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Director's Series on Proliferation

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Editors Note: This fifth edition of the *Director's Series on Proliferation* contains some of the papers that were presented in July 1994 at the Lawrence Livermore National Laboratory conference, "NPT: Review and Extension." The remainder will be published in the forthcoming sixth edition of this Series.

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Strategic Warning and New Nuclear States

*Leonard Spector**

In the new international threat environment, obtaining strategic—used here to mean “early”—warning of the emergence of new nuclear-weapon states is becoming an increasingly daunting challenge.

The long-standing rules of strategic warning assumed that a state’s interest in acquiring nuclear arms could be easily surmised and that early efforts to acquire that capability could be detected many years before the state could emerge as a nuclear power. Today, however, those assumptions no longer apply in an increasing number of cases, and the threat of unexpected nuclear proliferation has become a growing danger for the United States and its allies.

A Brief Look Back: 1964–1991

The Ten Year Rule

The United States, the Soviet Union, and China each developed nuclear weapons in less than five years; the British and French programs, though stretched out over a longer period, moved rapidly once the basic decision to build nuclear arms was made and the necessary resources were committed to the task.

Since the Chinese test in 1964, however, states that have sought to manufacture nuclear arms have generally required at least a decade to

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attain this objective; a pattern that may be referred to loosely as the "Ten Year" rule. This critical time lag enabled the US intelligence community (or that of other states) to detect nascent nuclear programs early in their life cycles. This, in turn, provided the opportunity for diplomatic—and sometimes military—intervention to check the nuclear ambitions of the would-be proliferant. These nonproliferation efforts were not always successful, but at least they could be pursued because of the strategic warning provided by the seemingly unavoidable delay between a country's decision to manufacture nuclear weapons and its realization of this goal.

In virtually all cases, the reason for this delay stemmed from the considerable time needed to build the nuclear infrastructure necessary to produce the plutonium or highly enriched uranium for the core of a nuclear device. Both of these materials require the construction of a series of complex installations. Even for advanced states, building these facilities can be a lengthy process, and for developing countries, a decade or more has almost always been required. As the industrialized nuclear supplier countries curtailed their sales of sensitive nuclear plants and equipment to countries of proliferation concern, moreover, the latter were forced to rely increasingly on clandestine imports of relevant equipment and materials to augment their indigenous technological and industrial bases. Indeed, as supplier controls over transfers of nuclear-unique commodities intensified during the 1980s, proliferant states were increasingly limited to covert imports of dual-use items, such as advanced machine tools and exotic materials, or to employing outmoded technologies that could be developed indigenously—limitations that further lengthened the time required for the construction of the facilities needed to produce nuclear arms.

As summarized in Table 1, the Ten Year rule applied all but universally to cases of actual or attempted nuclear proliferation between 1964 and 1991. In cases of actual proliferation, where diplomacy or other means have failed to block the nuclear bid of the country in question, ten years have usually been required for the development of nuclear arms; while in the cases where nonproliferation efforts succeeded, it was the long lead-time required for the country in question to acquire nuclear arms that enabled diplomacy or other factors to interrupt the effort.

Table 1. Historical application of the “Ten Year” rule in major proliferation cases between 1964 and 1991

Country	Start of nuclear program/availability of first nuclear device	Diplomatic intervention or other political development retarding/halting program
<i>Actual proliferation</i>		
Israel	1956/1966–1968?	US inspections; unsuccessful
India	1956/1966; test 1974	US and Canadian diplomatic pressure; unsuccessful
South Africa	1970/1977	US and European diplomatic pressure; unsuccessful
Pakistan	1972/1986–1988	US sanctions, diplomatic pressure; unsuccessful
<i>Attempted proliferation</i>		
Sweden	1952/	Slowed because of domestic opposition; halted 1968
South Korea	1974/	Halted by US diplomatic intervention, c. 1976
Taiwan	early 1970s/ (also 1988/)	Halted by US diplomatic intervention, c. 1976, 1988
Iran I	mid-1970s/	Halted by Iranian revolution, 1978–1979
Iraq I	mid-1970s/	Halted when Israel destroyed the Osiraq Reactor, 1981
Argentina	mid-1970s/	Halted by the advent of democratic government, 1983
Brazil	mid-1970s/	Slowed by the advent of democratic government, 1985; halted 1990
Libya	mid-1970s	Slowed/halted by international embargo
North Korea	late 1970s/	Continuing? Slowed? US leading an international effort to block
Romania	late-1970s?/	Apparently terminated with the overthrow of the Ceausescu regime, 1989
Iraq II	1982/	Destroyed by coalition bombing during the 1991 Gulf War and subsequent United Nations mandated dismantling activities
Iran II	c. 1990/	Continuing; US leading an international effort to block

The concept of the Ten Year rule is intended as a shorthand rubric for helping to understand the essence of strategic warning in past nuclear proliferation cases. Although it does not apply perfectly in at least one of the examples listed in Table 1, namely, South Africa, it is still valuable as a heuristic tool.¹ The South African case is instructive for a number of reasons and deserves further brief analysis. Perhaps because of its level of technological advancement, this nation appears to have been able to build its first nuclear device in less than ten years. South African officials today state that the decision to build nuclear arms was not taken until 1974, when growing Soviet involvement in nearby Angola, Mozambique, and Zimbabwe triggered heightened concerns about South Africa's security. This would suggest a gap between decision and possession of only three years. The United States was alert to South Africa's nuclear potential as early as 1970, however, when Pretoria announced that it had developed a new process for enriching uranium. Thus, there is little question that ample strategic warning existed in this case, even if it was a bit foreshortened in comparison to the typical ten-year period.

Orientation Uncertainty: South Africa

Unfortunately, as was true for Israel, India, and Pakistan, even though timely warning of South Africa's capabilities was available, diplomatic intervention was unable to halt South Africa's nuclear advances. One reason may have been that the US intelligence community did not take the warning in the case of South Africa as seriously as it should have and did not press US policymakers to act. It would be presumptuous for a nongovernmental specialist to attempt to assess the community's performance in this case, given the limited information available. Nonetheless, the public record provides a basis for at least questioning whether the system worked as it should have in this instance.

¹The Indian case also may not be a perfect example. The overall Indian nuclear program began in earnest with the agreement to obtain the Cirus reactor from Canada in 1956. The Bhabha Atomic Research Center reprocessing plant began operating in 1966, providing a de facto nuclear weapons capability, apparently over a ten year period.

It is not known, however, precisely when senior Indian policymakers decided to develop nuclear explosives. In terms of declared policy, the decision can be traced to Prime Minister Charan Singh's decision in 1965—a year after China's first test—but Homi Bhabha and other Indian leaders may have planned a nuclear explosives option from a much earlier time. If the decision to develop explosives was not, indeed, made until 1965, then India went from desire to capability in only a year or so.

India, of course, did not conduct its test until 1974. If this were used as the marker for India's arrival as a nuclear state, and the decision to develop nuclear explosives is assumed to be 1965, approximately ten years were again involved.

A September 1974 CIA review of emerging nuclear states concluded with regard to South Africa:

... it apparently has developed a technology for enriching uranium that could be used for producing weapons-grade material. South Africa probably would go forward with a nuclear weapons program if it saw a serious threat from African neighbors beginning to emerge. So serious a threat is highly unlikely in the 1970s.²

Yet, South Africa did, indeed, perceive a serious threat from near-by states and decided that very year to develop nuclear arms. Moreover, it appears that perhaps because of this misreading of South African motivations, the United States was not monitoring developments in that country as closely as it might have: in 1977, it was apparently a Soviet surveillance satellite that first observed the South African test site in the Kalahari Desert, not an American one.

The case is thus a reminder that motivations, as well as capabilities, are an essential part of the strategic warning database since they determine what might be called a state's nuclear "orientation"—whether it has decided to develop nuclear weapons or to refrain from doing so. As discussed below, in the new era of strategic warning for nuclear proliferation, questions of motivation are becoming increasingly important, even as they are becoming increasingly complex.

This suggests the need for an "Orientation Uncertainty" factor to be introduced into strategic warning efforts. This factor would lead analysts to monitor a broader band of states as potential proliferants than might otherwise be the case given existing evidence, to account for the risk that rapidly changing motivations or related factors might lead to a sudden reversal of a state's nuclear orientation.

Acceleration Uncertainty: Iraq and Pakistan

Two additional historical cases also deserve further comment because they presage another problem of this new period. The first is Iraq, after 1982. Based on conversations with US intelligence analysts, it is clear that the United States had considerable warning of Iraq's nuclear intentions. This was highlighted publicly in President George Bush's Thanksgiving Day 1990 speech to US troops in Saudi Arabia and was manifest in the targeting of numerous nuclear sites in Iraq during the Desert Storm air war.

²Central Intelligence Agency, "Prospects for Further Proliferation of Nuclear Weapons," DCI NIO 1945/74, September 4, 1974, p. 3.

Nonetheless, because of extensive and diverse Iraqi deception efforts, US analysts were not aware of the key element of the Iraqi nuclear program, the use of electro-magnetic isotope separation to produce enriched uranium; nor was the full extent of Iraqi weaponization efforts appreciated. As a result, while 1990 US intelligence estimates concluded that Iraq would require between five and ten years to cross the nuclear threshold, in fact, it is now estimated that Baghdad could have reached this objective in about three years, i.e., by late 1993. Had the invasion of Kuwait taken place in August 1993, instead of August 1990, this misreading of the Iraqi program could have had serious consequences, indeed, for American diplomatic and military responses.

Obviously, intelligence analysts cannot analyze what they do not know. As discussed further below, the Iraqi case suggests that future estimates of nuclear progress in proliferant states should include an "Acceleration Uncertainty" factor that shortens worst-case assumptions about the nuclear advances of threshold states by at least several years to account for the possibility that the proliferant state may be able to make unexpectedly rapid advances by successfully shielding portions of its program from detection by outsiders.

The surprise concerning Iraq's advances came as the result of Iraqi deception. Like the other nations listed in Table 1, it was proceeding through all the steps necessary to build a complete nuclear-weapon infrastructure. The surprise came from the fact that the United States was simply unaware that Iraq had already taken as many steps as it had. The case of Pakistan highlights another means by which unexpected acceleration of a nuclear program can occur: through significant clandestine assistance from more advanced nuclear states.

During the early 1980s, China apparently provided Pakistan with a nuclear-weapon design and enough weapons-grade uranium for one or two nuclear devices. It appears that Pakistan at that point had not yet learned to fabricate the non-nuclear components for the triggering mechanism of a nuclear device. If it had already mastered this aspect of weapons-building—or if China had been a bit more generous—Pakistan could have emerged as a *de facto* nuclear state a good five years earlier than was actually the case. Thus, although Chinese aid undoubtedly shaved a number of years off the time Pakistan ultimately needed to become an undeclared nuclear power, Islamabad was unable to capitalize fully on China's largesse.

Not since the Soviet Union's assistance to China in the late 1950s and France's assistance to Israel in the 1950s and early 1960s had there been such direct aid to the development of nuclear weapons by an emerging nuclear power. As discussed below, however, the provision of such assistance, whether rendered on a government-to-government basis or

by private sellers of nuclear-weapons-related goods and technology, is likely to become increasingly common in the years ahead. This would provide a second means, in addition to deception, for emerging nuclear states to accelerate their nuclear endeavors far more rapidly than US analysts might otherwise anticipate. The danger of direct aid for nuclear-weapon programs is a second reason for incorporating an Acceleration Uncertainty factor into future proliferation estimates.

The New Era

The Changed Proliferation Context

The new era of nuclear proliferation emerged with the end of the Cold War and the disintegration of the Soviet Union. It is characterized by a number of major changes from the preexisting environment.

First, the fundamental threat to US security posed by Soviet nuclear weapons has ended, and while today these arms in the hands of the Soviet successor states pose a variety of proliferation dangers, they are not thought of as directly threatening US survival, except in a largely abstract sense. The end of the Soviet threat has permitted far greater US diplomatic, military, and intelligence resources to be focused on nonproliferation efforts.

The emergence of proliferation as the principal US strategic concern would probably not have occurred, however, but for the presence of a second, somewhat accidental factor, namely, the fact that in 1991, the particular states in the developing world that were approaching the nuclear threshold happened to be Iran, Iraq, and North Korea—states that are intensely hostile to the United States and its regional allies. During the 1970s and 1980s, in contrast, the principal states of proliferation concern, such as India and Pakistan, were American friends, or at least not US enemies. The emergence of the “hostile proliferator states” has intensified concerns over the spread of nuclear weapons far beyond what would have been the case if other more friendly states had been the ones approaching nuclear capabilities.

The third new element of the current period is the new style of proliferation threat posed by the breakup of the Soviet Union. This threat includes the risk of the sudden emergence of Belarus, Kazakhstan, and Ukraine as new nuclear states through the inheritance of Soviet nuclear assets that remain on their soil and the risk of massive, unregulated transfers of nuclear weapons, weapons-grade nuclear material, or weapons-relevant equipment and technology to other states interested in acquiring nuclear arms. The splintering of Russia itself into smaller states also remains a concern and could greatly magnify these dangers.

Finally, the end of the Cold War and the break-up of the Soviet Union have spelled the end of the Warsaw Pact, creating a potentially unstable security environment for the states of Eastern Europe and the non-Russian republics of the former Soviet Union. In addition, the demise of the Soviet threat has raised questions about the strength and durability of US security commitments to its traditional allies, a change perhaps most acutely felt in Asia. These changes could dramatically alter national calculations about the utility of acquiring nuclear arms.

Because of these and related trends, the reliability of Ten Year rule has become problematic. Growing uncertainties about national motivations to acquire nuclear arms and growing opportunities to truncate the acquisition process mean that the task of proliferation prognosticators is becoming increasingly complex. Moreover, another element in the proliferation equation not seen in the 1964–1991 epoch, the potential break up of nuclear powers, is adding to the predictive predicament.

Uncertain Orientation: Ukraine, Japan, and Taiwan

The past several years have demonstrated how rapidly national attitudes toward the possession of nuclear arms may change from abstinence to avidity. When Ukraine gained independence in 1991, popular and governmental sentiment was intensely anti-nuclear. Both President Leonid Kravchuk and the Ukrainian parliament made repeated commitments that the country would remain a non-nuclear-weapon state, by returning all nuclear arms to Russia and joining the Nuclear Non-Proliferation Treaty (NPT) as a non-nuclear party. During 1992, moreover, Ukraine permitted the removal to Russia of all tactical nuclear weapons on its territory.

In less than a year, however, public sentiment shifted dramatically, as nationalists in the country's defense establishment and parliament began to see continued possession of nuclear weapons as essential to secure Ukraine against the perceived threat of future Russian imperialism. Unfortunately, nationalists in the Russian parliament fueled these anxieties in Ukraine by asserting Russian claims to the Crimea and the Soviet Black Sea Fleet. By the summer of 1993, Ukraine was exercising "administrative control" over the approximately 2000 Soviet nuclear weapons still on its territory, and both the parliament and the country's prime minister had declared that the weapons now belonged to Ukraine. (Ukraine still had not asserted "operational control" over the weapons—the authority to use them—however.) Reflecting this growing support for nuclear arms, on November 18, the Ukrainian parliament approved the Strategic Arms Reduction Treaty (START) with a series of major reservations that appeared intended to block the treaty's ultimate ratification; simultaneously, the parliament repudiated a commitment made

by Ukrainian President Leonid Kravchuk in the May 1992 Lisbon Protocol to START, committing Ukraine to adhere to the NPT in the "shortest possible time."

In early 1994, Ukraine once again changed course. On January 14, the presidents of Ukraine, Russia, and the United States signed a "trilateral statement" under which Ukraine agreed to eliminate all nuclear weapons on its territory within three years³; two hundred warheads were to be transferred to Russia by mid-November 1994. In return, Ukraine received a number of immediate economic benefits from Russia and the United States, and the latter two states agreed to provide expanded guarantees of Ukrainian security once it joined the NPT. On February 4, 1994, the Ukrainian parliament accepted these arrangements as satisfying its November 1993 reservations to START and approved the pact without condition. At the same time, it withdrew its repudiation of Ukraine's Lisbon Protocol pledge to join the NPT promptly and reaffirmed this commitment, although it did not take up consideration of the nonproliferation accord.

Despite these undertakings that appeared to return Ukraine to the path of denuclearization, major questions remain as to the country's nuclear future. A new parliament, elected in March and April, has yet to consider approving adherence to the NPT, and Ukraine's new president, Leonid Kuchma, elected in July, has raised objections to Ukraine's denuclearization in the past.

Whatever the future may hold, Ukraine's astonishing nuclear *volte-face* in 1993 and the continuing flirtation of some of its leaders with nuclear arms should sound an alarm bell about what could occur elsewhere.

Indeed, the danger of nuclear turnabouts is already evident outside of the former Soviet Union. In Tokyo at the July 1993 G-7 Summit, Japan initially refused to endorse an indefinite extension of the NPT when it comes up for renewal in 1995. Under the treaty, Japan is a non-nuclear-weapon state, prohibited from manufacturing nuclear explosives and required to place all nuclear installations under monitoring by the International Atomic Energy Agency. The five declared nuclear-weapon states—the United States, Russia, Great Britain, France, and China—are entitled to retain and expand their nuclear arsenals, limited only by the obligation to negotiate in good faith toward nuclear disarmament.

³The text of the Trilateral Statement declares that Ukraine will transfer the weapons to Russia within seven years after START enters into force, but an initially secret side agreement specified that the action would be completed within three years. A protocol signed by Russian Prime Minister Viktor Chernomyrdin and Ukrainian Prime Minister Yefim Zvyagilsky formalized the three-year schedule in late May 1994.

At the time of the July Summit, elements of Japan's then-ruling Liberal Democratic Party (LDP) coalition apparently had reservations about indefinitely extending the NPT, citing new anxieties about North Korea's nuclear-weapon and ballistic missile programs; Japanese nationalists also feared that an indefinite NPT extension would consign Japan in perpetuity to an inferior military status *vis-à-vis* the five nuclear-weapon states. Yet only a year earlier, at the Munich G-7 Summit, Japan, also under LDP leadership, had agreed to a strong endorsement of an indefinite NPT extension. Thus Japan's stance at the Tokyo session suggested that the country's attitude had shifted significantly and suddenly.

Ultimately, Japan agreed at the 1993 Summit to a statement of support for a permanent NPT, but the endorsement was weaker than that issued the year before. Following elections in July 1993, in which a left-leaning coalition ousted the LDP after more than forty years in power, Japan's new Prime Minister Morihiro Hosokawa, firmly committed Japan to an indefinite extension of the pact.

Despite the happy outcome, (which presumably will continue under Prime Minister Tomiichi Murayama), the episode raises serious doubts about the depth of Japanese commitment to a non-nuclear future. With China gaining economic strength and modernizing its military, North Korea looming as a new nuclear threat, prospects for a powerful, unified Korea on the horizon, and uncertainties growing about the strength of US commitments in the region, Japan could decide in the not-too-distant future that it needs a nuclear deterrent of its own. Given the experience in Ukraine, it is reasonable to question how long Japan's "nuclear allergy"—the legacy of the bombing of Hiroshima and Nagasaki—would endure if challenged by nationalist elements demanding nuclearization to protect Japan against these perceived threats to its security. Japan's advanced nuclear and space programs would enable it to become a nuclear power very rapidly once such a decision were made.

Given their histories, numerous states in Eastern Europe, that now lie between a unified Germany and a still powerful Russia, might also reexamine their nuclear renunciations in the years ahead, particularly if militant nationalists came to power in Bonn or Moscow. Though seemingly committed to nuclear abstinence today, the states of Eastern Europe deserve careful monitoring on the part of proliferation watchers.

Finally, the case of Taiwan raises an additional facet of the Orientation Uncertainty problem, highlighting the balance between desire and restraint. Clearly from the standpoint of motivation, Taiwan is the quintessential proto-proliferant. Its right to exist is challenged by a vastly more powerful, nuclear-armed neighbor; its key alliance with the United States has eroded; and an independence movement that is

certain to antagonize the People's Republic of China is gaining strength. Indeed, in the early 1970s and in the late 1980s, Taiwan is known to have taken steps toward developing the capability to produce plutonium for nuclear arms, but was blocked by US diplomatic intervention.

As history has shown, one of the principal barriers to Taiwanese nuclearization has been the Ten Year rule. Because the process of building a nuclear infrastructure is so lengthy, Taiwan has twice been caught in the act and must anticipate that it would be caught again in any future attempt. Depending on the circumstances, it could be China, rather than the United States, that might intervene in the next episode to halt the nuclearization process, and China might choose to use military force rather than diplomacy in the effort. The knowledge that it would be exposed for many years to the threat of discovery undoubtedly acts as a brake on Taiwanese nuclear ambitions. In effect, though Taiwan has a clear motivation for developing nuclear weapons, that impulse has been suppressed in large measure because of the impact of the Ten Year rule.

Unfortunately, the breakup of the Soviet Union has introduced a new element into this equation. If nuclear arms or weapons-grade nuclear materials begin to leak from the former Soviet republics, as many observers fear may soon occur, their availability could transform attitudes in states like Taiwan, i.e., states that desire nuclear weapons but are deterred from pursuing them aggressively because of the long lead-times involved. If Taiwan were to obtain one hundred kilograms of plutonium, for example—enough material for ten to twenty nuclear weapons—it might well reconsider its current nuclear abstinence, hoping that it could develop a small nuclear force without detection and present the world, and especially China, with a *fait accompli*.

Under somewhat different circumstances, Ukraine found itself in just this position. It, too, is a state with a strong security rationale for nuclear arms. But especially in view of its anti-nuclear leanings, it surely would have hesitated to seek them if this meant exposing itself to international pressure—and Russian threats—for ten years or more. With nuclear arms potentially available overnight, however, Ukraine began to consider the option of becoming a nuclear state much more seriously.

Thus, in these cases, and in others as well, if the potential to acquire an instant nuclear deterrent were to emerge, national nuclear orientations could change direction very rapidly—not because of a change of popular or elite sentiment but because of a sudden change in capability. An international black market in weapons-grade nuclear materials, for example, could well lead to such reversals not only in Taiwan, but in many Eastern European nations, and in a fair number of additional states, including South Korea, Egypt, and Turkey.

In sum, current national orientations toward nuclear arming cannot be taken for granted (1) because such attitudes are inherently mercurial in the face of changing security challenges, and (2) because the potential for the rapid acquisition of a nuclear deterrent, which may soon become an unfortunate new element of the international scene, can suddenly remove restraints that have kept incipient nuclear ambitions in check for many years. Therefore, it is increasingly important, as stressed above, to incorporate Orientation Uncertainty into proliferation projections and to cast a wide analytic net in seeking to identify potential proliferant states.

Unexpected Acceleration: North Korea and Iran

Once a state is identified as having an active interest in acquiring nuclear arms, strategic warning will have been effectively obtained. But if the state's capabilities are grossly underestimated, it may nonetheless present the United States and the rest of the world with a strategic surprise by emerging far earlier than expected as a nuclear threat.

Two mechanisms were identified earlier as potentially contributing to a state's ability to steal a nuclear march on outside observers. First, the state may successfully engage in *deception*, as Iraq did, hiding elements of its activities from view. Second, it may receive *active assistance* in pursuing its nuclear ambitions from other, more advanced states (either government-to-government or through unscrupulous private entities).

Looking at the first mechanism, there is considerable concern today that like Iraq, North Korea may have successfully hidden elements of its nuclear program from US monitoring efforts. Worst-case US analyses of the North Korean program have, however, assiduously kept this possibility in mind, and statements by CIA Director James Woolsey, among others, have repeatedly cautioned that North Korea may be farther down the path to nuclearization than appears from its activities at its key nuclear complex at Yongbyon. In this case, Acceleration Uncertainty is being applied with a vengeance.

Iran is another case where deception must be anticipated. Having witnessed Iraq's success in this regard, Iran will surely attempt to emulate this practice. It is not clear whether US estimates—which conclude that Iran remains at least eight years from a nuclear device—have fully taken this factor into account.

More troubling in the case of Iran, however, is the possibility that it may be able to benefit from the second acceleration mechanism: active nuclear-weapons-related support from other states. Pakistan could be one source for such support. It is known that in mid-1991, for example, then Pakistani Prime Minister Nawaz Sharif rejected a proposal from Chief of Army Staff Mirza Aslam Beg to build a strategic alliance with

Iran that would have included the sharing of nuclear-weapons technology. Such an initiative might be renewed in the future, however, depending on the turns of regional and domestic politics.

Government-to-government assistance from China is another potential danger. Beijing is thought to have aided Iran with the development of a missile manufacturing capability, has allegedly attempted to provide it with chemical-weapon precursor materials, is selling it a nuclear power reactor, and may already be providing direct assistance to the Iranian nuclear-weapon effort.

Iranian nuclear collaboration with North Korea—a parallel to the North's cooperation with Iran in the development of medium-range ballistic missiles—might also enable Tehran to cut the time needed to build a first nuclear device.

Yet another alternative that could greatly speed up Iran's nuclear-weapons effort is the leakage of nuclear weapons or materials from the former Soviet Union or from China (where current regulatory controls are lax, and where future political turmoil may weaken them further).

Despite the very real possibility that Iran may be able to accelerate its nuclear bid with such outside assistance, US analysts appear reluctant to give this factor weight in their estimates of Iran's nuclear potential. Israeli specialists, however, have been urging that alternative estimates of Iranian capabilities be made—one assuming little outside help, which would mean Iran could not have its first weapons until the turn of the century; and the other assuming considerable external assistance, which might mean the advent of an Iranian bomb as early as 1996 or 1997. Iran's leap-frogging potential deserves similar respect in Langley and Livermore.

Break-Up Scenarios: Russia and China

The inheritance by a successor state of a portion of the nuclear assets of a nuclear power is another mechanism by which proliferation can occur while bypassing the lengthy development period reflected in the Ten Year rule. Long-range predictions in this context require analysis of possible disintegration mechanisms, likely successor states, and potential dispositions of nuclear assets. As seen earlier, the disintegration of a nuclear power can also have widespread proliferation consequences if it results in a loss of control over exports of nuclear weapons or weapons-grade nuclear materials, allowing an international black market in such commodities to emerge.

As efforts continue to contain the proliferation dangers inherent in the breakup of the Soviet Union, attention must be given to two further disintegration threats: the possible breakup of Russia into smaller

splinter states and turmoil in China after the demise of Deng Xiaoping. Both could introduce a series of proliferation dangers of the kind already threatened by the breakup of the Soviet Union, but potentially far more serious.

Russia, for example, contains the bulk of the Soviet strategic arsenal, some 10,000 tactical nuclear weapons, and a vast stockpile—hundreds of tons—of weapons-grade nuclear materials. The disintegration of this country could easily result in divided control over these nuclear assets and would place enormous stresses on existing command and control mechanisms. Regulating nuclear exports would become even more difficult than it is today. Civil strife within Russia could readily take on a nuclear dimension as one faction or another seized nuclear assets to be used as bargaining chips in a bid for independence or national power.

In China, most analysts agree that the death of Deng will bring on a potentially lengthy period of factional competition, with various regional, ethnic, and political camps vying for power. If the period of instability is a lengthy one, a number of break-up scenarios might unfold.

China's most prosperous provinces—Guangdong and Fujian—might seek autonomy and possibly independence, for example, if Beijing sought to regain control of their booming economies. Or the country's most backward, rural provinces might attempt to break away, to end perceived neglect or exploitation by the Center. A third alternative is a breakup along ethnic or nationalistic lines, with Muslims in Xinjiang, Buddhists in Tibet, or nationalists in Inner Mongolia or Manchuria striking out for independence from Beijing. Depending on the provinces involved, a wide array of China's most sensitive nuclear assets might change hands. The Chinese military has also revealed profound stress lines; if it shatters, there is every reason to fear that more than one of the resulting splinter elements will gain control of a part of the country's varied and widely distributed nuclear legacy. Although few consider these scenarios to be likely ones, many China scholars are giving them serious attention as potential contingencies; it is not clear how much attention they are receiving in US government circles.

The US intelligence community is apparently more fearful that turmoil in the post-Deng era will lead to a loss of control over nuclear exports. Although the Chinese nuclear arsenal and infrastructure are only a fraction of the size of Russia's, a culture of export restraint appears to be far less well inculcated in China, magnifying the dangers of this threat.

As suggested in the discussion of orientation and acceleration uncertainties, unbridled Russian or Chinese nuclear exports could have a profound impact on the attitudes of other states regarding the development

of nuclear weapons and on the rapidity with which they could reach this goal if they seek to attain it.

Thus, for analysts seeking early warning of future proliferation trends, the break-up scenarios are important both because of the splinter-state problem and because of the potential repercussions for the nuclear decision-making of other nations.

Conclusions

The New Rules of the Game

For proliferation prognosticators, the changed international environment has introduced a host of new difficulties. Accordingly, in the coming decade, a number of new precepts must be adopted:

- ***Do not rely on the Ten Year rule.*** Assume that many surprises lie ahead. Treat the Ten Year rule as an artifact of the Cold War period, a luxury that is no longer available.
- ***Incorporate Orientation Uncertainty when surveying the proliferation scene.*** Cast a wide net in identifying potential proliferant states. Assume that an increasing number of nations will begin to consider the nuclear option, given the unsettled international security climate. Don't treat popular "anti-nuclear" sentiment as the predominant determinant of nuclear orientation.
- ***Incorporate Acceleration Uncertainty when assessing individual nuclear programs.*** Assume that accelerated development of nuclear arms is always an active possibility, given the growing opportunities for deception and for assistance from more advanced states. Deduct several years from the "worst case" scenario otherwise suggested by the target's known technological capabilities.
- ***Anticipate additional disintegration scenarios.*** Watch for signs of splintering in Russia. Prepare for turmoil in China after the death of Deng Xiaoping. Both could create new nuclear inheritor states or a global black market in weapons-grade nuclear materials.

Fundamentally, new uncertainties have beset the field of nonproliferation, but some *patterns* of uncertainty are beginning to manifest themselves. By taking uncertainties regarding orientation, acceleration, and nuclear-state disintegration into account, analysts can begin to compensate for some of the inevitable unknowns with which they must contend. It remains to be seen whether they—and this author—will begin to do so in a consistent and credible manner.

2

What's the Future for Nuclear Weapons?

*Read Hanmer**

Nuclear weapons were a necessary ingredient in the Cold War balance of capabilities. By presenting the risk that aggression would ultimately and inevitably lead to strategic nuclear exchanges, with the consequent obliteration of society as we know it, nuclear weapons served as a powerful deterrent to adventurism. With the end of the Cold War, the confrontation between East and West has ended; however, considerable instabilities have developed and many simmering disputes have come to the fore. Now, there is a great danger that regional, ethnic, or religious conflicts may feature one or more participants possessing weapons of mass destruction (WMD)—nuclear, chemical or, biological weapons—and their means for delivery. Whether we like it or not, nuclear weapons will continue to exist. The question therefore arises as to whether, and how, nuclear weapons can contribute to stability in this emerging world situation. Can nuclear weapons effectively deter WMD in the post-Cold War environment?

For nuclear weapons to present a credible deterrent to unwanted and unwarranted behavior will require a complete rethinking of the underlying rationale for nuclear deterrence and an analysis of the nature and extent of the actions to be deterred. There are three reasons why reevaluation is required. First, the nature of the threat to peace and stability has undergone a profound change. Although the specter of strategic nuclear war has faded, it will be necessary in the foreseeable future to maintain a secure deterrent against a revanchist Russia, or an expansionist China, or the emergence of a regional power possessing a WMD capability. A new threat emerges from fanatical leaders who may seek to expand their

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influence by acquiring, and then flaunting or using weapons of mass destruction. They will be able to threaten broader areas through the acquisition of longer range delivery systems, perhaps intercontinental systems. Furthermore, regional confrontations between nuclear-armed nations inevitably will involve nearby countries. The advent of one or more such situations, coupled with a loss of the credibility of the US security umbrella, could lead nations like Japan or Germany to seek their own nuclear deterrent capability. They would have little difficulty in doing so.

Second, the existing concepts for the deployment and employment of nuclear weapons bear little relevance to the emerging threats. Rather than planning for strategic exchanges, or for options designed to influence the course of large-scale conflicts between heavily armored forces, the need in the future will be for highly limited, very selective strikes designed to excise an aggressor's capability to support attacks with WMD, or to disrupt a regional conflict long enough to give diplomacy a chance to separate the belligerents.

Third, the moral barrier to actual use of nuclear weapons is enormous. If a nuclear deterrent strategy is to have any credibility in the future, it must be understood and not opposed by the international community.

There are a number of imperatives for the urgent evolution of the existing nuclear deterrent strategy:

- Strong pressures exist, principally in the context of the forthcoming Non-Proliferation Treaty (NPT) Review Conference, to completely delegitimize nuclear weapons. However, there are no current means of absolutely assuring the existing quantity and location of nuclear materials usable in or as weapons. Unless and until such verification measures have been devised and implemented, there will continue to be a need for a nuclear deterrent to the use of WMD, as outlined above. Although the current nuclear powers may set a "good example" (by cessation of testing and elimination of their own nuclear forces), those nations of principal concern are unlikely to follow this example. In fact, the nations of concern may become even more aggressive in their pursuit of WMD capability, knowing that only they will be in possession of a balance-tipping capability.
- Acquisition of nuclear and other WMD will become more attractive to some nations if they perceive that the world's democracies are reluctant to become involved in regional disputes or conflicts in which one or more nations has WMD. If the United States is not to shy away from activities in other regions, it is

imperative that it develop a credible deterrent and response to countries in possession of small arsenals of nuclear, chemical, or biological programs.

- As suggested above, an erosion of confidence in the security and deterrent value of current US nuclear forces could inspire some nations under the US umbrella to seek their own nuclear deterrent forces.

The United States is the sole superpower in the world today, and likely will remain so for the foreseeable future. Nevertheless, the United States will never be able to "go it alone" in the area of non- and counter-proliferation. It will be necessary to seek creative multilateral, and perhaps supranational, solutions to reverse the spread of WMD and to continue to be able to counter nations who attempt to become aggressive with WMD.

The key may be to convince all nations that they cannot gain control over neighbors, or achieve other political or military gains, by acquiring or using WMD. Nations must become convinced that there is a sufficiently large group of nations possessing the means, and the political will to use those means, to thwart or retaliate against any aggression.

Delegitimization?

One of the concerns put forward by many nations concerning indefinite extension of the NPT is that it legitimizes only those nations (United States, United Kingdom, France, USSR/Russia, and China) that had achieved nuclear weapons status at the time the treaty was signed. They point out that the NPT established a finite review cycle to allow the non-nuclear weapons states (NNWS) to evaluate progress on the part of the nuclear weapons states (NWS) toward the promise of "general and complete disarmament" contained in the Treaty's preamble. They argue that indefinite extension of the NPT would eliminate the already tenuous leverage the NNWS have on the NWS to eliminate nuclear weapons.

As a means of addressing the discrimination issue and promoting nonproliferation, some arms control advocates are pressing for "delegitimization" of nuclear weapons. Delegitimization is intended to make nuclear weapons less usable for those nations that already possess them and less attractive to nations now seeking a nuclear weapons capability.

Unfortunately, the forswearing of a nuclear weapons capability by those nations who abide by international norms is unlikely to dissuade either fanatics or leaders immersed in regional competitions. They probably will continue to see power and value in possessing WMD capability. Furthermore, those nations of current proliferation concern have

learned to circumvent export controls and other obstacles and to use camouflage, concealment, and deception to keep their proliferation activities thoroughly clandestine. Increased control over technology and material transfers may make acquiring WMD more expensive and difficult, but such controls will never be able to completely curtail proliferation.

Perhaps a more promising approach, one that would deter the use of WMD by renegade states, would be to "relegitimize" nuclear weapons and broaden participation in the activities necessary to support them. This could come in the form of multilateralized or supranationalized institutions. These institutions could become concerned (in ascending order of involvement) with the registration of legitimate inventories of warheads and warhead materials as well as materials derived from civil power activities, inspection of inventories and related activities, consultation concerning emerging situations, endorsement of and participation in actions taken to reverse or respond to proliferant activities, and perhaps eventually to some custody or control of nuclear weapons made available to an international entity as a deterrent force.

It has been said that the elaborate concept and force structure developed over several decades to support "nuclear deterrence" lacked credibility.¹ The difficulty will be discovering and defining a rationale—and creating a relevant force structure with sufficient international backing—that will meet the same criteria that made nuclear deterrence "viable" in the Cold War confrontation. That is, it must create uncertainty in the mind of an aggressor as to the nature, timing, and degree of severity of the response to his provocative acts, along with absolute certainty that those arrayed against him have the means and the will to destroy him.

What might be the missions and targeting requirements for nuclear weapons in the role of providing a deterrent to use of nuclear or other WMD by a renegade? Some of the targets that might be held at risk include:

- Leadership of the offending nation or entity.
- Means of production of the WMD.
- Key resources (e.g., industry and raw materials).
- Key religious or other symbolic facilities (with the aim of separating the renegade from the support of his people).

¹See, for example, Lawrence Freedman's *The Evolution of Nuclear Strategy* (New York: St. Martin's Press, 1981), pg. 399: "What we do know is that since 1945 Europe has been at peace. This underlines the point that nuclear deterrence may be a viable policy even if it is not credible."

Why nuclear weapons? One reason is that nuclear weapons convey the threat of instant and total devastation. The "nuclear mystique" will continue and will be an important deterrent if the support for such a deterrent can be garnered on a broad scale. A second reason for the necessity of nuclear weapons is that there is no substitute for such a powerful weapon in some situations. Despite the enormous advances in smart weapons with incredible accuracy, there will remain certain targets that can only be destroyed with confidence by a nuclear weapon. Hence the need, for example, for a deep earth-penetrating nuclear device so that any sanctuary into which a renegade may burrow can be held at risk.

A key benefit to having a package of assurances, including access to the ultimate deterrent, nuclear weapons, is that it may help to forestall some, if not all, attempts at proliferation. One of the inspirations for nations to acquire WMD is a fear of being aggrandized by their neighbors (e.g., Ukraine). Such countries would be more secure if they had backing from an internationalized nuclear deterrent. The message will be, to Japan and Germany, for example, that "you don't need to go it alone."

In addition to developing an international or supranational nuclear deterrent, consideration should be given to:

- Strengthening the NPT, the Biological Weapons Convention (BWC), and the Chemical Weapons Convention (CWC), and placing strong pressure on those not party to the Treaties to join, perhaps by enhancing the positive incentives contained in the Treaties.
- Universalizing the current freeze on the production of fissile material, and gradually bringing all fissile material under control. This will require further enhancement of the International Atomic Energy Agency to make it harder for nations to cheat.
- Developing a more complete "negative security assurance" to enable the deterrent value of nuclear weapons to be extended to deterrence of other WMD. For example, the current declaration states:

The United States will not use nuclear weapons against any non-nuclear weapons state party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices except in the case of an attack on the United States, its territories or armed forces, or its allies, by such a state allied to a nuclear weapons state, or associated with a nuclear weapons state in carrying out or sustaining the attack.

It could be modified to read:

The nuclear weapons states will not use nuclear weapons against any state party to the NPT, the BWC, the CWC, or any comparable internationally binding commitment not to acquire nuclear explosive devices or biological or chemical weapons, except in the case of aggression against any other states party to these agreements/treaties by a state which uses or threatens to use nuclear, biological, or chemical weapons in carrying out or sustaining an attack on other states.

This statement implies that the nuclear weapons *would* be used on a state that attacks another state with WMD. The statement also says that all five of the declared nuclear weapons states could be involved in that response. One way to implement this expanded negative security assurance would be to provide to the group of states that are in good standing with the NPT, BWC, and CWC protection under a nuclear umbrella similar to the one the United States so successfully provided to its allies (extended deterrence). In other words, all five nuclear powers might find a way to earmark or otherwise commit some nuclear-capable forces to an internationalized nuclear deterrent force. In that manner, a response force could be generated by drawing from the most appropriate set of those elements provided by the nuclear powers. Hence, the entity charged with generating the force (say, the United Nations) would not be beholden to any one of the nuclear powers, and could shape the force and use it as deemed necessary.

There are several ways to begin creating a supranational or international nuclear deterrent. One place for discussion or negotiation might be the Conference on Security and Cooperation in Europe (CSCE), which has important membership and is embarking on enhancing and expanding the confidence-building and openness measures that give it its name. Some precedent may also be offered by the highly successful North Atlantic Treaty Organization (NATO) Nuclear Planning Group, a forum created to give to the non-nuclear NATO nations a way to become educated in nuclear weapon arcana and to participate in planning for and release of nuclear weapons in the Alliance context. (Some would say the Nuclear Planning Group was created to co-opt those nations.) Perhaps a subcommittee within the CSCE could be given a "counterproliferation (CP)" portfolio, to begin the education process. That endeavor could eventually expand, perhaps through a "CSCE (CP) High Level Group, cloning another NATO activity that proved essential to the NATO nuclear deterrent process.

By providing a wide-ranging forum in which to discuss non- and counterproliferation issues and "deterrence," it should be possible to factor into the debate many, often disparate, views in order to form a comprehensive definition of, and operational approach to, deterrence. For example, it would be a way for Ukraine to have a say in nuclear weapons issues, and to participate in the expanded deterrent structure, without having nuclear weapons itself.

3

Stopping North Korean Nukes: Possible Without War?

Charles Ball*

Although war is evil, it is occasionally the lesser of two evils.

—McGeorge Bundy

Despite optimism created in the wake of President Carter's trip to Pyongyang, North Korea is very likely to remain determined to acquire a substantial nuclear weapons capability and nothing short of US military action is likely to thwart this objective. North Korea has reneged on every major promise it has made regarding the monitoring and limiting of its nuclear weapons program, employing various (successful) stratagems. Indeed, the United States should not be surprised if the North Korean leadership uses Kim Il Sung's death as an excuse to delay negotiations and inspections, giving Pyongyang more time to pursue its nuclear activities. Offers of diplomatic recognition and economic assistance are unlikely to divert the North Korean leaders from their nuclear course, because only nuclear weapons confer the power that they believe will ensure the survival of their regime. Nor will sanctions, which have been notoriously ineffective historically, prevent Pyongyang from building nuclear weapons.

Unless the United States uses force to stop North Korea's nuclear weapons program, the international community faces a wave of proliferation in East Asia and the spread of nuclear weapons to radical Middle Eastern regimes and their terrorist surrogates. The United States confronts a narrowing window of opportunity to take effective military

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action. Once North Korea is able to deliver a few nuclear weapons, insurmountable political obstacles will doom efforts to marshal effective public support for confronting North Korea. Yet a failure to use force to stop North Korea would constitute a supreme abdication of the responsibility for international order that the United States assumed after World War II.

The North Korean Nuclear Program

There is little doubt that North Korea is working on a substantial nuclear weapons program. The program began in earnest during the early 1980s when work commenced on a 25-megawatt nuclear reactor, which became operational in 1986. After detecting this reactor, the United States asked the Soviet Union to convince North Korea to sign the Nuclear Non-Proliferation Treaty (NPT) and, thereby, bring this reactor under international safeguards. In December 1985, North Korea signed the NPT, and in 1986, the 25-megawatt reactor became operational. That same year North Korea began work on a 200-megawatt reactor that would be capable of producing enough plutonium for seven to ten nuclear bombs a year.¹

From the beginning, North Korea evaded and then violated the provisions of the NPT. Claiming it was sent the wrong forms, North Korea missed the NPT's 18-month deadline for concluding a safeguards agreement with the International Atomic Energy Agency (IAEA). The IAEA extended its original deadline for another 18 months, only to have North Korea miss this one as well.

In 1989, North Korea secretly suspended operations of its 25-megawatt reactor and extracted enough plutonium-bearing fuel to make one or two nuclear weapons.² North Korea immediately began to turn this fuel into plutonium. Moreover, North Korea continues to expand its plutonium reprocessing capacity and refuses international inspections of its nuclear waste sites.

Despite having failed to adhere to NPT provisions, North Korea threatened to withdraw from the treaty in 1990 unless the United States removed all of its nuclear weapons from the Korean peninsula. In late

¹The entire section on North Korea's nuclear program draws heavily on "The North Korean Nuclear Crisis," *Backgrounder*, Paul Leventhal and Steven Dolley, published by the Nuclear Control Institute, Washington, DC, June 16, 1994.

²James Woolsey, the Director of Central Intelligence, estimates that the plutonium thus extracted has probably already been used to make at least one nuclear weapon. See Speech by Secretary of Defense William J. Perry to the National Press Club and Asia Society, May 3, 1994.

1991, the United States assured that there were no nuclear weapons in South Korea. In December 1991, North and South Korea signed an agreement banning nuclear weapons, nuclear weapon materials, and the means to make such materials, from the Korean Peninsula.³

After foot dragging for over five years, North Korea finally signed a safeguards agreement with the IAEA in January 1992, and it entered into force in April. By signing this agreement, Pyongyang agreed to regular inspections of its declared nuclear facilities. Inspections began in June, and North Korean officials admitted that their country was building a reprocessing plant. In 1993, the IAEA asked to conduct an inspection of two undeclared sites where they believed that North Korea was reprocessing plutonium. North Korea refused this request, leading the IAEA Board of Governors to demand that North Korea allow a "special inspection."

In response on March 12, 1993, North Korea announced its withdrawal from the NPT. After intense, US-led international pressures, North Korea "suspended" its withdrawal on June 11, 1993, but continued to bar inspection of the two undeclared sites. And, although Pyongyang allowed the IAEA to replace film in cameras and videotapes, full inspections of declared sites were prevented.

On December 2, 1993, Hans Blix, Director-General of the IAEA, declared that he could no longer offer "meaningful assurance" that North Korea was not diverting nuclear material from facilities under IAEA safeguards.⁴ The IAEA stated that North Korea's offer to allow the replacement of film was insufficient and reiterated its demand that North Korea allow full access to its facilities as agreed to under the 1992 safeguards agreement. North Korean officials claimed that because of their unique status as a country that had withdrawn from the NPT but then suspended this withdrawal, they were entitled to dictate the terms of the inspections.

On February 15, 1994, North Korea agreed to a one-time inspection of its declared sites but continued to block access to the two undeclared sites. North Korea reneged on even this one-time inspection promise, improperly impeding inspectors' access to the declared sites. After the IAEA again called for inspectors to be allowed to complete their work, inspections resumed, but access was still limited.

On May 14, 1994, North Korea stated that they would defuel their 25-megawatt reactor without awaiting the arrival of IAEA inspectors.

³North Korea has still failed to agree to terms for actual implementation and verification of this agreement.

⁴He did not state that the continuity of safeguards could not be assured, which is much stronger language by IAEA standards.

When inspectors arrived on May 18, defueling had indeed already begun. Hans Blix stated on May 18 that North Korea had increased the rate of defueling; on June 3, he announced that the IAEA would no longer be able to determine how much plutonium had been diverted in the past because North Korean workers had not allowed sampling of the rods while the refueling was taking place. The United States then began a campaign to organize sanctions against North Korea. Before this effort could be completed, President Clinton permitted former President Jimmy Carter to meet with Kim Il Sung in Pyongyang. Kim Il Sung agreed to "freeze" the North Korean nuclear program in return for the suspension of American efforts to organize sanctions against his regime and renewed high-level talks.

There is little reason to believe, however, that North Korea's latest promise will constitute more than a temporary respite from its nuclear-related activities. For technical reasons, North Korea cannot remove the spent reactor fuel for reprocessing and is thus making a virtue out of necessity in declaring the current freeze. North Korea will likely declare that because the casings surrounding the reactor rods are decaying, safety concerns require the fuel be reprocessed—probably at sites from which the IAEA will be barred from conducting full inspections.

Irrespective of the fate of the spent fuel from the 25-megawatt reactor, North Korea's ability to produce nuclear weapons will not be significantly curtailed unless its efforts to increase its capacity to produce and reprocess plutonium are halted. North Korea has accelerated construction of a 200-megawatt reactor, which, when completed in 1995, will be able to produce enough plutonium for about a dozen nuclear weapons per year; it has also continued building an 800-megawatt reactor that will be completed in 1998 and will have the capacity to produce enough plutonium for 30–40 bombs per year.

A pattern has developed whereby North Korea rebuffs every attempt by the international community to control its nuclear activities. Pyongyang balked at special inspections because they would reveal the amount of plutonium reprocessed. When the United States threatened to take punitive measures, North Korea threatened to withdraw from the NPT. This led American negotiators to agree to inspections on North Korean terms—inspections that are deliberately designed to prevent inspectors from going to sites that would reveal the extent of the North Korean nuclear weapons program. Moreover, North Korean officials prevented inspectors from fully inspecting sites to which access had been granted. The international community and the United States, thankful that North Korea remains in the NPT and does not completely forbid inspections, accepts North Korean behavior.

North Korea has successfully used its nuclear weapons bargaining chip to gain other concessions from the United States. It demanded and got the United States to remove all of its tactical nuclear weapons from the Korean peninsula without having to deliver the promised *quid pro quo*: refraining from acquiring its own nuclear weapons capability.

Why North Korea's Nuclear Program Continues Unimpeded

Underlying the success of North Korea's ability to pursue its weapons program without significant impediment is the international community's belief that, with respect to North Korea's disposition *vis-à-vis* the NPT, membership is more important than compliance; and refraining from formally declaring that the continuity of safeguards has been lost⁵ is more important than ensuring that the country is not pursuing a nuclear weapons program. This explains why the international community has accepted inspections on North Korean terms: to do otherwise would mean no inspections at all and, thus, an inability to plausibly maintain that the continuity of safeguards has not been lost. What results from this tortured process is an unspoken deal: North Korea pretends to allow inspections, and the United States pretends that North Korea is adhering to the NPT.

Why do the United States and the international community attach such great importance to North Korea remaining in the NPT when it has become obvious that North Korea has illegally diverted and reprocessed plutonium? To do otherwise would compel even the most optimistic observers to conclude that North Korea cannot be diverted from its nuclear course. And this in turn would entail accepting the necessity of confrontation and the risks of war inherent in this course.

The unwillingness to take military action to stop Pyongyang's nuclear weapons program adversely affects American policy toward North Korea in three key ways. First, it leads policymakers to entertain unwarranted hopes that North Korea's promises will be kept in the future, despite Pyongyang's abysmal past record on this score. Second, it leads to an exaggerated estimate of the effectiveness of non-military measures such as sanctions, which appear preferable to military action. Finally, the reluctance to use military force engenders a reluctance to confront the even more dire implications of allowing North Korea to succeed in its nuclear objectives.

⁵Blix did state that he could not offer "meaningful assurances" that North Korea was not diverting material. The distinction is important because declaring that the continuity of safeguards has been lost would entail graver political consequences.

Consequences of North Korea's Acquisition of Nuclear Weapons

If North Korea succeeds in acquiring a nuclear arsenal, East Asian security will be severely threatened. The credibility of the United States, which has already publicly stated that it will not allow Pyongyang to acquire such a capability, would decline dramatically. Many East Asian countries would wonder why a US government that was unwilling to confront and impose its will on North Korea before it possessed nuclear weapons would be willing to protect them against North Korea after North Korea had a bona fide nuclear weapons capability. In all likelihood, countries such as Japan, South Korea and Taiwan, which have relied on the United States since the end of the Second World War to protect their vital security interests, would not trust the United States to do so in the future and would probably acquire a nuclear weapons capability of their own.

The prospect of North Korea acquiring nuclear weapons has already prompted a Japanese reconsideration of its non-nuclear status. At the July 1993 G-7 meeting, Japan successfully rejected attempts by other nations to issue a joint communique supporting an indefinite extension of the NPT.⁶ A Japanese Foreign Ministry spokesman stated that "it would be a risk to acknowledge an indefinite extension [of the treaty] while North Korea is developing nuclear weapons. We must be cautious."⁷ Since then, Japanese officials have repeatedly and in surprisingly frank terms warned that North Korea's nuclear weapons program may prompt Japan to follow suit. On July 28, then Foreign Minister Kabun Muto remarked that his country must be prepared to respond to the North Korean challenge with a nuclear weapons program of its own. "If it comes down to a crunch," he said, "possessing the will that we can do it is important."⁸ More recently, the Japanese Prime Minister created a stir when he announced in Parliament that "Japan can build nuclear weapons."

Compounding matters still further, a small but increasingly assertive and influential rightist faction has long advocated that Japan acquire nuclear weapons. They are now in a position to exploit fears about North Korea to further their objectives. Their hand can only be strengthened if the United States fails to prevent this threat from arising, because this would undermine Japanese politicians who have traditionally argued that reliance on the United States obviated a Japanese nuclear weapons capability.

⁶*Washington Post*, July 9, 1993, p. A17.

⁷*Ibid.*

⁸*Washington Times*, November 10, 1993, p. A13.

Although none of these statements should be construed as proof that Japan would lightly or necessarily immediately build nuclear weapons, it is clear that the prospect of a nuclear-armed North Korea has generated considerable concern in a country where a few years ago the mere mention that Japan would become a nuclear power was unthinkable. And there remain, of course, strong inhibitions against Japan acquiring nuclear weapons.

Although Japan has compiled an excellent record of international probity since World War II, many nations in the region harbor continued fears about Japan's geopolitical aims, fears heightened by Japan's refusal to accept responsibility for the atrocities and aggression it committed 50 years ago. Therefore, a Japan armed with nuclear weapons would evoke the ghosts of yesteryear and exacerbate security concerns created by North Korea's possession of nuclear weapons. Indeed, it is possible that a Japanese nuclear weapons capability would spur proliferation among other erstwhile Japanese foes such as Indonesia and Australia.

The consequences of a North Korean nuclear capability would not be confined to Asia. One of the most frightening aspects of Pyongyang's drive for a nuclear weapons capability is the prospect of their selling these weapons to governments and terrorists in the Middle East. North Korea has already sold many weapons it produces, including Scud missiles, to Iran and Syria. In addition to these two countries, North Korea would find willing customers for its nuclear weapons in Libya and Iraq and perhaps elsewhere in the future. The spread of nuclear weapons on such a scale would eviscerate the NPT regime and remove prohibitions against the worldwide spread of nuclear weapons.

Will North Korea Bargain Away its Nuclear Weapons Program?

Can North Korea be enticed to abandon its nuclear weapons program? Current US policy appears to be predicated on the notion that the North Korean leadership wants to strike a deal in which it abandons its nuclear weapons program in return for economic assistance and diplomatic recognition. This US supposition is likely to be wrong.

Diplomatic recognition and economic assistance will not augment Pyongyang's power to the extent that possession of nuclear weapons would. Nuclear weapons, once firmly in North Korea's possession, ensure the virtual invulnerability of the leadership from outside coercion and greatly improve the correlation of forces *vis-à-vis* the South.

Nuclear weapons are a great equalizer. If the competition between North and South Korea occurs on a strictly economic basis, North Korea will fall ever farther behind, and its image in the world and at home will continue to decline. But, if North Korea possesses nuclear weapons, the

economic advantages enjoyed by the South will mean less in terms of the military competition to which Pyongyang attaches such importance. Nuclear weapons will allow North Korea to complete its goal of virtually complete independence and self-sufficiency. Countries that do not possess nuclear weapons can become the objects of coercion by those states that do possess them—a fact long ago recognized by French President Charles DeGaulle when he said, “No country without an atom bomb could properly consider itself independent.”

The belief that North Korea will trade its nuclear weapons program for economic aid and diplomatic recognition overlooks the economic reality that North Korea could make a lot more money in a far shorter period of time by selling nuclear materials and expertise—perhaps even weapons—on the world market. Yet, even if it were possible to collect billions of dollars to bribe North Korea to refrain from selling nuclear weapons, is this a precedent the international community wishes to establish? Would we not be creating significant incentives for extortion on an international scale?

Sanctions: Necessary but not Sufficient

Economic sanctions, like offers of economic aid, will almost certainly fail to stop North Korea's nuclear weapons program. First, sanctions are rarely effective tools of coercion, particularly against a regime such as North Korea, which is self-sufficient in virtually all areas excepting oil. It is equally possible that such actions may have the effect of giving the North Korean leadership a tool with which to rally the people.

Second, sanctions are usually slow to have any effect. And, in the North Korean crisis, there is a critical requirement for decisive results within a short period of time. North Korea's nuclear program must be stopped before Pyongyang possesses the capacity to threaten major Japanese urban areas with nuclear weapons, otherwise, the opportunity to use conventional force to end the nuclear program will be lost. The Nodong-1 missile will come into service in 1995–1996 and will have the capacity to deliver nuclear weapons to Osaka and Eastern Tokyo.⁹

If the United States waits to see if sanctions have any effect before initiating military action against North Korea, Pyongyang will be able to respond with nuclear strikes against the countries in the region that made US military action possible, namely Japan and South Korea. Although no one would know for sure whether such threats were credible, they would not be entirely implausible and thus would seriously

⁹*Washington Times*, June 10, 1994, p. A14.

hinder, if not completely undermine, American efforts to organize a serious military response to North Korea's defiance of the international community.

The Strategic Imperative: Prepare for War

The United States needs to take military action against North Korea if the regime in Pyongyang does not agree to dismantle its entire nuclear weapons program. To lay the political groundwork for military action against North Korea, sanctions should be imposed, despite the virtual certainty that they will not succeed. The implementation of sanctions would create greater support for the eventual use of force because it will demonstrate that the United States used all available means short of force to resolve the North Korean nuclear problem.

Coincident with the imposition of sanctions, the United States should move rapidly to reinforce its military forces in the region. This effort would involve the stationing of hundreds of thousands of troops in South Korea. This should be done for two reasons. First, it is possible that North Korea will, as it has promised, respond to sanctions with war. Second, and most important, sending substantial conventional forces will give the United States and South Korea an offensive military option that will be essential to implementing the second stage of the US strategy.

In addition to rapidly increasing US conventional capability, it is necessary to position nuclear weapons in the Korean theater. North Korea, keenly aware of Saddam Hussein's mistakes, may not allow a substantial military build-up to proceed unhindered. Instead, they may attempt to disrupt air bases and ports through sabotage and ballistic missile attack and even a full-scale attack on the South before the bulk of US forces are deployed.

To deter a North Korean attack during the buildup of US conventional forces in the theater, the United States should immediately deploy two nuclear-armed attack submarines off the coast of North Korea and publicly announce their presence and nuclear capability. Furthermore, the US Government should announce that they are there to protect US and South Korean forces against a North Korean attack.

The United States should also inform the North Korean government that any attempt to use weapons of mass destruction, even if they are successfully foiled by ballistic missile defenses or other means, will meet with an American response identical to that which Pyongyang could have expected had the attack succeeded. By announcing such a policy, the United States will create even greater inhibitions on North Korean use of chemical, biological, or nuclear weapons than a standard threat:

North Korea would have to figure that attempted use would result in retaliation even if the intended recipients were completely unharmed.

In addition, the United States must make clear that any wide-scale use of weapons of mass destruction by Pyongyang would lead to the immediate destruction of the North Korean regime. Such threats of retaliation are far more effective provided the North Koreans are not able to retaliate against Japan with a nuclear counter-strike. Thus, as mentioned above, it is imperative to resolve the crises before North Korea is perceived to possess this capability.

The second stage of the strategy should come after sanctions have been in place for six months and the US has had time to build up an offensive military option on the Korean peninsula. This offensive capability would convince the North Koreans that, unless they comply with demands to dismantle their nuclear weapons program, the United States will dismantle it through the use of force. Indeed, if there is any chance of dismantling the North Korean nuclear weapons program without having to resort to the use of force, it reposes in creating the unmistakable impression that the United States is prepared to use force and to do so effectively. Only then is it possible that Pyongyang may back down. To create such an impression, the United States must be prepared to actually use force.

Obstacles to an Effective Strategy against North Korea

Significant obstacles confront the implementation of the aforementioned strategy. Although China and Japan are not enthusiastic about imposing sanctions on North Korea, they appear ready to go along with them if North Korea remains intransigent. But most important will be getting Japanese support for military action, because the use of Japanese air bases will be crucial to a successful military campaign against North Korea.

China's stance toward the North Korean nuclear problem is likely to be influenced by the geopolitical thinking of a faction within the government that wishes to see China displace the United States as the dominant power in Asia. Consequently, the United States trouble with North Korea presents China with an opportunity to strengthen Beijing's geopolitical position. If Washington fails to deal decisively with the North Korean nuclear issue, the United States will be viewed in East Asia as irrelevant to that region's most pressing security concerns. American credibility and power will be drastically reduced. China would fill the vacuum created by American impotence and emerge as the region's dominant power.

To prevent this outcome, the United States must make clear to China that the future of its relationship with the United States depends on China's supporting—and enforcing—sanctions against North Korea and on its remaining neutral should armed conflict break out between North Korea and the United States. Part of this presentation should involve telling China that the United States is going to stop the North Koreans with or without China. Similarly, the Japanese government needs to understand that unless it supports the United States by allowing Japanese civilian and military bases to be used in the event of conflict, its relationship with the United States would soon unravel. If sufficient American leadership were demonstrated, garnering the support for sanctions and military action would be possible.

The End Game

Once the build up of American forces is completed, the United States should initiate an attack against North Korea if North Korea refuses to relinquish its nuclear weapons program. Although it would be tempting to believe that an attack on North Korea could be confined to bombing runs against nuclear facilities, there are two reasons why this is probably unrealistic. First, the North Koreans would almost certainly react to any US air attack with an immediate initiation of a ground attack against the South. North Korean military planners undoubtedly learned from Saddam Hussein's mistakes that allowing US air forces to engage in around-the-clock-bombing of one's key facilities and military forces will, over time, fatally weaken one's ability to wage a ground campaign. Second, as was the case with Iraq, we may not know where all of North Korea's nuclear and other relevant facilities are; and, without the type of intrusive inspections that would be possible after a decisive military victory, we could remain substantially in the dark about the extent of the North Korean nuclear program. Thus, the United States must be prepared to thwart a North Korean ground offensive and decisively defeat the North Korean Army.

US air attacks against North Korean nuclear sites should succeed in preventing significant radioactive fallout. North Korea's two new reactors under construction have not been fueled, and facilities where radioactive material exists can, as in the case of Iraq, be attacked in such a way as to keep fallout to insignificant levels. A more serious concern is the prospect of North Korean retaliation against South Korean nuclear reactors, which if successful, could cause serious fallout. It should be noted that these facilities are not within artillery range of North Korean guns and are hardened against direct attack. It is possible that North

Korean commandos would succeed in disrupting reactor operations in a manner that could cause a meltdown, however.

The United States should, therefore, state from the outset that, if North Korea causes wide-scale radioactive fallout in South Korea, it will be regarded as a nuclear attack and will be met with the appropriate response. Similarly, the United States must make clear that, if North Korea uses its formidable artillery to attack Seoul, the United States will use its own conventional bombing capability to destroy North Korea as a functioning society.

Conclusion

The course outlined above for stopping North Korea from acquiring a substantial nuclear weapons capability is an arduous and dangerous one. Perhaps the United States does not wish to pay the price inherent in choosing such a course. But we should not delude ourselves into thinking that the United States can stop the North Korean nuclear program unless we are willing to take military action. Nor should we delude ourselves regarding the momentous consequences for international stability should we allow North Korea to fulfill its nuclear ambitions. If the US is not prepared to take military action, then we must be prepared to live with the consequences of a nuclear North Korea.

To avoid military action, the US government may attempt to fashion a compromise with North Korea that appears to stop Pyongyang's nuclear weapons program without in fact actually doing so. Yet, in the end, a compromise that does not really deal with the North Korean nuclear program may prove to be the most dangerous course of all for it will create the illusion among many observers that the problem is solved, even though North Korea may already have one or two nuclear weapons. However, allowing North Korea to keep even one or two nuclear weapons would make a mockery of the NPT and undermine respect for its efficacy. Moreover, even one or two nuclear weapons gives North Korea significant leverage.

A political "solution" would buy North Korea time to complete its program, after which it would become practically impossible to deal effectively with the North Korean nuclear problem. Indeed, unless the United States takes immediate and resolute action—including most importantly the credible threat of military action—North Korea will become a nuclear weapons state, very probably initiating a wave of proliferation throughout Asia and the Middle East. And the United States will have squandered the legacy of its 50-year effort to maintain world order.

4

Article VI of the Nuclear Non-Proliferation Treaty: A Chinese Perspective

*Sha Zukang**

Although China's perspectives on nuclear disarmament and on the Nuclear Nonproliferation Treaty (NPT) are in many cases the same as other nations', China also has some unique positions on certain aspects of arms control and disarmament, because China itself is unique in many ways. For example, China is a developing country, yet it is a member of the nuclear club; China has the largest population, yet it has the smallest number of nuclear weapons; China is really nonaligned—it is not even aligned to the nonaligned! China is also characterized by its very great history, and thus tends to take a longer-term view of developments.

In the 1960s, the NPT was a product of the Cold War. Its advent was a reflection the then-international situation and the global balance of power. It reflected the intention of the East and West at that time to monopolize nuclear weaponry by stemming the proliferation of such weapons and establishing a global nonproliferation mechanism. And, to a certain extent, it also reflected the aspirations of the non-nuclear states to contain the proliferation of nuclear weapons, promote the nuclear disarmament process, and safeguard world peace and security.

The NPT extends legal recognition to the status of the five states that acquired nuclear weapons before 1967. It provides that the nuclear states not proliferate nuclear weapons and that the non-nuclear weapon states

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not acquire such weapons. However, the NPT contains no formal provision on the complete prohibition and the thorough destruction of nuclear weapons, nor on the non-use of nuclear weapons by nuclear weapon states against non-nuclear states. Therefore, the NPT is unbalanced in rights and obligations between the nuclear haves and the nuclear have-nots. This is the major inherent defect of the treaty.

No treaty can be called a just treaty if it preserves and extends some parties' privileges over the others. And an unjust treaty cannot enjoy permanent vitality or stand the test of history. Furthermore, nuclear nonproliferation by itself should not be the end, but rather a necessary step toward general and complete nuclear disarmament. Although the non-nuclear weapon States Party to the NPT support the treaty, they certainly do not wish to perpetuate the imbalance of the treaty. They expect in return that the nuclear states commit themselves to and take concrete steps toward the elimination of nuclear weapons. China regards the complete prohibition and the thorough destruction of nuclear weapons as the ultimate guarantee for nuclear nonproliferation. Article VI of NPT, though somewhat loosely worded, is an important, integral part of the treaty. And this particular article deserves comprehensive interpretation and effective implementation.

Article VI Implementation

The obligation to nuclear disarmament as stipulated by Article VI is comprehensive and includes a whole series of measures ranging from non-use of nuclear weapons to reduction and elimination of nuclear weapons. Specifically, the nuclear weapon states should abandon nuclear deterrence, commit to no-first-use of nuclear weapons, and to no-use or threat-of-use of such weapons against non-nuclear states or nuclear-free zones. The nuclear weapon states also should commit to the cessation of nuclear testing and the production of weapon-grade fissile materials, and to the reduction and elimination of nuclear weapons.

In reviewing the history of the past 25 years since the inception of the NPT, both progress and setbacks can be seen in the implementation of this Article. As far as most non-nuclear weapon states are concerned, they have made positive contributions to the general and complete disarmament by their good-faith participation in the negotiations on various treaties on disarmament, nonproliferation, and nuclear weapon-free zones. Their efforts have promoted arms control and disarmament and have helped conclude agreements such as the Outer Space Treaty, the Treaty of Tlatelolco, the Treaty of Rarotonga, and the Biological and Chemical Weapons Conventions. With the efforts of those non-nuclear weapon states, the comprehensive nuclear test ban negotiations are now

under way, as are discussions on a possible fissile materials cut-off convention. Moreover, the non-nuclear States Parties have mostly fulfilled their obligation not to acquire nuclear weapons. They now strongly demand that the major nuclear powers discharge their obligation to disarmament, especially nuclear disarmament in accordance with Article VI. Specifically, they want the nuclear weapon states to:

- Halt the nuclear arms race; stop research, testing, production, improvement, and deployment of nuclear weapons.
- Commit to general and complete nuclear disarmament.
- Provide unconditional security assurances to non-nuclear states.
- Realize a comprehensive test ban (CTB) at an early date.

Some progress has been made by the nuclear weapon states on disarmament as a result of the drastic changes in the world situation in recent years. The United States and Russia are parties to the Strategic Arms Reduction Treaties (START I and II) and have begun partial reduction of their nuclear arsenals. The large-scale nuclear arms race between the United States and the former Soviet Union of the Cold War era has ended. The East and West have concluded and implemented the Intermediate-Range Nuclear Forces (INF) Treaty, which eliminates all medium- and short-range nuclear weapons. Some nuclear states have also announced their withdrawal of tactical nuclear weapons from surface warships and from overseas bases. And, the Geneva Conference on Disarmament has launched formal negotiations on a CTB, with the participation of all five declared nuclear weapon states.

These developments are significant steps in the implementation of Article VI, and are naturally welcomed by the international community. Nonetheless, these developments are less than comprehensive, and fall short of eliminating nuclear weapons and abandoning the use of these weapons.

Certain nuclear states have insisted in varying degrees on pursuing their Cold War policy of nuclear deterrence. The former Soviet Union's commitment to no-first-use of nuclear weapons has been abandoned by Russia. By announcing its new military doctrine last November 1993, Russia replaced the security assurances of the former Soviet Union by conditional no-use of nuclear weapons. This means that Russia has reinstated the nuclear deterrence strategy pursued by the former Soviet Union before 1982, despite the new international situation.

The two START treaties concluded between the United States and Russia provide for a drastic reduction of nuclear weapons, yet contain no clear provisions on the destruction of nuclear warheads. Thus, the surplus weapon-grade nuclear materials removed from dismantled

weapons can be easily reused in new nuclear weapons. Strictly speaking, whether such a reduction of nuclear weapons can be called genuine nuclear disarmament is doubtful.

Although the United States and Russia are now engaged in quantitative nuclear disarmament, they have never ceased the qualitative improvement of their nuclear weaponry and delivery systems. When biological and chemical weapons—two other types of weapons of mass destruction—are prohibited and international verification is soon to be implemented, should the military superpowers, which already enjoy conventional supremacy, seek to achieve greater precision and miniaturization of their nuclear weapons? If so, it would be difficult to conclude that their nuclear threat to other countries has actually been reduced. Furthermore, in light of the fact that these countries have not yet committed to no-first-use of nuclear weapons or to no-use of such weapons against non-nuclear countries and nuclear-free zones, the qualitative improvement of nuclear weapons and their delivery systems still constitutes a formidable threat to international security.

According to START I and II, the United States and Russia have undertaken to reduce their nuclear forces to 3500 and 3000, respectively, by the year 2003, cutting their tens of thousands of excessive nuclear weapons by two-thirds. However, even after full implementation of START I, the remaining number of nuclear weapons will still be higher than when the NPT first came into force. In view of the fact that the United States and Russia have not committed themselves to complete nuclear disarmament, it remains to be seen whether the current nuclear disarmament process will go beyond START.

Responsibilities and Obligations of Nuclear Weapon States

For the 25 years of its existence, the NPT played an effective role in preventing horizontal nuclear proliferation. But the treaty has proved to be ineffective in checking qualitative improvement and quantitative accumulation, which were the main features of the nuclear arms race during the Cold War. At the 1995 NPT Review and Extension Conference, the fate of the treaty will depend on the decisions made by the majority of the non-nuclear state parties. In view of this, measures need to be taken to convince these countries that nuclear weapon countries, particularly those with the largest nuclear arsenals, will not perpetuate their possession of nuclear weapons, and will not attempt to ensure their own security with nuclear deterrence while neglecting the legitimate

security concerns of non-nuclear states. Specific steps in this respect are outlined below.

All nuclear weapon states should expressly commit themselves to the ultimate objective of the complete prohibition and thorough destruction of all nuclear weapons. Only by such a step can the non-nuclear countries be convinced that all nuclear disarmament measures so far (e.g., START, CTB negotiations, extension of the NPT, strengthening of the international nonproliferation regime) are practical and specific steps toward the final goal of a nuclear-free world.

All nuclear weapon states should undertake legally to not be the first to use nuclear weapons, and not to use or threaten to use nuclear weapons under any circumstances against any non-nuclear-weapon state or nuclear-weapon-free zone. This will provide a credible and reliable security assurance to all non-nuclear weapon states. In this respect, the Chinese government formally proposed at the end of 1993 that the five declared nuclear states—China, the United States, the United Kingdom, France, and Russia—start negotiations as soon as possible on the no-first-use treaty. According to the draft, the five should undertake not to be the first to use nuclear weapons under any circumstances, and to support the conclusion of another treaty on the no-use or threat-of-use of nuclear weapons against non-nuclear weapon states or nuclear-weapon-free zones. China also proposed integrating no-first-use and security assurance pledges to non-nuclear countries into the CTB as legal provisions.

The largest nuclear states should implement their existing treaties on nuclear disarmament and take further drastic steps in reducing their nuclear armaments. At the same time, they should cease the improvement of their nuclear arsenals, fully destroy their reduced weapons, and properly dispose of their surplus weapon-grade fissionable material so as to ensure an irreversible process of nuclear disarmament.

All nuclear states should actively participate in the CTB negotiations and, together with the non-nuclear weapon states concerned, strive to conclude a treaty as soon as possible—no later than 1996. The treaty should strictly prohibit in any place and any environment all nuclear weapon tests that release nuclear energy. It should contain strict and effective verification measures, and provide for security assurances to non-nuclear weapon States Parties. It should also enjoy a high degree of universality.

The above-mentioned measures should be achievable in the new international situation. Even with all the steps in place, there would be no fundamentally adverse effect on the nuclear powers, which also enjoy supremacy in conventional forces. Should these measures be

taken, favorable conditions would be created for promoting the multilateral nuclear disarmament process and for implementing Article VI of the NPT.

China was compelled to develop nuclear weapons in 1964 for the sole purpose of self-defense and has since possessed a very limited number of these weapons. China has unilaterally undertaken unconditional no-first-use of nuclear weapons, which testifies to the fact that China's nuclear force constitutes no threat to any other country. China has also consistently stood for the complete prohibition and thorough destruction of all nuclear weapons. Thus, China has never in the past, nor will it in the future, participate in the nuclear arms race. As a State Party to the NPT, China has never shied away from its responsibilities as a nuclear state and has fulfilled its treaty obligations in preventing nuclear proliferation as well as promoting nuclear disarmament and peaceful uses of nuclear energy.

The Fissile Material Cutoff

The cessation of the production of fissile material for weapon purposes (cutoff) under effective international verification and monitoring is an important step toward nuclear disarmament. The risk of global confrontation has now been reduced. The nuclear arms race between the big nuclear powers has ceased, and actual nuclear disarmament is underway. The stockpiles of nuclear fissionable material in Russia and the United States are already excessive. In the new international situation, there is no need for them to continue producing fissionable material for weapon purposes.

Whether a cut-off convention has any impact on nonproliferation will depend on the content of the convention itself, and on the participation by nuclear threshold countries. If the proposed convention recognizes their right to legally possess their existing fissionable material for weapon purposes, it will not be helpful to nonproliferation. On the contrary, it contributes to proliferation. But if the convention denies these countries such a right and they do not sign it, then the convention will be of little meaning for nonproliferation. The key is to encourage these countries to accede to the NPT. It is not realistic to expect to achieve the objective of nonproliferation only through a cut-off convention.

5

Article VI Issues

*Joel Hernández**

There is wide recognition that a safer world would only be possible if nuclear proliferation, vertical and horizontal, can be stopped. Experience has proved to all that the nuclear arms race is pointless and impractical. More importantly, the international community agrees that the only secure world would be one free of nuclear weapons.

The Nuclear Non-Proliferation Treaty (NPT) is a cornerstone in the international effort to attain nuclear disarmament. I personally consider that the need for an extension of the NPT is not only necessary, but also enjoys wide acceptance in the international community. There are, however, different perceptions of the ways and means to attain the objectives of the NPT and on the level of importance of the obligations established therein.

I have been requested to address some of the Article VI issues that will be taken up in the forthcoming 1995 Conference on Extension and Review of the NPT. I have identified three of the most controversial issues related with Article VI. First of all, it is worth remembering the nature of Article VI obligations. Secondly, I want to address the link between Article VI and the NPT's duration. Finally, I will comment on the issue of complying with Article VI.

Before embarking on this exercise, I would like to stop a few minutes to remember the role that Article VI plays in the legal system of nuclear nonproliferation embodied in the NPT.

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Article VI and the NPT

The NPT contains a carefully drafted compromise between nuclear and non-nuclear weapon states. On one side, nuclear weapon states acquired the obligation not to transfer nuclear weapons or explosive devices to non-nuclear-weapon states or to help them acquire such weapons or explosive devices (Article I). Accordingly, non-nuclear weapon states are obliged not to manufacture or acquire nuclear weapons or other explosive devices (Article II). Secondly, nuclear-weapon states are asked to facilitate and promote the peaceful uses of nuclear energy for non-nuclear parties (Article IV). Non-nuclear weapon states must accept full-scope safeguards by the International Atomic Energy Agency (IAEA) on all peaceful nuclear activities and facilities (Article III). All States Parties accept the commitment "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control" (Article VI).

Article VI was included during the NPT negotiations at the request of some non-nuclear weapon states to counterbalance the discriminatory regime created by the NPT by allowing some states to possess nuclear weapons while preventing others from doing so.

The very fact that the treaty established a lasting juridical discrimination between nuclear and non-nuclear weapon states created uncertainty among the latter as to how to assure their defense. Several states felt that the NPT would mean an unacceptable sacrifice unless something was given in return. The main purpose of the NPT was to discourage states from seeking nuclear weapons as an option for security. However, how could these states feel safe if they still had the nuclear threat hanging over them? The only possible way to advance toward a safe world would then be one free of nuclear weapons, where no single State has the temptation to develop a nuclear arsenal as a means of deterring a nuclear threat.

Article VI was proposed and included in the NPT at the insistence of some non-nuclear weapon states as a *quid pro quo* for their renunciation of nuclear arms. The NPT therefore embodies a package deal under which some states agreed not to develop nuclear arms, while others accepted in return to take effective measures to achieve nuclear disarmament.

The NPT is not an end in itself. It is a means to an end—the end of achieving general and complete disarmament, particularly nuclear disarmament. Thus, the objectives of the NPT are not satisfied just by the number of nuclear states remaining the same. There must also be

compliance with the obligation for disarmament set forth in Article VI and the Preamble.

The NPT has always been regarded as a contract or bargain between the nuclear-weapon states and the non-nuclear weapon states: the nuclear powers promised to end the vertical proliferation of nuclear weapons in exchange for the binding commitment of the non-nuclear weapon states to end the horizontal proliferation of nuclear weapons. This commitment is contained in Article VI together with paragraphs 8, 10, and 11 of the Preamble, which, legally speaking, constitute a unit and should be read together.

The Nature of Disarmament Obligations

One of the issues that has been raised in connection with Article VI is whether there is a differentiation between hard and soft obligations in the NPT. For some analysts, the main obligations are contained in Articles I and II, which are meant to halt horizontal proliferation, while Article VI's general wording makes it more a political declaration or an obligation of lesser degree.

A quick look at the NPT negotiations allows us to see that negotiators were well aware of the obligations contained in Article VI. Nuclear weapon states admitted that there is an organic link between the viability of the NPT and the progress of nuclear disarmament.

Undoubtedly, compliance with Article VI is an objective on equal footing with the others. It is worth mentioning that the nuclear powers have repeatedly referred to Article VI while negotiating bilateral disarmament treaties.

A second issue on the nature of disarmament obligations is in relation to a possible differentiation between obligations contained in Article VI and those in paragraphs 8, 10, and 11 in the Preamble.

During the negotiations of the NPT and afterwards, neutral and non-aligned countries argued for the following measures of disarmament: (1) a comprehensive test ban, (2) the cessation of production of fissile material for weapons, (3) the liquidation of all of the existing stockpiles, and (5) the elimination of nuclear weapons and their means of delivery from national arsenals. However, the nuclear weapon states participating in the negotiation did not agree on all the measures or on the order of priority. Therefore, it was agreed to include paragraphs 8, 10, and 11 in the Preamble and to draft Article VI as it stands now.

However, in accordance with accepted rules of interpretation of international treaties, both the Preamble and the provisions of a treaty must be read together. Moreover, the Review Conferences foreseen in

Article VIII were designed to assure that the purposes of the Preamble and the provisions of the treaty are being realized. Together, the provisions of the Preamble and Article VI constitute international obligations whose compliance is as mandatory as compliance with the rest of the provisions of the treaty.

The Link between Article VI and the NPT's Duration

During the NPT negotiations, numerous states found it difficult to accept a treaty of unlimited duration, because they could hardly conceive of one in a field where development is as rapid and unpredictable as that of nuclear weapons. Therefore, an interval was left for nuclear weapon states to take specific measures aimed at the limitation of nuclear armament. Non-nuclear weapon states stated at the time of the negotiation that they could not take the responsibility of tying their hands indefinitely if the nuclear powers fail to arrive at a positive result in that direction.

Article X, paragraph 2, of the NPT provides that twenty-five years after the entry into force of the treaty, "a conference shall be convened to decide whether the Treaty shall continue in force indefinitely or shall be extended for an additional fixed period or periods. . . ." The language implies that there are three legal options available: to continue the treaty indefinitely, to extend it for one additional fixed period, or to extend it for several fixed periods.

In taking the decision on what type of extension should be adopted, States Parties will have to review the degree of compliance with the obligations established in Article VI and the Preamble. In this regard, it should be remembered that the intention of the drafters to make the first duration of the NPT limited to 25 years, was to give an interval for nuclear weapon states to take effective measures to stop the nuclear arms race "at an early date." The phrase "at an early date" has an operative meaning. It should be taken to imply that the cessation of the nuclear arms race should have occurred within the first term of 25 years. States Parties must assess the degree of compliance with the disarmament obligations, or otherwise agree on further measures for the achievement of that objective, before deciding on the term for the NPT extension.

Compliance with Article VI

Article VI has set forth three objectives: (1) cessation of the arms race, (2) nuclear disarmament, and (3) general and complete disarmament.

Among these objectives, cessation of the arms race has been the priority for long time.

Despite the fact the two superpowers tripled their nuclear stockpile during the first ten years of the NPT, the end of the Cold War has provided an opportunity to make progress on reducing nuclear stockpiles. It is true that the Intermediate-Range Nuclear Forces (INF) Treaty and START I and START II have begun to reverse the arms race. The 1987 INF Treaty has been praised for having eliminated a whole category of land-based intermediate-range nuclear forces. Furthermore, in ten years, START I and START II will eliminate 70% of the nuclear arsenals of the two superpowers. This is significant. However, one fact must be pointed out: as we start the twenty-first century, there will still be more nuclear weapons than when the NPT was signed in 1968.

Furthermore, the end of the arms race cannot be declared while nuclear powers still have the capacity to develop new or modernized nuclear weapons, which may have a more destabilizing effect than those arms that have been eliminated. Therefore, the end of the arms race can be achieved only if two further steps are taken: (1) the conclusion of a comprehensive test ban treaty (CTB), and (2) a verifiable treaty on the cessation of the production of fissionable material for weapon purposes.

The CTB is a key component in the cessation of the arms race. If all the nuclear weapons states are prevented from conducting underground nuclear tests, development of new nuclear weapons will be restrained. Thus, a CTB will give better assurance of compliance with obligations under Article VI. States have committed to conclude the CTB at the earliest possible date, but the prospects for the 1995 NPT Conference will be strengthened if a CTB is concluded before that time.

The link between the CTB and the 1995 Conference is evident. Other signs of progress on Article VI would be: the completion of a treaty on the cessation of the production of fissionable material, and a multilateral agreement to assure non-nuclear weapon states against the use or threat-of-use of nuclear weapons.

Conclusion

The NPT has been praised as the most universal treaty on nuclear disarmament. However, it cannot be perceived as only a regime to prevent horizontal proliferation. Article VI was included in the treaty as the only guarantee that non-nuclear weapon states would have to prevent vertical proliferation.

State Parties will have this in their minds when they gather in 1995 to review the NPT and consider its extension. Article VI cannot be

perceived as a political declaration. It contains full legal force as an obligation acquired by both nuclear and non-nuclear weapon states: they are to pursue negotiations in good faith aimed at general and complete disarmament. Furthermore, this Article not only obliges States Parties to pursue such negotiations, but they are also compelled to obtain concrete results, as agreed to in the Preamble of the NPT.

States Parties will have a unique opportunity in 1995 to decide on the future of the NPT. This occasion should also serve to strengthen the treaty and to further efforts to see its objectives achieved.

6

Article VI and Other NPT Issues from the Perspective of Russia

*Yuri Nazarkin**

Nuclear arms control and disarmament were two of the most controversial issues at the negotiations on the Nuclear Non-Proliferation Treaty (NPT) in the 1960s. Some countries tried to combine nonproliferation measures with a comprehensive test ban (CTB) and specific proposals to reduce nuclear weapons. Proponents of this approach interpreted nonproliferation very widely, advocating that it cover not only "horizontal proliferation," but also "vertical proliferation." While the broad interpretation appealed to many, it was not feasible at that time to set forth such a comprehensive package linking nonproliferation and nuclear disarmament. Nevertheless, there have been pressures to link continuing nonproliferation efforts to nuclear arms reductions.

It was not a coincidence that on the same day when the NPT was signed, July 1, 1968, the Soviet Union and the United States pronounced their readiness to start Strategic Arms Limitation Talks (SALT-I). In 1972, both countries signed the Anti-Ballistic Missile (ABM) Treaty and the Interim Agreement on certain measures regarding the limitation of strategic offensive arms. That Interim Agreement was to be superseded by the SALT-II Treaty, which was signed in 1979 but was never ratified. The détente of the 1960s and 1970s was being replaced by growing confrontation.

Nonetheless, Soviet-US talks on limiting nuclear arms in Europe and on limiting and reducing strategic arms began in 1980. Late in 1983, both were suspended without having achieved positive results. That outcome

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was inevitable, given the Soviet–US relations of the day and the unwillingness of either side to take the first step toward overcoming the confrontational inertia.

Common sense was, however, slowly but surely beginning to prevail. Even though the war in Afghanistan was still going on, the barometer of the international climate shifted in the direction of “clear.” On March 12, 1985, the Soviet–United States Nuclear and Space Talks began. The process known as *perestroika* got underway in the Soviet Union, and new foreign policy approaches were adopted.

A statement by Mikhail S. Gorbachev dated January 15, 1986, heralded those new approaches. Despite certain quite specific and very important steps mentioned in the statement—such as the extension of the moratorium on all nuclear testing—the West largely treated his proposals as a publicity stunt. The West did not perceive a nuclear-free world by the year 2000 to be a realistic goal.

Steps that could help overcome the inertia of mistrust and confrontation were needed before headway could be made in talks on the limitation of strategic offensive arms. The summit held at Reykjavik on October 11–12, 1986, had a major role to play in this regard.

From a formal viewpoint, the meeting did not lead to any result: the two sides did not draft any joint documents to codify agreements because the United States side failed to accept the Soviet proposal on non-withdrawal from the ABM Treaty during the 10-year period. The euphoria surrounding the Strategic Defense Initiative (SDI) persisted, and the ABM Treaty was blocking the implementation of that program. Yet, the Reykjavik meeting showed that it was realistic to work toward agreements on intermediate-range missiles and strategic offensive arms alike.

The Intermediate-Range Nuclear Forces (INF) Treaty was signed on December 8, 1987, and entered into force on June 1, 1988. In accordance with this treaty, the Soviet Union and the United States eliminated two classes of ground-launched missiles—of intermediate-range (1000–5500 km) and shorter-range (500–1000 km). They also undertook not to have such systems thereafter.

These obligations have been carried out. The Soviet Union destroyed 1846 missiles—SS-20, SS-4, SS-5, and SSC-X-4 (tested but not deployed), 825 launchers, as well as 1761 units of support equipment, missile operating bases, and support facilities. The United States destroyed 846 missiles, and 318 launchers, missile operating bases, and support facilities. Both sides now implement verification provided for by INF.

Destruction was completed in 1991, before the dissolution of the USSR, so there were no complications resulting from the formation of newly independent states. At this stage, there are two questions relating

to these states: how to formalize their undertaking not to have systems of intermediate- and shorter-range missiles, and how to make verification work reliably on the territories of all the states in which verification procedures are required. However, from a practical point of view, there are no reasons for anxiety; the INF Treaty works.

START

Talks on the Treaty on the Reduction and Limitation of Strategic Offensive Arms (START I) took much more time, which is no wonder because this treaty covers a considerably wider scope of armaments than the INF Treaty. After almost a decade of arduous and complex negotiations, the Soviet Union and the United States concluded START I on July 31, 1991. This treaty was the first to call for significant reductions in the deployed strategic nuclear forces of the two countries.

The asymmetry of strategic offensive arms caused the greatest difficulties in the talks. The United States has more heavy bombers and re-entry vehicles (RVs) for submarine-launched ballistic missiles (SLBMs), while the Soviet Union has more intercontinental ballistic missiles (ICBMs), particularly many more with RVs on them; it also has mobile and heavy ICBMs while the United States has no such systems. Finding a common denominator for these asymmetries and accounting for them in the interest of achieving a balance underlies the final compromise that constitutes START. It is ceilings and sub-ceilings that serve as such denominators.

Under START, after seven years of its operation, each side may have no more than:

- 1600 deployed ICBMs and their associated launchers, deployed SLBMs and their associated launchers, and deployed heavy bombers, including 154 deployed heavy ICBMs and their associated launchers.
- 6000 warheads attributed to deployed ICBMs, SLBMs, and heavy bombers, including 4900 warheads attributable to deployed ICBMs and SLBMs; 1100 warheads attributable to deployed ICBMs on mobile ICBMs launchers; and 1540 warheads attributable to deployed heavy ICBMs.
- An aggregate throw-weight of deployed ICBMs and SLBMs that does not exceed 3600 tons.

For the purpose of accounting for ICBM or SLBM warheads, such a re-entry vehicle counts as 1 warhead. However, a limit of 10 RVs is set for both existing and new types of ICBMs and SLBMs.

The rules for counting heavy bomber warheads are given below. For the USSR, each heavy bomber equipped for long-range nuclear air-launched cruise missiles (ALCMs) (over 600 km), up to a total of 180 such heavy bombers, shall be attributed with 8 warheads, and the United States shall be attributed with 10 warheads on no more than 150 heavy bombers. In excess of that number, such heavy bombers shall be attributed with the number of warheads equal to the number of long-range nuclear ALCMs for which they are actually equipped. The specifications of 8 warheads for the USSR and 10 warheads for the United States are average numbers reflecting the long-range nuclear ALCM delivery capability of Soviet and US heavy bombers, respectively.

Each heavy bomber equipped for nuclear armaments that are not long-range nuclear ALCMs is attributed with 1 warhead. Table 1 outlines the reductions under START.

Table 1. Reductions in nuclear armaments under START

Type of strategic offensive arms	USSR		USA	
	No. of ICBMs, SLBMs, and HBs	No. of warheads	No. of ICBMs, SLBMs, and HBs	No. of warheads
ICBMs	1398	6612	1000	2450
SLBMs	940	2804	672	5760
Heavy bombers (HBs)	162	855	574	2353
Total	2500	10,271	2246	10,563
Percentage reductions under START	36	41.6	28.8	43.2

The counting rules for heavy bomber warheads enable the two sides to actually exceed the agreed 6000 limit. In view of the considerable US advantage with regard to the number of heavy bombers, the United States may exceed that limit by a greater margin than the USSR (namely, by approximately 2000 to 2500 actual warheads, mostly on nuclear arms that are not long-range nuclear ALCMs).

In addition to quantitative restrictions on strategic offensive arms, START envisages limitations on the qualitative improvement of strategic offensive arms. The production, testing, and deployment of heavy ballistic missiles of a new type are prohibited. A ban is envisaged on the foreseen, but so far non-existent, new kinds of strategic offensive arms (ballistic air-surface missiles, MIRVed nuclear air-launched cruise missiles).

START also limits the modernization of the existing types of strategic offensive arms: in the event of the modernization of a ballistic missile, its throw-weight should not exceed 21% of the original throw-weight. It should be taken into account that modernization does not necessarily mean adding to the more destructive capabilities of the weapons. Upgrading also leads to lower cost (that is, cutting operational cost per unit of effectiveness) and enhances the safety of weapons (that is, improvement of its properties with a view to ruling out its accidental and unauthorized use).

A scrupulously developed verification system enforces compliance with START. No other agreement on arms limitation and disarmament has anything comparable in scope and detail in terms of verification procedures. Moreover, whenever we speak of the limitation and reduction of arms and not of the complete elimination of a given category, additional procedures are needed. Lastly, the fact that the basis of the verification system within the START framework was taking shape in the period when mutual mistrust between the sides was rather high has also played its role. That is why each party proceeded from the "worst-case" scenario; in other words, they took into account hypothetical cases of the most deliberate cheating—cases that were implausible, but theoretically possible.

Compliance with START is verified and ensured through the following measures:

- Data and notifications exchange.
- National technical means (NTMs) of verification in combination with "cooperative measures"—display in the open, at the request of another Party, of ICBM launchers, heavy bombers, and former heavy bombers to enhance the efficiency of NTMs.
- Access to telemetric information.
- Exhibitions and inspections of 12 different kinds.
- Continuous monitoring at portals and along the perimeter of the ICBM production facilities for mobile launchers of ICBMs with a view toward confirming the number of missiles produced for mobile launchers (of all types of strategic offensive weapons: independent quantitative levels are envisaged only for mobile ICBMs—1100 for deployed missiles and 250 for non-deployed missiles).
- Establishment of the Joint Compliance and Inspections Commission (JCIC). The JCIC was established after signature of the treaty, prior to its ratification. Its goals are:
 - To resolve issues related to compliance with the obligations assumed.

- To agree on additional measures that might be necessary to enhance the viability and effectiveness of the treaty.
- To resolve issues related to the extension of the corresponding provisions of the treaty to new kinds of strategic offensive weapons.

Throughout the START talks, reference was made to linking it to the ABM Treaty, which has been in effect since 1972. Such a linkage is a fact of life and certainly cannot be neglected, since the military and strategic balance of forces is affected, not only by offensive systems, but also by defensive ones capable of neutralizing some of the offensive systems. Nevertheless, it was essential to decide upon the way to reflect the inter-relationship between strategic offensive arms and anti-ballistic missiles. Initially, the Soviet Union suggested that the sides undertake not to exercise the right to withdraw from the ABM Treaty for a specified fixed period of time. The United States side was against this proposal as well as other forms of linking the two agreements in the treaty texts. To remove this obstacle in the way of the treaty, the Soviet side agreed to drop this formal linkage. At the same time, the Soviet side noted that extraordinary events referred to in article XVII of START also covered situations involving the withdrawal of one side from the ABM Treaty or a material breach of the treaty itself.

The deintegration of the USSR and the emergence of independent States, which proclaimed themselves a Commonwealth, became a new and important factor both for the process of ratification of the treaty and for the further reduction of strategic armaments. Russia has declared itself the successor to the Soviet Union in the field of international undertakings. Certainly, this is true in the case of START I, but strategic offensive armaments are located not only in Russia (83.6%) but also in Ukraine (8.48%), Kazakhstan (5.76%) and Belarus (2.16%). Figures relating to deployment are given in Table 2.

Thus, Russia has the bulk of strategic offensive arms of all kinds and types. Deployed on the Ukrainian territory, there were 130 ICBMs SS-19 (with 6 warheads each) and 46 silo-based SS-24 (with 10 warheads each), as well as 13 modern Tu-160 heavy bombers (the rest are Tu-95 MS). All ICBMs in Kazakhstan are SS-18 heavy missiles (with 10 warheads each); heavy bombers are Tu-95 MS. ICBMs in Belarus are road-mobile single-head SS-25s.

In accordance with the Lisbon Protocol, all four states have taken on the START I obligations of the Soviet Union. At the same time, Belarus, Kazakhstan, and Ukraine have agreed to adhere to the NPT as non-nuclear-weapon states in the shortest possible time.

Table 2. Deployment of strategic offensive armaments in the Commonwealth of Independent States

	Russia	Ukraine	Kazakhstan	Belarus	Total
Strategic offensive arms					
Total units	2090	212	144	54	2500
%	83.6	8.48	5.76	2.16	100
Warheads					
Total units	7343	1514	1360	54	10,271
%	71.5	14.74	13.24	0.52	100
ICBMs					
Missiles	1064	176	104	54	1398
Warheads	4278	1240	1040	54	6612
SLBMs					
Missiles	940	—	—	—	940
Warheads	2804	—	—	—	2804
Heavy bombers					
Airplanes	86	36	40	—	162
Warheads	261	274	320	—	855

The United States, Russia, Belarus, Kazakhstan, and Ukraine ratified START I, but it will not enter into force until Ukraine has adhered to the NPT. In its resolution on the ratification of the treaty, the Russian parliament provided that the instruments of ratification may be exchanged only after the accession of Belarus, Kazakhstan, and Ukraine to the NPT as non-nuclear-weapon states. Belarus and Kazakhstan are parties to the NPT.

In Lisbon, Belarus, Kazakhstan, and Ukraine agreed to guarantee elimination of all the strategic offensive weapons located on their respective territories in seven years, as envisaged in START I. The process of withdrawing strategic weapons from Belarus is proceeding according to schedule, without complications.

With some difficulties in the past, Kazakhstan now has become more cooperative and is fulfilling its Lisbon obligations. The case of Ukraine is much more complicated. There is hope that Ukraine will meet its obligations now, after the trilateral statement of the Presidents of Russia, the US, and Ukraine made in Moscow in January 1994.

Even at the time when the treaty on strategic offensive arms was being negotiated, both parties began to articulate certain ideas with regard to the follow-on measures after the conclusion of the treaty. As a result, on June 1, 1990, a joint statement regarding follow-on negotiations on nuclear and space arms and on the further enhancement of strategic stability was made at the Soviet-US summit meeting in Washington. The two sides agreed to engage in new negotiations on strategic offensive arms and on the linkage between strategic offensive and defensive arms, building on the results of START I. Having done so, the two sides agreed to place emphasis during such new negotiations on the elimination of first-strike incentives, on the reduction of the concentration of warheads, on strategic delivery systems, and on the preferential choice of systems of enhanced survivability. START I was not only a good political impetus for the further reduction and limitation of strategic weapons, but it has provided a solid and reliable infrastructure for future agreements. The rapid pace of events in the world have overrun the expectations that existed at the time of the START I talks as far as the follow-up is concerned.

Unilateral Measures

The new era replacing the period of confrontation has made it possible to complement negotiations for arms reductions with unilateral measures and steps taken on the basis of mutual example. As a result of reciprocal initiatives, such steps were taken by the Soviet Union and the United States immediately after the signature of START I to reduce the state of combat readiness of ICBMs and heavy bombers and to limit the qualitative improvement of ICBMs and certain types of nuclear weapons for heavy bombers. The Soviet side has also declared unilaterally that it will reduce the number of nuclear warheads not to the 6000 units as provided for in the treaty on strategic offensive arms, but to 5000.

After the dissolution of the Soviet Union, Russia acted similarly. It took more than 500 ICBMs off alert and started eliminating their silos as well as the missiles. Russia stopped the development of a new small ICBM, the production of launchers for rail-mobile ICBMs, and the modernization of rail-mobile ICBMs. In addition, 92 SLBM launchers on 6 nuclear submarines are to be dismantled. The production of the heavy bomber Tu-95 MS was ceased and that of the heavy bomber Tu-160 is to be ended soon. Other measures in the field of strategic weapons are

being undertaken that will allow Russia to reach the limit provided for by START I four years ahead of schedule.

Radical unilateral reduction of tactical nuclear weapons is being carried out. Russia stopped the production of: nuclear warheads for ground-launched tactical missiles, nuclear artillery shells, and nuclear mines. Russia's stockpiles are to be eliminated. One-third of the tactical sea-launched nuclear weapons and one-half of the nuclear warheads for surface-to-air missiles will be destroyed. Russia intends to reduce by half the stockpiles of tactical nuclear ammunition for aviation. Similar unilateral measures in the fields of strategic and tactical nuclear armaments are being undertaken by the United States. The two sides inform each other about such unilateral actions on a regular basis.

START II

Unilateral measures are important but they cannot completely replace treaty obligations. START II was signed on January 3, 1993. It calls for far greater reductions in strategic forces than START I. The new treaty builds on START I provisions, which will pertain, except as explicitly modified in START II. Because of the close relationship between the two treaties, START II may not enter into force before START I. It shall remain in force so long as START I remains in force.

START II is a bilateral treaty. Belarus, Kazakhstan, and Ukraine do not participate in it because by the end of the seven-year period of reductions provided for in START I, no strategic nuclear weapons should remain on the territories of these three countries.

START II sets equal ceilings on the number of strategic nuclear weapons that can be deployed by either side. Ceilings are set for two phases:

- Phase one to be completed seven years after entry into force of START I.
- Phase two to be completed by the year 2003 (it may be completed by the end of the year 2000 if the United States can help finance the elimination of strategic offensive arms in Russia).

Table 3 compares the central limits set by START I and START II (in terms of warheads).

Table 3. Comparison of the limits set by START I and II

Numbers of warheads given in Memo of Understanding to START I			START I reductions	START II reductions	
Types of strategic offensive weapons	USSR	US	CIS/US 7 years, 3 stages	Russia/US	
				Phase one 7 years	Phase two by the year 2003
All types of strategic offensive weapons	10,271	10,563	6000 (5000 in accordance with a unilateral initiative of the USSR, confirmed by Russia)	3800–4250	3000–3500
ICBM	9416	8210	4900	No ceilings	
MIRVed ICBM	5958	2000	1540 only on heavy ICBM	1200, including 650 on heavy ICBM	0
SLBM	2804	5760	No ceilings	2160	1700–1750
Heavy bomber	855	2353	No ceilings	No ceilings	

As a result of implementing START II, nuclear forces of the two sides would be reduced by two-thirds in comparison with their present levels or by one-half in comparison with the levels provided for in START I. Double ceilings fixed in START II (3000–3500, etc.) look unusual for a treaty. Actually only the upper level has a legal meaning. The lower one reflects the fact that Russia insisted on smaller figures (originally on 2000–2500, then on 2500–3000).

START II will eliminate all MIRVed ICBMs, including heavy ICBMs (SS-18). It also puts limits on SLBMs.

In START II, heavy bombers should be counted using the number of nuclear weapons—whether long-range nuclear ALCMs, short-range missiles, or gravity bombs—for which they are actually equipped (in START I, heavy bombers are subject to such counting rules that allow each side, particularly the United States, to have in reality more than 6000 warheads). This number is specified in the Treaty Memorandum on

Attribution and will be confirmed by special exhibitions of one heavy bomber of each type and each variant.

Another new feature of START II is the provision that up to 100 heavy bombers that have never been accountable under START I as long-range-ALCM heavy bombers may be reoriented to a conventional role. Such bombers will not count against the treaty warhead limits.

The comprehensive START I verification regime will continue to apply to START II. In addition, the new treaty will include some new verification measures, such as observation of SS-18 silo conversion and missile elimination procedures, exhibitions and inspections of all heavy bombers to confirm weapon loads, and exhibition of heavy bombers reoriented to a conventional role to confirm their observable difference.

START II faces a more difficult ratification process in the Russian Parliament than START I did. The most important problem is the position of Ukraine on its accession to the NPT; START II cannot enter into force before the entry into force of START I, and this treaty cannot enter into force before Ukraine adheres to the NPT as a non-nuclear weapon state.

Also, there is strong criticism in Russia against START II because, as critics assert, it gives unilateral advantages to the United States and does damage to the security of Russia by depriving it of heavy ICBMs and rail-mobile ICBMs, and by giving the United States the possibility of regaining strategic power faster than Russia could in case of withdrawal from the treaty. Critics also maintain that, if Russia wants to keep a strategic balance, it should—in accordance with START II provisions—restructure its strategic forces, which would mean an enormous economic burden it cannot afford.

What Is Next?

All the efforts in the field of nuclear arms control and disarmament have been undertaken thus far by only the two nuclear superpowers. "Third nuclear-weapon states" refrain from making a contribution to arms control, citing the great difference between the levels of their nuclear arsenals and those of Russia and the United States. There is a hope, however, that the entry into force of START II will open the way for their involvement in the further negotiating process.

The only path "third nuclear-weapon states" have agreed to follow is negotiations on a comprehensive and complete ban on nuclear tests which started early this year at the Conference on Disarmament. The accomplishment of this treaty or, at least, good progress toward this goal by the time of the NPT Review Conference in 1995, would be a great contribution to the strengthening of the nonproliferation regime.

At the CTB negotiations, there is no consensus yet on the major issues: scope of prohibition, verification, or duration. Nevertheless, three treaties on nuclear explosions are now in force: the Moscow multilateral partial test ban treaty (1963), and two treaties between the United States and Russia on the limitation of underground nuclear weapons tests (1974) and on underground nuclear explosions for peaceful purposes (1976).

An effective measure in the field of nonproliferation might be cessation of fissile materials for weapon purposes (a cutoff). Russia has stopped its production of weapon-grade uranium and is implementing the program of non-production of weapon-grade plutonium. Ten reactors producing weapon-grade plutonium are closed already. The remaining three reactors are due to be closed by the year 2000, as soon as they are replaced with other sources of heating and electric power.

A multilateral agreement on a cutoff would be more meaningful. All nuclear-weapon states and non-nuclear weapon states that possess appropriate facilities should be parties to such an agreement. The most suitable forum for negotiation on a cut-off agreement is the Conference on Disarmament, which could invite International Atomic Energy Agency (IAEA) experts. The IAEA safeguards system might provide a basis for verification of a cutoff. It is important, however, to adjust this system to nuclear-weapon states, having in mind both technical problems and high expenditures.

A cut-off agreement should not relate to existing stockpiles of fissionable materials and should not prohibit the production of tritium or the use of highly enriched uranium for non-explosive purposes (e.g., in navy reactors). A ban on transfers of stockpiled fissionable materials to other countries might be also discussed.

Nuclear-weapon-free zones are very important regional contributions to the global nonproliferation regime. Both existing zones—in Latin America (Treaty of Tlatelolco) and South Pacific Nuclear Free Zone (Treaty of Rarotonga)—work well, with the participation of Russia in appropriate Protocols. Russia welcomes the forthcoming establishment of such a zone in Africa.

The question of security guarantees is of importance for non-nuclear weapon states in the context of nonproliferation. The United Nations Security Council resolution N 255 and the parallel statement made in 1968 by the Soviet Union, the United States, and the United Kingdom cover the positive part of the problem. Russia confirmed all of the international obligations of the Soviet Union, including, naturally, those that were adopted in 1968 on security assurances.

After the entry into force of the NPT, nuclear-weapon states made different statements on negative security guarantees, i.e., on non-use of nuclear weapons against non-nuclear weapon states under certain conditions. At that time, the Soviet Union stated that it would never use nuclear weapons against those states that renounce the production and acquisition of such weapons and do not have them on their territories.

In its new military doctrine adopted in 1993, Russia changed this formula making it much closer to those stated by the United States and by the United Kingdom. Now it says:

The Russian Federation will not use nuclear weapons against any non-nuclear-weapon State-party to the NPT except in the case of an attack on the Russian Federation or its allies by such a State allied to or associated with a nuclear-weapon State in carrying out or sustaining the attack.

This new formula emphasizes the importance of the NPT and puts the Russian position on negative security guarantees in conformity with the concept of nuclear deterrence.

The military doctrine of the Russian Federation defines the goal of Russian policy in the field of nuclear weapons as the removal of the danger of a nuclear war by deterring aggression against the Russian Federation and its allies.

The doctrine also stresses the following three major aims in this field:

- Achieving a comprehensive nuclear test ban.
- Reducing nuclear forces to a minimum level that would guarantee prevention of a large-scale war, strategic stability, and in the long run, completely eliminating nuclear weapons.
- Strengthening the nonproliferation regime and making it universal—in cooperation with the other countries concerned.

Changes were also made in the position on the non-first-use of nuclear weapons taken by the Soviet Union in 1982. Now Russia will not use its armed forces against any state except for individual or collective self-defense in case of an attack on the Russian Federation, its citizens, territory, armed forces and other troops, or its allies.

Evidently, in accordance with the formula, nuclear weapons could be used against an aggression even if it is undertaken with conventional weapons. This new stand strengthens the effectiveness of nuclear deterrence. It takes into account particularly that an aggressor could use its conventional forces to strike nuclear facilities of both peaceful and military purposes on the Russian territory. That would produce a radioactive effect similar to that of a nuclear strike.

Conclusion

The role of nuclear weapons for the future world is being widely debated. There are valid reasons for discussing this important problem. The world has been drastically changing, and this may change the role of nuclear weapons. The role of nuclear weapons must be viewed in the context of 1995 NPT Review Conference as well as other important problems related to chemical and biological weapons, and conventional armaments.

The arms control process has achieved much in the past few decades and progress continues. Arms control achievements help fulfill obligations under Article VI, as will completion of a CTB accession of Ukraine to the NPT. The solution of these two problems will undoubtedly facilitate the strengthening of the nonproliferation regime.

NPT Review and Extension

*John D. Holum**

The Nuclear Non-Proliferation Treaty's (NPT's) entry into force in 1970 transformed the acquisition of nuclear weapons from an act of national pride to a violation of international law. If it crumbles—indeed, if cracks are detected—a great deal of the nuclear security architecture painstakingly constructed by the international community may begin to collapse.

The Treaty's Accomplishments and Importance

The NPT has successfully put in place a global norm against the further proliferation of nuclear weapons. During the 1960s, when it was negotiated, many predicted that there would be 20–30 avowed nuclear weapon states today. But in fact, there are only five—the same as when the NPT was brought into force—and three other “threshold” states.

The NPT system has steadily expanded since 1970, and there has been considerable tangible progress in recent years—with the accessions of China, France, South Africa, the Baltics, and the majority of the newly independent states; the announced intentions of Argentina and Algeria; and the non-nuclear decisions of Chile and Brazil. With 163 parties (and counting), the NPT enjoys the widest adherence of any arms control agreement in history.

As the only nuclear nonproliferation agreement of global reach, the treaty has codified an international standard of behavior against which the actions of even states outside the regime are measured. Indeed, the NPT sets the fundamental legal standard and political framework for all the cases of greatest concern to the international community; for our

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ongoing denuclearization efforts with Belarus, Kazakhstan, and Ukraine; for seeking to encourage constructive steps in India, Pakistan, and Israel; and for keeping a watchful eye and international pressure on countries, such as North Korea and Iraq, that historically have not respected their agreements.

The NPT also supports peaceful uses of nuclear energy under effective international safeguards. NPT parties are required to conclude with the International Atomic Energy Agency (IAEA) full-scope safeguards agreements whose durations are tied to the duration of the NPT. Such safeguards are a legal prerequisite to US nuclear cooperation with *all* countries—a policy that has been adopted by nearly all major nuclear suppliers.

The Arguments against Indefinite Extension

Some complain that the NPT is “discriminatory” because it accepts five nuclear powers and freezes out all others. But remember that the treaty did not *create* nuclear “haves” and “have-nots.” It only *recognized* that inherited reality—and helped stop a deadly trend in its tracks—while at the same time committing the nuclear weapon states to pursue nuclear disarmament.

The measure of arms control, nonproliferation, and disarmament agreements lies not in their egalitarianism, but in their contributions to international security. The fact is, if the world were to insist today on a reflexive nuclear equality, the likely result would be a leveling *up*, not a leveling *down*: not a world *freed* of nuclear weapons, but a world *filled* with nuclear weapon states.

Another argument is that the indefinite extension would legitimize nuclear weapons for all time. In fact, the opposite is true. In recent years—with the NPT in place—the United States and the former Soviet Union have:

- Eliminated 2000 nuclear warheads from an entire class of weapons under the Intermediate-Range Nuclear Forces (INF) Treaty.
- Decided unilaterally to withdraw and dismantle thousands more tactical nuclear arms.
- Agreed to the Strategic Arms Reduction Treaty (START) and START II agreements to reverse the strategic arms race and take more than 17,000 nuclear weapons off missiles and bombers.

Taken together, these actions have resulted in nuclear disarmament on a massive scale. The NPT’s call for an end to the arms race has been met.

The race now is to bring down force levels as quickly, safely, and securely as possible. Thousands of nuclear weapons are being dismantled. The United States alone is dismantling around 2000 nuclear weapons a year; the highest rate that technical limitations will permit.

The ledger in fulfillment of NPT Article VI also includes two additional multilateral efforts: to negotiate a worldwide fissile material cut-off treaty and to conclude a comprehensive test ban (CTB). A cut-off treaty would cap the amount of material available for nuclear explosives. With regard to testing, President Clinton has continued the US moratorium and has instructed us to negotiate a CTB "at the earliest possible time." We want to ensure that the *first* half-century of nuclear explosions is the *last*.

The NPT is an important stimulus to these disarmament steps. Pressure to disarm will be kept on the nuclear weapon states by reaffirming Article VI and by keeping it in force indefinitely. The perverse result of easing this pressure would flow not from making the treaty permanent, but from crippling it through lesser steps.

As it creates political incentives to disarmament, the NPT also fosters the global conditions that permit deep reductions. It is a simple, practical reality that arms control will suffer if the barriers against nuclear proliferation are lowered. Indeed, it is clear that—perhaps unlike the Cold War period—further progress in arms control depends on the security of a permanent NPT.

It is then argued, why not hold up the NPT, or just extend it for a short time, as a way to force even greater progress on the nuclear weapon states? Some, for example, suggest that we should hold the NPT extension hostage to the conclusion of a CTB, *then* make it permanent.

There are many flaws to such arguments, but two main ones are: (1) treating the NPT as a bargaining chip is dangerously self-defeating; (2) jeopardizing what in practical terms is our one realistic opportunity to make the NPT last forever. Those who think the NPT is a bargaining chip ignore a cardinal rule: don't gamble with something you can't afford to lose.

For reasons that include geography, the countries most immediately put at risk by nuclear proliferators are their immediate and regional neighbors, *not* the United States. We support the NPT in our own interests, to be sure, but it is even more strongly in the interests of countries located in regions of tension. The NPT gives all member countries the security of knowing that their neighbors and regional rivals will not be able effectively to pursue nuclear-weapon ambitions—not only because they have agreed not to, but also because there is a global system to verify that they have not. It provides the fiscal savings and physical safety that come from avoidance of regional nuclear arms races.

We are also keenly aware of the importance attached by many parties to the issue of security assurances. The United States is committed not to use nuclear weapons against any non-nuclear State Party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices, such as the Tlatelolco Treaty, unless the United States is attacked by that non-nuclear weapon state in alliance with a nuclear weapon state. In addition, the positive security assurances given at the time of signature of the NPT could be updated. We are open to discussions on this issue.

So for all those whose votes will decide its fate, the NPT is a source not of leverage, but of security. The NPT's greatest value to the international community is not as a lever for moving the nuclear state, but as a shield to ward off regional arms races and nuclear dangers. In fact, many countries have testified to this truth with their deeds. In Latin America, the South Pacific, Southeast Asia, and Africa, nations have adopted or are moving toward nuclear-weapon-free zones that do not contain analogues to the NPT's Article VI. This confirms that it is not principally Article VI that draws countries to a commitment against acquiring nuclear weapons, but rather a recognition that their own security is enhanced when they codify the norm of nuclear nonproliferation in their own backyards.

The corollary of the bargaining chip argument—the proposition that indefinite extension can be put off—is particularly dangerous because it is so seductively plausible. . . . and so wrong. Article X.2 of the NPT explicitly spells out the three “and only three” extension options that the parties have in 1995: indefinite extension, extension for a fixed period, or extension for fixed periods. What is not made explicit in the treaty—but is so important to its fate—is that 1995 represents the only realistic opportunity that the parties have to give the NPT an indefinite extension that is *legally binding on every member without the need to go back to parliaments for ratification*.

Extending the treaty for a fixed term will not work. Because the NPT presently contains no provision for a further extension decision after the first, it would have to be amended to provide for such a decision, or else expire. Treaty amendment, in turn, would require the votes of a specialized majority of the parties—including all members of the IAEA Board and all five nuclear weapon states—as well as ratification by 82 national legislatures (at present count).

It is not realistic to count on achieving amendment. Simply collecting the ratifications of most parties could take years—after all, it took 19 years for the 98 original NPT signatories to ratify the treaty. Even if the amendment were brought into force, it would only apply to those

states that actually ratify it, giving many states an easy way to back out of the treaty.

The NPT can also be extended for a fixed period(s). The length of each period, number of periods, and the type of transition mechanism that would be needed to go from one period to the next would have to be resolved. By requiring (and deferring) such difficult decisions—many of which have uncertain legality—this option also clearly risks the possibility of eventual treaty expiration. Again, indefinite extension is the only way to *ensure* that the NPT will endure.

Another frequent criticism of the NPT is that certain countries have not joined. Some states, for example, have said that support for indefinite extension would be difficult without Israel's adherence to the NPT. But enlarging the prospect that the NPT may lapse at some point makes it less likely—not more likely—that states such as Israel, India, and Pakistan ultimately will join. The best chance for their ultimate adherence lies in a strong treaty that is a *permanent* part of the international security system.

Related to the universality argument is the argument that the NPT does not deserve indefinite extension because it has not solved every nuclear proliferation problem, such as North Korea and Iraq. But this betrays a misunderstanding of where arms control and nonproliferation regimes leave off, and where the need for political will in the international community begins.

The IAEA has risen to the challenge revealed by the case of Iraq by strengthening its system of safeguards—reaffirming the right to special inspections at undeclared sites, and approving a voluntary program of reporting nuclear exports. In addition, field trials are already underway to test other strengthening measures.

In North Korea, the IAEA's inspections have demonstrated its dogged vigilance in the pursuit of international safeguards agreements. In verifying North Korea's initial declaration, the Agency found discrepancies that led it to seek special inspections at undeclared sites. Although the case of North Korea is yet to be resolved, the fact that the NPT's enforcement requires political will in the international community is hardly an indictment of the treaty. To the contrary, the engagement of the United Nations (UN) demonstrates that the NPT system works; for it is only the UN Security Council that can act on behalf of the international community to enforce its norms.

But if the NPT reflects so much wisdom, why not follow its own initial pattern of a 25-year term? Because any doubts that led to that compromise have been resolved. The NPT was untested then; now we know that the global nonproliferation regime works. Then the future was

unclear; now we have experienced the treaty's effective operation over time and through changing conditions. Then countries' responses could not be predicted; now we know it has the broadest adherence of any international arms control agreement. So our best guide now is not the uncertainty of 1968, but the informed confidence of 1995.

Arms control regimes typically are permanent—including the Anti-Ballistic Missile (ABM) Treaty, START, the INF Treaty, the Chemical Weapons Convention, and even the regional nuclear-weapon-free zones. Surely the most successful, broadest, and now increasingly vital global arms control regime deserves equal status.

The Consequences of a World without the NPT

I believe it is established that anything less than an indefinite extension will jeopardize the NPT's future. The question then becomes, why is that a bad outcome?

No one can predict definitively the nature of a world without the NPT. But each of us must think concretely about the massive proliferation pressures that could be tragically unloosed if the treaty ever expires.

Among the nuclear weapon states, the obligation for good-faith negotiations toward disarmament would be gone—and pressures to maintain and build large arsenals and develop new weapons would reappear. In the former Soviet Union, the basis for averting several newly independent nuclear weapon states would be gone. As to the threshold states, any political leverage for universal adherence to nonproliferation norms would be gravely weakened, not strengthened.

In Northeast Asia, would the spotlight of the world be shining as white-hot as it is on North Korea without the NPT? Consider what the other nations in that region might feel compelled to do without the bulwark—the constant gravitational pull and pressure—exerted by the NPT. Then consider the cascading effect that their actions would be likely to have on still other countries.

Consider also the group of countries that is almost entirely ignored in NPT discussions: all countries for which nuclear arms are not an issue because they have made and kept nuclear nonproliferation commitments. The NPT's greatest achievements are invisible—consisting of bad things not happening, nuclear material not diverted, and weapons not made. We cannot know which additional countries might have decided, but for the NPT, that they needed nuclear arms. We do know that more than 40 countries may well have the required technical and economic resources. Without the NPT, we have to assume that over time many of those bad things would begin to happen. We would be very hard

pressed to keep states from hedging their nuclear bets against an uncertain future. No nation's specific security concerns would be helped by the NPT being weakened; all would be worsened.

The Japanese have a saying: "The nail that stands out will be hammered down." Today proliferant countries know how that feels, because they are exposed to the global hammer against nuclear weapons—the NPT. But in a world without the treaty, the nails sticking out—especially in regions of tension—could become those states *not* pursuing or possessing nuclear arms. Countries might avoid standing out in such a world not by resisting pressures to have nuclear weapons, but by succumbing to them.

Conclusion

You may have heard the apocryphal story of the young man who climbs the distant mountaintop to seek advice from the revered old wise man who renounced vast riches and celebrity. When he asks the wise man what he should do, he is told only, "My son, avoid hedonism, do not seek fame—such things are but a snare and a delusion." The young man looks at the wise man and says: "Thank you, sage one. Could I just try them for a month first?" One of the problems with nuclear weapons, of course, is that you can't just try them for a month.

The Cold War was a terrible necessity. The United States and the Soviet Union scaled the nuclear heights—in the process expending staggering resources and talent, and making the peril of nuclear catastrophe a daily companion. Now, at last, we are climbing down from the precipice. And we implore you—with urgency, with sincerity, from our own experience: *do not start up that mountain*. Its crevasses are treacherous; avalanches are a constant risk; the trip will sap your time and treasure. The two countries that have spent the most time at the highest altitudes are returning to earth with alacrity and relief.

Amassing a huge stockpile of nuclear weapons did not preserve the Soviet Union—but it helped bankrupt it. And is it mere coincidence that the greatest economic success stories to emerge from defeat in World War II—Germany and Japan—are advanced industrial powers *without* nuclear weapons? With the end of the Cold War, nuclear proliferation pressures may be more substantial than ever. So this is at once the best time to buttress international security—and the most essential.

The Clinton Administration is genuinely committed to arms control, nonproliferation, and disarmament. We will achieve a CTB—the only question is when—and sooner is much better than later. The 1995 NPT review conference is our only realistic chance to make the NPT permanent. And unless we succeed in those matters—as well as in our efforts

to bring START I and II into force and effectively clarify the ABM Treaty—I fear it may be a long time before further strategic reductions can even be put on the table.

Now especially, with superpower nuclear arsenals falling and CTB prospects rising—with the largest nuclear weapon powers finally able to deemphasize nuclear weapons in their defense—this is no time to abandon the covenant that has enabled us to turn the arms race around.

Our challenge is to recognize the singular nature of this decision and seize this moment. We need to elevate NPT extension to a higher plane—above the din of politics-as-usual at the UN, above the ordinary international jockeying and horse-trading. History will not treat us kindly if we act irresponsibly. But far harder to bear would be our own realization that we miscalculated with our children's security.

8

Problems Facing Total Nuclear Disarmament

*Kathleen C. Bailey**

Given that four of the five¹ declared nuclear weapons states are observing a testing moratorium and that negotiations are underway for a comprehensive test ban, discussions increasingly focus on whether the time is right to pursue total nuclear disarmament as more than a very long-term goal.² Some even suggest linking the renewal and extension of the Nuclear Non-Proliferation Treaty (NPT) with a requirement for setting a timetable for total nuclear disarmament.³ The purpose of this paper is to address the question of whether total nuclear disarmament is practical or even desirable in the foreseeable future.

Reasons for Total Nuclear Disarmament

There are at least six basic reasons for pursuing total nuclear disarmament:

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¹The United States, United Kingdom, France, and Russia are observing the nuclear test moratorium; China is not.

²"The majority view, held by mostly the developing world, but also some industrialized countries, is that the objective of a comprehensive test ban is to take the first step to make nuclear weapons obsolete and thus to begin the process of nuclear disarmament through a test ban." Ambassador Stephen Ledogar before the US Senate Foreign Relations Committee, April 13, 1994.

³This view was put forward by representatives from some non-nuclear weapons states attending an international conference held in Japan. Discussion between the author and Ben Sanders, June 27, 1994.

- Eliminate the risk of nuclear war; if no nations possess nuclear weapons, there will be no risk of their being used.
- Provide a model for non-nuclear weapons states that would bolster nuclear nonproliferation. This might have multiple benefits: non-nuclear weapons states would not need to pursue a nuclear deterrent for themselves, undeclared nuclear-weapons states would have an incentive to disarm, and former nuclear weapons states would have increased moral authority to pressure potential proliferants.
- Cement the end of the Cold War and prevent its resurgence. With the breakup of the Soviet Union, Western perceptions of the threat have diminished.
- Fulfill treaty obligations. Article VI of the NPT calls for parties to pursue negotiations on complete disarmament.
- End the discrimination inherent when some nations have nuclear weapons while others do not.
- Reduce the military might of nuclear weapons states, which in turn will reduce those states' political influence and ability for force projection.

The principal questions to be answered are:

- Would nuclear disarmament accomplish the intended goals?
- Would there be unintended negative effects that would counter or outweigh the benefits of nuclear disarmament?

Eliminate the Risk of Nuclear War

To achieve total nuclear disarmament and thus eliminate the risk of nuclear war, two important criteria would have to be met: all nations would have to agree to participate, and very highly effective verification would have to be possible. Unfortunately, the first is unlikely, and the second is currently impossible.

Some nations might not want to participate in a ban on nuclear weapons for any or all of the following three reasons. First, they may see such weapons as the only means to counter an overwhelming conventional threat. A nuclear arsenal can be much less expensive than developing and maintaining conventional forces, particularly forces entailing advanced delivery systems. Second, they may see nuclear weapons as the only effective deterrent against an opponent's chemical or biological

weapons. Although there is a ban on biological weapons possession in effect, and one on chemical weapons possession in process, neither are verifiable,⁴ and proliferation can be expected to continue.⁵ Third, they may view the maintenance of a nuclear option as prudent, given the possibility that an opponent might develop a clandestine nuclear arsenal.

Even if every nation on Earth signs a treaty saying that it has forsworn nuclear weapons, there can be no guarantee, given the limitations of today's verification technology, that total nuclear disarmament has been achieved. New nuclear weapons states may go undetected. Any nation with enough money and dedication can build a nuclear arsenal. And if a nation studies the lessons of how other countries (e.g., Israel, India, South Africa, Pakistan, Iraq, and North Korea) have gone about hiding their programs and the mistakes they have made that led to some discoveries, it may be possible to build an arsenal secretly. Even the most highly intrusive inspections would be unlikely to discover, for example, a well-hidden uranium enrichment facility. It may even be possible for a nation to build a plutonium reprocessing facility underground and operate it without emissions detectable by technical means. And, as is evident from the programs of Pakistan and South Africa, nuclear testing is not required. Thus, unless accurate human-source intelligence information were available as a guide, even the most intrusive inspection is unlikely to find a well-hidden program.

An even more dangerous prospect than undetected proliferation, from the perspective of the United States, is the possibility that current declared nuclear weapons states would not really disarm. There are no current verification measures that would enable the United States, for

⁴In testimony before the US Senate Foreign Relations Committee on June 23, 1994, on the subject of ratification of the Chemical Weapons Convention, R. James Woolsey, Director of the Central Intelligence Agency, stated, "And I testified I cannot state that we have high confidence in our ability to detect non-compliance with this treaty, especially non-compliance on a small scale." As for biological weapons, it has been recognized since at least 1974 that a ban cannot be verified with current technologies and procedures. See Thomas Dashiell, "Compliance Monitoring and Technologies Needed," in Kathleen C. Bailey, editor, *Director's Series on Proliferation*, No. 4, UCRL-LR-114070-4, (Livermore, CA: Lawrence Livermore National Laboratory, May 23, 1994), p. 85.

⁵Both chemical and biological weapons are inexpensive and technologically easy to manufacture. At least 10 nations are suspected of having biological weapons programs. See US Congress, Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks*, OTA-ISC-559 (Washington DC: US Government Printing Office, August 1993), p. 82.

example, to determine whether Russia or China has a hidden nuclear stockpile (or vice versa).⁶ Also, there is no way of knowing whether a nation's declarations of numbers of nuclear weapons or nuclear materials are correct, so verifying the number of weapons or amount of nuclear materials destroyed will provide no assurance that more are not hidden somewhere.

But, would nations have an incentive to sign a treaty for total disarmament and then cheat? Clearly, the answer is yes. A nation that is the only possessor of nuclear weapons when all others have disarmed can quickly "break out" of the treaty and use its nuclear weapons to exert significant political and military power. Other nations, upon realizing that there is a cheater in their midst, may attempt to rearm, but it could well be too late. In such a situation, the risk of nuclear weapons use may be much higher than it is today.

Provide a Model

Some disarmament advocates argue that if nuclear weapons states were to give up their nuclear weapons, there would be little or no incentive for other nations to acquire such weapons. The opposite may be true; disarmament could increase the incentive for some states to acquire nuclear weapons. As noted above, the marginal utility of possessing one or a few nuclear weapons would increase in an environment of disarmament.

"Lead-by-example" nuclear disarmament might stimulate proliferation as a result of the diminution or removal of the security assurances currently provided to some nations. The United States provides a nuclear umbrella to Japan and South Korea and to the North Atlantic Treaty Organization (NATO) countries of Europe. The nuclear force also implicitly backs up the conventional security assurances offered to a host of other nations worldwide. Imagine that the United States destroys its nuclear capability in the interests of providing an example for others to follow. It is almost certain that some or all of those nations under US protection would reevaluate their security situation. Those that face

⁶Western intelligence, despite decades of effort focused on determining the amount of warheads and special nuclear materials possessed by Moscow, significantly underestimated the quantity. Viktor N. Mikhailov, head of the Russian Ministry of Atomic Energy, stated that Moscow once had 45,000 warheads (12,000 more than believed by the most generous estimate by the United States), and more than twice the amount of stockpiled enriched uranium than commonly believed. See William J. Broad, "Russian Says Soviet Atom Arsenal Was Larger Than West Estimated," *The New York Times*, September 26, 1993, p. 1

threats from nations that refuse to disarm, or are suspected of covertly having weapons of mass destruction, may decide to develop their own deterrent.

There is another flaw in the notion that potential proliferants would want to emulate the good behavior of nuclear weapons states that commit to disarmament. In reality, the possession of nuclear weapons by the United States, United Kingdom, France, or Russia is not a primary reason for proliferation. And nations other than India do not cite China as their reason for needing such weapons. Rather, proliferants are motivated to acquire nuclear arsenals as a means of countering real threats to their security and/or gaining prestige and power within their own regional contexts. Disarmament could be expected to be of little influence on nations seeking nuclear weapons for reasons unassociated with declared nuclear weapons states.

Some people also posit that nuclear weapons states would have more moral authority to insist on nuclear nonproliferation if they were to give up such weapons themselves. This, of course, is a subjective judgment. Alternatively, an argument can be made that giving up nuclear weapons is immoral in that it forfeits nuclear deterrence, which in the minds of many people is responsible for the relative world peace following World War II. What matters here, however, is not philosophical perspective, but reality. If the United States and Russia were to give up their nuclear weapons and, with great moral authority, ask the rest of the world to do so as well, it is highly unlikely that all others would follow—even if they said they would. Again, this goes back to the points that verification of disarmament is not technically possible at this time, and the utility of nuclear weapons remains and could conceivably increase.

Cement the End of the Cold War

During the Cold War, the East-West standoff prevented either side from disarming. To do so would have meant capitulation. With the end of the Cold War, the likelihood of nuclear conflict between the two sides has dramatically diminished. Many people no longer see a strong need for a nuclear deterrent, and some believe that achieving disarmament now will help lock in the improved political atmosphere.

Although there is peace between East and West, there is neither stability within nor absence of threat from the former Soviet Union (FSU). The level of threat that the United States perceives from Russia and the FSU is a function of two primary forces, one military and the other political. Relative to the United States, the FSU nuclear weapons complex is more robust and its weapons are newer and, in some respects, more modern. The United States is no longer producing new nuclear

weapons; Russia is. The United States is not producing plutonium or tritium for weapons; Russia is. Essential facilities within the nuclear weapons complex of the United States are shut down and cannot reopen readily; Russia's continue to operate. And, to make matters worse, republics from the FSU other than Russia are not covered under the Strategic Arms Reduction Treaty II (a bilateral agreement). This situation could allow some nuclear assets to be maintained in those republics and later used to threaten the United States if some form of the FSU were revived.

Russia's nuclear prowess is accompanied by the modernization of its delivery systems. Russia has mobile missile delivery systems (SS-25s); the United States does not. Despite severe economic problems, the Russian Navy deployed four new submarines in 1993, and two new generations of submarines are being designed.⁷ And, in contravention of their agreement with the International Monetary Fund, President Yeltsin and Prime Minister Chernomyrdin increased defense spending in 1994 over 1993.⁸

The issue of the maintenance and modernization of Moscow's military might is exacerbated by Russia's continuing violation of arms control commitments. Russia recently admitted continuing to manufacture chemical weapons secretly, despite its agreement to abide by a ban of such weapons, and defectors have given details of research on and production of biological weapons. In June 1994, the United States expressed concern that these activities are continuing and that Moscow's declarations of chemical weapons activities—as required under a 1989 bilateral accord—have not been accurate and complete.⁹ Furthermore, Russia is deploying conventional forces in a manner inconsistent with treaty obligations.

In the political realm also, there is little reason for the United States to be complacent. Russian inflation was 1200% in 1993. Debts are not being serviced, and foreign investment is low. Much of this is due to the unstable political situation in Russia and other FSU republics. There is a serious

⁷Barbara Starr, "Russia is Building Next Generation SSN" *Jane's Defence Weekly*, October 9, 1993, p. 5; Robert Holzer, "US Fears New Russian Sub Threat," *Defense News*, June 20–26, 1994, p. 3.

⁸Leyla Boulton, "Russian Defence Spending to Surge," *Financial Times* (London), May 11, 1994, p. 2.

⁹For example, US officials stated that Moscow has not included information in its chemical weapons declarations on its binary weapons programs and is continuing to conceal information on its advanced chemical weapons. See Michael R. Gordon, "US Says Russians Hide Bid to Develop Deadly Poison Gas," *The New York Times*, June 23, 1994, p. 1.

question as to whether the Yeltsin government will survive and, if it does, whether it will be able to implement the reforms required to stabilize the economy and government. Some Russians, including prominent nationalistic opponents of the Yeltsin administration, blame Russia's predicament on the West, especially the United States. If these forces were to gain power in Russia, the Cold War might be revived in some form.

Fulfill Treaty Obligations

During negotiations on the NPT, an attempt was made to insert a requirement for nuclear disarmament. This was rejected and a compromise resulted in Article VI, which requires parties

...to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

Many, particularly in the United States, recognized that it was not realistic to undertake nuclear disarmament, primarily because complete nuclear disarmament was not then (and is not yet) technically verifiable. But, they saw relatively little harm in allowing negotiations on disarmament, as long as there was no requirement for immediate agreement. Additionally, many felt that such negotiations were and are highly constructive, as they lead to arms control and reductions, and serve to build understanding and trust. Thus, there was agreement that nuclear disarmament should be a goal, but there were differences in perspective about whether that goal should be long- or short-term.

There is no question that nuclear disarmament would fulfill part of the obligations under Article VI of the NPT. Setting aside the question of verifiability and whether nations would actually comply with nuclear disarmament, there are at present some practical limitations.

One obstacle to deciding on a timetable for disarmament is that the pace of arms control has already outstripped the capacities of both the United States and Russia to dismantle nuclear warheads. The United States is attempting to dismantle approximately 2000 warheads per year, although there have been safety concerns and technical problems that have slowed the process. Reportedly, an equal number is being dismantled by Russia, although there is no verification of this. There are unresolved problems, such as how to store weapons components until they can be destroyed, how to destroy them faster, what to do with the plutonium and other materials, and how to pay for it all. Even if total nuclear disarmament were agreed to today, the pace of stockpile reductions could not happen much faster than at present.

End Discrimination

Some nations object to the NPT because it discriminates by allowing declared nuclear weapons states to retain their weapons while prohibiting non-nuclear weapons states from acquiring them. India has declined to join the treaty, arguing that either every nation should give up nuclear weapons, or that India should have the option to acquire them.

A premise of this article is: it is not in the national security interests of the declared nuclear weapons states to give up their capabilities, primarily because they could never be sure that their potential enemies had also done so. But, consider the issue of national security interests from the perspective of the non-nuclear weapons states and ask:

- Is it in the national security interests of the non-nuclear weapons states for the nuclear weapons states to give up their nuclear weapons? For example, would it be in the national security interests of Germany, Japan, or South Korea for the United States to be nuclear weaponless?
- Is it in the national security interests of the non-nuclear weapons states to see the NPT scuttled over the issue of total disarmament? Would these nations be safer if all nations were free from the political constraint of the NPT?

Very often, non-nuclear weapons states portray the NPT as a favor to the nuclear weapons states. It is not. It is a treaty that helps minimize the spread of nuclear weapons and creates an international norm against their use or threat of use. To the extent that the treaty accomplishes these goals, it is in the security interests of all nations, whether they are one of the five declared nuclear weapons states or not. If a nation does not view the NPT as being in its own security interests, it should not be party to the treaty.

The discrimination inherent in the NPT is unpleasant to some, but the alternatives—disarmament without effective verification or a much-widened nuclear arms race—are even worse. Each nation should give careful thought to whether disarmament or ending the NPT would truly benefit its own national security.

Reduce the Power of Nuclear Weapons States

Some nations may believe that there is a direct correlation between nuclear weapons possession and political power, and that disarmament would therefore diminish the might of nations such as the United States and lead to a "more level playing field." There is no doubt that five of the world's most powerful nations politically, economically, and

militarily are also the declared nuclear weapons states. But, is their power a result of the weapons, or vice versa? Japan and Germany, two economic and political giants, do not have nuclear weapons. And a country like North Korea will not increase its economic and international standing by having nuclear weapons, although it certainly will pose a greater military threat. Nuclear weapons possession does not make a nation great, nor does lack of possession keep a nation from greatness. As with guns, they can be in the hands of scoundrels or saints. How power is used is the important determinant.

So, would disarming the United States, for example, reduce that nation's stature and greatness, and make it more equal to others? In one sense, no. Nuclear disarmament would not necessarily change US society, democracy, economy, or authority. In another sense, yes. Militarily, the United States would not have the power that now stems from nuclear weapons. Changes that could be expected include:

- No nuclear security assurances could be extended to NATO countries or to Japan and South Korea.
- US willingness to intervene in international problems would be reduced in many situations, particularly where US forces might be expected to encounter nations having weapons of mass destruction.

For nations that view the United States as an unwanted policeman interfering in local affairs, these outcomes might be positive. For those that depend on US protection, even indirectly, these results would be unfortunate.

"New" Reasons for Nuclear Deterrence

Nuclear weapons, from the perspective of the United States, are required to deal with more threats than those posed by Russia. China is continuing to test new nuclear weapons and build new intercontinental delivery systems.¹⁰ It recently launched its eleventh ballistic missile submarine,¹¹ and the number of land-based nuclear ballistic missiles known to be in the Chinese arsenal was recently increased to 100.¹²

¹⁰Bill Gertz and Martin Sieff, "China's Weapons Plan Threatens US, Senator Says," *The Washington Times*, May 5, 1994, p. 12.

¹¹The new submarine is an updated version of the Xia class and carries 12-16 ballistic missiles. *The Washington Times*, February 2, 1994, p. A16.

¹²This is a significant increase over previous estimates. See David White, "China Missile Total Is Revised Upwards," *The Financial Times* (London), October 13, 1993, p. 7.

Nuclear proliferation continues apace, raising the possibility that the United States will face new nuclear adversaries in the future. Ukraine has on its soil 130 SS-19 strategic missiles, each with 6 warheads, and 42 strategic bombers with over 300 nuclear bombs.¹³ Although some nuclear weapons were returned to Russia, Ukraine has resisted pressures to return all of the weapons and to sign the NPT. Ukraine may have obtained or be trying to obtain control over the targeting and firing mechanisms of the weapons.

North Korea may also have already developed nuclear weapons. It is also conceivable that India or Pakistan may threaten the United States or its allies with nuclear weapons in the future. And, there is always the possibility that Iraq's nuclear weapons program will be resuscitated if the United Nations' efforts to control it flag.

The proliferation of chemical and biological weapons is yet another threat against which nuclear deterrence may be required. Even though there is a ban on the possession of biological weapons and soon to be one on chemical weapons, some nations may not join the treaties or may secretly violate them. The United States does not have biological weapons and has vowed not to use its aging chemical arsenal for offensive or defensive purposes. Thus, conventional and/or nuclear weapons are the only alternatives for deterrence and retaliation.

Can Conventional Replace Nuclear Deterrence?

One question in the debate over nuclear disarmament is whether conventional weaponry can serve as an effective deterrent against small nuclear arsenals as well as against chemical and biological weapons. The first essential feature of an effective deterrent is that it must present to the opponent the threat of unacceptable retaliation. To deter a terrible act, one has to pose the threat of an equal or more terrible consequence.

A principal problem with using conventional weapons to deter nuclear, biological, or chemical (NBC) weapons is that they are, on a per weapon basis, inherently less terrible than NBC weaponry. Thus, the very reason that arms control advocates would like them to replace nuclear weapons in the role of deterrence is the same reason that they are likely to fail in such a role. For a conventional retaliatory force to have any credibility *vis-à-vis* threats from weapons of mass destruction, it would probably have to be large-scale—on the order of Operation Desert Storm.

¹³Reportedly, the 460 warheads from the 46 SS-24 ICBMs have been removed, and 180 thus far have been returned to Russia. See *Arms Control Today*, June 1994, p. 31.

The second essential feature of an effective deterrent is that the nation possessing it must be able and willing to use it. A corollary of this is that the nation being deterred must *perceive* that the possessor is able and willing to use the deterrent force. There are serious practical limitations that affect any nation's ability and will to use conventional weapons for deterrence, and thus affect the credibility of that deterrent.¹⁴ Principal problems are outlined below.

Deployment Poses Logistical Difficulty

If many personnel and much material were required to deter or retaliate against a proliferant, there might be severe limitations on mustering these forces. Operation Desert Shield, the build-up of forces to prepare for Desert Storm, involved moving 250,000 troops into the Persian Gulf region. On the first two days of Desert Shield, the Military Airlift Command flew 91 missions into the region and, for the rest of the month, averaged 70 missions per day.¹⁵ By the time Desert Storm began five months later, more than 10,500 missions had been flown to deliver over 355,000 short tons of cargo, and ships delivered many times that amount. If a conflict were in a region where there were not friendly air and sea ports, as well as support (e.g., water, food, and fuel), it would not be possible to undertake a build-up similar to Desert Shield.

Would an operation the size and complexity of Desert Shield be required for any retaliation against a country that uses weapons of mass destruction? The answer to this depends on what is required to present unacceptable retaliation in the mind of the potential aggressor. Any retaliation involving capabilities much less than those of Desert Storm might not be viewed as very threatening; hence, its deterrent value would be low.

Even limited conventional strikes by aircraft might be logistically difficult in some situations. For example, when the United States decided to bomb Libya in reprisal for terrorism, US aircraft had to fly 14 hours and be refueled four times in the air, without a change of pilots and in complete radio silence, because France and Spain would not allow their airspace to be used in an attack against Libyan leader Qadhafi. This lack of friendly assistance caused US pilots to be stretched to the limits of

¹⁴Some of this discussion of the limitations of conventional deterrence are contained in Kathleen C. Bailey (editor) *Weapons of Mass Destruction: Costs Versus Benefits* (New Delhi: Manohar Publishers, 1994).

¹⁵Data in this paragraph are taken from US Department of Defense, *Conduct of the Persian Gulf War*, April 1992, Final Report to Congress (Washington, DC: Government Printing Office, 1992) p. 36.

endurance, a condition that may have contributed to the loss of one F-111 fighter-bomber.

Expense of Conventional May Be Higher Than Nuclear

Development, maintenance, and use of conventional forces are more expensive than nuclear weapons overall. This is why NATO established a policy of "flexible response" to have nuclear forces to take on the burden of defense and allow the monies and manpower for standing conventional armies to be reduced.

Advanced conventional weapons are more expensive to build and operate than "old" conventional weaponry. This is due to the high cost of computers and other components, as well as to the amount of training required for the armed forces that will use it. Tomahawk missiles, for example, cost \$1.5 million apiece, and many will be required to deliver the destructive power that would be contained in one small-yield nuclear weapon. To destroy a large facility said to be engaged in nuclear weapons-related work in January 1993, the United States fired 40 Tomahawk missiles against it.

The cost of conventional weaponry is compounded by the cost of conventional operations. Desert Shield and Desert Storm, for example, cost \$61.1 billion. More importantly, conventional operations can be more costly in terms of loss of life.¹⁶ It has been estimated that one million Allied lives, in addition to hundreds of thousands of Japanese, would have been lost had World War II not been ended by use of nuclear weapons. But the issue is not just one of numbers; it is also one of emotion. Imagine that North Korea has attacked South Korea. The United States, bound by alliance to defend the South, must intervene. If you were to ask American parents whether they would rather sacrifice a son or daughter in the ground war or use nuclear weapons to end the confrontation early, the answer may well be the latter.

Countermeasures are Easy

Not much is publicly known about how other nations might employ countermeasures to defeat conventional weaponry. However, many such measures exist, and most of them are cheaper than the systems they are designed to defeat. Advanced weaponry is particularly vulnerable in the event that a proliferant uses nuclear weapons. Electro-magnetic pulses from the use of nuclear weapons can render inoperable

¹⁶Some people may believe that a conventional attack is never as devastating as a nuclear attack. This is untrue. The firebombing of Tokyo in 1945 claimed 83,000 lives and caused 100,000 injuries. The conventional bombing of Dresden that same year killed over 100,000.

weaponry that has not been hardened against such effects. The United States has not concentrated on hardening conventional weaponry in the past several years.¹⁷

Countermeasures need not be focused on making conventional weapons inoperable or errant. Instead, a countermeasure could simply reduce the effects of conventional retaliation; for example, placing valued assets in deeply buried bunkers. A US Senate report recently noted this problem:

...there is a belief that smart conventional weapons can supplant nuclear weapons as the nation's primary deterrent, perhaps even against rogue nuclear powers. While this may be desirable, such reliance today would be undermined by substantial technology limitations. While Operation Desert Storm revealed the accuracy of US precision guided munitions, it also revealed serious shortcomings in their lethality against buried, deep underground, or otherwise hardened facilities. In short, some targets could not be destroyed by existing US weapons. Nations around the world have taken note of this and are busy burying or otherwise hardening their essential command and control facilities, as well as their advanced weapons, munitions stockpile, and production centers. Most ominously, many nations are placing their weapons of mass destruction, and their associated infrastructure, in deep underground shelters, tunnel complexes, and bunkers. Clearly, the United States requires options for dealing with such targets.¹⁸

Time is Required

To have maximum political impact and to prevent the perpetrator from undertaking other offensive actions, reprisal must be swift. Unless forces are on-the-scene, poised to respond, it will take time to muster a conventional response. As mentioned, Desert Shield took five months; the build-up began on August 6, 1990, and the war began on January 16, 1991.

Recovery from Conventional Attack can be Easy

Despite repeated heavy bombing during the 1991 Gulf War, Iraqi airfields were quickly repaired—just as the Axis powers' runways were during World War II. Also, the Iraqi facility "destroyed" by 40 Tomahawks (cited above) was reconstructed within three months.¹⁹

¹⁷This is due to several reasons, including relaxation of tensions with the end of the Cold War, restrictions on the defense budget, and the curtailment of nuclear testing required for the development of techniques for hardening.

¹⁸US Senate Committee on Armed Services, *National Defense Authorization Act for Fiscal Year 1995*, June 14, 1994, Report 103-282, p. 101.

¹⁹*The Wall Street Journal*, March 12, 1993, p. A1.

Thus, conventional weaponry may often be ineffective as a deterrent to proliferant states armed with weapons of mass destruction. These weapons will not be perceived as capable of inflicting unacceptable damage except in cases similar to the 1991 Gulf War—cases in which there is the time, money, will, and logistical feasibility. In fact, by threatening to use weapons of mass destruction against any US troops that may be sent to the region, proliferants can substantially reduce the likelihood that the United States will be willing to engage in conventional reprisal.

US Public Attitudes

In addition to the question of whether nuclear disarmament is practical and useful, there is the issue of whether it is perceived as feasible and politically acceptable. Currently, the majority of citizens in the United States do not support the notion of nuclear disarmament, as was shown in a 1994 public opinion survey.²⁰ The majority of the public (51%) believes that elimination of nuclear weapons in the next 25 years is not feasible (Figure 1).

Figure 1. Question: Is it feasible to eliminate all nuclear weapons worldwide within the next 25 years?

²⁰The survey was conducted by the Institute for Public Policy at the University of New Mexico and the Georgia Institute of Technology.

Figure 2. Question: Given the breakup of the Soviet Union, how important do you think it is for the US to continue to retain nuclear weapons? On a scale of 1 to 7, where 1 is not important, and 7 is extremely important, how would you rate the importance of the US retaining nuclear weapons today?

Figure 2 shows that the majority of the American public interviewed believe that it is important to retain nuclear weapons. Although there is little support for increased spending to develop and test new nuclear weapons, the public favors increased spending for maintenance of existing nuclear weapons (Figure 3).

Public opinion is, of course, often swayed by the views of political leadership. On the question of nuclear weapons possession, both the executive and legislative branches of the US Government have taken a strong position. President Clinton issued a Presidential Decision Directive ordering the establishment of a stockpile stewardship program to assure the continued viability of US nuclear weapons. Additionally, the US Senate Armed Services Committee recommended increased funding for stockpile stewardship for the fiscal year 1995 and stated:

*Nuclear weapons continue to play an integral role in US defense policy. The committee strongly believes that a high degree of confidence must be maintained in the smaller, less diverse, and aging nuclear weapons stockpile of the future.*²¹

²¹US Senate Committee on Armed Services, *National Defense Authorization Act for Fiscal Year 1995*, June 14, 1994, Report 103-282, p. 269.

Figure 3. Question: The US is currently evaluating national security requirements and priorities. Please indicate how you think government spending should change in the area of maintenance of nuclear weapons.

The stewardship program continues to receive bipartisan support in the US Congress.

Conclusion

Linking the extension of the NPT with a requirement for a timetable for nuclear disarmament is not constructive. Total nuclear disarmament will not eliminate the risk of nuclear war, will do little or nothing to prevent nuclear proliferation, and will not cement the end of the Cold War. It will fulfill the Article VI NPT obligation and superficially end discrimination inherent in that treaty, but at a very high price. Because there is now no effective verification for nuclear disarmament, potential proliferants might be inspired to pursue nuclear weapons, and those nations that already have them might decide to secretly retain them.

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