that would protect US alliances would be to ensure that the burden of escalating to nuclear use, should a war occur, would fall on the adversary. If offering END guarantees means that the US must defend a state with both conventional capabilities and nuclear capabilities, then US END guarantees must only go to states that are already close US allies or that can be made close allies. Expanding US END guarantees without having or quickly creating the non-nuclear forces needed to keep the burden of escalating to nuclear use on potential adversaries risks increasing US dependence on nuclear weapons.

Second, our examination of the general pros and cons for allies of strengthening existing US END guarantees, or for others of becoming allies and recipients of new US END guarantees, suggests that some of these states could decide that possessing independent nuclear deterrent forces would be preferable. We contend that the most important reason is that they would control whether, when, and how nuclear weapons would be used in their defense. With END guarantees, it appears that they would always have some doubts about whether US nuclear weapons would actually be employed to protect them. A questionable or negative balance of pros and cons for some allies or

potential allies implies that the US may have to take extra steps to boost the pros and minimize the cons they see. In short, US efforts to strengthen or expand its END guarantees may face a "buyer's market."

Third, our examination of the general pros and cons for the US of strengthening US END guarantees to current allies or expanding guarantees to new ones suggests that the former should be more in US interests than the latter. The US has already accepted the risks and costs involved in extending END guarantees to current close allies and has already taken substantial, if perhaps not yet fully adequate, steps to meet them. Further, the strengthening of current US END guarantees to allies should be expected to reduce the marginal risks involved, whereas the extension of END guarantees to new US allies would involve accepting wholly new risks, albeit minimized to the extent possible. This does not mean that the US should not offer END guarantees to new allies that face threats from potential nuclear adversaries – just that it will be riskier and probably more expensive.

Fourth, while implementation of technical measures and organizational arrangements to strengthen or expand US END guarantees to allies may ultimately be needed, promises of timely implementation of END changes when and if needed may also have valuable effects. Anticipating implementation of END guarantees to its neighbors may dissuade an adversary from nuclear proliferation. Anticipation may even help to halt or roll back an ongoing nuclear weapons program. Even talking with an ally about the nature and values of US END guarantees – as the US is now doing with Japan – may have such an effect.

Finally, we conclude with two summary observations that emerged from the analysis.

First, since WWII the US has had a policy of "forward defense" implemented through a system of alliances with a majority of the world's wealthiest and more advanced states. The end of the Cold War did not end the need for that policy. The prospects of future challenges by aggressive states remain. Those with nuclear weapons may be the source of especially dangerous challenges. Their nuclear capabilities need to be counterbalanced.

In theory, the US could counterbalance them alone. Alternatively, states threatened by aggressive, nuclear armed states could individually attempt to counterbalance the adversary's nuclear capabilities by establishing their own nuclear

deterrents. Both these extremes would focus the risks of nuclear deterrence and of nuclear use should deterrence fail on an individual state. But no state should want to bear those risks and responsibilities alone if there is an alternative.

This might suggest an alliance of states each with its own independent nuclear deterrent. Our analysis indicates that END guarantees from the US would be a better answer. As argued above, they can be implemented quickly should the need arise, allowing allies to avoid getting committed to long and expensive programs to build nuclear weapons. They can provide smaller and better coordinated nuclear capability for the alliances that need them. They can be dialed up or down far more readily as the US and its allies see their needs change than a collection of independent nuclear deterrents. Finally, the responsibility for decisions on nuclear policies and any nuclear use can and should be shared.

This leads to our second summary observation. Specifically, states will inevitably be concerned that the US cannot be relied upon to implement its END promises and guarantees. While no one can be perfectly sure, we think there is a strong case that allies can be made sure enough. Specifically, the argument can be made that the entire system of alliances upon which the US depends, risks breaking up if the US were to renege on its promises of nuclear protection to any one of its allies. If the US were to renege, further nuclear-backed aggression would seem assured, as would a cascade of nuclear proliferation. And the US reputation at home and abroad would be shattered.

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14. ABSTRACT

Many experts and officials are concerned that a failure to stop North Korea from expanding and improving its nuclear weapons stocks and the continued apparent pursuit of nuclear weapons by Iran will spur substantial additional nuclear proliferation. Much of that additional proliferation could be by concerned US allies and friends in Asia and the Middle East, and possibly even by NATO allies such as Turkey. This raises the question of whether strengthening the US nuclear umbrella protecting some allies and perhaps expanding the umbrella to cover other US allies and even new allies could substitute for the independent nuclear forces they might otherwise create. This study explores this topic first in general analytical terms, looks at two specific allies to see how the extended nuclear deterrence guarantees they get from the US might be strengthened. It more important conclusions are 1) that some potential recipients of US nuclear protection can be expected to have significant reasons to prefer their own nuclear deterrent forces to nuclear protection by the US, and 2) that promises to allies to provide extended nuclear deterrence should the need arise may have significant value in dissuading potential regional adversaries from building nuclear deterrent forces of their own.

15. SUBJECT TERMS

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