3. Eliminating Short-Range Nuclear Weapons Designed to Be Forward Deployed

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Summary of Conclusions

This analysis proceeds from the assumption that *until the United States and Russian Federation, along with NATO countries, are able to eliminate short-range nuclear weapons from Europe, efforts to eliminate them anywhere else in the world will be stymied.* For that reason, the major focus of this paper is on what it will take to get NATO and Russia talking about the weapons, understanding the problem from each other's perspective, building up confidence, and moving into controlling and eventually reducing and eliminating the weapons from Europe. While that goal is being accomplished, the other states deploying short-range nuclear weapons—India, Pakistan, China, and Israel—should be brought into the discussion and into confidence-building activities. However, these countries will be very unlikely to move to control and reduce their own short-range weapons if the problem in Europe is not on its way to being resolved.

Russia's new dependence on nuclear weapons to compensate for its conventional weakness is one of the key issues that will have to be dealt with in order to begin the process of control and reduction. Working toward resolution of differences over the Conventional Forces in Europe (CFE) Treaty will be one major way to do so. So Russia, in this regard, is the difficult side of the policy equation.

At the same time, it is worth emphasizing how far NATO and the United States have come in transforming themselves into the easier side of this policy equation. As recently as 1999, NATO was not in a position to move beyond a traditional statement of the importance of nuclear weapons in its Strategic Concept. By 2005, however, politicians in Europe became ready to move the issue out of the closet and debate it openly. Also throughout this period, nuclear readiness levels in NATO Europe steadily declined and in one case—Greece in 2001—nuclear weapons were completely withdrawn from a NATO country. On the other side of the Atlantic, U.S. strategy became more and more focused on centralizing nuclear planning and operations at Strategic Command in Omaha. This move was consonant with a trend in the direction of centralized capabilities to attack targets worldwide under the "Global Strike" concept. Global Strike became synonymous with long-range, highly accurate, deep-strike conventional missions, which also supported the notion of deemphasizing nuclear weapons in U.S. and NATO policy.

Thus, the environment for ending NATO nuclear deployments in Europe is much more welcoming than it was less than a decade ago, and it is feasible that NATO could decide to recast its Strategic Concept to achieve this goal in the context of its 60th anniversary celebrations in 2009. The key question for NATO policymakers, however, is whether they wish to lead on this issue without requiring a major change in Russian policy at the same time. There are arguments that may be made about the exemplary effect that unilateral action would have in this case, as well as benefits for the NATO allies' defense budgets (including that of the United States). But it is realistic to assume that Russia will not be willing to move so quickly to temper its dependence on nuclear weapons in its military strategy.

Therefore, NATO would probably want to maintain an insurance policy while work with the Russians moves forward. The alliance, for example, could agree to remove short-range nuclear weapons from Europe while leaving the infrastructure for deploying the weapons in

place. The alliance could continue to train and certify personnel for nuclear operations, and could continue some specific exercise activities to ensure that command and control capabilities remain intact and that nuclear weapons could be quickly reintroduced into Europe if necessary. These steps could then be phased out as mutual confidence builds between NATO and Russia, and particularly if Russia were willing early on to address NATO concerns about possible continuing deployment of nuclear weapons in Kaliningrad.

This issue of a disconnect between Russia and the United States/NATO on the importance of nuclear weapons is the most difficult one to grapple with in any effort to eliminate short-range nuclear weapons. The disconnect will take time and patience to address, and this paper recommends an "inch-by-inch, step-by-step" approach.

Confidence-building should be the first step, but we need not be satisfied with superficial site visits and other slow steps that characterized confidence-building during the Cold War era. Instead, *confidence-building should take advantage of the intensive cooperation that the United States and Russia have pursued in the past 15 years to have some practical effect on real problems being encountered in each side's nuclear forces.* For example, in the context of the Warhead Safety and Security Agreement (WSSX), the U.S. and Russia have been working intensively on measures to improve the safety of nuclear weapons against threats of fire and lightning. Bringing such measures to bear on nuclear weapons in Europe would help to solve real problems that both sides have encountered, and also build confidence in the nature of the deployments. Confidence-building, therefore, should be linked to intensive problem-solving for both sides, which in turn will have a rapid impact on the growth in confidence—a confidence feedback loop, in other words.

Once mutual confidence is growing, Russia and the United States/NATO can move to the next stage, beginning arms control and reduction measures. Initially, finding a way to exchange data should be the focus of these efforts, for two reasons. First, differences over how

to exchange data under the Presidential Nuclear Initiatives has been a persistent irritant between Russia and NATO practically since the PNIs were agreed in the early 1990s. The resulting damage has made it difficult for the two sides to imagine how they might sit down with each other at the negotiating table. Thus, figuring out a judicious way to do data exchanges by itself would play a vital confidence-building role.

Second, an agreed baseline of weapons systems has always been a necessary and significant precursor to success in arms reduction negotiations. Only once the parties have agreed to the number and nature of deployments can they agree on how much and in what way to reduce them. Either side might begin by trying unilaterally to spur movement, for example through declassification of deployment numbers. The United States has established procedures to do so, and could agree on such steps with its NATO allies. However, there should be no expectation of a quick response from the Russian side, as procedures for declassification are not routinely established and the political environment in Moscow is difficult. Nevertheless, the Russians might be willing to share some data on a confidential government-to-government basis if the United States comes forward with an initiative.

Several larger policy steps will be required before the two sides will be willing to sit down to significant arms reduction negotiations—NATO will have to decide what it wants to do about short-range nuclear weapons deployed in allied countries, and Russia and NATO will have to be on the road to resolving their differences over the CFE Treaty. As these solutions are in train, arms reduction negotiations can begin. Even before that point, however, the two sides could pursue further unilateral measures to convince each other that nuclear-capable bases have been or are being closed down—and here, Russian willingness to shed more light on the situation in Kaliningrad would be very important. Another interim measure with some risks attached to it would be to recommit to the PNIs. Uncertainties over implementation of the PNIs have added up to some serious mistrust between

Moscow and Washington, and for that reason an initiative to recommit could stir up old frustrations. Bringing high-level authority to bear—and particularly President George H. W. Bush and President Gorbachev, who launched the PNIs originally—could be an important way to overcome such irritation.

The unquestionable goal should be a ban on short-range nuclear weapons in operational deployment, linked to a continuing campaign to eliminate nuclear warheads and dispose of their nuclear materials—with accompanying transparency measures. Efforts to negotiate this ban, which should first engage Russia and the NATO countries, should come to engage the other nuclear weapon states. This could be done through development of a step-by-step confidence-building process that would lead to more comprehensive control and reduction measures, and eventually in the long-term future to a broader ban. The configuration of this group is complicated: It should certainly involve the nuclear weapons states under the Non-Proliferation Treaty—the United States, France, and the United Kingdom (which are NATO countries) plus Russia, China—and also the other states in possession of nuclear weapons—India, Pakistan, and Israel.

In theory, because China, India, and Pakistan do not maintain their nuclear weapons at a high level of operational readiness, negotiating with them a ban on operational deployments would be straightforward. Ironically, the accompanying transparency into their programs, which would be necessary for a negotiated ban, is likely to be much more difficult. The United States and Russia, after 30 years of negotiated nuclear arms reductions, are accustomed to mutual monitoring and verification—but these countries are not. Moreover, Israel does not publicly admit to a nuclear weapons program. Therefore, no area of short-range nuclear arms control will be simple. However, confidence-building measures with all the relevant countries could start early, and should be the focus of immediate policy efforts.

Strategic arms will also be a target for further arms reductions, and as David Holloway argues in his paper for this project, these

should be considered in four stages, beginning in the near term with reductions between Russia and the United States but proceeding toward the eventual elimination of nuclear weapons. [See Chapter 10] *As these stages advance, short-range weapons should be placed in the same basket with strategic arms for negotiating actual elimination of the weapons.* This approach would acknowledge the reality that nuclear weapons are impossible to differentiate when they are divorced from their launch vehicles, and would also anticipate deep reductions, when the difference between short- and long-range systems becomes steadily less relevant.

Short-range nuclear weapons designed to be forward deployed have the potential, in fact, to serve as a special harbinger for later stages of the strategic arms reduction process. In the early 1990s, the Presidential Nuclear Initiatives were early expressions of the concept that warheads should be moved out of operational deployment and into secure status, not ready for immediate launch. The PNIs may be revivified and lead to a ban on short-range weapons in operational deployment, or a ban may be negotiated on its own. In either case, implementation of the ban would be a type of "pilot project" for zero deployed warheads in the strategic forces. The transparency, verification, and monitoring measures applied to short-range weapons would serve well in the strategic case, and certainly as strategic and short-range weapons begin to fall into the same basket for elimination.

The agenda for eliminating short-range nuclear weapons is potentially an exciting one, taking full advantage of the lessons learned over the past 15 years, and particularly the practical ways in which Russia and the United States have learned to work together to enhance the safety and security of nuclear weapons. This mutual interest should help to overcome the frustration, anger, and disconnects that have hampered Russian cooperation with the United States and NATO. *But patience and attention to multiple problems—including the CFE Treaty—will have to be the watchwords of the effort. Efforts to engage*

Russia on the nuclear front cannot be divorced from attempts to solve these other problems.

Introduction

Short-range nuclear weapons designed to be forward deployed generate complex problems in the world not only of arms reduction and control, but also in the world of nuclear strategy and policy. Such weapons have historically drawn the most attention in the relationship between the United States and its NATO allies—they were supposed to form a kind of "glue" to ensure the survival and strength of the trans-Atlantic alliance. "Nuclear burden-sharing" was the expression of that glue, meaning that NATO countries in Europe would help to pay for the nuclear weapons deployed in Europe, and would also share the risks of deploying, and if necessary, delivering them. Thus, of the approximately 480 nuclear weapons deployed in NATO Europe, some 180 are to be released to the control of the European countries hosting them should it ever become necessary to deliver them.[1]

In addition to these challenges, short-range nuclear weapons have also not fit easily into defined categories for analysis and control. The Russians have complained since the dawn of the nuclear age that what looks tactical to NATO looks strategic to them, since geopolitics has placed them exactly adjacent to Europe. They worried consistently that they might expect an attack from a NATO base in Europe on one of their strategic targets—say, Moscow—at any time. Indeed, this ar-

1. For the U.S. and NATO, this analysis depends on the data provided in Hans M. Kristensen, "U.S. Nuclear Weapons in Europe: A Review of Post-Cold War Policy, Force Levels, and War Planning," Natural Resources Defense Council, February 2005. Kristensen's table summarizing the numbers of U.S. nuclear weapons in Europe appears as Appendix B of this chapter (p. 156). For Russian data, this analysis depends on Alexei Arbatov's figures, as reproduced in Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons; Part I: Background and Policy Issues," Systems Technology, SE-172 90 Stockholm, FOI-R-1057-SE, November 2003, ISSN 1650–1942, pp. 24–34. A table summarizing the numbers of Russian nuclear weapons appears as Appendix C of this chapter (p. 157).

gument was one of the drivers for the Khrushchev-era decision to deploy medium-range nuclear missiles in Cuba—the reasoning being that if NATO Europe could menace Moscow with very little warning, then the Soviet Union should be able to menace Washington in the same way. The outcome of the Cuban missile crisis forced the Soviets to climb down from that goal, but the asymmetry continued to trouble them. And as the types of dual-use weapon systems have continued to expand, the problem has been further exacerbated.

And although they have mistrusted short-range nuclear weapons in NATO hands, the Russians have come to depend on them to compensate for the perceived weakness and disarray of their conventional forces. Russian military doctrinal statements and exercise activities have focused on nuclear weapons as the ultimate way to defend Russian territory against enemy incursions. It was in this context that Russia abandoned its Soviet-era "no-first-use" strategy in 1991, coming closer and closer to the nuclear policies that NATO had pursued through the years of the Cold War, when it was vulnerable to much more powerful Soviet conventional forces.[2] The Russians treat short-range nuclear weapons, therefore, as a critical capability, one that they would be hard-pressed to do without. On that basis, as one Russian analyst recently put it, short-range nuclear weapons designed to be forward deployed are "the most sensitive military-strategic topic" among the Russian military.[3]

Because today Russia and NATO are no closer to addressing these nuclear conundrums than they were at the end of the Cold War, this analysis will focus on eliminating short-range nuclear weapons from Europe.[4] It is assumed that the other states deploying short-range nu-

2. For a thorough discussion of the evolution of Russian military doctrine during this period, see Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons, Part I: Background and Policy Issues," Systems Technology, SE-172 90 Stockholm, FOI-R—1057—SE, November 2003, ISSN 1650–1942, pp. 24–34.

3. Private conversation with the author.

4. For purposes of this analysis, "tactical nuclear weapons," "non-strategic nuclear weapons," and "short-range nuclear weapons" are treated as synonymous. A

clear weapons—India, Pakistan, China, Israel—will not be willing to engage on the issue of reductions in their own stockpiles until the weapons are dealt with in Europe. They should be encouraged to join early in nuclear confidence-building, however, which will be discussed further below.

Returning to the Reduction Agenda

So why pull the issue off its back shelf? Could it not remain there indefinitely? There is no question that the issue is quiescent at the moment, not attracting public attention and not preoccupying policymakers, most of whom, if they think about nuclear weapons at all, are focused on the problems of potential proliferation in Iran and North Korea.

There are two compelling reasons. First and most important remains the reality that policymakers confronted when START II was signed in 1993: reductions in launch vehicles can only proceed so far. Deeper nuclear reductions, and those that involve systems that can launch both conventional and nuclear weapons, will have to focus on reducing the nuclear weapons themselves. Thus, to pursue a policy agenda of moving toward a world free of nuclear weapons, nuclear weapons will have to become again the focus of reductions. They may not pose an immediate threat to the United States or its allies, but they are clearly a barrier to achieving eventual zero.

Second, they remain a vestige of the Cold War that continues to cause real worry. The United States, working together with the Russian Federation, has spent over $1.6 billion on warhead protection, control, and accounting in Russia from FY92 through FY06.[5] These

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good summary of the problem of defining such weapons may be found in Amy F. Woolf, "Nonstrategic Nuclear Weapons," CRS Report for Congress, Order Code RL 32572, updated January 9, 2007, pp. 4–6.

5. See "Securing the Bomb: Overview Funding Summary," Nuclear Threat Initiative, www.nti.org/e_research/cnwm/overview/funding.asp#historical, accessed August 2, 2007.

funds have gone to improve the physical security of weapons storage and handling sites and transportation capabilities in Russia, and also control and accounting procedures. This massive effort was undertaken out of concern that Russian nuclear weapons might be stolen or lost, ending up on the nuclear black market and ultimately in the wrong hands. As long as nuclear weapon reductions remain on the back shelf of policy, the ultimate terrorist threat to international security will never be definitely addressed. Eliminating the weapons and disposing of the fissile material that comes out of them are the only ways to address this threat once and for all.

A third reason, related to both of the proceeding two, is less compelling but might, in the end, be more important in terms of moving policy forward. Although reductions in nuclear weapons have been off the public agenda for some time, they are a coin of policy that is well understood by the man and woman on the street, and will be appealing to people around the world. Thus, if the United States and Russia are able to move quickly in the direction of controlling nuclear weapons, especially those designed to be forward deployed, they will earn an immediate policy "bounce." Their own publics will understand that the two countries have reengaged in a serious way on the issue, and countries where the weapons have been forward deployed, especially in Europe, are also likely to respond well. The U.S. and Russia will look to be again on the road, decisively, to implementing their commitments under Article VI of the Non-Proliferation Treaty.

The two countries will also be seen as taking steps to at last address vestiges of the Cold War that have posed a profound proliferation risk not only to themselves, but also to all countries around the world concerned about nuclear terrorism. This is a threat that affects countries individually, but also poses a danger of profound and wider instability in political environments and economic markets. Therefore, if Russia and the United States are at last moving decisively to eliminate such weapons, the world will breathe easier.

Thus, early momentum in controlling and reducing short-range

nuclear weapons will be an indicator that the United States and Russia are again serious about containing and eventually eliminating the nuclear threat. This paper begins by exploring a spectrum of confidence-building and arms control approaches that would work well, and quickly, to move Russia and the United States back onto this agenda.

Toward Eliminating Short-Range Nuclear Weapons

NATO to the Table

The uncertainties that flow from the contradictory environment in Europe require some careful thinking about the best policy options to pursue to control and eventually eliminate short-range nuclear weapons deployed there. Given the current mood among NATO countries deploying nuclear weapons, the notion of a total ban on short-range nuclear weapons in Europe would seem easy to negotiate. The NATO nuclear countries no longer place the same priority on nuclear weapons in their military strategy; relatively few nuclear weapons remain deployed in NATO Europe; and interest is growing among political actors—even ruling parties—to withdraw the weapons from Europe.[6]

However, NATO operates according to consensus, so all members of the alliance, including the new countries that view Russia as a threat, would have to be brought along to pursue a ban. That effort alone would be at least a two-step process: negotiating a change in NATO nuclear policy that would allow for a withdrawal of the weapons, and a process of confidence-building with Russia that would eventually bring all parties to the negotiating table for a more ambitious negotiation toward a ban.

The first step would specifically involve changing NATO's Strategic Concept, which dates from 1999 and was clear in its support of nuclear weapons in the alliance: "solidarity and common commitment to war prevention continue to require widespread participation by Eur-

6. A more extensive discussion of these trends in Europe is contained in Appendix A of this chapter (pp. 147–148).

opean Allies involved in collective defence planning in nuclear roles, in peacetime basing of nuclear forces on their territory and in command, control and consultation arrangements."[7] An opportunity for change is coming up in 2009, the 60th anniversary of NATO and also the 10th anniversary of the current Strategic Concept.

But the decisive impetus is unlikely to come from NATO European countries. According to Robert Bell, who was NATO Assistant Secretary-General from 1999 to 2003, there is little enthusiasm among the member states in Europe to do the heavy lifting required to craft a consensus in this area. The initiative, he believes, will have to come from Washington. However, Bell said, "were this or were a new administration to decide to end the program, I do not believe the participating NATO allies would seriously try to stop it."[8]

Thus, step one is in the hands of Washington, but step two, confidence-building, would extend to a broader range of NATO countries. Here the foundation laid by the activities of the NATO-Russia Council would be a solid place to start. The NATO-Russia Council has agreed to a work plan that embraces arms control and reductions, including short-range nuclear weapons. However, that portion of the work plan has lain rather fallow in the years since it was agreed. Interestingly, cooperation on missile defense in the European theater has been among the most active areas of work plan implementation, which might bode well for the future of missile defense cooperation as a whole—if the current political tensions can be addressed.

Nevertheless, there is a project area of more direct application to nuclear weapons confidence-building: accident and emergency response involving weapons of mass destruction. NATO and the Russian Federation have held a successful series of exercises under this rubric, including "Avaria (Accident)-2004," which was held near Murmansk in August 2004, with NATO observers present. This nuclear emer-

7. Cited in Oliver Meier, *Arms Control Today*, July-August 2006.

8. Meier, *Arms Control Today*, July-August 2006; and author's conversation with Bell.

gency response exercise simulated a terrorist attack on a truck and a rail convoy with the aim of capturing the nuclear weapons being transported. Russian response teams included helicopters and armored vehicles to back up the convoy guard forces.[9]

Unlike the arms control-related tasks under the work plan, emergency response seems to have been blessed by the Russian Ministry of Defense and General Staff and to enjoy wide support in the Russian government, including the Kremlin. In discussing how to avoid nuclear emergencies, the task group could be a venue for discussing such basic arms control measures as consolidation of weapons under better protection and tighter control and accounting. These topics have long been priority topics between the United States and Russia in the context of the warhead protection, control, and accounting programs run by the Departments of Defense and Energy, so pursuing them in the NATO-Russia emergency response context would not be an innovation.

Eventually, as the scope and success of certain NATO-Russia work plan tasks expands and grows, energizing moribund areas such as arms control and reduction should be possible. But for the meantime, confidence-building will have to take place in a slightly different, although complementary venue.

Tasks one and two could take place in parallel over the next two years, with the goal of arriving at the NATO 60th anniversary celebration in spring 2009 with a consensus position on deemphasizing nuclear weapons in NATO, and an agenda and proposal for pursuing short-range nuclear arms talks with Russia.

This first example illustrated what it would take to get the United States and NATO to the negotiating table with Russia to talk about short-range nuclear weapons—with confidence-building, of course, being relevant to both sets of negotiators. Let us now consider more

9. NATO Update, "Nuclear weapons accident response exercise held in Murmansk region," August 11, 2004.

explicitly what it would take to get Russia to the negotiating table with NATO.

Russia to the Table

Russia clearly threw down a number of gauntlets in 2007, such as an angry reaction to U.S. missile defense deployments in the NATO countries, especially on the territories of new members Poland and the Czech Republic. Russia has threatened to target extra nuclear missiles toward Europe in response to these deployments, and it has also threatened to withdraw from the INF Treaty. At the same time, however, it has offered some interesting ideas about missile defense cooperation with the United States and NATO, and the seeds of a negotiation seem to be in place. For that reason, this crisis seems to be self-contained and not necessarily relevant to the problem of short-range nuclear weapons.

Not so the case with the CFE Treaty. President Putin first threatened to withdraw from CFE during his February 2007 speech in Munich, then announced a moratorium on Russian implementation of the treaty during his State of the Nation speech in April. In July 2007, he signed a presidential decree that confirmed the moratorium: if the other CFE signatory states in NATO did not ratify the treaty within 150 days, then Russia would institute a full moratorium on fulfilling its obligations under the treaty. And in November 2007, addressing top Russian military officers for the last time before his presidential term was due to end in May 2008, Putin declared that suspending participation in the CFE Treaty was part of an "adequate response" to NATO "muscle-flexing" on Russia's borders.[10]

Russia's complaints about CFE relate to NATO's unwillingness to be more flexible with regard to the "frozen conflicts" in Georgia and Moldova, and to flank limits imposed on the deployment of Rus-

10. Simon Saradzhyan, "Putin Talking Adequate Response to NATO," *The Moscow Times*, November 21, 2007.

sian troops inside Russia. Therefore, they would seem to have little relevance to negotiating constraints on short-range nuclear weapons. Russia's complaints, however, reflect a broader malaise in Moscow that is linked to concerns about the weakness of Russian conventional forces. Perceived NATO inflexibility in responding to these concerns has heightened the Russian suspicion and anger. Russia itself has built up political barriers to working with NATO, although it has had many constructive engagements in recent years—not only the work plan tasks mentioned above, but also actual military exercises in the Black Sea and even at NORAD in Colorado Springs. Nevertheless, the idea that NATO-Russian cooperation is a good thing is currently off-limits for Russian politicians, a sure source of opprobrium among peers in the Moscow establishment.

Therefore, to engage Russia successfully on short-range nuclear weapons will require some progress on the Conventional Forces in Europe Treaty. By December 2007, when Russia threatened to cease implementing the treaty, NATO and the United States had made a number of proposals to Russia, and Russia too had made some proposals, thus the seeds of a negotiation finally seemed to be falling into place. The most important negotiating goal should be to restore Russian confidence in the predictability that the CFE Treaty can provide, thus addressing—at least with regard to the European theater—Russia's concerns about its conventional weakness. There is no objective reason today why Russia should see a military threat emanating from Europe, although that is the gist of current Russian discourse about NATO.

Of course, observers of the Putin administration suspected that much of the anti-NATO rhetoric and scaremongering was associated with the Russian Duma and presidential elections, the first in December 2007, the second in March 2008. In that period, the time indeed was not ripe for successful negotiations on CFE. Europe should nevertheless be persistent in making the case clearly that it poses no threat

to Russia and in fact would like to expand cooperation under the NATO-Russia Council.

Although positive momentum on solving the CFE problem is an important factor in engaging the Russians on short-range nuclear weapons, NATO should consider some more explicit nuclear discussions with the Russians. Such discussions would be in the interest of reiterating the message that NATO is not a threat to Russia; they would also lay the groundwork for eventual nuclear negotiations, and could add to general confidence-building in the context of the NATO-Russia Council.

NATO might brief the Russians, for example, on plans to update the Strategic Concept in 2009. NATO might even ask Russia formally to comment. Less ambitious but also useful might be a discussion of the history and intentions behind the 1997 statement that NATO has no intentions, plans, or reasons to deploy nuclear weapons on the territory of new member states—and how that statement has had an impact on NATO policy and force deployments. If carefully managed, this discussion could also engage the new nuclear member states—recognizing, however, the great tensions that would color the environment.

Thus, getting Russia to the table to negotiate constraints on short-range nuclear weapons involves at least a two-step process—one to address the problems with the CFE Treaty, and one to engage in serious confidence-building. Some ideas have already been discussed in the context of the NATO-Russia Council, but others might involve some explicit discussions of NATO nuclear policy with Russia.

Options for Pursuing Controls and Reductions: Inch by Inch, Then Step by Step

The preceding discussion has underscored that major political and policy issues have to be addressed before NATO and the Russian Federation will be ready to move to a negotiated arrangement that would lead to the elimination of short-range nuclear weapons from

Europe, as a precursor to their total elimination worldwide. Despite these barriers, there is no reason why the United States, Russia, and European NATO countries cannot begin now to build confidence toward achieving this goal.

This section, therefore, considers some confidence-building measures specific to nuclear arms control and reduction processes. In other words, in contrast to the political confidence-building described above, these nuclear confidence-building ideas could progressively be fitted into control and reduction measures—including verification—and eventually into a negotiated ban on the weapons. Although many ideas are available, this analysis places high value on ideas that already have some grounding in joint cooperation with the Russians, and might therefore be able to grow and develop rapidly, even in the troubled political environment that currently exists between Russia and NATO.

Ways to Do Confidence-Building

There are many directions that nuclear confidence-building could take in the near term. "Confidence-building" in this context is defined as general activities to enable each side to gain some understanding of the other's nuclear weapons in Europe, including their day-to-day deployment status, and the challenges inherent therein. For the purposes of this discussion, other means of confidence-building such as data exchanges are discussed separately, as a distinct prelude to arms control and reduction measures.

- Cooperation on nuclear weapon safety. In a similar category to nuclear emergency response, nuclear weapon safety has long been a mutual concern of the United States and Russia, and the two countries have pursued some extensive cooperation on technical and operational aspects of safety in their bilateral Nuclear Weapons Safety and Security Agreement (WSSX). Both Russia and NATO European countries have reportedly experienced difficult situations where their deployed nuclear weapons might be affected

by fire or lightning strikes.[11] Cooperation to mitigate fire and lightning effects has already been a major agenda item in U.S.-Russian bilateral cooperation under the WSSX Agreement. Although as nuclear weapon states they would not want to share technical details concerning the warheads, they could share some results of their research, including training measures for troops on both the NATO and Russian sides, enabling them better to handle fire and lightning situations.

- "Close-out" activities at old bases. Both Russia and NATO countries have been consolidating nuclear weapons and in some cases removing them altogether from base facilities. These close-out activities have involved specific procedures, but also adjustments to command and control, operations, maintenance, and personnel policies at the bases affected. Ideally, Russia and the NATO countries would be willing to allow reciprocal site visits during close-out activities, but that might be too challenging a step for early stages of confidence-building. If that is the case, then the two sides might begin by simply meeting to provide mutual briefings and discuss what procedures are followed to close out ("decertify") a facility's nuclear status.
- Site visits to compare nuclear and non-nuclear bases. This would be a site visit designed to provide information on specific aspects of a non-nuclear base that differentiate it from a nuclear base. Russia and NATO are accustomed to reconnaissance of each other's bases and understand much about the "tattle-tales" of a nuclear base, but this measure could be helpful in building confidence that non-nuclear bases are in fact "clean" and could not hold nuclear weapons according to national or alliance policy.

11. For lightning problems on the NATO side, see Kristensen, p. 50–52; and for fire and lightning problems on the Russian side, see Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons, Part II: Technical Issues and Policy Recommendations," Systems Technology, SE-172 90 Stockholm, FOI-R—1588—SE, February 2005, ISSN 1650–1942, p. 42.

Another important advantage might be to ensure confidence that new bases, such as those being constructed in Bulgaria or Rumania, are not acquiring new nuclear capabilities. This advantage could also apply to bases being refurbished, as for example the Russian naval base at Novorossiysk. The Russian Navy began refurbishing it in accordance with presidential orders to upgrade the base, but the MOD's Twelfth Main Directorate responsible for safety and security of weapons decided that it could not be brought up to their standards. According to Russian reports, the MOD consequently removed all nuclear weapons from Novorossiysk.[12]

- Observation of personnel training, including certification activities. Both Russia and the NATO European countries have been experiencing difficulties training and retaining sufficient personnel to serve at nuclear bases.[13] Although clearly some aspects of operational training and command and control would have to remain off-limits, observing training in certain aspects could build confidence, and might serve the additional beneficial effect of providing each side with some new ideas about personnel training and retention. The two sides might initiate a discussion, for example, of personnel recruitments, including educational, health, and personal profile requirements, as well as incentives offered during the recruitment process. They might also emphasize particular aspects of training that would not only be mutually beneficial, but would dovetail with other confidence-building being pursued—for example, in the realm of weapon safety and mitigation of fire and lightning risks.

Each of these confidence-building ideas draws on cooperation that has already developed in other settings—the WSSX Agreement, the Cooperative Threat Reduction program, the NATO-Russia Council

12. Arbman and Thornton, Part I, p. 22.
13. Kristensen, p. 34–36; and Arbman and Thornton, Part II, pp. 52–53.

work plan, and even the grand world of START verification. Therefore, they should be backed by enough bureaucratic precedents that they could be supported in both Moscow and NATO capitals. Once momentum is growing toward negotiations, then the next phase could be started: exchanges of information and data.

Ways to Do Data Exchange

Data exchange has had a troubled history during the era of the Presidential Nuclear Initiatives (PNIs). Both sides agreed informally to exchange data pursuant to the PNIs, but the Soviet Union and later the Russian Federation have not so far agreed to exchange data on short-range nuclear weapons in any detail. Instead, Russian spokesmen have issued general statements that entire classes of weapons have been moved or destroyed, or they have used percentages rather than providing absolute numbers of weapons. The Russians state that since the details of a data exchange were never agreed in a legally binding treaty, they are justified in providing data in the form they see fit. This point of view has been frustrating for the United States and NATO countries, which have considered the Russian position to be in bad faith.

NATO and Russia will therefore have to build up a fair amount of mutual confidence to get to the step of exchanging data. Nevertheless, moving in this direction will be an important precursor to entering into more formal processes of weapons reduction and elimination. And of course, establishing an agreed baseline of data will be a necessary condition for a formal, legally binding arms reduction process.

Data exchange can also usefully be thought of in stages, however, beginning with some unilateral actions and then developing in more formal and detailed directions:

- Declassification/unilateral declarations. The United States might decide to declassify certain nuclear weapons information, such as the total number of weapons operationally deployed or in storage

at a particular time, or the total number eliminated during a certain period. In cooperation with European allies, the U.S. might also formally declassify information such as the number of weapons withdrawn from bases over time—although this would have to be done carefully to take account of public sentiment. This information could then be provided in a unilateral declaration, a kind of "weapons status report," to the Russian Federation. For Russia, such declassification is likely to be challenging politically, since there do not appear to be such routine procedures for declassification in place as there are in the United States. However, Russia and the United States now have considerable joint experience in releasing sensitive information to each other's governments under CTR, WSSX, the HEU agreement, etc., so such a Russian declaration might be "releasable to the United States only" or "releasable to NATO countries only," rather than a public declaration.

- Renew the PNIs. A number of analysts have also seen renewal or revival of the Presidential Nuclear Initiatives as a relatively straightforward way to undertake a data exchange. The goals are already laid out and well understood by the parties involved. Renewing these commitments would almost certainly have to involve the U.S. and Russian presidents agreeing to make a clear restatement of the PNIs. Because of the mutual frustration that has been experienced over the years in their implementation, only reassertion of the commitments at the highest level is likely to have some effect—and even then, the effect is not guaranteed.
- Negotiate a new data exchange agreement. The frustration surrounding the PNIs might make it necessary to negotiate a new agreement on data exchange as a confidence- and security-building measure. Such an agreement could only come on the heels of considerable confidence-building between NATO and Russia regarding short-range nuclear weapons. However, the concept of such an agreement might develop out of confidence-building co-

operation in other areas—as a logical progression from examining together the nuclear/non-nuclear status of bases, for example. Thus, it need not necessarily become trapped in the bad memories of the PNI experience, but might naturally flow from more positive confidence-building related to CTR and other successful joint efforts.

Ways to Do Arms Control and Reductions

Once NATO and Russia are on the way to resolving differences over CFE, once NATO develops a consensus internally on what it wants to do about nuclear weapons, and once the two sides have engaged in some specific confidence-building regarding short-range nuclear weapons, then they can proceed to actual control and reductions. In each of the approaches outlined below, the goal of elimination of the weapons would be explicit.

- New unilateral steps. Russia and the NATO countries could agree to take certain steps in parallel, but essentially on a unilateral basis. Again, because of past tensions over the PNIs, and because of recent tensions over security in Europe, both sides would doubtless want to have some transparency measures explicitly tied to the implementation of the new steps. In other words, the steps would have to be implemented with a certain level of transparency agreed in advance. For example, NATO could announce a unilateral withdrawal of the remaining short-range nuclear weapons from European member states back to the United States. The alliance could agree with Russia, based on prior confidence-building activities involving bases, that Russia could visit the former nuclear deployment sites after the warheads had been removed, to assure itself that the nuclear activities at the bases had been closed out. Likewise, Russia could recommit itself to storing short-range nuclear weapons in central storage facilities on Russian territory, and could provide opportunities to NATO observers to visit bases

that had been closed out of nuclear operations. For NATO, it would doubtless be most important to see such a development in Kaliningrad; the suspected nuclear deployments there have been a source of considerable concern to NATO. Major improvements in the NATO-Russian relationship will have to come about, however, before a nuclear close-out visit in Kaliningrad would be possible.

- Transform the PNIs into a legally binding arrangement. Renewing the PNIs with a handshake has been one approach that arms control experts have considered, but another would be to use them as the basis for a new legally binding agreement that would focus on consolidating short-range nuclear weapons to central storage facilities. In the case of NATO, these central storage facilities would be in the United States. In the case of Russia, the storage facilities would be a limited number of sites deep within Russia. However, as noted above, the frustrations with the PNIs have been considerable, so perhaps they are not the most encouraging basis for a new initiative on short-range nuclear reductions. Nevertheless, high-level attention might be enough to transform the situation. One idea would be to appeal to President George H. W. Bush and President Gorbachev to help re-launch the PNIs as a basis for negotiation, with perhaps the endorsement of Mrs. Yeltsin in memory of her husband. If these eminent figures made a recommendation to the next presidents of the United States and Russia, their action might effectively shake off the malaise that has surrounded the PNIs and lead to new and significant nuclear reduction negotiations.
- A ban on short-range nuclear weapons in operational deployment. Weapons would be consolidated to central storage facilities in the United States and Russia and permanently stored there; according to an agreed schedule, they would be slated for elimination. Given Russia's stated dependence on short-range nuclear weapons to ensure national security, a ban on operational deployment of such

> weapons is unlikely to tempt the Kremlin for a long time. The confidence of the Russian leadership in instruments such as the CFE Treaty would have to be fully restored, and Russia, the United States, and NATO would have had to enter into an unprecedented era of cooperation. At the moment, it is difficult to see it. Nevertheless, Russia itself has suggested proposals that would seem to herald such an era—particularly the proposals to join with the United States and NATO countries to provide a missile defense for Eurasia. Here is one area where missile defense developments could have a significant impact on the short-range nuclear weapon problem. If Russia and the United States are able rapidly to enter negotiations to cooperate on missile defenses, and those negotiations rapidly produce results, then the environment might emerge to begin exploring a ban on short-range nuclear weapons in operational deployment. In addition to the extant Russian proposals, the possibility of rapid progress on missile defense cooperation is supported by two other relevant policy developments: First, as mentioned above, Russia and the United States, with NATO, have cooperated very well in joint exercises and other joint activities involving missile defenses under the NATO-Russia Council. Second, Russia and the United States now have more than a decade of experience cooperating on manned space flight, which has produced clear evidence that the two countries can work successfully together in former Cold War bastions such as their respective space programs.

The crossover to strategic arms reductions is a point that must be emphasized. Strategic arms will be a target for further arms reductions, and as David Holloway argues in his paper for this project, these should be considered in four stages, beginning in the near term with reductions between Russia and the United States but proceeding through stages toward the eventual elimination of nuclear weapons. [See Chapter 1.] As these stages advance, short-range weapons will

naturally fall into the same basket with strategic arms for negotiating actual *elimination* of the weapons.[14] This approach would acknowledge the reality that nuclear weapons are impossible to differentiate when they are divorced from their launch vehicles, and would also anticipate deep reductions, when the difference between short- and long-range systems becomes steadily less relevant.

The difficulty of distinguishing between short-range and strategic nuclear weapons has been identified earlier in this analysis; nowhere does it become more evident than when operational deployments are moving lower and lower, and greater and greater emphasis is being placed on dual-capable systems or, in fact, on conventional strike missions at longer and longer ranges. The United States is probably already at that point today, having deemphasized nuclear weapons in its military strategy and put greater stock into highly capable conventional weapons accurate at long range. The U.S. might very well be ready, therefore, to place long-range and short-range nuclear weapons in a basket together, to try to maximize flexibility in the dreaded case that nuclear operations would be necessary, but also in the positive case that negotiations could begin on reducing and eliminating nuclear weapons. The Russians, however, are not close to this point in terms of military strategy—in fact, they have been heading in the opposite direction. Nevertheless, bringing short- and strategic-range weapons together will be necessary once arsenals grow smaller, if only to smooth out at the negotiating table asymmetries that have appeared in the evolution of the nuclear arsenals of the nuclear weapons states. As numbers of nuclear weapons decrease, "strategic" and "short-range" will eventually lose their meaning.

And the crossover creates a special benefit for strategic nuclear reductions. Short-range nuclear weapons designed to be forward deployed have the potential, in fact, to serve as a special harbinger for

14. I am indebted to Jim Timbie for the clear expression of this point during the Reykjavik II Conference at the Hoover Institution, October 24, 2007.

later stages of the strategic arms reduction process. In 1991–92, the Presidential Nuclear Initiatives were early expressions of the concept that warheads should be moved out of operational deployment and into secure storage, not ready for immediate launch. The PNIs may be revivified and lead to a ban on short-range weapons in operational deployment, or such a ban may be negotiated on its own. In either case, implementation of the ban would be a type of "pilot project" for zero deployed warheads in the strategic forces. The transparency, verification, and monitoring measures applied to short-range weapons would serve well in the strategic case, and certainly as strategic and short-range weapons begin to fall into the same basket for elimination.

The European complication

One might argue that the U.K. and France have also already reached the point of a crossover between strategic and short-range weapons, since they have undertaken significant unilateral reductions and retain relatively small nuclear arsenals.[15] After significant downsizing of their nuclear forces during the 1990s, both countries tend to describe their remaining nuclear weapons as "strategic" in nature. However, from time to time both have also noted that their "strategic"' nuclear forces can cover theater targets if necessary.[16] While these arguments

15. In 2005, France was thought to have 350 total nuclear warheads in its indigenous arsenal and the United Kingdom 200; China had approximately 410. See "Nuclear Weapon Status 2005," *Deadly Arsenals*, Second Edition (Joseph Cirincione, Jon B. Wolfsthal, Miriam Rajkumar, eds.), Carnegie Endowment for International Peace, 2005, p. 55. In a March 2008 speech, French president Nicolas Sarkozy announced that France would take unilateral reductions in its nuclear arsenal that would bring its number of warheads to "fewer than 300." See "Speech by Nicolas Sarkozy, President of the French Republic, Presentation of Le Terrible in Cherbourg," 21 March 2008, found at www.acronym.org.uk/docs/0803/doc09.htm.

16. The U.K. advanced this argument in 1997, for example, when it was considering downsizing its nuclear arsenal. The remaining weapons based on Trident submarines, it was argued, could cover both "strategic" and "theater" targets. Conversation with Professor John Simpson, Mountbatten Centre for International Studies, University of Southampton, United Kingdom, on September 15, 2007.

reinforce the long-standing conundrum regarding nuclear weapons in Europe—Are they strategic or not?—they also bespeak difficult budget and policy decisions that have had to be made in Paris and London. Both countries, over time, have cut steadily back on the variety and numbers of their indigenous nuclear weapons.

Thus, explicit control and reduction steps for short-range nuclear weapons deployed by NATO can only be undertaken if there is a degree of support for them among the European NATO allies, which is why a NATO consensus regarding the withdrawal of NATO nuclear weapons from Europe will be vital. The nuclear forces controlled wholly by the U.K. and France might be a complicating factor, however, since those two countries would likely want to have them folded into strategic reduction talks involving all of the nuclear weapons states. The long-standing position of these two countries, and also China, has been that until the United States and Russia reduce to 1000 nuclear weapons on each side, then it makes no sense for them to become engaged in the talks.

The Russians, for their part, historically have demanded that the U.K. and French nuclear forces be on the table during key arms control negotiations, including both INF and START. The British and the French have always strongly resisted those efforts, backed fully by the United States, which had the seat at the negotiating table. In August 2007, General Vladimir Verkhovtsev, the head of the 12th Main Directorate of the Russian Ministry of Defense, the guardians of Russia's warheads, offered to begin negotiations with the United States to reduce stocks of tactical nuclear weapons. However, he insisted that such negotiations must take place "with the participation in the process of other countries, above all Britain and France."[17]

This demand could give rise to speculation that the Russian Federation was returning to an old argument, which it had never won, to

17. See, for example, "Britain, France must be included in weapons talks: Russian General," Agence France Presse, 3 September 2007. See also www.armscontrol.org/act/2005_07–08/US_Russian_NuclearReductions.asp.

ensure that negotiations on weapons in Europe would not begin anytime soon. There is another possibility, however: Verkhovtsev's formulation actually represents a slight softening of the recent Russian position, which had held that NATO nuclear weapons would have to leave Europe before Russia would come to the negotiating table. Verkhovtsev's comment, in short, might represent an opening to talk with the Russians and the Europeans, including the U.K. and France, precisely about a process—one that would involve at the first stage confidence-building, and later reduction and elimination measures. But this possibility is by no means certain, and needs exploring.

The ban on operational deployments outlined above would essentially bypass the issue of geography by focusing on consolidation to central storage facilities.[18] The weapons would be consolidated to central storage facilities inside U.S. and Russian territory, the number and location of which would be designated in a negotiation. This approach would correct the tensions and disagreements that grew up under the PNIs, when each side was able to determine for itself what the term "central storage" meant. The Russians tended to define it as storage in the vicinity of operational bases; for the United States, it meant returning the weapons to the continental United States. However, the Russian Federation has centralized storage facilities in the heart of Russia and not adjacent to operational bases, which could readily be used to satisfy the definition of "central storage."

Complicating factors: new regional views and developments

Although the established NATO powers seem politically and strategically ready to consider an exit of nuclear weapons from their territory in Europe, their new partners to the east might be more reluctant. The Baltic states and Poland in particular have been engaged in some sharp exchanges with Russia and may consider NATO's nu-

18. I am grateful for this insight to Robert Einhorn, who emphasized in his comments the importance and effectiveness of consolidation to central storage facilities regardless of the strategic direction—Europe or Asia.

clear weapons to be an extra insurance policy as they try to establish a new *modus vivendi* with Russia. Much will depend on the strength of leadership from the United States in this case, in terms of reinforcing the NATO security guarantee and, perhaps, maintaining vestigial capacity in Europe for some period of time—that is, the nuclear base structure and training activities mentioned above. The confidence of these states will only be raised over time, of course, and as part of a comprehensive process of establishing a healthy relationship between NATO and Russia. Nevertheless, the willingness of Washington to play down the utility of the NATO nuclear weapons remaining in Europe will be important.

Another complicating regional factor comes from far to the south—the nascent nuclear program in Iran. Where NATO is concerned, the reaction of Turkey will be all-important. Opinion polls in recent years have found Turks to be the NATO public most opposed to continuing deployments of nuclear weapons on their territory.[19] Nevertheless, if Iraq continues to be unstable and Iran continues to insist on accelerating its nuclear enrichment program, the Turkish public might become more concerned about Iranian regional hegemony and less interested in de-nuclearization. Already Turkey has stated its claim to an indigenous nuclear energy program—which can in some circumstances be the precursor to a military nuclear program. Here again, much will depend on how attentive other NATO capitals are to Turkey's security concerns, and how willing to continue the process of integrating Turkey into Europe. The United States can again play a reassuring role, but Europe's role will be preeminent.

It is worth emphasizing that if the Iranian nuclear program continues apace and creates more and more momentum for indigenous nuclear programs throughout the Middle East, then NATO countries will require enormous energy and leadership to shift from the status

19. See, for example, "Nuclear Weapons in Europe: Survey Results in Six European Countries," A Study Coordinated by Strategic Communications for Greenpeace International, May 25, 2006.

quo. In other words, they will be loath to change the Strategic Concept and dispense entirely with nuclear weapons in NATO Europe if nuclear weapons in the Middle East are a rising threat. The current NATO position is a hedging strategy, and the Iranians would essentially give the Europeans a continuing reason to hedge. Under such circumstances, only a strong NATO leader or coalition of leaders could make the case that the small number of nuclear weapons in Europe would make no earthly difference to the strategic situation in the Middle East.

Each of the issues raised in these last pages argues for early involvement of other countries in the confidence-building process regarding nuclear weapons designed to be forward deployed. A confidence-building process will likely be needed among NATO countries in preparation for making changes in the Strategic Concept; this could focus on the contemporary nature of the U.S. security guarantee and maintenance of vestigial nuclear capacity in NATO Europe. Another confidence-building process would involve NATO and Russia, including the new NATO countries, and would focus on laying the ground to come to the table to negotiate first controls, and then a ban leading to total elimination of nuclear weapons from operational deployment. Yet another would bring the nuclear weapon states together to prepare for more comprehensive control and reduction measures, leading in the long-term future to a broader ban. The configuration of this group is tricky: it should certainly involve the nuclear weapons states under the Non-Proliferation Treaty—the United States, Russia, China, France, and the United Kingdom—but it should also involve the other states in possession of nuclear weapons—India, Pakistan, and Israel.

In theory, because China, India, and Pakistan do not maintain their nuclear weapons at a high level of operational readiness, negotiating with them a ban on operational deployments should be straightforward. Ironically, the accompanying transparency into their programs, which would be necessary for a negotiated ban, is likely to be much more difficult. The United States and Russia, after 30 years of nego-

tiated nuclear arms reductions, are accustomed to mutual monitoring and verification—but these countries are not. Moreover, Israel does not publicly admit to having a nuclear weapons program. Therefore, no area of short-range nuclear arms control will be simple. However, confidence-building measures with all the relevant countries could start early, and should be the focus of immediate policy efforts.

Whether such confidence-building activities come into the orbit of the NATO-Russia talks or remain in another regional basket is a major question to decide, and this paper does not attempt an answer. Most important is the recognition that a "step-by-step, inch-by-inch" approach such as that outlined here has the potential to draw a number of regional nuclear issues into its orbit—or else create intersecting orbits. Multiple confidence-building venues, with care, can create more rational and consistent nuclear arms control policies, but the effort to maintain focus will be complicated.

Concluding Recommendations: The Road to Eliminating Short-Range Nuclear Weapons

This analysis proceeds from the assumption that until the United States and Russian Federation, along with NATO countries, are able to eliminate short-range nuclear weapons from Europe, efforts to eliminate them anywhere else in the world will be stymied. For that reason, the entire focus of this paper is on what it will take to get NATO and Russia talking about the weapons, understanding the problem from each other's perspective, building up confidence, and moving into controlling and eventually reducing and eliminating the weapons from Europe. While that goal is being accomplished, the other states deploying short-range nuclear weapons—India and Pakistan, Israel, China—should be brought into the discussion and into confidence-building activities. However, these countries will be very unlikely to move to control and reduce their own short-range weapons if the problem in Europe is not solved.

Russia's new dependence on nuclear weapons to compensate for

its conventional weapons receives much attention in this discussion, and it is one of the key issues that will have to be dealt with in order to begin the process of control and reduction. Working toward resolution of differences over the CFE Treaty will be one major way to do so. So Russia, in this regard, is the difficult side of the policy equation.

At the same time, it is worth emphasizing how far NATO and the United States have come in transforming themselves into the easier side of this policy equation. As recently as 1999, NATO was not in a position to move beyond a traditional statement of the importance of nuclear weapons in its Strategic Concept. By 2005, however, politicians in Europe became ready to move the issue out of the closet and debate it openly. Also throughout this period, nuclear readiness levels in NATO Europe steadily declined and in one case—Greece in 2001—nuclear weapons were completely withdrawn from a NATO country.

On the other side of the Atlantic, U.S. strategy became more and more focused on centralizing nuclear planning and operations at Strategic Command in Omaha. This move was consonant with a trend in the direction of centralized capabilities to attack targets worldwide under the "Global Strike" concept. Global Strike became synonymous with long-range, highly accurate, deep-strike conventional missions, which also supported the notion of deemphasizing nuclear weapons in U.S. and NATO policy.

Thus, the environment for ending NATO nuclear deployments in Europe is much more welcoming than it was less than a decade ago, and it is feasible that NATO could decide to recast its Strategic Concept to achieve this goal in the context of its 60th anniversary celebrations in 2009. The key question for NATO policymakers, however, is whether they wish to lead on this issue without requiring a major change in Russian policy at the same time. There are arguments that may be made about the exemplary effect that unilateral action would have in this case, as well as benefits for the NATO allies' defense

budgets (including that of the United States). But it is realistic to assume that Russia will not be willing to move so quickly to reverse its dependence on nuclear weapons in its military strategy.

Therefore, NATO would probably want to maintain an insurance policy while work with the Russians moves forward. The alliance, for example, could agree to remove short-range nuclear weapons from Europe while leaving the infrastructure for deploying the weapons in place. The alliance could continue to train and certify personnel for nuclear operations, and could continue some specific exercise activities to ensure that command and control capabilities remain intact and that nuclear weapons could be quickly reintroduced into Europe if necessary. These steps could then be phased out as mutual confidence builds between NATO and Russia, and as the two sides move toward agreeing on reductions and an eventual ban.

This issue of a disconnect between Russia and the United States/NATO on the importance of nuclear weapons is the most difficult one to grapple with in any effort to eliminate short-range nuclear weapons. The disconnect will take time and patience to address, and this paper recommends an "inch by inch, step by step" approach.

Confidence-building should be the first step, but we need not be satisfied with superficial site visits and other slow steps that characterized confidence-building during the Cold War era. Instead, confidence-building should take advantage of the intensive cooperation that the United States and Russia have pursued in the past 15 years to have some practical effect on real problems being encountered in each side's nuclear forces. For example, in the context of the Warhead Safety and Security Agreement (WSSX), the U.S. and Russia have been working intensively on measures to improve the safety of nuclear weapons against threats of fire and lightning.

Bringing such measures to bear on nuclear weapons in Europe would help to solve real problems that both sides have encountered, and also build confidence in the nature of the deployments. Confidence-building, therefore, should be linked to intensive problem-solv-

ing for both sides, which in turn will have a rapid impact on the growth in confidence—a confidence feedback loop, in other words.

Once mutual confidence is growing, Russia and the United States/NATO can move to the next stage, beginning arms control and reduction measures. Initially, finding a way to exchange data should be the focus of these efforts, for two reasons. First, differences over how to exchange data under the Presidential Nuclear Initiatives has been a persistent irritant between Russia and NATO practically since the PNIs were agreed to in the early 1990s. The resulting damage has made it difficult for the two sides to imagine how they might sit down with each other at the negotiating table. Thus, figuring out a judicious way to do data exchanges by itself would play a vital confidence-building role.

Second, an agreed baseline of weapons systems has always been a necessary and significant precursor to success in arms reduction negotiations. Only once the parties have agreed to the number and nature of deployments can they agree on how much and in what way to reduce them. Either side might begin by trying unilaterally to spur movement, for example through declassification of deployment numbers. The United States has established procedures to do so, and could agree on such steps with its NATO allies. However, there should be no expectation of a quick response from the Russian side, as procedures for declassification are not routinely established and the political environment in Moscow is difficult. Nevertheless, the Russians might be willing to share some data on a confidential government-to-government basis if the United States comes forward with an initiative.

Several larger policy steps will be required before the two sides will be willing to sit down to significant arms reduction negotiations—NATO will have to decide what it wants to do about short-range nuclear weapons deployed in allied countries, and Russia and NATO will have to be on the road to resolving their differences over the CFE Treaty. As these solutions are in train, arms reduction negotiations can begin. Even before that point, however, the two sides could pursue

further unilateral measures to convince each other that nuclear-capable bases have been or are being closed down—and here, Russian willingness to shed more light on the situation in Kaliningrad would be very important. Another interim measure with some risks attached to it would be to recommit to the PNIs. Uncertainties over implementation of the PNIs have added up to some serious mistrust between Moscow and Washington, and for that reason an initiative to recommit could stir up old frustrations. Bringing high-level authority to bear—and particularly President George H. W. Bush and President Gorbachev, who launched the PNIs originally—could be an important way to overcome such irritation.

The unquestionable goal should be a worldwide ban on short-range nuclear weapons in operational deployment, linked to a continuing campaign to eliminate nuclear warheads and dispose of their nuclear materials—with accompanying transparency measures. Efforts to negotiate this ban, which should first engage Russia and the NATO countries, should come to engage the other nuclear weapon states. This could be done through development of a step-by-step confidence-building process that would lead to more comprehensive control and reduction measures, and eventually in the future to a broader ban. The configuration of this group is complicated: it should certainly involve the nuclear weapons states under the Non-Proliferation Treaty—the United States, France, and the United Kingdom (which are NATO countries) plus Russia, China—and also the other states in possession of nuclear weapons—India, Pakistan, and Israel. Because of the complexity involved in engaging these different countries, decisive progress will not come quickly. However, thoughtful confidence-building could start quickly, and should be the focus of immediate policy efforts.

As strategic nuclear arms reductions advance through several phases, from reductions in operationally deployed warheads to eventual warhead elimination, strategic and short-range weapons should be placed in the same basket for negotiating the actual elimination pro-

cess. This approach would acknowledge the reality that nuclear weapons are impossible to differentiate when they are divorced from their launch vehicles, and would also anticipate deep reductions, when the difference between short- and long-range systems becomes steadily less relevant. In fact, implementation of a ban on operationally deployed short-range weapons will be a type of "pilot project" for zero deployed warheads in the strategic forces. The transparency, verification, and monitoring measures applied to short-range weapons will serve well in the strategic case, and certainly as strategic and short-range weapons begin to fall into the same basket for elimination.

The agenda for eliminating short-range nuclear weapons is potentially an exciting one, taking full advantage of the lessons learned over the past 15 years, and particularly the practical ways in which Russia and the United States have learned to work together to enhance the safety and security of nuclear weapons. We have essentially proven to each other that we can together solve vexing problems with regard to our nuclear forces. This mutual interest should help to overcome the frustration, anger, and disconnects that have hampered Russian cooperation with the United States and NATO in Europe. But patience and attention to multiple problems will have to be the watchwords of the effort. Efforts to engage Russia on the nuclear front cannot be divorced from attempts to solve other problems.

Appendix A: Background Materials

A Small History of the Problem

When START II was signed in January 1993, control and reduction of nuclear weapons were seen as the next Everest to be essayed. For the first time, START III would attempt to constrain not only weapon launch systems, but also the weapons themselves. This process would require more daring verification measures, both technically and politically, than had ever before been tried. Nevertheless, Washington and Moscow agreed that shifting the focus of reductions to nuclear weapons was important, since it would open the pathway to steadily deeper reductions in nuclear capability.

Although the progression in strategic arms reductions attracted the most attention, a new frontier also seemed to be opening for constraints on short-range nuclear weapons. The United States, with its allies, had deployed short-range nuclear weapons in the European and Asian theaters for decades. They figured in U.S. war plans against both the Soviet Union and China. The Soviets also deployed many types of short-range nuclear systems in Europe and Asia—mines, artillery shells, aviation bombs, short-range missiles. History tells us that they actually came close to using them against the Chinese in 1968. Many of these weapons, in both NATO and the Warsaw Pact, cohabitated with conventional weapons in dual-use launch systems.

The ambitious new agenda to constrain nuclear weapons persisted through the 1990s, last receiving presidential endorsement in March 1997, when Russian President Yeltsin and U.S. President Clinton met in Helsinki, Finland. Their "Helsinki Summit Statement" reaffirmed that Russia and the United States were intent on controlling and reducing nuclear weapons not only at the strategic level, but also those short-range systems designed to be forward deployed in European and Asia theaters.[20]

20. See "Joint Statement on Parameters on Future Reductions in Nuclear Forces,"

At the end of the 1990s, a different trend was developing, however. Some analysts concluded that the game was not worth the candle: the Soviet threat had collapsed, and the old Soviet nuclear arsenal, whether at the strategic or non-strategic level, posed no threat to the United States or NATO. Furthermore, tough and legally binding arms control measures, especially intrusive verification, would sharply constrain the flexibility that the United States had to plan and deploy its forces.[21] If the United States interacted with Russia at all on nuclear matters, it should be to constrain the threat that Russian nuclear weapons might go missing and fall into the hands of terrorists or rogue leaders who could use them against the United States.

Furthermore, governments in NATO Europe were not particularly keen to pursue the issue. They had been buffeted by public opposition to NATO nuclear deployments in the 1970s and 1980s. At that time, the United States had advanced proposals for a new neutron bomb that was supposed to be especially efficient for urban warfare. The U.S. with its NATO allies had also successfully deployed intermediate-range nuclear missiles (INF) in Europe to counter new Soviet INF systems. Both initiatives had aroused strong and sometimes violent public protests in Europe, and the European governments of the 1990s, many of them relatively weak coalitions, did not welcome the idea of bringing nuclear weapons again into the public eye. Nuclear weapons could remain deployed in Europe, only quietly so.

These trends were complemented on the Russian side as strategists in Moscow became more and more fixated on nuclear weapons as a way to compensate for the weakness and disarray of the Russian armed forces. Russian military doctrinal statements focused increas-

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("Helsinki Summit Statement"), found at www.armscontrol.org/act/1997_03/js.asp, accessed August 2, 2007.

21. Robert Joseph, "Nuclear Weapons and Regional Deterrence," in Jeffrey A. Larson and Kurt J. Klingenberger, eds., *Controlling Non-Strategic Nuclear Weapons: Obstacles and Opportunities*, United States Air Force, Institute for National Security Studies, July 2001, pp. 90–92.

ingly on nuclear weapons as the ultimate way to defend Russia against enemy incursions. The doctrine foresaw both attempts at de-escalation using a single nuclear "warning shot," and use of nuclear weapons against invading forces. It was in this context that Russia abandoned its Soviet-era "no-first-use" strategy in 1991, coming closer and closer to the nuclear policies that NATO had pursued through the years of the Cold War, when it was vulnerable to much more powerful Soviet conventional forces.[22]

Russian experts inside the nuclear weapons complex advanced an argument that developed in parallel with the strategy of using nuclear weapons to compensate for conventional weakness. They became alarmed in the late 1990s that if nuclear weapons transparency measures were pursued, then the United States would gain greater access to Russian nuclear weapons facilities. The Americans would, in effect, breach the inner sanctum on which Russian national security ultimately depended. If that were the case, these experts reasoned, then Russia could find itself in the position of having no means to defend itself against the world's only superpower and its allies.[23]

The U.S. and Russian opposition to nuclear weapon reductions dominated the negotiating scene after 2000. Its effect was to shelve—high up and in the back of the cupboard—existing proposals to pursue controls on nuclear weapons. Even the loose agreement to explore nuclear weapon transparency measures that emerged from the May 2002 Washington summit came to naught. The bilateral working group that was to examine the issue disappeared quickly, seemingly by mutual agreement.

22. For a thorough discussion of the evolution of Russian military doctrine during this period, see Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons, Part I: Background and Policy Issues," Systems Technology, SE-172 90 Stockholm, FOI-R-1057-SE, November 2003, ISSN 1650–1942, pp. 24–34.

23. For more on the Russian attitude toward transparency in their nuclear weapons facilities, see Alexei Arbatov and Rose Gottemoeller, "New Presidents, New Agreements? Advancing U.S.-Russian Strategic Arms Control Agreements," *Arms Control Today*, July–August 2008; see also Harold Feiveson, et al., eds., *The Nuclear Turning Point*, Brookings Institution Press, pp. 181–188.

Constraints of the Past

The Short- and Intermediate-Range Nuclear Forces Treaty (INF), which was signed in 1987, was the most successful attempt to constrain forward-deployed nuclear weapons that has been yet undertaken. It banned an entire class of nuclear missiles between 500 and 5500 kilometers in range—and when the missiles left Europe, they took their nuclear warheads with them. For the United States and its European allies, the ban meant that they were no longer facing a highly capable set of new Soviet nuclear missiles—the SS-20—able to strike at targets throughout NATO Europe with little warning and considerable accuracy. For the Soviet Union, it meant that a large number of nuclear weapons and their delivery systems were being removed from NATO Europe, never to be returned.

The INF negotiations were able to finesse that abiding strategic conundrum of the Cold War era: nuclear weapons in Europe were a priority focus of Soviet policy because the Kremlin saw them as a strategic threat, able to attack strategic targets in the heart of Russia at any time. For the United States and its NATO allies, the nuclear weapons in Europe were either tactical assets, to be used on the battlefield, or theater assets. They were different in missions, management, and command and control from strategic nuclear systems deployed in the continental United States.

The USSR persistently tried to draw theater weapon systems into the strategic category in negotiations, for example by insisting that French and British nuclear systems be included in the negotiations, or certain classes of naval cruise missiles. In INF, however, Soviet negotiators eventually accepted an even trade: NATO Pershing-II and ground-launched cruise missiles for Soviet SS-4s, SS-5s, SS-20s and ground-launched cruise missiles. In doing so, they achieved a great victory for Soviet diplomacy, moving a long way toward a denuclearized NATO—the very goal that they had been seeking, canceling out a strategic threat to targets inside Soviet territory.

Today, ironically, Russia seems enthusiastic to restore that threat. INF has been coming in for criticism, with Russian military leaders calling for Russia to withdraw from the treaty in order to free up the possibility of deploying intermediate-range missiles against certain of its neighbors, such as China.[24] They also argue that this step would be a good response to U.S. deployments of missile defenses in Europe. Thus, despite its reputation as a major stepping stone on the road to ending the Cold War, the INF Treaty is under threat. If abandoned, especially in favor of new Russian deployments of nuclear capabilities against Europe, then the United States and its allies will be forced to consider a like response. Although they would be very unlikely to develop new nuclear weapon systems to deploy in Europe—Pershing-II redux—they nevertheless could re-energize existing policies for deploying nuclear weapons in Europe. Certainly the removal of remaining NATO and U.S. nuclear weapons deployed in Europe would be off the table.

A second successful initiative to constrain short-range nuclear weapons in Europe were the Presidential Nuclear Initiatives of 1991–92. President George H. W. Bush and first President Gorbachev, then President Yeltsin, agreed in parallel to control and eliminate certain classes of short-range nuclear weapons. Gorbachev announced, for example, that the USSR would eliminate its entire global inventory of ground-launched short-range nuclear weapons, including artillery shells, ballistic missiles, and land mines. He also pledged that the Soviet Union would remove all nuclear warheads for surface-to-air missiles from combat units, to store them in central storage facilities; likewise, all naval nuclear weapons would be removed from surface

24. This issue surfaced first in 2005, when Minister of Defense Sergei Ivanov asked U.S. Defense Secretary Donald Rumsfeld how the U.S. would respond if Russia withdrew from the INF Treaty. According to an account in the *Financial Times*, "Mr. Rumsfeld told Mr. Ivanov that he did not care—but the Pentagon denied this." See Hubert Wetsel, Demetri Sevastopulo, and Guy Dinmore, "Russia confronted Rumsfeld with threat to quit key nuclear treaty," *Financial Times*, March 9, 2005.

ships, multi-purpose submarines, and land-based aircraft to be placed in central storage. Many of these warheads would also be subject to elimination.[25]

These unilateral initiatives were the first attempt at "speed dial" arms control: they moved very quickly in policy terms, ensuing from some rapid consultations between the Soviet or Russian and U.S. Presidents, and also between the Russian President and the leaders of the other newly independent states in 1992. The initiatives were seen as an excellent model to pursue when the threat had dispersed so fundamentally with the break-up of the Soviet Union. They were also seen as an urgent necessity, given concerns that the break-up itself would be the source of new and unpredictable threats from terrorists getting their hands on uncontrolled Soviet nuclear assets. Washington and Moscow seemed to agree that it was vital to get the weapons out of dispersed locations and into central storage facilities, where they could be better protected.

Unfortunately, the early comity that led to rapid agreement on the PNIs did not persist during their implementation—an outcome that was partially the result of the very nature of these reductions. Both the United States and Russia, for example, agreed that they would withdraw the nuclear weapons to central storage facilities. But because they did not agree to a definition for such facilities, as would have occurred during a negotiation, they have continued to argue over what constitutes central storage under the PNIs.

This problem was illustrated in 2001, when a story broke in the Washington press that Russia was moving nuclear weapons into Kaliningrad—a Russian enclave in Europe that is surrounded by Poland and Lithuania.[26] Although the details of this controversy remain murky, it is likely that it is actually a good illustration of differences over the definition of central storage: when the United States moved

25. For an extensive discussion of the PNIs, see Arbman and Thornton, Part I, pp. 12–14.

26. Arbman and Thornton, Part I, pp. 35–38.

short-range weapons into central storage, it moved them back to the continental United States, and it expected Russia to do the same with regard to storage facilities deep in Russia. Russia, however, seems to have defined "central" storage facilities, at least in some cases, as storage facilities still on military bases—only not adjacent to weapon-loading and -handling facilities. Russia may therefore have simply been bringing weapons back to "central storage" in Kaliningrad after routine maintenance, rather than beginning a new deployment in contravention of its PNI promises. The weapons would not have been withdrawn from Kaliningrad in the first place, but would have been placed in central storage at the base there.

Whatever the facts of this situation—no doubt classified in nature—it emphasizes the point that without a serious negotiation resulting in carefully agreed definitions, limitations, procedures, etc., questions are going to arise about how each side is implementing its unilateral initiatives. Therefore, the question for policymakers moving forward is, can the early promise of the PNIs—speedy movement to achieve reductions and even elimination of nuclear weapons—be bolstered by some means to improve confidence in their implementation? This key question will be considered in further detail when we turn to reviewing some arms control approaches.

The Momentum of New Strategy and Deployments

While the arms control agenda has experienced stasis or even slid backward in the past 15 years, both the United States and its NATO partners, and the Russian Federation, have made many changes in strategy and the deployment of their short-range nuclear forces in that very period. The PNIs are one expression of those changes, but more important is the fact that the USSR and later Russia drove an enormous consolidation of nuclear weapons in Eurasia. In 1988, NATO estimated that the Warsaw Pact countries deployed up to 1,365 short-range nuclear missiles alone. When the Warsaw Pact and the Soviet Union began to crumble in the late 1980s, the Russian Ministry of

Defense undertook a massive withdrawal of non-strategic nuclear weapons from Eastern and Central Europe, and also from the territory of the non-Russian republics. By 1993, all of these weapons had been consolidated in Russia, and many were in a queue for elimination.[27]

This process involving the non-strategic nuclear weapons was followed by an intensive effort to withdraw over 3000 strategic nuclear weapons from Ukraine, Kazakhstan and Belarus; most of these warheads were slated for elimination, although less than 100 single-warhead missiles withdrawn from Belarus were redeployed with their mobile launchers in Russia.

The decision by the USSR and Russia to pursue an all-out consolidation of nuclear weapons on Russian territory was one of the greatest single factors contributing to continued stability in Eurasia following the breakup of the Soviet Union. The countries in the region have experienced much tension in the years since, some of it self-inflicted, some inspired by their neighbors—and here Russia has certainly played a negative role. However, if nuclear weapons had remained widely scattered around the former Soviet space and Warsaw Pact territory, the result could have been serious continuing crisis and perhaps nuclear disaster.

The consolidation also produced some interesting lessons for the arms control process. First and foremost, it clearly showed that the countries in the region are capable of working together to achieve nuclear policy goals, even when tensions are high. Ukraine, for example, never acquiesced easily to Russian proposals on the consolidation front, nor did it work easily with the United States when Washington became involved in the strategic nuclear "trilateral" discussions in 1993. There was always a persistent fear, at least among U.S. negotiators, that Ukraine meant to hold onto some of the nuclear weapons on its territory—a fear that was heightened when Ukraine froze shipments of nuclear warheads several times during the years when they were going on.

27. Gunnar and Thornton, Part I, pp. 14–19.

Ukraine was demanding that it have some assurances that the weapons flowing back to Russia were going to be eliminated, and not simply re-deployed. It eventually won those assurances, and a verification regime to back it up. This regime was comprised of experienced Ukrainian officers, many of whom had previously served in the Strategic Rocket Forces, and other nuclear experts who received access to Russian elimination facilities to ensure that the warheads being received there from Ukraine were actually destroyed. Thus, it became clear that under some circumstances, Russia was willing to accept inspectors into its warhead elimination facilities.

With this positive point, it is worth reiterating that Russia has persistently presented nuclear weapons as the only way in which it will be able to compensate for the weakness of its conventional forces. Therefore, Russia's policy embodied an important contradiction: Its responsible attitude toward ensuring that new nuclear states did not emerge in the wake of the Soviet breakup never translated into an enthusiasm for reducing reliance on nuclear weapons in its own military doctrine and strategy.

As for the United States and NATO, they have had their own share of contradictions. As mentioned above, in the 1990s European politicians did everything they could to keep nuclear weapons deployed in NATO countries out of the limelight. In recent years, however, this view has been changing, driven as much by budget pressures as by political conviction. Today, five countries in Europe—Belgium, Germany, Italy, the Netherlands, and Turkey—deploy an estimated 150–241 B-61 gravity bombs to be delivered by dual-capable aircraft.[28]

In 2005, Belgian and German parliamentarians began actively to debate NATO's policy with regard to these weapons, arguing in advance of the May 2005 Nonproliferation Treaty Review Conference

28. Hans M. Kristensen, "U.S. Nuclear Weapons Withdrawn from the United Kingdom," The Federation of American Scientists, www.fas.org/blog/ssp/2008/06/us-nuclear-weapons-withdrawn-from-the-united-kingdom.php

that NATO should consider withdrawing these weapons from Europe and sending them back to the United States. For the first time, parties in a ruling coalition, the Social Democrats and Greens in Germany, actively called for such changes. Joschka Fischer, then serving a as Germany's Foreign Minister and a member of the Green Party, called such proposals a "reasonable initiative."[29]

On top of these political developments came budgetary reality. With aircraft such as Germany's Tornado PA-200 and the F-16s deployed by Turkey and the Netherlands reaching the end of their service life, NATO countries will have to decide soon whether they will acquire dual-capable aircraft to replace them. Currently, the preference seems to be not to bear the budget burden of acquiring the extra capability to deliver nuclear weapons.[30] As Hans Kristensen has said, "The trend seems clear: Nuclear burden-sharing in NATO . . . is on a slow but steady decline toward ending altogether. The only question seems to be when and whether . . . constrained defense budgets and force structure reorganization or a political decision . . . will end it."[31]

The United States, although actively insisting on the status quo, nevertheless has itself taken serious steps to move away from reliance on nuclear weapons deployed in Europe. In 2008, for example, the United States withdrew nuclear weapons from the Royal Air Force base at Lakenheath, England. This action followed on withdrawls from Ramstein air base in Germany in 2005 and Greece in 2001.[32] Moreover, since the early 1990s, the United States has been working to consolidate nuclear missions in the new Strategic Command based in

29. Oliver Meier, "Belgium, Germany Question U.S. Tactical Nuclear Weapons in Europe," *Arms Control Today*, June 2005, p. 30.

30. Oliver Meier, "An End to U.S. Tactical Nuclear Weapons in Europe?" *Arms Control Today*, July-August 2006, p. 37.

31. Hans M. Kristensen, "U.S. Nuclear Weapons in Europe: A Review of Post-Cold War Policy, Force Levels, and War Planning," Natural Resources Defense Council, February 2005, p. 59.

32. Kristensen, www.fas.org/blog/ssp/2008/06/us-nuclear-weapons-withdrawn-from-the-united-kingdom.php

Omaha, Nebraska. Once the Bush administration came to office, this process came to embrace the strategy of "Global Strike," and placed greater and greater emphasis on global missions emphasizing conventional rather than nuclear weapons.[33]

This lack of priority focus has manifested itself in Europe in a number of ways, perhaps most seriously in the lack of trained personnel for handling and maintaining the weapons. As early as 1993, evaluation teams were finding that there was a dearth of officers in Europe trained in nuclear operations, and that units handling nuclear weapons suffered from inadequate training across the board.[34] This problem has no doubt been exacerbated by the extra demands placed on military personnel by the war in Iraq.

In light of these trends, it appears that the United States and the NATO allies deploying nuclear weapons have arrived willy-nilly at a new place in their long and stormy marriage, without explicit action but decisive effect: They have decided to sell the nuclear beach house and buy a conventional house in the mountains. Now they just have to figure out how to tell the children.

This metaphor is facetious, but it has a sharp edge to it, honed from the attitudes of the new members of NATO. Although the countries that have been deploying nuclear weapons for decades might be ready to give them up, their new neighbors and NATO partners are likely to be less willing, if only because the neighbor on the other side, Russia, is so nasty and unpredictable—and indeed has been voicing explicit threats lately to deploy more nuclear missiles targeted at Europe, in response to missile defense deployments in NATO countries.

33. For an official statement highlighting this policy development, see Statement by James E. Cartwright, Commander United States Strategic Command Before the Strategic Force Subcommittee of the Senate Armed Services Committee on Global Strike Plans and Programs, 29 March 2006, found at armed-services.senate.gov/statemnt/2006/March/Cartwright%20SF%2003-29-06.pdf, accessed August 2, 2007.

34. Kristensen, pp. 35–36.

This threat can be countered through negotiations, and likely will be. Nevertheless, NATO's newest members will not want to move fast to denuclearize the alliance. Moreover, they will be able to cite NATO documents in support of the status quo. In 1997, NATO assured Russia that it had "no intention, no plan, and no reason" to deploy nuclear weapons on the territory of new members, but it also stated that it does not plan "to change any aspect of NATO's nuclear policy—and do not foresee any future need to do so."[35]

Thus, the Russian Federation on one side and the United States and NATO on the other are both bathed in contradictions. The contradictions will make it difficult to move forward on eliminating short-range nuclear weapons deployed in Europe. In both cases, however, the contradictions contain a seed of possibility: interesting new ideas that might be worth pursuing in the arms control realm. They will either help to set a new environment for arms control deliberations, or in some cases, a new locus for cooperation on confidence-building and arms reductions.

35. See the Alliance's Strategic Concept, approved at the Washington NATO Summit April 23–24, 1999, quoted in Woolf, p. 13.

Appendix B: U.S. Short-Range Nuclear Weapons† in Europe, 2005

Country	*Base*	*Custodian*[a]	*Delivery Aircraft*	*WS3 Capacity*			*Weapons*		
				Vaults	*Capacity*	*Completed*	*U.S.*	*Host*	*Total*
Belgium	Kleine Brogel AB	701 MUNSS	Belgian F-16	11	44	Apr 1992	20	20	20
Germany[b]	Büchel AB	702 MUNSS	German PA-200 Tornados	11	44	Aug 1990	0	20	20
	Nörvenich AB*		German PA-200 Tornados	11	44	Jun 1991	0	0	0
	Ramstein AB	52 FW	USF-16C/D	55[c]	220[e]	Jan 1992	90[d]	40[e]	130
Greece	Araxos AB*			6	24	Sep 1997	0	0	0
Italy	Aviano AB	31 FW	USF-16C/D	18	72	Jan 1996	50	0	50
	Ghedi Torre AB	704 MUNSS	Italian PA-200 Tornados	11	44	Jan 1997	0	40	40
Netherlands	Volkel AB	703 MUNSS	Dutch F-16	11	44	Sep 1991	0	20	20
Turkey	Akinci AB*		Turkish F-16	6	24	Oct 1997	0	0	0
	Balikesir AB*		Turkish F-16	6	24	Sep 1997	0	0	0
	Incirlik AB	39 FW	USF-16C/D	25	100	Apr 1998	50	40	90
United Kingdom	RAF Lakenheath	48 FW	USF-15E	33	132	Nov 1994	110	0	110
TOTAL				204	816		300	180	480

NOTES: †The term "tactical nuclear weapons" is used in Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons; Part I: Background and Policy Issues," Systems Technology, SE-172 90 Stockholm, FOI-R-1057-SE, November 2003, ISSN 1650-1942. The term "nonstrategic nuclear weapons" is also in common usage (see, for example, Amy F. Woolf, "Nonstrategic Nuclear Weapons," CRS Report for Congress, Order Code RL 32572, updated January 9, 2007, pp. 4–6). For purposes of this analysis, "tactical nuclear weapons," "nonstrategic nuclear weapons," and "short-range nuclear weapons" are treated as synonymous.

*Site is in caretaker status.

[a]Each Munitions Support Squadron (MUNSS) includes approximately 125–150 assigned personnel.

[b]Operational and support responsibilities of USAF and the Bundeswehr for munitions support bases in Germany are described in the 1960 Tool Chest Agreement.

[c]One vault is a training vault.

[d]Assumes 20 weapons removed from Araxos Air Base in 2001 were transferred to Ramstein Air Base rather than to Aviano Air Base to avoid filling the Italian vaults to capacity. Alternatively, the weapons could have been returned to the United States.

[e]Half of these weapons may have been returned to the U.S. after Memmingen Air Base closed in 2003.

SOURCE: This data appeared as Appendix A in Hans M. Kristensen, "U.S. Nuclear Weapons in Europe: A Review of Post-Cold War Policy, Force Levels, and War Planning," Natural Resources Defense Council, February 2005.

Appendix C: Russian Short-Range Nuclear Weapons†

Weapons	*Total in service in 1991*	*Outside central storage in 2000, 2001, and 2002*	*Warhead inventory in 2000, 2001, and 2002*	*Outside central storage in 2004*	*Warhead inventory in 2004*
Ground forces					
Rocket forces	4,400	0	>0	0	0
Artillery	2,000	0	>0	0	0
Corps of Engineers	700	0	>0	0	0
Air Defense	3,000	unknown	1,500	unknown	1,500
Air forces					
Frontal aviation	7,000	unknown	3,500	unknown	3,500
General purpose Navy					
Ships and submarines	3,000	0	2,000	0	2,000
Naval aviation	2,000	0	1,400	0	1,000
TOTAL	21,700		8,400		8,000

This table uses as a baseline Alexei Arbatov's figures, supplemented by Russian official statements. The resulting estimate appeared in Gunnar Arbman and Charles Thornton, "Russia's Tactical Nuclear Weapons; Part I: Background and Policy Issues," Systems Technology, SE-172 90 Stockholm, FOI-R-1057-SE, November 2003, ISSN 1650-1942, p. 17. The original Arbatov estimates appeared in Alexei Arbatov, "Deep Cuts and De-alerting: A Russian Perspective," in Harold Feiveson, editor, *The Nuclear Turning Point: A Blueprint for Deep Cuts and De-Alerting of Nuclear Weapons*, The Brookings Institutions, Washington, D.C., 1999, p. 319.

It must be emphasized that estimates of Russian short-range nuclear weapons vary widely, as Arbman and Thornton catalogue in their study. I am grateful to Bruce Blair, Hans Kristensen, and Victoria Samson for pointing out that the Russians might have fewer than 3000 operational tactical nuclear weapons in 2007, of which 700 would be for defensive operations (100 for ABM purposes, 600 for air defense), and 1629 would be for offensive operations (974 for bombers and 655 for naval delivery). As Kristensen points out, however, "These are best estimates. There's no solid information." E-mail exchange with Bruce Blair and Victoria Sampson, September 5, 2007.

†Gunnar and Arbman use the term "tactical nuclear weapons"; the term "nonstrategic nuclear weapons" is also in common usage (see, for example, Amy F. Woolf, "Nonstrategic Nuclear Weapons," CRS Report for Congress, Order Code RL 32572, updated January 9, 2007, pp. 4–6). For purposes of this analysis, "tactical nuclear weapons," "nonstrategic nuclear weapons," and "short-range nuclear weapons" are treated as synonymous.