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FEATURE ARTICLES

EXPORT CONTROLS IN THE AGE OF GLOBALIZATION

by William A. Reinsch

Accelerating Global Change

The rationale for the Administration's approach toward export controls was laid out by President Clinton in his speech commemorating the fiftieth anniversary of the GATT last year, when he said, "Economic globalization is not a policy option; it is a fact." More efficient modes of transportation and communication, the internationalization of capital flows, the development of the information-based economy, all transform national economic systems into one which is truly global — where capital, ideas, goods, technology — and increasingly labor — all flow across borders, not always freely, but more often than not, successfully.

This reality underlies the Administration's national security philosophy in two respects. First, maintaining military superiority means maintaining the gap in capabilities between ourselves and our adversaries. That gap is sustained and enlarged both through policies that retard our adversaries' progress, such as export controls, and through those that help us progress faster — increased research, development and acquisition of advanced technologies here at home.

Second, we know that new technologies, particularly in the information sector, are effective instruments of foreign policy, bringing Western values, ideas, and principles to peoples still held hostage by authoritarian regimes. The Cold War was not a military victory. We won a war of ideas. Our system worked; theirs didn't. Our people were free and prosperous; theirs were not. Some of the tools we used to win that war were mundane — television, radio, fax machines, telephones. Today, we can add the Internet. These are how ideas spread. These are how people all over the world learn that they have alternatives, discover the importance of free speech, free press, and market economics.

So, for example, when we decide not to launch a satellite on a Chinese rocket, we are denying the Chinese people television, Internet, and cellular phone service, and by doing so, are postponing their exposure to our ideas and their integration into Western economic and political systems.

As a result, this Administration's approach differs from that of the Cold War, which was based on a broad policy of denial of a wide variety of goods to the Soviet Bloc on the assumption that anything shipped would be diverted to military use. Instead, our approach is based on the reality of economic globalization and the realization that, as a result, our national security is a direct function of our economic health and security.

This is so for two reasons:

1) The ubiquity of critical technologies and the ease of their transfer makes export controls much more difficult than twenty or even ten years ago. Intel, for example, has 50,000 authorized dealers worldwide. 60% of its business is exports. Personal computers are also ubiquitous — hundreds of thousands are made in the U.S. and cloned around the world. Microprocessors, which are the key ingredient for High Performance Computers (HPCs) as well as PCS, have become a commodity product, widely available throughout the world from numerous sources

The personal computers you have on your desks are available in uncontrollable quantities — manufactured around the world and sold through mail order and over the Internet. In recent months, news stories have noted that technology to "cluster" these computers is also readily available through the Internet. These inexpensive and easy to install connections create systems operating at thousands of MTOPS, equivalent to the high performance computers we have been controlling.

These facts resulted in the President's decision, announced on July 1, to raise the control levels for high performance computers. The level requiring a license for Tier II countries will be 20,000 MTOPS instead of 10,000, and Poland, Hungary, Brazil, and the Czech Republic are moved into Tier II. For Tier III the President retained the separate levels for military and civilian end-users, raising the former from 2000 MTOPS to 6500, and the latter from 7000 to 12,300. Perhaps most important, he also announced that, henceforth, these levels will be reviewed at regular six month intervals. Finally, he indicated he would submit legislation to Congress shortening the six month waiting period for the change in Tier III military end-use. Otherwise, the change to 6500 MTOPS, which affects the notification process, will not occur until next year. Maximizing our technological leadership in this sector will inevitably have more to do with making sure we are running faster than our adversaries than it will with trying to hold them back. Congress can assist us in that by shortening the waiting period to one month.

2) Our military's transition to Commercial Off the Shelf items (COTS), due to declining defense budgets and the inability of military procurement of specially designed items to keep up with fast-changing sectors, particularly electronics, means that the technology driver in the U.S. economy is the civilian sector, not the military contractor. That means, in turn, that our military strength is directly tied to the health of the civilian companies that produce the products the Pentagon buys and invent the technologies it needs.

A good example is HPCs. The defense establishment increasingly needs them for weapons-design and test simulation, fluid dynamics analysis, small particle analysis, "smart weapons," command, control and communications functions, etc. The 21st century fighting force will be more reliant on computers than any before it, and whoever has an edge in this technology will have an edge on the battlefield, as Desert Storm demonstrated.

At the same time, our military, including our intelligence services, do not buy enough HPCs to constitute significant market share or to keep our companies healthy. In fact, it is exports that increasingly keep the U.S. HPC, and other high-tech, companies thriving. More than 50% of the sales of these companies are exports. A failure to export means fewer profits being rolled into R&D on next generation technologies and fewer funds available to address particular defense-related concerns. Thus, our equation is: exports = healthy high-tech companies = strong defense. Cripple our companies by denying them the right to sell, and you set back our own military development.

Although I have used HPCs as an example, the logic is true for other fast moving sectors, including semiconductors, software, and telecommunications. Large capital items, in contrast, are more susceptible to controls, but the implications of too-broad controls are the same as for HPCs. These include items like machine tools and semiconductor manufacturing equipment, where the U.S. has a minority share of the world market and where current foreign availability is a serious problem; and satellites and some aerospace items where the U.S. has a strong global position but is under growing pressure from competent competitors.

A key — and growing — reality in all these cases is the capacity of our adversaries to make these products themselves or to obtain them from those who lie outside the circle of multilateral control regimes. In the case of computers, for example, China, as well as India and others, have the capacity to make these machines themselves. While they do not — and cannot — manufacture to compete with U.S. companies, they can make machines that will function at performance levels sufficiently high to provide the military capabilities they seek. Denying them U.S. products simply encourages their own development and production — which is precisely what the Reagan Administration's decision to deny India HPCs did.

Moreover, our lead in many of these sectors is not based on our monopoly of the technology; rather it is based on our quality and efficiency of production. Close a market and we will create viable competition where there is very little now. And that competition, as we have learned in so many other sectors over the past twenty years, will not stop with China or India but will move on to compete head to head against us elsewhere to the long term detriment of our ability to retain global leadership.

In other words, the losers in the face of closed markets are not the Chinese or the Indians but the Pentagon, whose access to cutting edge goods and technologies will be slowed, and the United States, whose technological leadership will face new challenges from new suppliers.

The Mythology of Export Controls

Adding to the complexity of this debate is the mythology of export controls that has built up over the past twenty years and has had the effect of precluding rational discussion. As

someone who has worked on these issues for over twenty years, who has watched Democrats attack the Reagan and Bush Administrations for exports to Iraq, and who is now suffering Republican attacks on the Clinton Administration for exports to China, I can testify that the subject provides many opportunities for finger pointing. I've pointed a few fingers myself over the years. Yet what is astonishing is the extent to which a few stories can seize control of the debate and transform it from a constructive discussion of options to a political exercise of laying blame. I'm sure most of you remember the VAX computer in the early 1980s which was destined for South Africa and mysteriously ended up in Eastern Europe, or the Toshiba-Kongsberg machine tool case in 1987 which ostensibly gave the Soviet Union the capacity to make quieter submarines. Estimates of the cost of overcoming the damage done in the latter case, incidentally, ranged from \$2 billion to over \$100 billion, which suggested that no one really had a grip on the problem. In this Administration we have had McDonnell Douglas machine tools, and the satellites and computers, and now a new element which appears to come from misreading the Cox Report. Many Members of Congress appear to have read only the summary and to have done so quite quickly. They seem to have concluded that because the Chinese stole weapons secrets from our national labs, the export licensing system has failed. Whether or not it has failed is something we can debate, but I guarantee that what happened at the labs is not evidence of that failure. I have urged Congress to examine our process carefully during its consideration of Export Administration Act renewal and in doing so, to identify specific concerns. Thus far, I have heard about McDonnell Douglas and not much else.

The McDonnell Douglas case actually explains a good bit about the strengths of our system. Clearly something happened that should not have — machine tools were diverted to an unapproved location. Contrary to the mythology, this was not an "entire B-1 plant," but were actually about 16% of a closed facility in Ohio. Only about half the tools were sophisticated enough to require an export license (some were up to 25 years old), and of the 30-plus tools in question, only 6 were diverted, and none of them were used before we were able to get them back and restore them to American control.

From one standpoint, this is a failure. Items ended up in the wrong place. From another, generally forgotten standpoint, this is a success. We got the items back under American control without them being used, and the investigation into what happened continues. Perhaps most telling, however, was the aftermath for the Chinese. They replaced the most significant diverted item, a large stretch press, with a new one from a European producer. The ironic result of our efforts to get our stretch press back is that the Chinese now have a better one from someone else!

The Congress has had a lot to say about satellites, and since the Cox Committee Report has been released, more will be heard. While investigations of security breaches continue, it is

useful to note that they involve launches licensed by both State and Commerce, suggesting that the process is not the problem, and that they concern events that occurred prior to the transfer of most satellite jurisdiction to Commerce in October 1996. To the extent there were problems, we believe the additional procedures we put in place in late 1996 corrected them, and we believe there have not been problems since then. Congress opted last year to retransfer jurisdiction back to State, impose additional procedures, and, in general, create a climate hostile to Chinese launches. This is already having a sharp adverse impact on our industry's competitiveness, and the recent failures of American launches make that much worse. The Cox Committee attacks us on the computer issue, and, although I have said a great deal about them already, I want to add one further word about their mythology. I once prepared talking points on computers which summarized the debate by saying our opponents believe computers are the instrument of the devil, and we do not.

In a general sense, this is still true. This is a ubiquitous technology that moves rapidly to ever-higher levels of capability, but it is also a technology that has military applications. You can use them to design nuclear weapons, though we designed ours originally without them. You can use them for test simulations, which will be increasingly important in a CTBT world, although state of the art simulations require computing power far beyond levels that we strictly control. You can use them to accelerate a wide variety of industrial processes, though the processes can be run without them. Our military needs them, which certainly suggests that other militaries will want them too.

To non-proliferation activists, they are bad news. To ordinary Americans, and ordinary people all over the world, they are an essential tool of commerce, communication, and entertainment. Last May, I was struck by two articles that appeared simultaneously in my daily clips. One said, "Chinese hackers raid U.S. computers." The other said, "Internet emerges as news source for the Chinese." And there is the central dilemma of this technology. If we want to spread our ideas and values we must penetrate the communications "Maginot Lines" that authoritarian regimes erect. At the same time, doing so carries undeniable risks. But that dilemma is a long way from the mythology of evil that some of our friends have so successfully built up around these machines. To close my mythology comments on a lighter note, I would mention the time during a Senate hearing when a senator asked Secretary Brown why we had sold the Chinese an aircraft carrier — an allegation that was news to both of us. Upon looking into it, we discovered that the senator was referring to a ship built in the early 1940s and decommissioned in 1970. Both the Navy and the Defense Logistics Agency had certified in writing that it was usable only for scrap and that its weapons had been either removed or cut into pieces. As it turned out, it had been inspected by a Member of Congress before it left the United States, and it was not sold to China, it was sold to India. Aside from that, the

senator had his facts straight. But you can be sure there are others in the Congress who believe to this day that the Department of Commerce compromised our security by selling China an aircraft carrier.

An Export Control System for the Future

So what does all this mean for the future of export controls? From one perspective, that future is gloomy. Globalization by definition means greater difficulty in controlling technology and more widespread use of technology by ally and adversary alike. It also means a blurring of the distinction between civilian and military items. Critical technology items like advanced machine tools or testing equipment, as well as information technologies, have military or WMD applications, but they are also essential to the development of a legitimate modern industrial economy.

In addition, the end of the Cold War has reduced, but not destroyed, the degree of consensus among our friends over what the threats are. So not only is technology harder to control, we cannot agree to whom it should be controlled.

The existing multilateral regimes, I believe, have done a decent job of controlling technology transfers to pariah states. Aided in some cases by UN sanctions, we have had a good degree of success with destinations like Iraq, Libya, Iran and North Korea. As in the case of COCOM, our multilateral restraints have not been perfect but they have slowed down and made more expensive and less certain terrorist states' acquisition of goods and technology needed to develop weapons of mass destruction. If we can continue to develop greater information sharing and cooperation among Wassenaar Arrangement members, we will be able to improve the regimes' grade from C+ to B+.

Where the various regimes have been less successful is in the gray area of countries that are neither friend nor foe but which are pursuing proliferation policies we find troubling. India, Pakistan, and China are obvious examples. The fact that they are large countries in strategic locations adds to the complexity. It is here where we have the least allied agreement on how to treat them and where the countries are best equipped to bypass the road blocks we create — either through indigenous production or acquisition from other sources.

It is also here where we have the most to gain from a constructive dialogue that could restore these countries to responsible paths. It is no secret that we have spent a lot of time on this, and no secret that we have not had as much success as we would like. Our agenda for the future must enhance our efforts to bring the gray area countries into patterns of responsible behavior, both through direct bilateral dialogues on specific matters and through membership in the multilateral export control regimes. This will not be easy, and we will not succeed so long as we are perceived as a great international nanny constantly complaining to other countries about their manners. And clearly we must work harder to show these countries why the regimes are not a club of the military "haves" trying to

make sure the “have-nots” stay that way. As anyone who has tried to do it knows well, selling non-proliferation is not easy, but we have no choice but to continue the effort.

Some of our sales power needs to be devoted to our friends as well, so we can reach agreement on how these countries should be treated until we can bring them into the fold. That won't be easy either, but with more imagination, creativity, and senior-level focus we ought to be able to do better than we have. The 1999 review of the Wassenaar Arrangement, where the concrete is not so firmly set around its procedures, provides a good place to begin, but it will need high level attention to succeed. Here at home I fear our agenda must be more defensive as we resist misguided attempts to destroy the efficiency of our licensing process in the name of policy reform. The Cox Report's recommendations, for example, would slow down the process, even though agencies are already taking less time than they're allowed, and give any agency a veto, even though they currently can take their concerns all the way to the President if they wish.

Perhaps the most intriguing recommendation is that we streamline licensing for less critical items and slow it down for the more important. In different words, that is the same speech all of us in this business have been giving for years. Choke points, higher fences around a smaller number of items, and so on. It's all the same thing, and it's a valid point, but I am concerned that these speeches may become a basis for criticism without a solid foundation. It has become very easy to say the system has been lax and needs to be tightened up for “critical items.” At the same time, people who say that, worried that it will cause criticism from exporters, toss you the bone of expedited treatment for “less critical” items. I would urge you to examine that tradeoff very carefully. We think that what we are controlling now are the critical items, and the less critical items are the ones we have decontrolled. We make those decisions frequently, as we just did with computers. Those who criticize us for being too loose with the important items and imply we are too tight with other items must take on the burden of showing what items they are talking about and precisely what they would do differently. And it is your responsibility to put those questions to them, otherwise we could end up streamlining an empty box and slowing down everything currently on the list.

While we will continue our own list reviews, which have produced substantial reductions in the number of items subject to license over the past six years, the real debate must be the larger one I began my remarks with — how we must change the way we look at national security, put aside the myths, and pay at least as much attention to how we run faster than to how we apply controls.

I have been preaching that for some years now, and we have worked hard to adapt our policies and procedures to this new reality. As we move into the next century, we must keep our eye on these larger issues while battling those who would construct a modern day “Maginot Line” around American tech-

nology. The problems posed by economic globalization are not amenable to such simple answers, and such a line will work no better than the original one did. The best policy is one that moves in the direction of building alliances rather than enemies, but we will need not only the vision to see that and pursue it but also the courage to take on those who would take us back to the Cold War. I hope that we can work together to that end. ■

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RUSSIA'S NUCLEAR COMPLEX MARKS 50 YEARS

by Victor Mikhailov

In 1999, Russia marks the 50-year anniversary of an event that was officially muted at the time. Even a month after the successful test of the first Soviet nuclear bomb, RDS-1, at the site near Semipalatinsk on August 29, 1949, official statements denied the explosion ever occurred. The Telegraph Agency of the Soviet Union (TASS) was only authorized to announce that “as is generally known, the Soviet Union conducts large scale construction works, . . . which necessitate the use of latest-technology high-yield explosives.” The Statement further cited the speech of then Foreign Minister Vyacheslav Molotov from November 6, 1947, suggesting that the Soviet Union acquired the nuclear capability in 1947, not 1949.

However, the actual moment of the development of nuclear weapons took place in August 1949. This historical fact re-



reflects the complexity and drama of that time. Why was it that after the greatest triumph of national science, technology and industry, involving the efforts of hundreds of thousands of people in eliminating the US monopoly on nuclear technology,

not only was this not announced officially, but was deliberately misrepresented at the highest government level? Was it a whim, pervasive secrecy, or simply poor judgment? In fact, it was the essence of the grim reality of the duality of the Party and the People.

An example of another sort was the triumph and jubilation of the peoples of India and Pakistan immediately after their conducting nuclear tests in 1998. Can we therefore forget that

the Russian “nuclear problem” was addressed not only under acute time pressure, but also in the context of fierce competition between two rival political systems. Information obscurity by any means was the imperative of the day. The purpose was to mislead the US and the world and show the ‘wisdom’ of the Party once again.

Incidentally, Joseph Stalin never signed the order to conduct the first test; this was done by Laurentii Beria. The importance was in presenting the leader as flawless even in the event of a failure, which would have become the last one for many participants of the project.

To facilitate the development of RDS-1, nuclear scientists used data provided by the Soviet overseas intelligence network. Thus obtained, the very detailed information was essential for the success of the project.

The United States, on the other hand, gathered the cream of the world’s scientists, including the data and personnel from the nuclear project from Great Britain. For the Soviet Union, however, no intelligence would have helped had the overall potential of the country not been prepared for this event by the previous two decades of industrial and scientific development.

The success of RDS-1 meant not only the birth of Russia’s nuclear weapons, but of an entire new branch of the national economy – the nuclear industrial complex. New facilities were being built in Siberia and in the Urals. The new ‘nuclear’ geography encompassed the entire country, including Moscow and the suburbs, Ukraine, Kazakhstan, Leningrad, Narva, Chepetsk, Ust-Kamenogorsk, Gorky, Sukhumi, and other locations. In April 1947, a decision was made to build the first Soviet nuclear test site a hundred kilometers from the city of Semipalatinsk. Later, a small obelisk was erected on the banks of the Irtysh river, where the first crew of workers battled frost and snowstorms. Russian nuclear workers toiled under a dense veil of secrecy.

The year 1949 became the turning point in the project. In April, the first nine grams of metallic weapons-grade plutonium were obtained at the Ural Kombinat 817 (now known as Mayak), and only 26 days before the first test explosion, the necessary kilograms of the substance were accumulated. By the end of July the test site was prepared for the explosion and soon the countdown was initiated.

The thunder of the explosion at the time was heard only in the remote Kazakh steppe, and the Soviet people did not learn about the event until March 8, 1950, when Klement Voroshilov, USSR Deputy Prime Minister, announced that the country now possessed nuclear weapons. The next several tests, however, were conducted in 1951 (when an RDS-3 device was detonated in the air dropped from a Tu-4 bomber), and in 1953, when a series of 5 tests were initiated by the first thermonuclear explosion of the ‘Sakharov’ bomb, equaling 20 Hiroshima bombs.

By that time the country possessed only a handful of operational nuclear devices. The main goal of thwarting the threat of nuclear war against the Soviet Union was achieved. The

new nuclear industry now faced new tasks of increasing the yield of devices, reducing their size and weight, increasing safety and security, and the maintenance of nuclear parity. The main goal, however remained the same: to maintain national security and preserve the global peace.

Fifty years have passed since then and nuclear weapons have become a permanent factor of global politics. The General Staff maps became the site of at least three nuclear war exercises involving three generations of nuclear weapons. The real explosions, however, were conducted at the test sites, each at least 10 thousand square kilometers in size.

Nuclear weapons were developing both as a source of global confrontation, and a deterrent of a potential conflict — the Cuban missile crisis is an illustration of this duality. The past, however, is only the foundation for understanding and projecting the future. It is important to realize the role of nuclear weapons in the life of the global community and Russia in the future, and to decide whether they have a role at all.

The historical context of the development of nuclear weapons has done little to facilitate objective treatment of these issues. Nuclear weapons are often the subject of writing and research, as well as the source of almost mystical fear and apocalyptic hysteria. This is hardly an approach that we should embrace after the fifty years of global peace in the nuclear age.

Guaranteed global stability is the result of the last fifty years. In the past, every new weapons system was used. Not so with nuclear weapons, which, as they developed, revealed, on the one hand, the impossibility of their use, and, on the other, the impossibility of a new global war, particularly because they were part of the great power arsenals.

In spring 1992, Rossiiskaya Gazeta published an article entitled “Nuclear Weapons”¹ reviewing the role and meaning of nuclear weapons in the modern world. In the fall of the same year, one of the article’s theses was repeated in Krasnaya Zvezda: “Russia Needs and Can Afford Nuclear Weapons.” Now, as before, this idea holds: “Strategic nuclear weapons are indeed a reliable means of maintaining global stability in the nearest future. ... Regardless of whether the possessing states oppose each other.”

This formula reflects the underlying principle: the possession of nuclear weapons by the five nuclear states (and of Russia in particular) is one of the key components of the global world order. The political role of nuclear weapons in preventing the escalation of political tension into full-blown conflicts is becoming clearer. The purpose of nuclear weapons is in not using them, but in the prevention of global war under any circumstances.

At the same time, nuclear weapons are a guarantee not only of Russia’s sovereignty, but against any potential aggression, thereby performing the principal task of Russia’s national defense.

While the first fifty years of nuclear weapons history were glorious and dignified, the next fifty-year period promises to

be controversial and difficult.

On one hand, new types of precision conventional weapons are being developed. NATO's military and technical doctrine entered the phase of special standards of enhanced communication interface for developing precision weaponry on the basis of super-high performance of on-board computers, nanotechnology in electronics and computer science. These weapons today become the 21st century imperial whip for punishing the violators.

On the other hand, none of the great powers have relinquished their nuclear weapons. Both the United States and France conducted massive campaigns to modernize their nuclear arsenals. The United Kingdom works to optimize its nuclear weapons systems, and so does China; new nuclear powers appear in the world. The global political situation is fraught with instability because of new technologies for developing and testing nuclear weapons: subcritical nuclear tests, high performance computers for complex mathematical modeling of nuclear and thermonuclear explosions, powerful laser, Roentgen and gamma-emitters. These next generation technologies permit the creation of low-yield precision nuclear weapons, which are much better suited to real combat.

People who worked on creating and maintaining Russia's nuclear shield have little to celebrate today. The future brings disturbing visions, with regard to both conventional and nuclear weapons. Despite the obvious importance of the nuclear component for Russia's national security, the everyday life of the nuclear complex does not provide grounds for complacency and assuredness for the future of global security.

In the last decade, Russia has encountered a number of serious threats to the existence of its state and its people. GDP has dropped 50 percent; science, education and highly advanced branches of industry are in a deep crisis. The policy of state-sponsored atheism and the destruction of Russia's unique system of values brought disorientation, spiritual crisis and loss of morality. Today, the most immediate threats to Russia are economic, informational and cultural pressures. NATO's expansion to the East and the situation in the neighboring states are also a cause of great concern.

The 21st century is forecast to be the century of the clash of civilizations, rather than ideologies. The competition for the scarce resources of our planet becomes ever more fierce. The crisis that Russia is presently undergoing has a deep, multifaceted, and long-term nature, while it is still necessary to provide defense for the country and the Commonwealth of Independent States. Russia's armed forces are now so weakened that nuclear weapons are currently the only effective means of defense, the guarantor of national security. Nuclear defense can render all the advantages of conventional weaponry null and void.

We should not forget that during the critical years of the collapse of the Soviet Union and the formation of a radically new power structure, Russia managed to preserve its nuclear complex and avoid potential accidents. Currently, Russia still

has unique nuclear facilities and technologies — its nuclear weapons complex is on the par with any other state in the world. Presently, under the most difficult economic conditions, Russian experts work on maintaining and improving the country's nuclear potential.

The development of the new generation of low-yield precision nuclear weapons with low impact on the environment will have a significant impact on the world. There should be no doubt that such weapons can be used in any large-scale military conflict to obliterate a country or seriously damage the life of its population. We must adequately meet the challenge of the technologies of the future.

Also disturbing is the fact that, oftentimes, problems of the nuclear complex fall beyond the public interest in Russia, appearing on the periphery at best, while they should be the center of national public attention and debate.

Realizing the importance of the military and political component of national security should become a topic common for politicians of all persuasions. There are no militaristic undertones in such an assertions: they are based on Russia's long geopolitical experience. At times, various social groups may have differing, even diverging interests, but their understanding of Russia's defense interest has always been the same.

Nuclear weapons are the only weapons system that, after August 1945, have continued to evolve, but have never been used. In the future, they should serve the same role. ■

Notes:

¹ Mikhailov, Victor, *Rossiiskaya Gazeta*, May 7/8, 1992.

Victor Mikhailov is a former Minister of Atomic Energy of the Russian Federation and member of the Russian Academy of Sciences.

NATO NUCLEAR POLICY: BACK TO THE FUTURE

by Hans M. Kristensen and Wade L. Huntley

In November 1998, Canada and Germany raised eyebrows by suggesting that NATO, in connection with the planned update of its Strategic Concept, should fundamentally review its nuclear policy. The update of the Strategic Concept, due for unveiling at the fifty-year anniversary of the alliance in April 1999, was intended to prepare the alliance for its twenty-first century missions. Canada's and Germany's position was that such a review naturally should include consideration of the purpose of the alliance's nuclear forces.

The reaction of NATO's nuclear powers to the Canadian-German initiative was a swift and fierce rejection. U.S., British and French officials quickly rallied, arguing that in its 1991 Strategic Concept update NATO had sufficiently adjusted its

nuclear policy to meet changed post-Cold War conditions. "As we say in the southern part of the United States," U.S. Ambassador to Canada Gordon Griffin stated at the time, "If it ain't broke, don't fix it."

It now seems that Canada and Germany gravely miscalculated the reactions their proposal would elicit and their chances to influence policy. Although they had proposed a broad review of nuclear policy, the debate quickly focussed on the part of NATO's policy that permits the use of nuclear weapons first in a conflict – even if NATO has not been attacked by nuclear weapons. The prospect NATO adopting a "no-first-use" posture quickly resuscitated the old "nuclear guard" within the alliance, which rallied to defend the "first-use" option that had been a centerpiece of Cold War era NATO nuclear policy. Despite the uncertainties of the continuing utility of this position, most non-nuclear countries in the alliance loyally lined up behind their nuclear allies and rejected the Canadian-German proposal.

The backlash against the Canadian-German initiative culminated at the Summit meeting in April 1999. By then, the notion of conducting a nuclear policy review was stalled and "put in committee" for further study. With the collapse of the Warsaw Pact and its Cold War era conventional threat to Western Europe, little remains of the original justification for NATO's longstanding willingness to use nuclear weapons first in a conflict. Yet, the new Strategic Concept adopted at the summit retained a nuclear policy essentially unchanged from the Cold War era. It now appears unlikely that any significant retrenchment of NATO's nuclear policy will occur in the foreseeable future.

The curtailed debate and robust rejection of the Canadian-German proposal revealed unsettling trends and significant contradictions in NATO's current nuclear policy. Given the dramatically changed security conditions in Europe today, few good arguments exist against NATO conducting a comprehensive and open review of its nuclear policy. Yet, NATO's nuclear powers clearly demonstrated that they have no intention of allowing such a review to take place. This tension, now exposed, is likely to have an increasingly pernicious effect on building post-Cold War peace and security in Europe and as well as on achieving further progress on arms control.

NATO's Nuclear Posture

Any consideration of the future of NATO nuclear policy properly begins by recognizing the shift in NATO nuclear posture that has taken place over the past decade as a result of the end of the Cold War. NATO often states that its nuclear weapons in Europe have been reduced by over 80 percent compared with the Cold War level of the 1980s. However, the alliance has still not clarified what remains, and the exact number of nuclear weapons allocated to support NATO's posture is not known.

The most visible forces are the British and French nuclear arsenals. Currently Britain is modernizing its fleet of strategic

submarines and is estimated to have some 185 operational nuclear warheads. British SSBNs normally operate in Northern European waters and are sometimes deployed in the Mediterranean Sea.

With the termination of the Royal Air Force's tactical nuclear weapons capability in 1998, Britain converted some of the missiles on its strategic submarines to cover "sub-strategic" missions as well. This new mission was adopted by NATO in 1995.¹ A British Ministry of Defence official recently described a sub-strategic strike as "the limited and highly selective use of nuclear weapons in a manner that fell demonstrably short of a strategic strike, but with a sufficient level of violence to convince an aggressor who had already miscalculated our resolve and attacked us that he should halt his aggression and withdraw or face the prospect of a devastating strategic strike."²

France — although not fully integrated in NATO military planning — is also modernizing its strategic submarine fleet, building a new sea-launched ballistic missile, and developing a new air-launched cruise missile. France has approximately 450 nuclear warheads.

The United States also has an unknown number of strategic submarines earmarked for nuclear deterrence operations in support of NATO, and frequently deploys its SSBNs to European waters and into the Mediterranean. In addition, an unknown number of nuclear Tomahawk sea-launched cruise missiles currently stored at the Norfolk Naval Weapons Station on the U.S. East Coast are assigned to NATO missions and earmarked for deployment on attack submarines in the event of a crisis. In addition to these sea-based systems, the United States also maintains approximately 150 B61 nuclear bombs forward deployed in seven European countries.³ This is a dramatic reduction compared with the more than 7,000 U.S. land-based nuclear weapons deployed in Europe in the late 1960s, and even a reduction from the nearly 500 in place following the 1994 Nuclear Posture Review.⁴

According to NATO, the readiness posture of the dual-capable aircraft was "greatly reduced" in 1995, and the practice of maintaining standing peacetime nuclear contingency plans and associated targets for its sub-strategic nuclear forces was "terminated." As a result, "NATO's nuclear forces no longer target any country."⁵ However, all dual-capable units within NATO maintain detailed strike plans that identify specific targets in specific countries and NATO pilots periodically practice the execution of these plans. Although the nuclear weapons are no longer mated to the planes, they are still stored in their forward locations, and the relative number of dual-capable NATO aircraft remains at approximately half of the 1984 level.⁶

Despite these reductions from Cold War era levels, further cuts in NATO nuclear forces are feasible. NATO could at some point "offer" to reduce the number of U.S. nuclear bombs in Europe in return for cuts in the Russian non-strategic nuclear weapons that NATO officials say they are so concerned about.

Moreover, because of the uncertain future of the nuclear Tomahawk cruise missile, the current assignment of these weapons to NATO strike plans needs to be reassessed.

Additionally, over the next few years, the B61 nuclear bombs in Europe are scheduled to be replaced with upgraded models. This upgrade includes alterations that range from security and safety features to improving the weapons' performance. The upgrade includes development of a new primary scheduled for FY 2011 with production to begin in FY 2012. In the absence of a START III agreement that reduces the number of nuclear weapons in Europe, the scheduled upgrade of the B61 bomb provides an opportunity for the United States to withdraw its last nuclear weapons from Europe. Doing so could prove to be a striking unilateral measure rejuvenating the nuclear disarmament process that has recently languished following the great strides forward in the early 1990s. Conversely, returning these bombs to their bases in Europe after the upgrade will be a tangible signal of continued U.S. reliance on preparations to use such weapons.

Thus, continuing progress toward nuclear disarmament in Europe hinges on current debates over NATO nuclear policy — the terms, let alone outcomes, of which are far from clear.

A New Deterrence

The debate over NATO nuclear policy that emerged during the process of rejecting the Canadian-German initiative did not simply demonstrate a resistance among NATO's nuclear powers to changes in that policy. The brief look into the minds of NATO strategists afforded by this truncated debate also offered glimpses of an emerging new role for NATO nuclear weapons: deterring "rogue" states armed with chemical and biological weapons. Proponents of current NATO policy essentially confirmed previous reports that the nuclear powers have generally expanded their nuclear doctrine in the post-Cold War era. Nuclear weapons now are intended not only to deter attacks by other nuclear weapons but also to counter potential threats from states armed with other weapons of mass destruction (WMD).⁷ In his response to the initiative, U.S. Defense Secretary Cohen stated this directly:

"We think that the ambiguity involved in the issue of the use of nuclear weapons contributes to our own security, keeping any potential adversary who might use either chemical or biologicals [sic] unsure of what our response should be. So we think it's a sound doctrine. It was adopted certainly during the Cold War, but modified even following and reaffirmed following [sic] at the end of the Cold War. It is an integral part of our strategic concept and we think it should remain exactly as it."⁸

The expansion of the role of nuclear weapons among the NATO's nuclear powers has resulted from a growing emphasis on concerns about the proliferation of WMD capabilities. Following the Gulf War in 1991 and the discovery of Iraq's clandestine WMD arsenal, attention to WMD threats crept into virtually all aspects of military affairs. For the old nuclear

cold warriors, success in generating concern over WMD threats helped halt the momentum toward disarmament of the early-1990s. Although the three nuclear powers in the alliance have all expanded their nuclear doctrines in this manner, NATO as an alliance has not yet adopted such a role for its nuclear forces — at least not as a publicly announced policy. However, the nuclear policy debate revealed that the nuclear powers in the alliance believe alliance policy is moving firmly in the direction of adopting a WMD deterrence role. This issue is of particular concern because NATO is currently in the midst of a major review of how to respond to chemical or biological threats. Of course, such a role requires maintaining the option of using nuclear weapons first in any given conflict.

Uncertainty Versus Transparency

The issue is also of more general concern because it contradicts other post-Cold War trends in NATO policy. With the collapse of the Soviet Union, NATO moved to adopt more transparent and unthreatening postures as a means to signal former Soviet states that it no longer considered them enemies. For this purpose, NATO removed targeting data from missiles, pointing them instead at "no one." As a result, nuclear deterrence was in a sense "set free" — nuclear weapons were no longer focussed on the former Soviet Union — or any one else — but addressed "to whom it may concern."⁹

At the same time, arms control agreements of the early 1990s and other factors reduced the size of nuclear forces available for use. Combined with the new "uncertainty" as to future uses of the weapons, this required nuclear strategists to insure that each remaining nuclear weapon would be capable of serving as many roles as possible. In this view, the international environment has now evolved from a weapons rich environment to a target rich environment,¹⁰ driving a requirement for nuclear forces to be more flexible and less tied to particular scenarios.

With no specific threat and with deterrence directed against no one in particular, the need to maintain "ambiguity" about the use of nuclear weapons has come to the fore. In this light, the thrust of Defense Secretary Cohen's rejection of the Canadian-German proposal is no surprise; in his words, keeping potential adversaries unsure of what NATO's response would be "contributes to our own security."¹¹ Ironically, NATO's inability to formulate a rationale for its nuclear weapons has thus become the most prominent justification for rejecting a review of that rationale!

Unfortunately, advocating "ambiguity" directly contradicts the key principle of ensuring transparency that is now an important element of U.S. and NATO foreign policy with respect to arms control overtures and the relationship with Russia — and even U.S. approaches to India. This adherence to Cold War era ambiguity in NATO nuclear policy thus undermines wider NATO efforts to respond proactively to post-Cold War conditions in Europe and throughout the world. In this context, the absence of a thorough nuclear policy review — even

if only to provide a contemporary and articulated defense of this position — is all the more lamentable. More importantly, a genuine review would more likely call into question any remaining role for such ambiguity in NATO nuclear policy.

NATO Expansion and the European Union

The nuclear policy debate sparked by the Canadian-German proposal came at a time when NATO's nuclear powers were also concerned with the issue of the nuclear status of the new members of the alliance and the impact of this issue on relations with Russia. The debate over NATO expansion had already forced concessions to Poland, Hungary and the Czech Republic over alliance nuclear policy. In December 1996, NATO announced that it had "no intention, no plan, and no reason" to deploy nuclear weapons on the territory of its new members. This declaration helped ease the stridence of Russian opposition to NATO expansion, and somewhat reduced domestic pressure on the governments of the new members to declare non-nuclear policies.

In the case of the Czech Republic, however, the three "no"s were not enough. In March 1999, on the eve of the NATO Summit in Washington, D.C., Czech Foreign Minister Jan Kavan stated that it was "essential to reassure our citizens that provided that world peace is not threatened, no nuclear weapons will be deployed in the Czech Republic."¹² This Czech non-nuclear declaration distanced its policy from those of Poland and Hungary, placing it closer to the Nordic NATO countries' policies of not allowing nuclear weapons on their territory in peacetime. Austria — a potential future NATO member — followed suit in July, with the Austrian Parliament passing a new law that prohibits nuclear weapons deployment in and transport through the country. These developments belie the apparent unanimity of NATO members' rejection of the Canadian-German initiative.

Conclusions

NATO's nuclear powers seem to have won a complete victory over the Canadian-German call for a review of NATO's nuclear policy. Not only did NATO reaffirm its first-use policy and re-commit to the continued deployment of U.S. nuclear weapons in Europe, but other non-nuclear NATO countries were forced to line up behind the nuclear powers' rejection. Canada and Germany, and other non-nuclear NATO countries such as Holland and Norway that were quietly sympathetic to a review, have been silenced — at least for now.

Nevertheless, the episode clearly demonstrates that the NATO nuclear powers' staunch resistance to a review of NATO's nuclear policy clashes sharply with the continuing desire on the part of non-nuclear countries both within and outside NATO for progress toward nuclear disarmament. Many important features in the Canadian-German proposal would have supported the nuclear disarmament effort and helped strengthen the future of the Non-Proliferation regime. With three of the world's declared nuclear powers as members,

NATO's adoption of a no-first-use policy would undoubtedly greatly improve the political relations between NATO and its Eastern neighbors as well as the prospects for new progress in nuclear arms control and disarmament, with little if any cost to the security of NATO allies. In moving to no-first-use, NATO would seem to have much to gain and little to lose.

One explanation for why NATO nuclear powers do not move in this direction is that, up to now, NATO nuclear policy has been driven more by narrowly conceived and static doctrine rather than dynamic and overarching political circumstances. Archetypically, the U.S. response to the Canadian-German proposal was led by the Pentagon instead of the civilian administration in the State Department. Hence, the core of the U.S. position reflected the priorities and visions of warfighting rather than of civilian diplomacy. NATO's claims that the fundamental purpose of its nuclear forces is political rather than military are belied by both the character and content of its response to the Canadian-German proposal.

The all-to-brief debate over NATO nuclear policy spurred by Canada's and Germany's initiative will likely prove to be not the mere bump in the road that NATO nuclear planners hope, but the first evidence of the mounting pressure for fundamental revision of nuclear policy that those planners dread. The political leaders of all NATO states — nuclear and non-nuclear alike — would be wise to move proactively to initiate a reasoned and prudent overhaul of NATO nuclear policy before a groundswell of public opinion robs them of the initiative and the opportunity. NATO's Nuclear Planning Group is scheduled to hold its next meeting in December, offering an excellent opportunity to begin this process. The Final Communiqué should reflect a debate that does not merely echo current nuclear doctrine, but instead genuinely evaluates what nuclear policy best serves NATO's interests in promoting peace and security in Europe, and appreciates the role of NATO nuclear policies in either promoting or hindering progress toward nuclear nonproliferation and disarmament throughout the world.

Notes:

¹ "Final Communiqué," of the Defence Planning Committee and Nuclear Planning Group meeting of the North Atlantic Treaty Organisation, Brussels, *Press Communiqué, M-DPC/NPG-1(95)57, 06/08/1995.*

² David Omand, "Nuclear Deterrence in a Changing World: The View from a UK Perspective," *RUSI Journal*, Vol. 141, No. 3, 06/1996, p. 19; in Bruno Tertrais, *Nuclear Policies in Europe*, Adelphi Paper 327 (New York: Oxford University Press, 1999), p. 15.

³ William M. Arkin, Robert S. Norris, and Joshua Handler, "Taking Stock: Worldwide Nuclear Deployments 1998," *Natural Resources Defense Council*, 03/1998, p. 24.

⁴ Jeffrey Smith, "Clinton Favors Status Quo Nuclear Policy, Balks at Talks With Russia," *The Washington Post*, 09/22/1994, p. A26; Ian Brodie, "US Offering More Aid For Russian to

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⁵ North Atlantic Treaty Organisation, “NATO’s Nuclear Forces in the New Security Environment,” *NATO Basic Fact Sheets*, 07/07/1999, p. 4 of 6., <http://www.nato.int/docu/facts/nfnse.html>

⁶ North Atlantic Treaty Organisation, “NATO’s Nuclear Forces in the New Security Environment,” *NATO Basic Fact Sheets*, 06/07/1999, p. 4 of 6. Chart: Numbers and Readiness Levels of NATO’s Dual-Capable Aircraft., <http://www.nato.int/docu/facts/nfnse.html>

⁷ Hans M. Kristensen, “Proliferation of Weapons of Mass Destruction and US Nuclear Strategy,” *BASIC Nuclear Futures Report* 98.2 (03/1998).

⁸ William S. Cohen, U.S. Defense Secretary, DoD News Briefing, Monday, 11/23/1998 - 10 a.m.

⁹ Michael Quinlan, *Thinking About Nuclear Weapons*, Whitehall Paper 41 (London: Royal United Services Institute (RUSI), 1997); as cited in Bruno Tertrais, *Nuclear Policies in Europe*, Adelphi Paper 327 (New York: Oxford University Press, 1999), p. 7.

¹⁰ Defense Special Weapons Agency, “Statement of Work For Nuclear Electromagnetic Pulse (EMP) Phenomenology And Applications,” spring 1997, p. 1.

¹¹ William S. Cohen, U.S. Defense Secretary, DoD News Briefing, Monday, 11/23/1998 - 10 a.m.

¹² Czech CT 1 Television Network, “At High Noon” program, 03/07/1999, 11:00 GMT; as referenced in “TV Carries Czech Republic-NATO Debate,” *News World Connection*, Article Id: FTS19990307000628, Document Id: Of8au6m0324ibe. Available at <http://wnc.fedworld.gov/ntis/home.html> or <ftp://ftp.nautilus.org/nnnnet/news/030799ct1.txt>.

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START II: RENEGOTIATED OR DEAD?

by Alexander A. Pikayev

For almost seven years the START II Treaty, signed as early as January 3, 1993, has been unable to enter into force. This arms reduction agreement requires both sides to reduce their deployed strategic nuclear weapons to a level of 3,000 – 3,500 warheads. This is twice as low as the ceilings stipulated by the existing START I Treaty, concluded in July 1991 and implemented in December 1994. Under START II, all heavy intercontinental ballistic missiles (ICBMs) must be destroyed. The Treaty also imposes bans on testing and deploying ICBMs with multiple re-entry vehicles (MIRVs). Be-

sides that, while signing the START II, President Yeltsin of Russia made a statement, according to which, in an unprecedented move, Moscow agreed to give up strategic nuclear parity with the United States and maintain force levels at 3,000 warheads – 500 below the maximum Treaty aggregate ceiling.

In turn, the United States agreed on the real accounting of warheads attributed to its strategic bombers. Washington also accepted the idea of maximum concentration of deployments attributed to any component of the strategic triad. In practical terms, the START II subceiling of 1,750 warheads limits the U.S. Trident submarine-launched ballistic missiles (SLBMs).

From the very beginning, START II was criticized in Russia as an unequal agreement, that was too intrusive in its cuts. The criticism was concentrated on the following arguments. For Russia, START II is not a disarmament, but a rearmament agreement. After eliminating all its MIRVed ICBMs, as required by the Treaty, Moscow would be able to retain approximately five hundred single warhead and downloaded land based strategic missiles from its existing arsenals. Those systems will have to be largely decommissioned during the next decade. By 2010, only 70 of them would remain operational.¹

Thus, in order to fulfill the START II aggregate ceiling at 3,000 deployed strategic warheads, Russia will have to produce a significant number of new single warhead ICBMs within a short period of time: initially, START II should be implemented by 2003. This high missile production rate is both inappropriate after the end of the Cold War and the halt of the East-West confrontation, and unbearable given Russia’s difficult economic situation. In 1998 only ten new single warhead ICBMs were commissioned.²

At the same time, for the United States, START II is not a disarmament, but a downloading agreement. While Russia has to destroy physically all its MIRVed ICBMs except 105 SS-19s, which can be downloaded, the United States could make its part of ‘reductions’ through missile downloading and by transferring strategic bombers to non-nuclear status. Technically, this means that extra warheads could be simply removed from their carriers and stored somewhere nearby. Such an unequal system of reductions is more expensive for Russia. More importantly, it provides Washington with a big advantage in rapid breakout capabilities. If it decides to abandon the Treaty, the U.S. can quickly return ‘downloaded’ warheads and bombs back to their carriers. Consequently, the level of deployed US strategic nuclear weapons might rapidly exceed the START I ceilings.

Russia would be able to upload slightly more than 500 warheads to SS-19 ICBMs. But even that opportunity will only be available until the SS-19s are decommissioned due to their age sometimes in 2000s.³

These two main START II deficiencies were so profound, that even Treaty advocates do not support its unconditional ratification. They argue that START II should be ratified, because its non-ratification could be detrimental for the U.S.-Russian bilateral relations and the integrity of other arms con-

trol and non-proliferation regimes. However, advocates want to 'correct' the deficiencies of START II by negotiating another follow-on strategic arms reduction agreement. As a prominent START II Treaty supporter recently noted, Russia needs START II only because it might open doors for START III.⁴

In this context, the Duma's inaction in the area of Treaty ratification are a consequence not only of Russia's domestic political rivalries between the legislature and executive power. It would be fair to say that nascent Russian democratic decision-making mechanisms possesses sufficient immunity, which prevents premature and unequal agreements from entering into force.

In the course of 1990s, the United States lost a big part of its interest in strategic arms control. Witnessing the rapid decay of Russia's military might, Washington now takes Moscow's nuclear reductions for granted and expects them irrespective of any arms control agreements. Indeed, according to Russian semi-official forecasts, by 2010 its strategic forces will be reduced to approximately five hundred ICBMs, thirty to forty heavy bombers and eight to ten strategic submarines. It is unlikely that these deployments would permit Russia to possess much more than 1,500 strategic warheads.⁵ Hence, force levels would decrease below not only the START II ceiling, but even START III limits at 2,000-2,500 warheads as it was agreed by Presidents Clinton and Yeltsin in Helsinki in March 1997.

Russia's continuing decline, together with the asymmetry of U.S.-Russian relations, deprived both sides of an incentive to avoid the stalemate in bilateral strategic arms control that emerged as a result of the START II non-ratification. Until 1999, there were no strongly perceived reasons for Washington to agree on *de facto* re-negotiation of START II through START III. It seems that its interest in START III was limited by two factors. First, the United States might wish to reach Russia's warhead transparency through discussing the irreversibility of deep reductions under the new agreement. Second, START III might open prospects for tactical nuclear arms control – a whole class of nuclear weapons that is not covered by any formal arms control deal. But, given the enormous technical complication of negotiating the verifiable elimination and monitoring of nuclear warheads, such a Treaty would only be achieved by difficult and time consuming talks. Most likely, such negotiations would be concluded well after the Clinton Administration left office in early 2001.

This is why the United States is so reluctant to make initiatives that could unblock START II ratification in the Russian Duma. Washington's 1997 agreement to prolong the START II implementation period by five years, until December 31, 2007, was interpreted by Moscow as a green light to the implementation of all U.S. theater anti-missile programs. In exchange for the START II Extension Protocol, Russia accepted vague limits on testing high-speed anti-missile interceptors. The prolongation of the START II implementation permitted Russia

to maintain a part of its MIRVed ICBMs in service until the expiration of their lifetime.⁶ However, the extension *per se* did not solve two main issues: START II's high ceilings, and the irreversibility of reductions. The Protocol just delayed the emergence of a numerical disparity between the U.S. and Russian strategic forces by five years. Moreover, in the opinion of some experts, most modern existing MIRVed ICBMs, like the SS-18 *Voyevoda*, part of the most recently deployed SS-19 and SS-24 *Molodets*, might remain operational even after the new START II implementation deadline expires.⁷

Much more important for Russia was the Helsinki deal, which included future lower START III ceilings and the synchronization of implementation of the future Treaty with START II. In theory, this part of the Helsinki Statement met the requirements of START II supporters in Russia to correct Treaty mistakes through a new follow-on agreement. However, this pledge was of a non-binding nature. Washington also refused to initiate the START III formal negotiations before START II enters into force. This approach makes it unlikely that a new agreement could be implemented before the end of 2007. Finally, the Helsinki START III ceilings were still too high to be attractive to Moscow.

In Fall 1997, the sides commenced informal START III consultations. Reportedly, the United States hinted at its readiness to discuss lower levels of 1,500 strategic warheads. Washington also made an informal pledge to conclude START III no later than 2003 – the deadline by which the weapons, slated for elimination under the START II, should be deactivated.⁸ Although these informal promises helped to promote the START II ratification in 1998-99, they were too vague and symbolic to gain a decisive breakthrough. The key issue of break out capabilities remained unresolved. If the 1,500 aggregate ceiling were to be achieved by the further downloading of Trident II SLBMs, the asymmetry in break out potentials of Russia and the United States could be even higher than under START II.

In January 1999, the United States officially informed Russia of its desire to re-negotiate the ABM Treaty in order to deploy a limited national missile defense (NMD) system against potential attacks from missile proliferators. This severely complicated the START II ratification process and challenged the whole U.S.-Russian strategic arms control regime. From the late 1960s onwards, strategic nuclear relations between Moscow and Washington have been based on military, diplomatic and legal offensive/defensive linkage. In their numerous joint statements, Presidents Clinton and Yeltsin characterized the ABM Treaty as a cornerstone of strategic stability and consistently expressed their commitment to its compliance. The START I implementation is legally linked with compliance to the 1972 Treaty.

In the START II context, the new U.S. commitment to modifying the ABM Treaty might lead to a situation in which START II will be approved by the Russian Parliament, but will not enter into force anyway. Under the Article IX of the

draft ratification bill, the depositing of instruments of ratification will be postponed until the United States ratifies the ABM demarcation protocols signed in New York in September 1997.⁹ The Republican majority in the US Senate views the agreement as a tool aimed at consolidating the ABM Treaty. They oppose ratification of the agreements, perceiving that, as a result of their inaction, the Treaty itself could collapse.

At the same time, quite ironically, a need to modify the ABM Treaty produced a more favorable environment in terms of diplomatic bargaining. In return for obtaining cooperative modification of the ABM Treaty, the United States might be willing to move forward on Russia's wishes in terms of renegotiating START II. Although in July 1999, during a meeting of the Gore-Stepashin Commission in Washington, DC, the U.S. side confirmed again that it would not conclude START III until START II is ratified, the United States might become more interested in unblocking the existing deadlock in strategic arms control.

In 1998-99 Russia modified its strategic nuclear programs by giving itself relative flexibility enabling it to react if strategic arms control fails. The most important known measures include:

- The production rate of new *Topol M* ICBMs was determined until after 2005. If maintained in practice, more than four hundred new missiles will be deployed by 2010. The program ensured that upon decommissioning of existing systems their replacement will be available. If necessary, *Topol M*, currently deployed with a single warhead, might be attributed by three to six MIRVs.

- The lifespan of existing MIRVed ICBMs, including some of most modern versions, was prolonged. If START II fails, this would permit Russia to maintain some of them operational after 2007.

- In 1998, the development of a new universal ballistic missile was initiated. It could be deployed both at sea and on the ground. If successful, the missile would arm new strategic submarines (SSBNs), the first of which is currently under construction, and rearm some existing SSBNs. If START II fails, the universal missile could be deployed as a new MIRVed ICBM.

- The lifespan of most modern SSBNs will be extended. They might remain operational until their replacement is ready.

- The development of a new long-range air launch cruise missile (ALCM) is underway. It will rearm existing heavy bombers, thus prolonging their lifespan.

- The development of a new strategic bomber is at an initial stage.¹⁰

If START I fails, discussions are underway on increasing the number of MIRVs deployed on existing SS-N-23 SLBMs, which arm Delta IV strategic submarines. Currently, the SLBM carries four warheads. Probably, the load could be increased to up to ten MIRVs. Furthermore, in 1998 a decision was made to prolong the life of Tu-22M *Backfire* medium range bombers. Under START I, Moscow made a commitment not to give

them the capabilities of a strategic bomber. If the Treaty fails, such a capability can be provided, for instance, by deploying long range ALCMs on them.¹¹

Within the next 15 to 20 years, existing plans would maintain Russian strategic forces at relatively high levels. If, as a result of a unilateral U.S. withdrawal from the ABM Treaty, START I also collapses, Russia might possess strategic deployments at levels exceeding those of START II. Re-MIRVization of the forces will be inevitable. The possibility cannot be ruled out that, if strategic arms control fails, current plans permitting limited re-MIRVization might be reevaluated into larger scale programs.

Recently, in the nuclear area, U.S.-Russian relations have remained symmetrical. Moscow still controls more nuclear warheads, than all the other nuclear powers put together – circa 7,000 strategic and more than 10,000 tactical.¹² Under START I counting rules, as of January 1, 1999, Russia's strategic nuclear triad consisted of 1,422 delivery vehicles with 6,578 associated warheads.¹³ Most likely, for Moscow it would be difficult and unnecessary to maintain START I levels in the future. However, in the absence of strategic arms control agreements, the question on how low and how fast the levels would go down remains open. If strategic arms control fails, the future of Russia's nuclear forces will become unpredictable. With the failure of START I, its intrusive verification regime would be cancelled, and as a result, the status of the forces would become opaque.

In the absence of bilateral strategic arms control agreements the United States could keep ceilings much higher than Russia. However, it faces other restrictions. If Russian forces go down in the absence of START II or even START I, there would be greater domestic pressure not to stick with unnecessarily high strategic nuclear ceilings, which diverts resources from more urgent military requirements. Besides that, Washington would feel uncomfortable if it decides to build-up above START I levels. This policy could damage the U.S.'s authority as a leading promoter of global nuclear non-proliferation, because its commitment to Article VI of the NPT would be questioned. Therefore, the future potential U.S.-Russian asymmetry has its limits. The bottom of the gap will be determined by decisions made in Moscow; the upper level, most likely, by existing START I ceilings.

Besides potential damage to the START process, non-cooperative moves in the ABM area might affect other bilateral and multilateral agreements. Potential U.S. NMD deployments would pose dilemmas not only for the forces of potential nuclear proliferators, but for those of China as well. Currently, Beijing possesses about two dozen nuclear missiles capable of hitting targets in North America. This number of missiles can be intercepted even by a relatively thin NMD. In order to preserve its status as a global nuclear power, China, in response to the U.S. anti-missile deployments, might start its own nuclear build up. This step would complicate the Sino-Russian nuclear relationship. Besides ICBMs, China possesses hundreds of inter-

mediate range nuclear missiles and aircraft able to destroy targets in Russia. Similar Moscow deployments are severely restricted by the 1987 INF Treaty, which bans all Russian and U.S. land-based missiles with ranges between 500 and 5,000 kilometers. Recently, the Russo-Chinese INF imbalances have been neutralized by Russian superiority in strategic nuclear weapons. If this superiority were put at risk by Chinese build-ups, this would increase pressure on Russia to withdraw from the INF Treaty.

As was briefly already mentioned, the collapse of U.S.-Russian bilateral strategic arms control would question the commitment of the two largest nuclear powers to nuclear disarmament. Such a commitment represents an important element of the compromise between nuclear and non-nuclear weapon states under the NPT. At a time when the NPT is undergoing growing challenges due to Indian and Pakistani nuclear programs, the collapse of the U.S.-Russian strategic arms control could significantly contribute to the further erosion of the non-proliferation regime.

Thus, there is a need and interest in both Moscow and Washington to find a cooperative exit from the existing START II deadlock. This way out could be found by reaching a compromise on START III/ABM Treaty modification. In the area of START III, the sides will be required to solve problems of aggregate ceilings and irreversibility. Given the risk of potential nuclear build-ups by third nuclear powers, the United States and Russia could be interested in maintaining relatively high levels of strategic deployments – probably, not lower than the bottom of the Helsinki belt – 2,000 warheads. For Moscow, these relatively high ceilings could be comfortably maintained if limited re-MIRVization of its ICBMs is permitted. Besides that, limited re-MIRVization could serve as a potential guarantee in an environment of the U.S. NMD deployments.

For the United States, limited re-MIRVization of Russian ICBMs would represent a part of a deal involving Russia's agreement on relaxing the ABM Treaty restrictions. At the same time, the cooperative approach would permit Washington to prevent unlimited and uncontrollable re-MIRVization, which could be possible if the strategic arms control fails. Such an approach would help to retain the main achievements of START II – guaranteed de-MIRVization (compared to START I) and a ban on heavy ICBMs.

A similar approach could be recommended for ABM Treaty modifications. The U.S. demands for a relaxation on locations in the area of the ABM deployment should be met by the Russian side – in exchange for the U.S. START III concessions. At the same time, the Treaty's main provisions, like a ban on deploying mobile, sea-, air- and space-based ABM systems and their components, have to remain intact.

If the START III/ABM Treaty modification compromise were achieved, this would open way for more far reaching steps. The United States and Russia could revive the idea of tactical nuclear arms control and start talks on warhead elimination and transparency. They also might encourage other nuclear

powers to discuss their concerns multilaterally.

Notes:

¹ *Izvestiya*, 12/16/1998.

² START I MOU, 01/01/1999, ACDA, 1999.

³ P.L.Podvig, Ed. *Strategicheskoye yadernoye vooruzheniye Rossii* (Russia's Strategic Nuclear Armament), Moscow, IzDAT, 1998 (in Russian), p.194. *Izvestiya*, 12/16/1998.

⁴ Remarks of Hon. Alexei G. Arbatov, Deputy Chairman, the Duma Defense Committee, at a seminar held by the Carnegie Moscow Center on June 25, 1999.

⁵ Sergei Rogov. *Rossiya i yadernyye vooruzheniya* (Russia and nuclear arms). *Nezavisimoye voyennoye obozreniye NG*, No. 47, 12/11-17/1998, p.4 (in Russian). *Izvestiya*, 12/16/1998.

⁶ Russian premier, his deputy and military discuss ratification of START-2 treaty. – *Program Zdes' i seichas* (Here and now), VID, ORT Channel, 03/16/1999. – In: *BBC Worldwide Monitoring*, British Broadcasting Corporation, 03/16/1999. See also: Interview with Defense Minister Igor Sergeev. – *Slovo*, 05/21-25/1999, pp.1-3 (in Russian).

⁷ P.L.Podvig, op. cit., pp. 190-192, 194, 196-199. Sergei Sokut. *V novyy god s novoy raketoi* (New Year with a new missile). – *Nezavisimoye voyennoye obozreniye NG*, No.48, 1998, p.3 (in Russian).

⁸ Remarks of Prime Minister Primakov. – In: *Russian premier*, op. cit.

⁹ Text of the START II draft ratification bill see in: *Yadernoye rasprostraneniye*. Periodic Compilation of Materials and Documents. Carnegie Moscow Center. Issue 27. December 1998 (in Russian).

¹⁰ Alexander Pikayev. *The Rise and Fall of the START II*. Issue 1. Russia and International WMD Regimes. Series of Publications. (Carnegie Endowment for International Peace: Washington, DC), September 1999.

¹¹ Olga Ruban. *Yaderny obman* (Nuclear cheating). – *Moskovsky komsomolets*, May 27, 1999, p.2. (in Russian). P.L.Podvig, op.cit., pp. 335-338. Yuri Golotyuk. *Moscow adjusts its nuclear arguments*. – *Russky telegraf*, July 4, 1998, . 1 (in Russian).

¹² Sergei Rogov, op. cit.

¹³ START I MOU, January 1, 1999. ACDA, 1999. ■

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**KARGIL CONFLICT:
IMPLICATIONS FOR SOUTH ASIAN SECURITY**
by Milind Thakar

In the third week of May Indian troops returning to their summer positions on the Line of Control in the Kargil sector of Kashmir found themselves opposed by armed intruders situated well across the line on the Indian side. Initial attempts to evict them based on an incorrect (low) estimate of their numbers and capabilities resulted in failure. Corrected estimates revealed the intruders to be, not just Pakistan-supported militants, but regular Pakistani army troops supported by artillery, SAMs, and adequate high altitude preparations. The following two months saw the fiercest fighting short of war between Indian and Pakistani armed forces since the 1971 war. A war scare gripped both subcontinental states and diplomacy, air power and sustained fighting were involved before the situation reverted to the ante-bellum status. Given the fact that the two states are nuclear neighbors with a history of conflict, there was considerable speculation about the outbreak of a conventional war and its possible escalation to a nuclear level. The conflict has brought about major changes in the dynamics of South Asian security and requires some reflection.

Kashmir is central to Indo-Pak relations since both states claim it; Pakistan, on grounds of the Islamic majority principle applied at Partition, India on the basis of the Maharaja's accession in 1947. Three wars and fifty-two years have not resolved the question. Over the last ten years Indian security forces have waged a battle against what they claim is Pakistan sponsored terrorism, while Pakistan has supported what it claims to be the freedom struggle of Kashmiri militants against India. Kashmir is divided into three parts, Indian held Kashmir, Pakistan-held Kashmir, and the eastern part, which is held by China. The Pakistan portion is divided into Azad (free) Kashmir – a political entity awaiting unification when it will purportedly decide to either join Pakistan or become independent, and the Northern Areas – a federally administered tribal area. Indian Kashmir consists of the Valley of Kashmir – which is populated almost wholly by ethnic Kashmiri Sunni Muslim, the Jammu region in the south where there is a significantly large Hindu Dogra presence, the large district of Leh bordering China – populated largely by Buddhists, and the Kargil district situated between the Valley and Leh – populated by Shia Muslims. India has claimed that the militancy in Kashmir which erupted in 1989 had died down by 1994-5 to be replaced by the introduction of Pakistani sponsored insurgents from across the border, most of whom were not Kashmiri but Afghan mercenaries or Punjabi (Pakistani). Since 1996, Indian Kashmir has re-entered electoral politics with the formation of a government by the National Conference party headed by Farooq Abdullah.

A decline in the strategic importance of Pakistan in U.S. calculations, coupled with concern over Pakistan's nuclear

program has lessened the cordiality of ties it had with the United States in the 1990s. This may have been the consideration that prompted Prime Minister Sharif to agree to meet his Indian counterpart in February to sign the Lahore Accord, by which both states agreed to engage each other and reduce the hostile posturing and cross-border hostilities that have characterized their bilateral relations.

In light of the above, it was surprising to most observers that Pakistan had engaged, or at least supported, the Kargil action. Understanding such motivation is the key to reducing future conflicts and ending the current one, which has both India and Pakistan indulging in brinkmanship. Various theories are cited as explanations for Pakistan's action in Kargil. Chief among them is the view that this was not a civilian policy but rather a military adventure with knowledge of the details being given to the civilian leadership as a *fait accompli*. The strategic importance of the Kargil policy is dubious since it seemed to assume Indian inaction, and the apparent objective as deciphered by analysts seem to ambitious for such a venture. The pockets of intrusion, in some sectors almost 15 km in depth, would have made it possible for the Pakistanis to intercept, block, and cut the Srinagar-Leh highway. Poor weather conditions and communications difficulties could have isolated the Leh area from the rest of India. At a later point, Pakistani forces could have attempted to take the valley of Kashmir in a two pronged strike with an eastern prong originating in Kargil. This was the worst case scenario sketched by Indian analysts.

Another possible motivation for Pakistan's military may have been revenge for the Siachen episode. In 1984, Indian troops occupied part of the Siachen Glacier, situated in a non-delineated sector of the Line of Control (LOC), and have since been engaged in conflict in what is the world's highest battleground for control of this area. Pakistan had been caught off guard at that juncture and this was a slight the army was long interested in redressing. Yet another possible explanation for this adventure has been that the current Pakistan army chief, General Pervez Musharraf, is a Mohajir (Indian immigrant/refugee), and thereby inclined to prove himself as "loyal" as a native Pakistani. In support of this view are the aggressive military policies that characterized the tenure of a previous Mohajir army chief General Mirza Aslam Beg.

However, a stronger explanation may arise from Pakistan's weakness in international politics. As stated earlier, Pakistan has witnessed a downgrading of its strategic importance to the United States in the post-Cold War era. This has been accompanied by a lackluster economic performance exacerbated by the high level of external dependence of the Pakistan economy. The nuclear program of Pakistan that culminated in the nuclear tests of May 1998 have invited sanctions which have further weakened the economy. The combination of a weak strategic position (including the loss of U.S. support), economic problems, and the relative decline of militancy in Kashmir have been the major problems faced by the current government. In such a situation keeping the

Kashmir issue alive had become a major issue. Kashmir's centrality in Pakistan's foreign policy is bolstered by the possible realization in Pakistan that India's economic and military superiority is growing and cannot anymore be neutralized by U.S. support. Internationalizing Kashmir was therefore of primary importance. It may be that decision makers in Pakistan (military or civilian) believed that the near-war situation that developed in Kargil would encourage external interference in an issue that India is determined to keep bilateral. If this was the case then it is possible that Pakistan's civilian authorities were also part of the plan and the grand strategy was to internationalize the issue rather than take Kashmir by force.

A surprising aspect of the conflict was the muted Indian response. In 1965, in a similar scenario, Pakistan had sent a number of infiltrators across the border and India had extended the conflict over the international boundary. While there was concern this would happen in the current conflict, India's response has been restrained. Apart from the use of field artillery and jet fighters, India did not escalate the conflict by opening fronts elsewhere. This may have been the result of deterrence arising from Pakistan's nuclear weapons. However, what is of greater concern is that nuclear deterrence may well spawn the possibility of localized, low-intensity, cross-border conflicts between the two states.

While Pakistan was not successful in its strategy in Kargil, the question of regional security still hangs in the balance. At the time of writing, India has shot down a Pakistan reconnaissance aircraft which both sides claim was in their territory. Pakistan's promise to respond suitably does not augur well for peace talks. India's claim that any peace talks can occur only after Pakistan stops sponsoring cross-border terrorism does not seem to be based on an appreciation of ground realities. Pakistan is not likely to give up supporting militants in Kashmir merely in order to reopen talks; no government can exhibit much flexibility on such an issue. However, resumption of the dialogue is definitely required. While the talks may not be productive it is important that the two states engage each other for a return to normalcy as the situation can only deteriorate otherwise.

What are the implications of the Kargil conflict? The following provide some food for thought. First, Pakistan will not attempt to give up its stake in Kashmir for a de facto legitimization of the Indian claim, that is, a boundary at the LOC. Of more concern, is who makes the decisions in Pakistan, and how these are made. While the Indian military forces are very clearly under the strict supervision of civilian authority, the same cannot be said of Pakistan. Even though there are claims that the Sharif government was aware of the incursion starting as early as October 1998, the action seems more a military-directed venture. The army's role was evident from tapes of a conversation involving Pakistan's army chief, where General Musharraf outlined his strategy. A multiplicity of actors is not good for conflict avoidance, especially so in a

protracted conflict of the Indo-Pak variety.

Second, both states have to evolve their nuclear doctrines if they insist on maintaining their nuclear weapons status. While the U.S. Department of State and the White House have been unequivocal in their criticism of the decision by the Indian government to enunciate its nuclear doctrine, this is a necessary step. Deterrence arises from capability, credibility and communication. While there is some doubt as to the exact extent of delivery capability, there is no doubt that both India and Pakistan possess nuclear weapons. There is also very little doubt that both would be willing to use them against each other in extreme situations. The important factor missing is a clear statement of what is defined by both sides as an extreme situation warranting such a measure. The Kargil conflict was the first near war situation between the two states after their nuclear status became overt. Chance, deterrence, and astute diplomacy averted the broadening of the conflict to a full war, but this may not happen again. Therefore enunciation of a clear and unambiguous nuclear doctrine is in the interests of both states, and also the international community.

Finally, there has to be a realization that such conflicts cannot be kept bilateral affairs anymore. A nuclear war scenario will invite external attention and it is in the interest of both India and Pakistan to realize that it will not necessarily benefit either party. Both China and the U.S. during this conflict restrained Pakistan to some extent by a lack of support. However, that has not translated into approval for Indian action in shooting down the Pakistani aircraft on in evolving a nuclear doctrine. Kargil points to the futility of such conflicts except for their perpetual nuisance value. It should therefore be a signal to both India and Pakistan to resume the Lahore process and try to put an end to a half-century of hostility in the coming millennium. ■

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THE NUCLEAR INFRASTRUCTURE IN KAZAKHSTAN: IMPLICATIONS FOR SAFEGUARDS AND SECURITY

by Timur Zhantikin

Introduction

After the disintegration of the Soviet Union, several types of facilities comprised the nuclear industry of Republic of Kazakhstan. Namely, a nuclear power plant with a BN-350 fast breeder reactor in Aktau, the Ulba fuel fabrication plant in Ust-Kamenogorsk, and the uranium mining and milling facilities of National Atomic Company *KAZATOMPROM*. Also, there were four research reactors of the National Nuclear Center, one near Almaty, and three in the Semipalatinsk region.

From the very beginning, Kazakhstan declared its peaceful intentions in the use of atomic energy. The Republic joined the Nuclear Non-proliferation Treaty (NPT) as a non-nuclear weapons state, and then signed an Agreement on Safeguards with the International Atomic Energy Agency (IAEA) after which all the nuclear activity of the country was covered by comprehensive IAEA safeguards. Having no regulatory experience in the nuclear field, the Republic requested assistance in technical and legal matters, and the IAEA Coordinated Technical Assistance Plan was developed together with four countries — the U.S.A., Sweden, the U.K., and Japan.

In 1992 the Atomic Energy Agency of the Republic of Kazakhstan, the first nuclear regulatory body, was established by presidential decree. This body now serves as an independent authority in the structure of the Ministry of Science and High Education of Kazakhstan. During the period after 1992, basic legislation was developed for the regulation of nuclear activity in the country, a support infrastructure was established, and other practical matters were considered and solved by the Government.

Nuclear Facilities

Kazakhstan has a developed uranium production industry concentrated under the National Atomic Company *KAZATOMPROM*. It has mining and milling facilities located at large fields of uranium ore deposits mainly in the South of the country. The *in-situ* leaching technology which is used at these facilities provides low cost uranium products. This company has wide cooperative ties with the Central Asian republics and Russia.

In Ust-Kamenogorsk, Eastern Kazakhstan, there is a nuclear fuel fabrication plant Ulba that, in cooperation with Russian nuclear industry, produces fuel pellets for the Soviet design reactors of VVER and RBMK series. Recently, Ulba has signed several trade contracts with other companies in different regions of the world for their products.

There are four research reactors under the National Nuclear Center of Kazakhstan. One of them is located in about 2 km from Almaty in Alatau — the site of the Almaty Branch of the Institute of Atomic Energy. It is a water cooled vessel type

reactor of 10 MWt power that is used for different investigations in nuclear physics and material sciences. The other 3 reactors are operated by the Atomic Energy Institute in Kurchatov on the territory of the former Semipalatinsk nuclear test site. The pulse graphite reactor *IGR* was used for examination of fuel rods and assemblies. The high temperature gas cooled reactor *RA* was a prototype for a nuclear space propulsion engine.

On the Caspian Sea there is a fast breeder reactor BN-350 at the Mangyshlak Atomic Power Plant that was deactivated after a decision of the Government in 22 April 1999. Now, the program for decommissioning this reactor is being developed.

Legal and Regulatory Basis

After joining the NPT as a non-nuclear weapons state in 1994, Kazakhstan signed an Agreement with the International Atomic Energy Agency on the implementation of comprehensive safeguards for all the nuclear activity in the country. The Agreement entered into force in 1995 after formal procedures of ratification and following the official notification of the IAEA. In accordance with this Agreement, Kazakhstan presented the initial declaration of nuclear material inventories in designated material balance areas of the National Nuclear Center, the Magyshlak Atomic Power Plant and the Ulba fuel fabrication plant. Also, data on design of the facilities were provided, and procedures for verification were established in consultation with IAEA.

The main principles for nuclear activities in Kazakhstan are defined by the Law on Use of Atomic Energy the principal idea of which is that nuclear power will be used only for peaceful purposes. There are several Government Decrees giving more detailed descriptions of the rules and requirements governing nuclear activity. One of the main documents is Decree no. 100 that enforces the Licensing Provisions for nuclear activity. In the process of licensing, a responsible authority, the Atomic Energy Agency, has the legal power to set specific requirements for the facilities and organization depending on the types of activity. Types of activities using atomic energy are included in an amendment to the Law on Licensing.

The Law on Export Control of Arms, Military Products and Products of Dual Use established norms for the state control of goods. These norms correspond with the recommendations of international boards for export control such as the Nuclear Suppliers Group.

Accountancy of Nuclear Materials

The operation of the state system for accountancy of nuclear materials is one of the responsibilities of the Kazakhstan Atomic Energy Agency (KAEA). Under the IAEA Coordinated Technical Assistance Plan considerable support was provided by donors for the establishment of an effective accountancy system in our country.

This plan had several components including support for the development of legislation and regulations for the state

accountancy system, the organization and administrative infrastructure, and technical measures. The Swedish Nuclear Power Inspectorate provided software and hardware for the first system that was adapted for the conditions of Kazakhstan. Personnel from Kazak facilities and authorities were trained in Sweden, the U.K. and the U.S.A. with the financial and technical support of the IAEA and donor countries. This first stage of technical assistance allowed our country to be prepared for the enforcement of the Safeguards Agreement with IAEA.

The Kazakhstan Atomic Energy Agency keeps a database on the total amount of nuclear materials in the country and their allocation in material balance areas. For the actualization of the database the procedures are established for reporting on changes of nuclear material inventories in facilities, based on which corresponding reports are prepared for the IAEA Department of Safeguards.

The U.S. Department of Energy supported a program for the organization and operation of accountancy systems at the Ulba fuel fabrication plant. A problem with this facility was the large amount of nuclear materials and their high flow during the production activities that caused considerable difficulties in effective accountancy of all the moving material throughout the whole facility. A computer network was developed for material accountancy with sophisticated software that allowed accountancy errors to be minimized. Also, computer hardware was complemented with automated precision scales, spectrometers and other measuring techniques, aimed at raising the measurement accuracy of the facility. Personnel were trained in the basic principles of nuclear material accountancy and the operation of the equipment.

One of principal difficulties at the Ulba plant was connected with the existing formal system for the accountancy of nuclear material based on its cost and bookkeeping transactions. This system had to be changed to an acceptable system based on inventories of the material. Methodological support for the establishment of the new accountancy system was provided by the Swedish Nuclear Power Inspectorate. They helped to develop regulations and procedures for the system and trained personnel both of the facility and the KAEA.

This program allowed the Ulba fuel fabrication plant to meet international levels of accountancy requirements in a relatively short time. Of course, there is room for further improvement but, at the present time, the facility can provide acceptable accuracy for the reports on nuclear material inventories and their flows. Similar programs that are less complicated due to lower amounts of nuclear material were conducted at other Kazak nuclear facilities. At the National Nuclear Center and BN-350 reactor of the Mangyshlak Nuclear Power Plant the programs were partly supported by donor countries, including Japan, the U.K., and Sweden.

Physical Protection

Control of nuclear materials includes another important component - measures on the physical protection of nuclear

material and facilities. Unfortunately, the existing system of physical protection has not changed markedly to meet the requirements of international recommendations. The efforts of donor countries have been directed primarily to upgrading the system's technical components. This program covered some critical points.

Again, one of the most important facilities was the Ulba plant. In addition to large amounts of nuclear material and its high flows, it covers a large territory that must be protected, and complicated structure of production buildings. With the support of the U.S. DOE and national laboratories, the physical protection system at the main production building of the plant was upgraded to the level providing secure control of nuclear materials in this area. This is a computerized system with total monitoring of controlled areas, alarms, detectors and entrance control.

The physical protection of the National Nuclear Center facilities was also a complicated task. In Kurchatov there are several distant sites requiring protection that had to be integrated into a general system. Each site's perimeters and buildings were equipped with detectors and monitors with central alarm and monitor stations located in guards' offices. Another task concerned reliable communication between the sites and the central office in the city of Kurchatov. This problem was solved by the use of mobile and stationary radio communication equipment, and the construction of additional repeaters over the territory of the Center.

The Alatau site with the research reactor was used as a model facility for physical protection systems. It is planned that the facility will be used for the investigation of new technologies in physical protection, and for training of personnel of other nuclear facilities, elaboration of technical regulations and instructions, analysis of physical protection systems and other related work.

Japan supported the construction of an additional fence around the reactor building equipped with TV monitors, lights and infrared perimeter detectors. The gates of the fence and doors of the building have a magnetic card entrance control system. TV monitors control critical points of the reactor building. Last year, a special team from the U.S. Nuclear Regulatory Commission tested this physical protection system. Several weak points were determined and additional work has been done to reinforce the system. This is an example of effective and fruitful cooperation of different countries in support of our efforts to upgrade the systems.

Another example of good cooperative work is provided by the U.S.-Japan project on upgrading of physical protection at the BN-350 fast breeder and Mangyshlak NPP site. U.S. has supported technical modification of the reactor building protection system. This work included installation of additional TV monitors, entrance detector and control systems and development of special software for the system. Japanese specialists developed and constructed an entrance control system for the plant outer perimeter including gate and pedestrian en-

trance control with microchip personal cards. During this work all three participating sides, the U.S., Japan and Kazakhstan, have coordinated their work in a very effective and efficient manner. Also, the problem of technical correspondence of the two main systems was solved in a short period. To support the guard forces patrolling the facility they were equipped with radio communications by the U.S. DOE.

Export Control

Control of nuclear materials includes a state system for nuclear export control, and KAEA officials responsible for the implementation of export control measures on behalf of the state. In accordance with the regulations, the KAEA maintains nuclear export/import databases and approves international transfers of nuclear and radioactive materials, nuclear technologies, materials and technologies of dual usage, and special non-nuclear materials.

Unfortunately, the existing system is not automated to a sufficient level. There is no computer-based system for the establishment of the general control of nuclear material transfers.

Summary And Conclusions

At the present time, the Republic of Kazakhstan has established a system for nuclear material accountancy and control. The system has two levels, facility and state, integrated into general state system for accountancy. There are some weaknesses in the existing system that can be improved in order to achieve more efficient and effective control of nuclear materials in the country.

The physical protection system is developed on a much lower level. It is fragmented into facility-oriented technical systems providing security measures with local effect. The work is going on for improving the state system for the physical protection of nuclear materials and facilities. The KAEA intends to build an integrated system for the control of nuclear materials that will include closely interacting components for accountancy of the material, physical protection and export control measures. This system will strengthen state control of nuclear materials providing more effective means for safeguards and security of the materials in the peaceful use of atomic energy in the country.

Kazakhstan has gained useful experience in international cooperation and support of this work that has allowed the establishment of the state system of accountancy and control of nuclear materials in a relatively short period. Wide international cooperation is a necessary element in the effort to strengthen safeguards and nuclear material security. ■

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COMMENTS AND OPINIONS

RUSSIA ON THE WORLD ARMS MARKET: 1998 AND EARLY 1999 ASSESSMENT

by Konstantin Makienko

1998 Results

The official statistics of arms export revenue shows that Russia is slowly overcoming the arms export crisis of 1997-1998. In 1996, Russia reached a figure of \$3.5 billion, a record in the post-Soviet time, and in 1997 this figure dropped to \$2.6 billion. At the same time, the actual cash revenue remained the same at \$2.2 billion, and the decrease of \$.9 billion is attributed entirely to arms supplies to offset parts of Russia's debt. In 1996, these accounted for \$.8 billion, and in 1997, for \$50 million.

In 1998, the decrease in export volume from Rosvooruzhenie continued, but the rate began to slow. Besides, the drop was compensated for almost entirely by an increase in similar figures for Promexport and VPK MAPO. Therefore, the overall export volume from Russia remained at the same level of \$2.6 billion.

According to the official data, Russia's largest arms exporter, Rosvooruzhenie, fulfilled contractual obligations for 1998 of \$2.046 billion. However, the total cash revenue, including the previous contracts, amounted to \$2.3 billion.¹

Another state enterprise, Promexport announced that it has signed contracts in 1998 to the value of \$400 million.² Since Promexport offers weapons systems and hardware from the existing military surplus, contract fulfillment is usually achieved much more quickly than the case is with Rosvooruzhenie. Actual 1998 exports reached 50% of the total contract portfolio, i.e., \$200 million.³

The official information regarding VPK MAPO's export activities does not exist. Representatives of the company continue to maintain silence with regard to this matter. It is known, however, that in 1998 three MiG-29 fighter jets were sold to Peru, and another six to Eritrea. Given this, the total revenue from these sales can be estimated at \$140-150 million (no greater than \$10-12 million per unit including parts and equipment).

Thus, the three leading arms exporters received approximately \$2.65 billion in 1998.

To this figure should be added the revenues received by other exporters, such as KBP Tula, which supplied portable missile launchers (Kornet-E and Metis-M) to Syria. So far there has not been any information on the activities of the third state company — Russian Technologies, which could be explained by the absence of any export contracts.

The component structure of arms exports did not change significantly in 1998. At Rosvooruzhenie, for example, it was as follows: air force armament, equipment and hardware —

49.2%; ground forces — 25%; navy — 15.9% air defense — 8.1%; and other — 1%.⁴ A similar structure for Promexport is not precisely known, but one may assume that given the Ethiopia contract and parts sales to China, the share of air force-related armaments and hardware is much greater than 50%.

There is still no dominant recipient of exports. The majority of sales go to India and China, which in 1998 were supplemented by Iran, The United Arab Emirates, Vietnam, Greece and Algeria.⁵ In total, these seven countries account for about 82% of all Rosvooruzhenie exports in 1998. Promexport sold arms to 15 countries, with Ethiopia and China being the largest recipients.

In 1998, extra efforts were made to increase the sales of combat aircraft abroad. Given the dominant role that air force armament exports play in Russia's exports in general, this fact is also indicative of the overall overcoming of the 1997-1998 crisis. Rosvooruzhenie, for example, received a contract from India worth \$350 million to deliver 10 SU-30K fighter jets. The payment for this contract will, it appears, be made through an unused portion of a large credit, earlier granted by Russia to India for purchases of Russian armaments.

For the first time since 1995, MAPO MiG signed contracts for the delivery of about 9 MiG-29 jets to Peru and Eritrea. In 1998, Promexport signed a contract with Ethiopia for 8 SU-27 jets worth \$120 million. In January 1999, one of the jets crashed on the way to Ethiopia, which was the second accident involving Russian combat aircraft being exported abroad. The first occurred in December 1997, when the cargo Antonov-124, carrying two SU-27UB to Vietnam, crashed in Irkutsk.

Early 1999 Results

The first half of 1999 saw a general improvement in the arms exports situation. During the first six months almost \$1.3 billion arrived in Rosvooruzhenie accounts, which by itself became a record figure for the entire history of the company.⁶ As a rule, the first six months usually see no more than 30% of total annual revenues. In 1997, for example, Rosvooruzhenie had received only \$800 million by August, while total annual sales reached \$2.6 billion.

Promexport has also continued to improve its contract portfolio. During the first five months, it reached \$670 million.⁷ Given the fact that \$200 million worth of contract obligations had been transferred from 1998, the total portfolio for the first five months reached \$470 million. It is believed that by the year's end, the total figure may reach \$1 billion. However, the information on the actual completion of the contracts is not released.

1999 Forecast

It is currently expected that in 1999, Rosvooruzhenie's export sales will amount to at least \$2.7-2.8 billion. Despite the improving position of Promexport's contract portfolio, their sales are unlikely to exceed last year's \$200 million. This is due to the fact that Promexport's contract fulfillment period

has been extended recently. In 1998, this period was shortened as a result of specific requests by Ethiopia, Zimbabwe, Angola and other countries involved in military conflicts, that required prompt supplies of weapons systems. In 1999 this situation will not be repeated.

Antei Concern has begun implementing a contract with Greece for the delivery of 21 Tor-M1 air defense systems. Six of these, valued at \$150 million, will be delivered in 1999.⁸

Thus, a quite conservative estimate would put Russia's military-related exports in 1999 at \$3.2 billion, which would approach the record-setting figures of 1996. (\$3.3-3.4 billion).

New Trends

The following trends in the development of Russia's military-technical cooperation with other nations have become manifest during the 1998 to early-1999 period:

1. For the first time since Rosvooruzhenie was created in 1993, military-technical cooperation became de-monopolized. This is seen primarily in the structure of contract portfolios for the industry. Rosvooruzhenie commands \$8.4 billion (before the Su-30MKK contract with China); Antei — 0.5 billion (Tor-M1 sales to Greece); Promexport — \$.67 billion as of May 1999; and MAPO — at least \$.15 billion. Thus, the share of the entire portfolio not belonging to Rosvooruzhenie approaches \$1.2 billion. In 1998, Rosvooruzhenie's share of total sales volume fell from 95% to 85%.

2. Although presently air force arms and hardware dominate sales, air defense systems are growing in prominence. For example, every third sales request submitted to Promexport is related to air defense hardware. Besides, the period 2001-2003 will likely see an increase in demand for naval exports due to the implementation of 1997 contracts for the delivery of two project 956 destroyers to China, and three project 1135.6 frigates to India. Possible future contracts with these countries for the delivery of nuclear-powered submarines and anti-ship missiles may further increase the naval component of the arms trade in the near future.

3. The period 1998 to early-1999 saw a clear tendency towards the increase of surplus weapons sales from the reserves of the Defense Ministry. There are three explanations for this development. First, there was a surge in demand for surplus weapons due to the Ethiopia-Eritrea conflict and the civil war in the Democratic Republic of Congo. Ethiopia, Eritrea, Angola, Zimbabwe, and DRC all bought used Russian surplus weapons. Second, in 1997 the Russian government established an official enterprise in charge of the surplus weapons trade — Promexport, which is capable of adequately reacting to demand fluctuations for surplus weapons. Finally, in 1998 MAPO radically changed its marketing strategy. After being unable to sell a single fighter jet in 1996-1997, the company began selling the jets housed in Lkhovitsy since 1992 at extremely low prices. Apparently, the Mig-29s sold to Peru had a price tag of no more than \$15 million each; those to Eritrea, \$8-10 million. In June 1999, MAPO sold another 8 jets to

Bangladesh for \$11 million each. It appears that Russia will continue to expand its surplus weapons market, competing actively with China, Ukraine, Belarus and Eastern and Central European countries. The principal consumers of surplus weaponry will be African, Latin American and South Asian nations currently or potentially engaged in various military conflicts.

Notes:

¹ *Nezavisimoye Voennoye Obozrenie*, 18, 1999, p.6.

² Interview with Promexport's Director General, *Delovye Lyudi*, 03/1999, p. 42-43.

³ Authors personal information.

⁴ *Nezavisimoye Voennoye Obozrenie*, 18, 1999, p.6.

⁵ *Ibid.*

⁶ *Kommersant-Daily*, 07/02/1999, p.2.

⁷ Promexport, Press-Release, 05/27/1999.

⁸ Author's estimation. ■

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EXPORT CONTROLS IN MACAO

by Richard T. Cupitt

Once, Macao was more than an afterthought. For several centuries the port city served as the key point of contact between Europe and East Asia. Ships filled with silver and silk plied its waters and filled Portuguese coffers. The Catholic Church used it as a base of operations for Asia. It created a unique mix of African, Latin American, European and Asian civilization from the Portuguese empire, a cultural influence that survives to this day. The rise of Hong Kong in the mid-19th century and the subsequent emergence of Shanghai and other Chinese ports, on top of the long-term decline of Portugal as a world power, relegated Macao to the periphery of the global economy, where it still lingers. In the 1990s, Macao even lacked an international airport, the *sin qua non* of a modern city. Where the transition of Hong Kong from British colony to Special Administrative Region in the People's Republic of China (PRC) in July 1997 captured world attention, the ceremonies marking the transition of Macao to Chinese sovereignty at the end of this year will be lost in the cacophony of celebrations for the millennium.

In May 1998, however, the US Department of Commerce revised their rules to treat Macao as part of the PRC in anticipation of the transition. Although the colony does not produce many, if any, strategic items, it could serve as a transit point for goods and technologies of proliferation concern. Given its notoriety as a haven for organized crime (associated

with the enormous number of casinos in its few square miles of territory), U.S. officials fear that Macao might become a transit point for the shipment of goods and technologies of proliferation concern.

Prior to last May, U.S. officials had treated the colony as part of Portugal. Indeed, until recently Macao essentially imported its legislation from Lisbon, including its rules on export controls. In preparation for the transition, the government began to localize these rules to fit the circumstances of Macao during the last five years. Macao replaced several old trade laws by Decree 66/95/m of December 1995, for example, which substantially liberalized the licensing of trade. As a free port, Macao does not have a trade control system mainly designed to raise public revenue through Customs duties or protect local industry, as do most other governments in Asia. Macao does have controls in order to fulfill its international trade obligations, such as agreements on textiles or intellectual property. Article 12 of the decree, however, allows the Governor to control imports, exports, and transits for "public interest," which covers strategic trade, such as radioactive items.

Macao Economic Services issued 126,350 export licenses in 1998, and 34,425 import licenses. The figures for 1999 are roughly comparable, with 78,487 export and 16,818 import licenses for the first six months. About thirty officers process about 600 licenses a day, primarily in relation to the textile trade. Macao began a pilot project for electronic licensing in September 1998, but Economic Services still handles the licenses by the time-honored use of paper forms.

Macao authorities maintain two lists, A and B, for the purposes of trade licensing. Items on List A require a license from Economic Services, while items on List B may need licenses from other units of the government (Economic Services must issue an International Import Certificate for items on List B nonetheless). Macao has not incorporated the lists directly into the legislation, but they are preparing more regulations that would include more nonproliferation items. Under its legal framework, the government must list the items specifically in order to control them.

At the five or six border control points, including the airport and the ferry terminal, the Marine Police check licenses and other documents for imports, exports, and transit trade. If a trader attempts to move the goods without the proper authority through the border points, the Economic Services Department can prosecute the case and impose penalties of up to 200 "days" (i.e., the maximum legal fine that can be charged per day, sometimes up to 100 percent of the items, recently increased in Decree Law 59/99/m to amend Decree Law 66) and require forfeiture of the goods. They can also suspend licenses or prohibit trade. If someone attempts to smuggle goods (i.e., moving items through a non-border control point), it becomes a criminal activity, prosecuted through the judiciary. If the item falls on Lists A or B, then the appropriate parties can face up to six months in prison, as well as forfeiture of the goods

and a 200 “day” fine.

Macao cooperates with U.S. end-use procedures, although this takes place outside government-to-government channels. There is no formal procedure for end-use checks in Macao, but they take place anyway. Allegedly, for example, when an individual brought the first CAD/CAM to Macao several years ago, the contract specified that U.S. officials could verify the end-use and end-user, which they did.

As with Hong Kong, Macao is not a member of the non-proliferation supplier arrangements as a colony, nor will it be as part of the PRC. Unlike officials in Hong Kong, however, the authorities in Macao have little contact with the suppliers groups or other export control bureaucracies. According to officials, for example, they have an English version of the Wassenaar list, but not one in Chinese or Portuguese that a new law would require. On a bilateral basis, the first direct contact from the U.S. consulate on strategic export controls allegedly took place in 1998, and the first team from the U.S. Bureau of Export Administration visited in January 1999. Japan has also provided some information, but it appears that no other members of the supplier regimes have given significant assistance to the authorities in Macao on these issues. Although officials in Macao have some contact with their counterparts in Hong Kong, for example, this has not flourished. Also, Macao has not participated in the Asian Export Control Seminar series sponsored by Australia, Japan, and the United States, even though delegations from virtually every government in East Asia, including Hong Kong and Taiwan, regularly attend. The PRC apparently sent one delegation to Macao about two years ago to discuss a variety of export control and trade issues, otherwise officials in Macao have had no similar contacts.

Overall, Macao has a vestigial system of controls on the export of items of proliferation concern. As long as Macao had no indigenous production of sensitive items and operated as a peripheral transit port under Portuguese control, this posed few problems for the nonproliferation community. The increasing integration of Macao into global markets, which will increase with the development of the new airport and its integration into the PRC economy, however, heightens the need for authorities in Macao and elsewhere to address the related export control concerns. Until now, the government in Macao has passively responded to this issue, but it appears willing to engage the United States and other governments about export controls to protect its economy and its autonomy in the post-transition era. ■

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NONPROLIFERATION EXPORT CONTROLS: LOOKING TOWARDS THE NEXT CENTURY Symposium Report¹

25 May 1999

Washington, DC

by Scott A. Jones

The Center for International Trade and Security (CITS) at the University of Georgia sponsored a one-day symposium on the future of U.S. and international non-proliferation export controls on May 25 in Washington, D.C. Discussants and attendees represented industry, government, media, and various research organizations. This report highlights presentations and subsequent discussions; it does not, however, attribute authorship, nor necessarily reflect the views of CITS staff. Following the symposium agenda, the report is divided into panel sections.

Panel I: Export Control in the United States

Apropos to recent events, the symposium was held on the day the Cox Report was released publicly. Given this context, the symposium was inevitably skewed to discussions on Sino-U.S. relations.

The Cox Report’s findings suggest that China stole nuclear weapons technology and acquired sensitive dual-use technologies via computer and satellite sales with U.S. companies – thereby intimating a failure of U.S. export controls. The Cox Report calls for an extended review period before high-performance computer and MPU (microprocessing units) exports to China are allowed. Consequently, members of Congress from both parties pressed for a pause in relations with China and a reversal of years of liberalized high-technology sales to Beijing, arguing that evidence of Chinese espionage undercuts the Clinton Administration policy of engagement, including current negotiations with China over its admission to the World Trade Organization.

Panelists indicated that the decision must be made as to whether the United States will run the risk of either stigmatizing China – and thereby create a self-fulfilling prophecy – or continuing to engage China, thereby increasing the likelihood of developing a battery of shared Sino-U.S. interests in trade, but also raising the potential of enhancing Chinese technological and military sophistication. Isolating China is simply not technically feasible. U.S. reliance on unilateral export controls damages precisely what these controls were initially erected to protect (viz., national security). In the absence of a post-COCOM consensus on nonproliferation means, unilateral technology controls may imperil U.S. high-tech advantage and U.S. manufacturers’ edge in global markets.

Some panelists argued that the damage done to U.S. high-technology exporters threatens to undermine U.S. national security insofar as the post-Cold War defense procurement and R&D capacities have shifted to the civilian sector. In other words, healthy U.S. high-tech exporters are precisely and in-

separably part of U.S. national security. Nevertheless, a balance must be struck between the seemingly discordant and frequently politicized poles characterizing the current debate over relations with China and the direction of U.S. export controls. The present legislative and philosophical dilemma – balancing engagement via continued and expanded trade with China whilst protecting national security – is exacerbated by and illustrated in the continued lack of a consensus over the Export Administration Act (EAA).²

The Export Administration Act has vestiges of the Cold War, a time when the makers of even widely available technologies were denied export licenses on the grounds that their products could aid the enemy. With the dissolution of the Soviet Union, the United States, Europe and Japan are relaxing their export controls and shifting their focus to concerns about the shipment of military-enabling technologies to so-called “rogue states.” In the United States, the Clinton Administration has unilaterally lifted several U.S. export restraints, and Congress has set out to rewrite the law, which expired in August 1994. However, despite years of debate, Congress has failed to pass a new version of the EAA that addresses today’s security threats.

The basic elements of the EAA have remained largely unchanged since 1979. Indeed, drafting a revision has turned into a protracted turf fight involving those intent on adapting policy to the end of the Cold War and those worried about sowing the seeds of the next hot one. On one side have been business leaders, many members of Congress and the Commerce Department, arguing that America’s too-tight controls on high-technologies inhibit the country’s ability to compete abroad. Arrayed against them are lawmakers and their allies in the executive branch who are more concerned about controlling the proliferation of militarily sensitive technologies, but also those that who want to use export controls for a host of foreign policy purposes (e.g., human rights).

As part of its work on renewing the EAA, the Subcommittee on International Finance and Trade, chaired by Sen. Mike Enzi (R-WY), which is part of the Senate Banking Committee, is focusing on gaps in export controls as a result of jurisdictional problems in the executive branch, examining the chain of command for export decisions, and seeking to balance U.S. commercial and security interests. The new EAA would include the following addenda:

- creation of a “mass market” office;³
- more enforcement, including a “best practices” program (e.g., BXA enforcement officers spending more time with freight forwarders);
- increased funding for post-shipment verifications;⁴ and
- extended penalties, such as \$500,000 per instance (civil) and up to \$1 million per instance (criminal).

If reform flounders, Congress must then decide whether to renew the act for another six to twelve months or to continue to control exports under the International Emergency Economic Powers Act (IEEPA), which was invoked when the Export

Administration Act lapsed. Commerce officials maintain that the IEEPA is deficient. For instance, the penalties for violation are, some argued, too lenient. Further, the Department of Commerce argues that IEEPA hinders its enforcement capacity. And, most important, government lawyers say that it is easier to challenge decisions under IEEPA.

Many business leaders maintain that current U.S. rules make little sense. Reformers contend that delays in obtaining export licenses – it can take months to get a permit in the United States, a matter of days in many competing countries – costs American firms tens of billions of dollars a year in lost business. Additionally, U.S. controls are ineffective insofar as they are often unilateral.

Effective multilateral controls require the following three components:

- 1) consensus on the means of control;
- 2) consensus on the destinations of control; and
- 3) consensus on a/the licensing policy.

Currently, the U.S. finds itself in the position of not sharing a consensus view on all three components with its partners. The lack of consensus therefore begs the question: of what use are strict U.S. controls if other states do not share a similar outlook? Further, what are the economic and security consequences of harming U.S. exporters by denying them the ability to compete globally?

Some panelists contended that a false dichotomy has emerged and polarized the current debate over the shape and substance of future U.S. export controls. The dichotomy reads that national security and economic interests are mutually exclusive. However, given the rapidly changing security and economic environment emerging from the end of the Cold War, such literalist and facile reductions serve only to minimize, and therefore limit, the scope of the debate. Divorcing security interests from economic interests (especially those related to high-technology exports) is simply not possible. Post-Cold War realities necessitate a broad view of how, for example, the U.S. military maintains a technological edge in the face of declining government procurement orders. Further, the dissolution of the Soviet Union was in no small part caused by the dissemination of ideas and technologies. By exporting high-technology to China, we increase the likelihood of a developed, modern China with shared interests in maintaining, for example, cordial relations with the U.S., so as to ensure market access. Yet in doing so, we run the risk of selling them the rope of our own undoing. Striking a new balance – a balance that incorporates an intimate understanding of the vast complexities of the rapidly changing global environment and the U.S. position therein – between security and economic interests, therefore, is seriously needed.

The Relationship between High-Technology Exports and National Security

Commemorating the 50th anniversary of GATT, President Clinton observed that the global economy was not a policy but a rudimentary fact of the 20th century, and will become even

more so as we move into the 21st century. This reality underlies U.S. national security policy. Accordingly, export controls should change to reflect these new military and economic circumstances.

Panelists agreed that the United States currently enjoys a significant military technological gap with the rest of the world. Further, new technology is needed to maintain this gap. As such, national security is a direct function of economic health. In the post-Cold War era, most U.S. technology advances emerge from the civilian sector. The civilian high-tech sector is dependent on exports in order to lead the rapidly advancing curve of technological innovation. Quite simply, the speed of technological change necessitates changing export control parameters. There are two additional reasons why export controls must change:

- 1) the ubiquity of technology; and
- 2) the shift from reliance on government-funded R&D to civilian R&D.

The ubiquity of high-tech goods (such as microprocessors) makes the execution of controls nearly impossible. The rapid pace of technological change has also reduced the time it takes for a product to go from an esoteric high-tech novelty to a mass-market commodity integrated into thousands of devices or processes. Similarly, barring U.S. exporters from international competition directly hinders the shift toward integrating more civilian R&D. For example, 50% of high-powered computers (HPCs) are exported. These are precisely the companies that are leading the technological advances previously relied upon by the military (through government procurement and support). The health of these companies is a function of their ability to export and compete internationally.

Some panelists noted that it is important not to lose sight of the nation's commercial interests. While maintaining a discerning eye towards national security, we should seek to decouple the sensitive issue of high-performance PC, server, and microprocessor exports, for example, from the political fallout surrounding the much-publicized security breaches at U.S. national labs and attempts to paint export control as a simplistic black-and-white issue.

Under current guidelines, computers destined for China or countries with similar export restrictions must receive special Department of Commerce authorization if they exceed 2,000 MTOPS (millions of theoretical operations per second). The problem, according to advocates of looser controls, is that the MTOPS threshold has not been updated by the government in five years, meaning that even commodity-class PCs will soon fall under the restrictions.

According to several panelist, limiting U.S. exports of commodity PCs and servers only forfeits the market to foreign competitors that face no such curbs. Some industry estimates indicate that as much as \$500 million in annual PC revenue might be at stake – not only in sales to China, but to Russia and other countries of the former Soviet Union. The industry fear now is that rather than softening restrictions, Congress

might try to push for more stringent controls, using the spy scandal as leverage to staunch the flow of high-tech exports to China. Some legislators have a history of trying to tighten the screws on exports, particularly to China and particularly during an election season.

The Intel Corp.'s new Pentium III Xeon processors, for example, will put high-end servers into the "supercomputer" category, triggering export restraints and creating problems for U.S. server makers looking to sell the systems overseas. And next year, Intel's 800-MHz Pentium III will throw desktop PCs into the supercomputer control category as well. U.S. export controls put domestic PC makers at a competitive disadvantage against foreign rivals able to sell leading-edge Intel-based PCs without constraint. U.S. companies must seek export licenses to sell supercomputer-rated PCs abroad, causing costly paperwork and delays that foreign competitors do not face. The blitz speed of PC technology has now exceeded the control limit of 2,000 MTOPS for requiring export licenses to certain countries, including China, India, Pakistan, Russia, and many states of the former Soviet Union. All multiprocessor Pentium III Xeon servers will exceed this threshold. The sheer volume of PC export applications will swamp the government export-control office, causing the system to collapse. U.S. export-control authorities last year processed about 300 supercomputer license applications. Pentium III requests could number in the tens of thousands. The 500-MHz Pentium III processor is rated at less than 2,000 MTOP, but the 800-MHz version slated for release early next year will exceed the control threshold. That means every desktop PC with this processor is subject to export controls. Moreover, multiprocessor versions of the 800-MHz Pentium III chip would reach 12,000 MTOPS, extending export curbs on servers to the rest of the world except for Western and allied nations. Congress set the 2,000-MTOPS limit years ago, when only mainframe supercomputers were at this level. But the PC industry has advanced so rapidly that it has crashed right through the limit and will continue to move higher every year.

Panelists agreed that what is needed is an approach to international interactions in the space, computer, and other high-tech areas that better balances commercial, national security, and foreign policy interests. The past two administrations have recognized that the Cold War is indeed over, and that U.S. security in the world is as much, if not more, dependent on the strength of its economy as on its temporary monopoly in areas of security-related technology. They therefore have been more willing to loosen Cold War controls over technology transfer and the commercial use of sensitive technology in order to help U.S. industry establish or maintain the leading position in exponentially growing areas of high-tech commerce.

Crafting a more sophisticated approach to balancing the "merchant" and "guardian" approaches to international high-tech commerce may be impossible in the heat of national election campaigns. The issue – one that combines national economic and national security – is too important to allow to floun-

der as a campaign or partisan issue. New ways must be developed for addressing the country's security concerns while allowing U.S. high-tech companies to continue to sell products abroad.

Panel II: Export Controls Abroad - Russia, China and Other Supplier States⁵

The above section discussed the direction of export controls and technology transfer policy in the United States. As important, however, if not more important, is the willingness of other countries (especially important supplier countries Japan, Germany, Russia, France, China and others) to adopt systems of export controls that are effective and that meet international standards. If other states do not regulate and monitor trade, it does not matter how rock-solid the U.S. system is because, rogue states and others seeking weapons of mass destruction can often times find technology that will meet their objectives from suppliers elsewhere.

China

The People's Republic of China (PRC) nonproliferation export controls continue to become more compatible with emerging multilateral standards, especially in the area of nuclear export controls. The PRC, for example, has adopted new export control regulations regarding nuclear and military items, has become more transparent regarding export control policies and practices, and has agreed on a mechanism to settle a long-standing issue with the United States on post-shipment verification.

The PRC has become more willing to adopt policies that impose real costs on its enterprises in order to meet its international nonproliferation commitments. In recent years, the PRC has moved beyond the symbolic acts of treaty ratification to implement its nonproliferation obligations. It has, among other actions, halted sales of some sensitive items, imposed new systems of licensing with considerable administrative costs, and placed its military industries under more civilian control.

Despite increases in commitment and compatibility, considerable divergence between the current PRC system of nonproliferation export controls and emerging multilateral standards remain, posing serious consequences for the effectiveness of multilateral export control arrangements.

China has done more to tighten nuclear exports than missile-related transfers. Chinese compliance in the nuclear export realm stems from bargains struck with the United States. However, China appears to view the MTCR with a high degree of suspicion.

Several opportunities exist for cooperative programs that would enhance the compatibility of PRC export controls. Training programs for customs, licensing and other officials, seminars for enterprises producing dual-use items, and joint verification and enforcement projects would improve compatibility and policy coordination between the PRC, Japan, the United States and other interested parties.

Russia and the FSU

Most of the states of the FSU, aside from Russia, Ukraine and Belarus have done little to establish nonproliferation export control systems. To some extent, this reflects the fact that these are new states with more pressing economic and security issues. Nonetheless, inadequate controls is a source of concern because the states of Central Asia and the Caucasus could serve as key transit points for weapons and technology in route to Iran, India, Pakistan and other sensitive states.

Russia, Ukraine, Belarus and Kazakhstan (nuclear four) have developed many of the elements essential for effective export controls because of assistance and incentives provided by the United States. The U.S. Departments of Commerce, Defense, Energy, State, and the Customs Service provided critical technical assistance to these states. However, compliance with export control standards is problematic for these new governments as they lack the resources (personnel and financial) to enforce export control provisions. Widespread corruption and cash-starved enterprises in these states further undermines efforts to implement effective controls on dual-use technology trade.

The Russian government has made significant progress in developing a system of export control that is compatible with Western standards. All of the key elements and structures for an effective system are in place. Despite these notable accomplishments, however, Russia's "commitment" to nonproliferation is not necessarily motivated by security concerns. Instead, we find that Russia's decision to join export control regimes (i.e., the Missile Technology Control Regime) was in many ways motivated by a desire to enjoy the trade benefits that stem from membership. Moreover, Russia does not share the desire of the United States and some other countries to sanction "rogue states." As a result, the United States must frequently rely upon coercive diplomacy in an effort to discourage Russia from selling nuclear and missile technologies to states such as Iran and India. To the extent that key supplier states do not share common security outlooks, export control and other supply-side nonproliferation efforts will be undermined.

The behavior of Russian officials also suggests that in some cases the Russian government expends more effort attempting to convince the West that it has an export control system than it does in actually implementing the system. Initially, Russian efforts to put the "bells and whistles" of an export control system in place were aimed at having the West lift Cold War trade restrictions that remained in place. Now the focus of the Russian government is on assuring the United States that Russian companies are not aiding Iran's missile programs and that the Russian government is doing everything possible to prevent illegal transfers. The Russian Space Agency is especially concerned that bilateral cooperation on the space station could be jeopardized as a result of enterprises under its supervision transferring missile technology. The politicization of export control in U.S.-Russian relations has now led Russia's Security

Council to enter the picture as a new player. While some Russian government agencies seem genuinely intent on clamping down on these ties with Iran, other Russian agencies favor loose controls and continued technology sales to Iran.

In addition to the problem of a divided Russian government working towards competing ends, the central government is in many ways too weak to exercise control over enterprises, especially those outside of Moscow. Russian authorities insist that the recalcitrance of regional leaders who refuse to pay taxes to the federal government has not manifested itself in the area of foreign trade. Nonetheless, Russia's fragmentation threatens to undermine efforts to implement export control. Enterprise managers in the regions that fail to win approval for sensitive foreign contracts in Moscow are likely to have better success when approaching regional elites (many with ties to organized crime). Corruption at all levels also threatens to undermine export control efforts. Customs officials and licensing officers are the principal targets of exporters and their supporters.

The recent economic meltdown in Russia also threatens to undermine Western attempts to tighten controls over nuclear materials and other sensitive technologies. Russian enterprises will resist government trade restrictions when exports are necessary for survival. If they are unable to find official support for foreign contracts, enterprise directors will by-pass controls in order to earn hard currency.

The primary rationale for Russia to control weapons and technology exports will remain U.S. incentives and threats. The United States will need to use the promise of assistance and increased technology trade as carrots and trade sanctions as "sticks" in order to deter Russia from trade with states of proliferation concern. If the United States turns its attention away from the problem, one is likely to see a significant increase in the amount of arms and weapons-technology trade between Russian companies and states of proliferation concern.

Panel III: Enhancing the Effectiveness of the Export Control Regimes

The two preceding panels focused on the impact of the changing geopolitical environment on security perceptions from the national level. The concluding section explored how globalization affects multilateral export control regimes.

The rapid pace of globalization (the technologically-driven integration and interdependence of trade, states, and identities) has greatly problematized the idea and practice of sovereignty-based technology controls. This national dilemma is amplified at the regime level. The current regimes – Missile Technology Control Regime (MTCR), Nuclear Suppliers' Group, Australia Group, and the Wassenaar Arrangement – suffer from a lack of consensus regarding who and what to target (i.e., the supply-side dilemma in the absence of a uniformly identified threat).

Panelist agreed that the nonproliferation regimes continue

to be undermined by limited transparency, inadequate information exchange, the conceptual ambiguity over country or program controls, and limited enforcement capabilities. Member states frequently disagree on what constitutes a violation and how to respond to alleged violations. The United States has given limited attention to addressing these shortcomings. Even with sustained attention and leadership, the United States would likely face resistance to some initiatives to strengthen these regimes. In addition to the internal problems facing the regimes, non-aligned countries have called into question the legitimacy of the regimes arguing that they are instruments of wealthy countries used for political and economic gain.

Some panelists suggested that the United States reorient export control regimes from a "technology denial" orientation to "monitoring" regimes. While end-user verification and monitoring regimes may seem cumbersome, some panelists noted that the current system is inefficient and outmoded. Moreover, greater transparency surrounding technology transfer and end-use may be the best achievable aim given the inability of the United States to build a consensus on the states that present a threat to international security. Some attempts are being made to create more transparent regimes. For example, the Nuclear Suppliers Group has a network for sharing information on end-users and denials. Unfortunately, some regime members fear sharing information believing that it could be used for commercial advantage. Russia, France and others have balked at efforts to create greater transparency in the Wassenaar Arrangement. As a result, the Wassenaar Arrangement currently amounts to little more than a willingness of states to share information post-facto.

With the exception of the MTCR, most of the export control regimes work to limit proliferation in conjunction with related treaties (NPT, CWC). The Australia Group could fade if the CWC is adequately implemented. However, as long as the CWC faces major obstacles, countries will continue to rely upon the Australia Group.

Conclusion

The following themes were routinely discussed throughout the symposium:

- Export controls are of increasing importance as we enter the 21st century;
- The U.S. must move away from a Cold War worldview in its economic and security policies and practices. Most notably, the U.S. must avoid unilateralism in its foreign policy;
- The U.S. should take a balanced and, to the extent possible, depoliticized approach in its reappraisal and reformulation of its China policy in light of recent events;
- The false dichotomy of mutual exclusion between economic and security interests must be removed so substantive discussion can inform the current debate over the shape and direction of U.S. export control policy;
- Sanctions, as a tool of nonproliferation, are a "double-edged sword" and should be clear in their means and objec-

tives;

- The U.S. should continue to encourage and assist in the development of strong export control systems in other supplier states;

- Greater attention should be given to enhancing the multi-lateral export control regimes. This entails the need to create greater transparency surrounding technology transfer, more formalized rules, and mechanisms to enforce those rules. Most importantly, a consensus must be built on the nature of the proliferation threat;

- The U.S. should encourage more government/business/academic partnering to develop more effective global security policies for the 21st century;

- U.S. leadership is crucial and fundamental to the overall international nonproliferation effort.

Notes:

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² The 1979 EAA has been amended in 1985 and 1988.

³ This office would assess the foreign availability of items and technologies.

⁴ For example, there is currently only one verifications of-ficer for the whole of China.

⁵ For a comparative evaluation of FSU, Chinese, and select national export control systems, see *Global Evaluations of Nonproliferation Export Controls: 1999 Report* (Athens: Center for International Trade and Security/University of Georgia). ■

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From p. 30: Seema Gahlaut is CITS Senior Research Associate and Assistant Director of the South Asia Project.

A LETTER FROM RUSSIA

THE ROLE OF THE RUSSIAN FEDERAL NUCLEAR CENTER'S SCIENTIFIC RESEARCH INSTITUTE OF TECHNICAL PHYSICS (RFNC-VNIITF) IN RUSSIA'S NUCLEAR EXPORT CONTROLS

by Mikhail Novikov and Vadim Ptashny

The RFNC-VNIITF was founded by a USSR Council of Ministers Decree of July 31, 1954. At that time the institute was known by its code name – scientific research institute #101 1. In 1989 it was renamed the All-Union Scientific Research Institute of Technical Physics, obtaining the status of Russian Federal Nuclear Center in 1992. On January 1, 1999 the Institute was renamed for Academician E.I. Zababakhin -- a distinguished scientist who was the Chief Scientist of the Institute for a quarter of century. At least half of currently operational nuclear munitions of the Russian army were developed during his tenure.

The Institute was founded in the Urals as an alternative to the first Soviet Nuclear Weapon Center - Design Bureau #11 (now known as the RFNC-VNIIEF, in Sarov) to prepare for a possible military confrontation with the USA as well as to accelerate nuclear weapon developments.

The Institute made a major contribution toward maintaining the USSR's nuclear parity with the U.S.. As of the mid-1990s, the nuclear munitions developed at the VNIITF constituted 70% of the operational rigging of nuclear weapon complexes. Some lines of nuclear-weapon developments, such as navy strategic complexes, cruise missiles, aerial bombs, and projectiles were almost exclusively developed at the Institute. Under current economic conditions, with the advent of cuts in nuclear weapons developments, the basic problems facing the Institute have changed. The maintenance of a nuclear reserve ammunition operational capability, its reliability and safety as well as other technical and management tasks, have become of prime importance.

The problems of nuclear weapons nonproliferation are of great concern now both in Russia and beyond. Despite the problems associated with the economic situation the Snezhinsk Institute does not ignore the issue of nonproliferation. In the present world facing real threats of nuclear terrorism, the VNIITF Administration, together with Minatom, directs a part of their scientific-technical potential to research and development on preventing the threat of nuclear weapons proliferation.

The following are examples of the type of activities undertaken by the VNIITF:

- work on nuclear materials protection, control and accountability;
- work on refining techniques for detecting unauthorized transactions in fissile materials (non-intrusive control);
- verification of compliance with the obligations of the

Comprehensive Test Ban Treaty (CTBT verification);

- research on transparency in nuclear weapon dismantling;
- activities relating to nonproliferation export controls.

The Institute has only recently started working on the issue of export controls. In November 1996, at meetings with U.S. experts in Washington and Oak Ridge, specialists of the Institute first became aware of the problem of export controls. Currently, the RFNC-VNIITF is at the forefront of this issue among organizations of the Russian nuclear-weapon complex.

An important factor here is that Minatom has entrusted the Institution with matters relating to nuclear export controls. In February 1998, the Branch Expert-Methodical Nuclear Export Control Laboratory (BNECL) with a wide range of tasks in this area was founded within the VNIITF. A second laboratory was founded in the State Research Center of Russian Federation – the Institute of Physics and Power Engineering (SRCRF-IPPE, in Obninsk).

The BNECL VNIITF is responsible for the export control system of Minatom and Russia. This covers the technologies, equipment and materials applicable for:

- computational-theoretical design development of nuclear explosive devices (NED);
- tooling of some special, including non-nuclear, materials;
- production of NED components and their assembly;
- NED laboratory and pilot testing;
- development of equipment for nuclear munitions testing (NMN).

Thus, all stages of NMN development, testing, and production included in the term “weaponization” are within the sphere of VNIITF’s specialist responsibility. These problems are directly referred to the Institute’s specialists.

Institute specialists engaged in nuclear export control define the main goal of their activity as the following:

“to prevent the export from Russia of any equipment, material, or technology potentially of use in nuclear explosive device production, supply, testing or improvement, if the probability that the exported commodity will be used for such purposes by the importing country is considered high.”

The main functions performed by the laboratory are as follows:

- Providing technical expertise for license inquiries and contract projects submitted by Minatom’s Department of International Relations.
- The formation of networks of scientific-technical experts in Minatom’s leading scientific centers.
- Training in export control at all levels, including the preparation of tutorials on nuclear export controls for various categories of technical and non-technical specialists.
- Providing information on nuclear export activities on the basis of an export controls computer net (ExConNet) being developed.

The laboratory also undertakes research activity in the sphere of nuclear export control in a number of areas.

Specialists of the VNIITF’s basic departments - theoretical, gas-dynamic, technology, physico-mathematical, experimental physics, and design – also conduct research. VNIITF specialists cooperate with non-proliferation specialists at Livermore, Oak Ridge and Los Alamos National Laboratories. Lawrence Livermore National Laboratory, which entered into a “lab-to-lab” contract with VNIITF, is an active VNIITF partner in nuclear export control.

So, what BNECL have specialists achieved in the first year of the laboratory’s existence in cooperation with VNIITF experts?

- The International Workshop on Export Control in Minatom was held in Snezhinsk (October 1998).

- The Institute organized export control training workshops at Minatom enterprises in the Uralian-Siberian region.

- Contacts with the State Customs Committee of the Russian Federation within the framework of the Russian-American program “second line of defense” were made. The objective is to prepare training materials on nuclear export control for customs officers as well as joint expert activity.

- A tutorial on export controls for specialists at Minatom enterprises was prepared and submitted for approval to Minatom.

- The plan-prospectus for a tutorial on export controls for non-technical specialists was prepared. The tutorial is now being prepared for publication.

- Internal modernization is currently being carried out at the RFNC-VNIITF with direct BNECL participation.

Plans for future activities include:

- Holding workshops of two types:
- Workshops for familiarizing participants with export control problems, and imparting initial knowledge in this area.
- Workshops focused on the principles and norms of export controls for specialists of enterprise export services.
- Participation in the creation of professional databases.
- Creation of BNECL Web page on the Internet.
- Widening cooperation with international organizations concerned with nonproliferation problems.
- Participation in organizing a working group of specialists from Russia, Ukraine, Kazakhstan and the U.S. on export control problems in the republics of the former Soviet Union.

Throughout its more than forty years of its existence, the Institute has won worldwide recognition. Its reputation will continue to improve as a consequence of its participation in international and domestic activities relating to nuclear export controls. ■

■ Mikhail Novikov and Vadim Ptashny are researchers at the RFNC-VNIITF.

BOOKNOTES

DISTINGUISHING BETWEEN HINDUISM AND INDIANISM

[Review of *Indutva* by M. D. Nalapat (New Delhi: Har-Anand Publications, 1999), 296 p., ISBN 81-241-0575-8]

by Seema Gahlaut

The title of the book, *Indutva*, is a play on the word Hindutva (literally, Hindu-ness) that has become widespread in the Indian political lexicon since the rise of the right-wing Bharatiya Janata Party (BJP) in domestic politics. The ideology of Hindutva is associated with the unapologetic establishment of a modern Indian state that accepts the Hindu ethos of Indian nationalism. The argument is strongly reminiscent of the current debate in the United States that recommends re-energizing the Christian principles of the Founding Fathers and rejecting the ‘vacuous amorality’ of liberal ideology. There are many points in the Hindutva ideology of exclusivist nationalism which trouble domestic and international observers. *Indutva*, on the other hand, reflects the emphasis on ‘secular’ nationalism that thinks in terms of Indian-ness. It is distinct not only from religious mobilization of Hindutva, but also from the notions of state, nation, and secularism transplanted in toto from the Western tradition. The author is qualified to speak on these topics: he is a long-time observer of Indian politics and a distinguished journalist from the southern Indian state of Kerala. He was the Contributing Editor of the *Times of India* until this summer. He is currently a Professor of Geopolitics at Manipal Academy of Higher Education (MAHE), a private university in southern India.

The book is a collection of articles written by the author during the past few years, covering a range of issues in Indian domestic politics and foreign policy. Most of the pieces reflect the current controversies and shenanigans of the powers-that-be as well as the contenders and the pretenders to the political throne in New Delhi. Students of Indian politics would find snapshots of national politics at specific points of time, but for the uninitiated, the lack of reference to dates when these pieces were written will limit effective usage in scholarly analysis. Mr. Nalapat writes with complete candor, is not afraid to take a stand, and is refreshingly declaratory in his expression of both appreciation and criticism. The style, moreover, is unusual by Western standards, in that it represents a stream of consciousness approach. The literature-oriented readers will find several similarities in Mr. Nalapat’s style to the genre of South Asian writers in English, where random, non-linear observations of the past and the present are linked together in a web of explanation for enduring phenomena.

The most interesting aspect of the book, however, is not in the particulars, but in the overall picture of India, as it appears to the newly invigorated conservative ideologues. For almost forty years since Indian independence, one-party dominance

ensured that domestic economic, political, and foreign policy debate hovered between the center and left of center on the political spectrum. In a country so diverse, populous, and politically mobilized, it was an amazing achievement for one party (the Congress). As a representative of a non-Congress alternative, Mr. Nalapat discusses the need for reforms in several spheres, all of which would have lasting impact on the institutional architecture of Indian politics and policymaking. As an equal opportunity critic, the author recommends reforms in numerous institutions. Examples include public hearings before judicial appointments, time-limits for judicial decisions, more autonomy to states in taking economic decisions for growth and re-distribution, more federalism within national parties, and more operational autonomy to investigative bodies such as the Central Bureau of Investigation and administrative tribunals.

Introducing US-style ‘primaries’ to elect (rather than nominate) party-candidates is one such recommendation that finds its way in several pieces. It may not appear revolutionary to outsiders. Yet, surveyors of the Indian political scene will appreciate the full import of this suggestion if they know that other than the communist parties and the BJP, no political party has even made a pretense of giving its rank-and-file a voice in the nomination process.

The most interesting arguments in the writings, however, relate to India’s relations with the United States, and the role of China and Pakistan in influencing its contours. The tone is generally critical of the United States, in that it has chosen to turn a blind eye towards the activities of these two countries, especially as they impinge on Indian security interests in the region. A common thread running through several chapters is the argument that the growing, and almost unchecked, role of transnational terrorist networks supported by Pakistan and Saudi Arabia, is likely to cause more regional instability and threats to security than any nuclear or conventional weapons. He recommends that India and the United States find common ground in dealing with this growing threat, because India has several decades of expertise in fighting such forces in an environment that is unfamiliar to the United States. Readers will find his thoughts on India’s policy towards Pakistan and China somewhat different from what might be expected from a right-wing thinker. The most noteworthy observations reflect the growing understanding of government, politics, and policy in the United States. However, these remain enmeshed in long and near-polemical arguments about the nature of US policy in South Asia. One wishes that the author had taken some time to gather some of the chapters under themes, and arranged the pieces chronologically. This would have allowed the readers to get a sense of the evolution of his thinking on particular themes. Perhaps the next effort by Mr. Nalapat will explore these important themes, and produce it with an eye towards educating the uninitiated. ■

(see p. 28 for author info)

DOCUMENTS

FEDERAL LAW ON EXPORT CONTROL

passed by the Russian Federation State Duma on 22 June and approved by the Federation Council on 2 July, 1999

This Federal Law establishes the principles of state policy and the legal bases of the actions of government agencies of the Russian Federation in the sphere of export control and defines the rights, obligations, and responsibility of participants in foreign economic activity.

CHAPTER I. GENERAL PROVISIONS

Article 1. Basic Terminology

The following basic terminology will be used for the purposes of this Federal Law:

- foreign economic activity—foreign trade, investment, and other activity, including cooperative production, in the international exchange of goods, information, work, services, and the results of intellectual activity, including the exclusive rights to them (intellectual property); export control—the group of measures securing the procedures established by this Federal Law and by other federal laws and regulatory legal instruments of the Russian Federation for foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment;
- internal compliance export control program—organizational, administrative, informational, and other measures taken by organizations for compliance with export control standards;
- weapons of mass destruction—nuclear, chemical, bacteriological (biological), and toxic weapons;
- delivery systems—missiles and unmanned aircraft capable of delivering weapons of mass destruction;
- controlled goods and technologies—crude resources, materials, equipment, scientific and technical information, work, services, and the results of intellectual activity that could, by virtue of their distinctive features and properties contribute substantially to the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment;
- Russian participants in foreign economic activity (Russian parties)—legal entities established in accordance with laws of the Russian Federation and located permanently within the territory of the Russian Federation, as well as individual businessmen registered within the territory of the Russian Federation according to the procedure established by laws of the Russian Federation, and physical persons with a permanent or primary place of residence within the territory of the Russian Federation, authorized to conduct foreign economic activity in accordance with laws of the Russian Federation;

- foreign parties—legal entities and organizations of any other legal organizational form with civil legal standing defined by the laws of the foreign state in which they were established; physical persons with civil legal standing and civil legal capacity defined by the laws of the foreign state of which they are citizens, and stateless individuals with civil legal standing defined by the laws of the foreign state in which these parties have a permanent place of residence.

Article 2. Application of this Federal Law

This Federal Law will regulate relations between government agencies of the Russian Federation and Russian participants in foreign economic activity during export control operations.

This Federal Law will apply to foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment subject to export control for the purposes specified in this Federal Law. The export control of weapons and military equipment, as well as information, work, services, and the results of intellectual activity, including the exclusive rights to them (intellectual property), that are products for military use will be conducted in accordance with laws of the Russian Federation in the sphere of military-technical cooperation.

Article 3. Russian Federation Legislation in the Area of Export Control

Legislation of the Russian Federation in the sphere of export control will be based on the Constitution of the Russian Federation and will consist of this Federal Law, other federal laws, and other regulatory legal instruments of the Russian Federation adopted in accordance with those laws.

All aspects of export control operations will be under the exclusive jurisdiction of the Russian Federation.

Article 4. Purposes of Export Control

The principal purposes of export control are the following:

- the protection of the interests of the Russian Federation; the satisfaction of the requirements of international treaties of the Russian Federation pertaining to the non-proliferation of weapons of mass destruction and their delivery systems and to the control of exports of military and dual-use products;
- the creation of the necessary conditions for the integration of the Russian Federation economy into the world economy.

Article 5. Principles of State Policy in the Area of Export Control

1. The state policy the Russian Federation conducts in the sphere of export control will be part of the domestic and foreign policy of the Russian Federation and will be conducted

exclusively for the purpose of safeguarding the security of the state and its political, economic, and military interests.

2. State policy in the sphere of export control will be based on the following fundamental principles:

- the conscientious observance of the Russian Federation's international obligations pertaining to the non-proliferation of weapons of mass destruction and their delivery systems and to the control of exports of military and dual-use products;
- the legality, openness, and accessibility of export control information; the primacy of state security interests;
- the performance of export control operations only to the degree necessary for the attainment of its goals;
- the unity of the customs territory of the Russian Federation; the consistency of export control procedures and standards with common international standards and practices; interaction with international organizations and foreign states in the sphere of export control for the purpose of strengthening international security and stability and preventing the proliferation of weapons of mass destruction and their delivery systems.

Article 6. Records (Lists) of Controlled Goods and Technologies

Records (lists) of controlled goods and technologies will be approved by edicts of the President of the Russian Federation at the request of the Government of the Russian Federation. The Russian Federation presidential edicts approving records (lists) of controlled goods and technologies will enter into force no earlier than three months after the date of their official publication.

Records (lists) of controlled goods and technologies will be compiled by federal agencies of the executive branch of government with the help of representatives of the Federal Assembly of the Russian Federation, industrial and scientific organizations, and their associations and unions.

Article 7. Methods of Conducting Export Control

Export control in the Russian Federation will be conducted by means of the legal regulation of foreign economic activity, including the following: the identification of controlled goods and technologies—i.e., the establishment of the correspondence of specific crude resources, materials, equipment, scientific and technical information, work, services, and the results of intellectual activity representing the objects of foreign economic operations to the goods and technologies included in the records (lists) specified in Article 6 of this Federal Law; authorization procedures for foreign economic operations with controlled goods and technologies envisaging licensing or some other form of state regulation; customs inspections and the customs clearance of controlled goods and technologies taken out of the Russian Federation in accordance with laws of the Russian Federation on customs; currency control in foreign economic operations with goods, information, work, services, and the results of intellectual activity, including the verifica-

tion of timely and complete deposits of hard currency receipts in accounts in authorized banks of the Russian Federation; the application of state constraints (sanctions) against parties violating the procedures specified in this Federal Law, other federal laws, and other regulatory legal instruments of the Russian Federation in foreign economic operations with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment, or attempting to commit these acts.

CHAPTER II. LEGAL BASES OF ORGANIZATION OF EXPORT CONTROL

Article 8. Powers of RF President and RF Government in the Area of Export Control

The President of the Russian Federation shall:

- define the basic guidelines of state policy in the sphere of export control;
- secure the coordinated functioning and interaction of government agencies of the Russian Federation in the sphere of export control; approve records (lists) of controlled goods and technologies.

The Government of the Russian Federation shall:

- organize the implementation of state policy in the sphere of export control, including compliance with international export control standards; define the procedures of foreign economic operations with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment, on the basis of and pursuant to this Federal Law, other federal laws, and presidential edicts of the Russian Federation; make decisions within the confines of its authority on the negotiation and endorsement of international agreements of the Russian Federation in the sphere of export control;
- exercise other powers in the sphere of export control on the basis of the Constitution of the Russian Federation, federal constitutional laws, federal laws, and presidential edicts of the Russian Federation.

Article 9. Interagency Export Control Coordinating Body

An interagency export control coordinating body will be established to secure the implementation of state policy in the sphere of export control, including compliance with international export control standards, and coordinate the activities of federal agencies of the executive branch of government and oversee organizational-procedural work pertaining to export control in the Russian Federation.

The Statute on the Interagency Export Control Coordinating Body and its staff will be approved by the President of the Russian Federation.

Members of the Federal Assembly of the Russian Federa-

tion may attend meetings of the interagency export control coordinating body.

Article 10. Powers of Federal Agencies of Executive Branch in the Area of Export Control

Federal agencies of the executive branch of government will secure the implementation of this Federal Law, edicts and directives of the President of the Russian Federation, decrees and directives of the Government of the Russian Federation, and the international commitments of the Russian Federation in the area of export control in accordance with the powers conferred on them by laws of the Russian Federation.

Article 11. Special Authorized Federal Executive Body in the Area of Export

A special authorized federal agency of the executive branch in the sphere of export control, chosen by the Government of the Russian Federation, will be responsible for the implementation of state policy and the functional regulation and organization of interdepartmental interaction in the sphere of export control in the Russian Federation. The special authorized federal agency of the executive branch in the sphere of export control will be a currency control agency. The powers of this federal agency of the executive branch of government in the sphere of currency control will be defined by the Government of the Russian Federation.

Proposals submitted by federal agencies of the executive branch of government pertaining to export control and submitted to the Government of the Russian Federation for consideration will be subject to the approval of the special authorized federal agency of the executive branch in the sphere of export control.

The special authorized federal agency of the executive branch in the sphere of export control will organize the work of notifying Russian participants in foreign economic activity of the purposes, procedures, and standards of export control in conjunction with other federal agencies of the executive branch of government.

Article 12. Regulatory Legal Instruments of Federal Executive Agencies in Export Control Sphere

Federal agencies of the executive branch of government may publish regulatory legal instruments pertaining to export control within the confines of their authority on the basis of and pursuant to this Federal Law, other federal laws, edicts of the President of the Russian Federation, and decrees of the Government of the Russian Federation.

The regulatory legal instruments published by federal agencies of the executive branch of government must be registered according to the procedure established by laws of the Russian Federation.

Article 13. Right of Access to Information

Federal agencies of the legislative branch and federal agen-

cies of the executive branch of government exercising powers in the sphere of export control will be entitled to request and receive documents and information required for the purposes of export control.

Article 14. Obligations of Participants in Foreign Economic Activity to Furnish Information for Export Control Purposes

Russian participants in foreign economic activity must furnish federal agencies of the executive branch of government exercising powers in the sphere of export control with documents, written and oral explanations, and other information required for the performance of the agencies' duties and functions envisaged in this Federal Law and other regulatory legal instruments of the Russian Federation in the sphere of export control at the request of those agencies.

Russian participants in foreign economic activity will be responsible for the accuracy of information presented for export control purposes to federal agencies of the executive branch of government exercising powers in the sphere of export control.

Article 15. Obligations of Federal Executive Agencies with Regard to Furnished Information

Information provided to federal agencies of the executive branch of government exercising powers in the sphere of export control by participants in foreign economic activity in accordance with this Federal Law and other regulatory legal instruments of the Russian Federation in the sphere of export control will be used exclusively for the purposes of export control.

Information constituting state or commercial secrets or other secrets protected by law and confidential information must not be published, used by officials of those agencies for their own purposes, or transmitted to third parties, except in the cases envisaged in laws of the Russian Federation.

Article 16. Internal Compliance Export Control Programs for Organizations

Federal agencies of the executive branch of government will assist organizations in the development of internal compliance export control programs and give them the necessary informational and procedural assistance for the purpose of securing compliance with the procedures specified in this Federal Law, other federal laws, and other regulatory legal instruments of the Russian Federation in foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment.

Internal compliance export control programs will be mandatory for organizations conducting scientific and (or) production activity for the satisfaction of federal state needs in connection with the maintenance of the defensive capabilities

and security of the Russian Federation and regularly earning income from foreign economic operations with controlled goods and technologies.

The special authorized federal agency of the executive branch in the sphere of export control will set up a system for the official certification of organizations with internal compliance export control programs and issue official state certificates to them in accordance with laws of the Russian Federation.

The procedures for the official certification of organizations with internal compliance export control programs will be defined by the Government of the Russian Federation.

Article 17. Audits of Financial and Economic Activity

The special authorized federal agency of the executive branch in the sphere of export control will be entitled to order or conduct audits, within the confines of its authority, of the financial and economic activity of parties conducting foreign economic operations with goods, information, work, services, and the results of intellectual activity for the purpose of securing compliance with laws of the Russian Federation in the sphere of export control if there is reason to suspect non-compliance or only partial compliance with these laws.

During audits of financial and economic activity, the officials of the special authorized federal agency of the executive branch in the sphere of export control will be entitled to do the following: demand the free submission of any documents (including bank and customs documents) and information these officials require for the performance of their duties, and examine these documents and information; request reports and written and oral explanations from the parties whose financial and economic activity is being audited; request documents that could serve as evidence of the violation of laws of the Russian Federation in the sphere of export control; compile reports (protocols) of the results of audits, listing the specific violations;

issue orders obligating the parties whose financial and economic activity is being audited to correct discovered violations, and also set the deadlines for the correction of the violations; exercise other powers specified in laws of the Russian Federation. The actions of officials of the special authorized federal agency of the executive branch in the sphere of export control during audits of financial and economic activity must not inflict irreparable damage on the parties whose financial and economic activity is being audited. Information collected during these audits will be confidential and will be covered by Article 15 of this Federal Law.

CHAPTER III. REGULATION OF FOREIGN ECONOMIC ACTIVITY WITH GOODS, INFORMATION, WORK, SERVICES, AND RESULTS OF INTELLECTUAL ACTIVITY THAT COULD BE USED IN DEVELOPMENT OF WEAPONS OF MASS DESTRUCTION, THEIR DELIVERY SYSTEMS, AND OTHER TYPES

OF WEAPONS AND MILITARY EQUIPMENT

Article 18. Requirements for Foreign Economic Transactions with Controlled Goods and Technologies

Foreign economic transactions envisaging the transfer of controlled goods and technologies to a foreign party will require the foreign party's written promise that the goods and technologies will not be used in the development of weapons of mass destruction and their delivery systems. The Government of the Russian Federation will be entitled to set additional requirements for the terms of foreign economic transactions with controlled goods and technologies, including the right to verify the proper use, in accordance with assumed commitments, of the goods and technologies received by the foreign party in the transaction.

Article 19. Licensing of Foreign Economic Operations with Controlled Goods and Technologies

Foreign economic operations envisaging the transfer of controlled goods and technologies to a foreign party will require a license.

Licenses for foreign economic operations with controlled goods and technologies envisaging their transfer to a foreign party will be issued by the federal agency of the executive branch of government specified in the fourth paragraph of Article 12 of the Federal Law "On the State Regulation of Foreign Trade Operations."

General licenses—i.e., licenses specifying the quantity of goods without identifying the specific users—may be issued for the export of certain types of controlled goods and technologies to foreign states adhering, in their domestic and foreign policy, to the common principles and standards of international law in the sphere of the non-proliferation of weapons of mass destruction and their delivery systems. The list of foreign states and types of controlled goods for which general export licenses can be issued will be compiled by the Government of the Russian Federation. A general license may be issued only to a Russian legal entity with an internal compliance export control program and the official state certificate specified in Article 16 of this Federal Law, obtained according to the established procedure.

Controlled goods and technologies taken out of the Russian Federation without being transferred to a foreign party, particularly for display in exhibits or for personal use, will not require a license on the condition that the goods and technologies will remain under the direct control of the Russian party taking them out of the Russian Federation and will be returned to the Russian Federation by the scheduled date.

The decision to allow controlled goods and technologies to leave the Russian Federation without a license will be made by the interdepartmental export control coordinating body according to the procedure defined by the Government of the Russian Federation.

Article 20. Catch-All Control

1. Russian parties may not negotiate or conduct foreign economic transactions with goods, information, work, services, and the results of intellectual activity or participate in these transactions in any other capacity if these parties have valid reason to believe that these goods, information, work, services, and results of intellectual activity will be used by a foreign state or foreign party for the development of weapons of mass destruction and their delivery systems.

2. Russian participants in foreign economic activity must obtain permits, according to the procedure established by regulatory legal instruments of the Russian Federation, from the interdepartmental export control coordinating body to conduct foreign economic operations with goods, information, work, services, and the results of intellectual activity not covered by the records (lists) specified in Article 6 of this Federal Law if the Russian participants in foreign economic activity:

- have been notified by the special authorized federal agency of the executive branch in the sphere of export control or another authorized state agency that these goods, information, work, services, and results of intellectual activity may be used for the purposes specified in Subsection 1 of this article.
- have reason to believe that these goods, information, work, services, and results of intellectual activity may be used for the purposes specified in Subsection 1 of this article.

Article 21. Official Expert Assessments of Foreign Economic Transactions

Foreign economic transactions with goods, information, work, services, and the results of intellectual activity subject to export control in accordance with articles 6 and 20 of this Federal Law will require official expert assessments. The official expert assessments will be conducted by federal agencies of the executive branch of government and will consist in an analysis of the documents and information pertaining to the foreign economic transaction in order to determine their correspondence to the international commitments of the Russian Federation, state interests, and environmental safety requirements. The results of the official expert assessment will be the basis for the issuance or refusal to issue the licenses or permits specified in articles 19 and 20 of this Federal Law.

The procedures and terms of official expert assessments will be defined by the Government of the Russian Federation.

Article 22. General Requirements of Procedures for Issuance, Registration, and Revocation of License or Permit

1. Licenses or permits for foreign economic operations with goods, information, work, services, and the results of intellectual activity specified in articles 19 and 20 of this Federal Law (hereafter referred to as licenses or permits) will be issued by the appropriate state agency on the basis of written applications from the Russian parties conducting these operations.

Documents containing accurate information about the

goods, information, work, services, and results of intellectual activity and indicating the foreign state to which the goods, information, work, services, and results of intellectual activity will be taken must be attached to the application. Federal laws and other regulatory legal instruments of the Russian Federation may envisage the submission of additional documents, or may require the official registration of other documents, depending on the type of goods, information, work, services, and results of intellectual activity and the distinctive features of the foreign economic operations with them.

2. The decision to issue or refuse to issue a license or permit will be made by the state agencies specified, respectively, in articles 19 and 20 of this Federal Law no more than 45 days after the receipt of the applications and documents specified in Subsection 1 of this article. Regulatory legal instruments of the Russian Federation may set shorter deadlines for the issuance or refusal to issue licenses or permits. The state agency making the decision to issue or refuse to issue the license or permit must notify the applicant of the decision within three days.

Notice of the refusal to issue a license or permit will be sent (or given) to the applicant in written form and will indicate the reasons for the refusal.

3. The following will be grounds for the refusal to issue a license or permit:

- the existence of false, misleading, or incomplete information in the documents submitted by the applicant; a negative report on the official expert assessment conducted in accordance with Article 21 of this Federal Law; the organization of a foreign economic operation with goods, information, work, services, and the results of intellectual activity on terms injuring or threatening to injure the interests of the Russian Federation;
- other grounds envisaged in laws of the Russian Federation on export control.

4. Fees in amounts established by the Government of the Russian Federation will be collected in accordance with laws of the Russian Federation for the processing of applications for licenses or permits and the official registration of the licenses or permits by the state agency issuing these documents.

The fees paid for the processing of applications for licenses or permits and the official registration of these licenses or permits will be included in the federal budget.

5. The license or permit may set additional conditions for foreign economic operations and requirements for the goods, information, work, services, and results of intellectual activity included in these operations.

The license or permit may be used by the legal holder only for the foreign economic operation with goods, information, work, services, and the results of intellectual activity for which the license or permit was issued.

6. The license or permit may be revoked without advance notice or may be suspended by the state agency issuing the

document in the following cases:

- the submission of the appropriate request by the holder of the license or permit;
- the liquidation of the legal entity for which the license or permit was issued;
- the violation of the requirements or conditions of the license or permit by the holder of the license or permit; the violation of laws of the Russian Federation by the holder of the license or permit;
- the illegality of the decision to issue the license or permit;
- the existence of other grounds envisaged in laws of the Russian Federation in the sphere of export control.

The decision to suspend or revoke the license or permit will be reported by the state agency issuing the document to the holder of the license or permit within three days after the decision has been made.

7. The Government of the Russian Federation will be entitled to set additional requirements, within the confines of its authority, for the procedures for the issuance, official registration, suspension, or revocation of licenses and permits, which must not contradict this Federal Law, and conditions for the issuance, official registration, suspension, or revocation of licenses and permits.

Article 23. Records of Foreign Economic Transactions

Russian participants in foreign economic activity must keep records of foreign economic transactions with goods, information, work, services, and the results of intellectual activity for the purposes of export control.

Documents pertaining to foreign economic transactions with goods, information, work, services, and the results of intellectual activity will be kept on file for three years, unless a longer period of storage is specified by laws of the Russian Federation.

The procedures and format of records of foreign economic transactions for the purposes of export control will be defined by the special authorized federal agency of the executive branch in the sphere of export control.

Article 24. Identification of Controlled Goods and Technologies

The identification of controlled goods and technologies and the performance of all of the necessary actions connected with applications for licenses for foreign economic operations with controlled goods and technologies or permits to take them out of the Russian Federation without a license will be the responsibility of the Russian participants in foreign economic activity.

Russian participants in foreign economic activity will be entitled to entrust the identification of controlled goods and technologies to an organization with a special permit, obtained according to the procedure established by the Government of the Russian Federation, for the performance of actions for the

identification of controlled goods and technologies (hereafter referred to as the expert organization) by concluding the appropriate agreement with that expert organization. In this case the expert organization will be responsible for the accuracy and validity of the results of the identification of controlled goods and technologies.

Article 25. Prohibitions and Restrictions of Foreign Economic Activity with Goods, Information, Work, Services, and Results of Intellectual Activity That Could Be Used in Development of Weapons of Mass Destruction, Their Delivery Systems, and Other Types of Weapons and Military Equipment

Prohibitions and restrictions of foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment may be instituted for the protection of national interests and the fulfillment of the international obligations of the Russian Federation. Prohibitions and restrictions of foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment, pertaining to certain foreign states in the interest of safeguarding the security of the Russian Federation, will be instituted by federal laws.

Prohibitions and restrictions of foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment, pertaining to the international commitments of the Russian Federation, will be instituted by edicts and directives of the President of the Russian Federation.

Prohibitions and restrictions of foreign economic activity with goods, information, work, services, and the results of intellectual activity that could be used in the development of weapons of mass destruction, their delivery systems, and other types of weapons and military equipment, pertaining to certain foreign parties conducting activity inconsistent with the principles of the non-proliferation of weapons of mass destruction and their delivery systems, will be instituted by decrees of the Government of the Russian Federation.

CHAPTER IV. PROVISION OF INTERESTED PARTIES WITH EXPORT CONTROL INFORMATION

Article 26. Receipt of Information on Reasons for Decision or Action (Inaction)

The Russian participant in foreign economic activity representing the object of an export control decision made by a federal agency of the executive branch of government and the Russian participant in foreign economic activity with regard to which this decision was not made within the deadline speci-

fied by laws of the Russian Federation will be entitled to request the agency for the reasons and grounds for the decision or the failure to make a decision within the two months following the date of the decision or the expiration of the deadline for the decision. The request must be processed by the federal agency of the executive branch of government within a month.

If the request is submitted in written form, the response must also be delivered in written form.

Article 27. Publication of Regulatory Legal Instruments in the Area of Export Control

Regulatory legal instruments of the Russian Federation in the sphere of export control and regulatory legal instruments issued by federal agencies of the executive branch in the sphere of export control will be subject to official publication according to the procedure established by laws of the Russian Federation.

Article 28. Information About Regulatory Legal Instruments in the Area of Export Control

Information about the regulatory legal instruments specified in Article 27 of this Federal Law, including the title of the regulatory legal instrument, the subject, and the publication in which the instrument was published, will be furnished to all interested Russian participants in foreign economic activity and citizens without charge by the special authorized federal agency of the executive branch in the sphere of export control.

CHAPTER V. INTERNATIONAL COOPERATION BY RUSSIAN FEDERATION IN THE AREA OF EXPORT CONTROL

Article 29. Purposes and Forms of International Cooperation by Russian Federation in the Area of Export Control

International cooperation by the Russian Federation in the sphere of export control will be conducted for the following purposes:

- the coordination of efforts and interaction with foreign states to prevent the proliferation of weapons of mass destruction, their delivery systems, and their development technologies; the promotion of a stable and secure system of international relations; the creation of favorable conditions for the integration of the Russian Federation economy into the world economy on an equitable and mutually beneficial basis;
- the more active participation of the Russian Federation in the international exchange of goods, information, work, services, and the results of intellectual activity, including the exclusive rights to them (intellectual property), and the creation of broader opportunities for access to world high-technology markets for Russian participants in foreign economic activity;
- the improvement of international and intrastate export control mechanisms, the discovery of violations of laws of the Russian Federation in the sphere of export control, and the

identification of the parties responsible.

International cooperation by the Russian Federation in the sphere of export control will be conducted by means of the Russian Federation's participation in international export control frameworks and international forums, negotiations and consultations with foreign states, the mutual exchange of information, and the organization of joint programs and other projects in this sphere on a bilateral and multilateral basis.

Federal agencies of the executive branch of government will interact with international organizations, government agencies, and foreign non-governmental organizations in the sphere of export control within the confines of their authority and according to the procedure established by laws of the Russian Federation.

The Russian Federation will promote the development of contacts and the exchange of information between Russian public organizations and foreign non-governmental organizations assisting in the effective functioning of intrastate export control mechanisms.

CHAPTER VI. LIABILITY FOR VIOLATION OF LAWS OF RUSSIAN FEDERATION IN THE AREA OF EXPORT CONTROL

Article 30. Violations of Laws of Russian Federation on Export Control

The following constitute violations of laws of the Russian Federation in the area of export control:

- the performance of foreign economic operations with goods, information, work, services, and the results of intellectual activity subject to export control in accordance with articles 6 and 20 of this Federal Law without a license or permit;
- the submission of forged documents or documents containing false information to obtain a license or permit for foreign economic operations with goods, information, work, services, and the results of intellectual activity subject to export control in accordance with articles 6 and 20 of this Federal Law;
- the violation of the requirements and terms of licenses or permits for foreign economic operations with goods, information, work, services, and the results of intellectual activity subject to export control in accordance with articles 6 and 20 of this Federal Law; non-compliance or improper compliance with the instructions of the special authorized federal agency of the executive branch in the sphere of export control;
- the creation of obstacles to keep the officials of federal agencies of the executive branch exercising powers in the sphere of export control from performing their duties;
- the unwarranted refusal to furnish information requested by federal agencies of the legislative and executive branches for the purposes of export control or the deliberate distortion or concealment of this information;
- the violation of the established procedure for keeping records of foreign economic transactions with goods, information, work, services, and the results of intellectual activity

for the purposes of export control.

Article 31. Liability of Officials of Organizations and Citizens for Violations of Laws of Russian Federation on Export Control

The officials of organizations and citizens guilty of violations of laws of the Russian Federation in the sphere of export control will be subject to criminal, administrative, and civil legal penalties in accordance with laws of the Russian Federation.

Article 32. Liability of Organizations for Violations of Laws of Russian Federation on Export Control

1. Organizations violating laws of the Russian Federation in the sphere of export control may be charged fines.

The violations envisaged in the first, second, or third paragraphs of Article 30 of this Federal Law will be subject to a fine in the amount of the value of the goods, information, work, services, and results of intellectual activity representing the direct objects of the violations. The violations envisaged in the fourth or fifth paragraphs of Article 30 of this Federal Law will be subject to a fine in the amount of 100 times the minimum wage established by laws of the Russian Federation at the time the penalty is imposed.

The fines specified in this article will be collected by the special authorized federal agency of the executive branch in the sphere of export control.

2. In the case of the violations envisaged in the first, second, or third paragraphs of Article 30 of this Federal Law, resulting in the infliction of considerable injury on the political and economic interests of the Russian Federation, national defense, and state security, or in the case of a repeat offense, the organization may lose the right to conduct certain types of foreign economic activity for up to three years. The decision to disallow certain types of foreign economic activity by the organization will be made by the Government of the Russian Federation on the recommendations of the interdepartmental export control coordinating body.

Article 33. Appeal of Decisions and Actions (Inaction) of Federal Agencies of Executive Branch and Their Officials

The decisions and actions (inaction) of federal agencies of the executive branch of government and their officials in export control operations may be appealed in court in accordance with laws of the Russian Federation.

CHAPTER VII. FINAL PROVISIONS

Article 34. Enactment of This Federal Law

1. This Federal Law will enter into force on the date of its official publication.

2. The President of the Russian Federation is requested and the Government of the Russian Federation is ordered to bring their regulatory legal instruments into conformity with

this Federal Law.

President of the Russian Federation
Boris N. Yeltsin
The Kremlin, Moscow ■

**NATIONAL SECURITY ADVISORY BOARD
ON INDIAN NUCLEAR DOCTRINE (DRAFT REPORT)**

August 17, 1999

1. Preamble

1.1. The use of nuclear weapons in particular as well as other weapons of mass destruction constitutes the gravest threat to humanity and to peace and stability in the international system. Unlike the other two categories of weapons of mass destruction, biological and chemical weapons which have been outlawed by international treaties, nuclear weapons remain instruments for national and collective security, the possession of which on a selective basis has been sought to be legitimized through permanent extension of the Nuclear Non-proliferation Treaty (NPT) in May 1995. Nuclear weapon states have asserted that they will continue to rely on nuclear weapons with some of them adopting policies to use them even in a non-nuclear context. These developments amount to virtual abandonment of nuclear disarmament. This is a serious setback to the struggle of the international community to abolish weapons of mass destruction.

1.2. India's primary objective is to achieve economic, political, social, scientific and technological development within a peaceful and democratic framework. This requires an environment of durable peace and insurance against potential risks to peace and stability. It will be India's endeavor to proceed towards this overall objective in cooperation with the global democratic trends and to play a constructive role in advancing the international system toward a just, peaceful and equitable order.

1.3. Autonomy of decision making in the developmental process and in strategic matters is an inalienable democratic right of the Indian people. India will strenuously guard this right in a world where nuclear weapons for a select few are sought to be legitimized for an indefinite future, and where there is growing complexity and frequency in the use of force for political purposes.

1.4. India's security is an integral component of its development process. India continuously aims at promoting an ever-expanding area of peace and stability around it so that developmental priorities can be pursued without disruption.

1.5. However, the very existence of offensive doctrine pertaining to the first use of nuclear weapons and the insistence of some nuclear weapons states on the legitimacy of their use even against non-nuclear weapon countries constitute a threat

to peace, stability; and

1.6. This document outlines the broad principles for the development, deployment and employment of India's nuclear forces. Details of policy and strategy concerning force structures, deployment and employment of nuclear forces will flow from this framework and will be laid down separately and kept under constant review.

2. Objectives

2.1. In the absence of global nuclear disarmament India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail. This is consistent with the UN Charter, which sanctions the right of self-defense.

2.2. The requirements of deterrence should be carefully weighed in the design of Indian nuclear forces and in the strategy to provide for a level of capability consistent with maximum credibility, survivability, effectiveness, safety and security.

2.3. India shall pursue a doctrine of credible minimum nuclear deterrence. In this policy of "retaliation only", the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives and the needs of national security. The actual size components, deployment and employment of nuclear forces will be decided in the light of these factors. India's peacetime posture aims at convincing any potential aggressor that :

(a) any threat of use of nuclear weapons against India shall invoke measures to counter the threat;

(b) any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.

2.4. The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any State or entity against India and its forces. India will not be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail.

2.5. India will not resort to the use or threat of use of nuclear weapons against States which do not possess nuclear weapons, or are not aligned with nuclear weapon powers.

2.6. Deterrence requires that India maintain:

(a) a sufficient, survivable and operationally prepared nuclear forces,

(b) a robust command and control system,

(c) effective intelligence and early warning capabilities,

(d) comprehensive planning and training for operations in line with the strategy, and

(e) the will to employ nuclear forces and weapons.

2.7. Highly effective conventional military capabilities shall be maintained to raise the threshold of outbreak both of conventional military conflict as well as that of threat or use of nuclear weapons.

3. Nuclear Forces

3.1. India's nuclear forces will be effective, enduring, diverse, flexible, and responsive to the requirements in accordance with the concept of credible minimum deterrence. These forces will be based on a triad of aircraft, mobile land-based missiles and sea-based assets in keeping with the objectives outlined above. Survivability of the forces will be enhanced by a combination of multiple redundant systems, mobility, dispersion and deception.

3.2. The doctrine envisages assured capability to shift from peacetime deployment to fully employable forces in the shortest possible time, and the ability to retaliate effectively even in a case of significant degradation by hostile strikes.

4. Credibility and Survivability

The following principles are central to India's nuclear deterrent:

4.1. Credibility: Any adversary must know that India can and will retaliate with sufficient nuclear weapons to inflict destruction and punishment that the aggressor will find unacceptable if nuclear weapons are used against India and its forces.

4.2. Effectiveness: The efficacy of India's nuclear deterrent be maximized through synergy among all elements involving reliability, timeliness, accuracy and weight of the attack.

4.3 Survivability:

(i) India's nuclear forces and their command and control shall be organized for very high survivability against surprise attacks and for rapid punitive response. They shall be designed and deployed to ensure survival against a first strike and to endure repetitive attrition attempts with adequate retaliatory capabilities for a punishing strike which would be unacceptable to the aggressor.

(ii) Procedures for the continuity of nuclear command and control shall ensure a continuing capability to effectively employ nuclear weapons.

5. Command and Control

5.1. Nuclear weapons shall be tightly controlled and released for use at the highest political level. The authority to release nuclear weapons for use resides in the person of the Prime Minister of India, or the designated successor(s).

5.2. An effective and survivable command and control system with requisite flexibility and responsiveness shall be in place. An integrated operational plan, or a series of sequential plans, predicated on strategic objectives and a targeting policy shall form part of the system.

5.3. For effective employment the unity of command and control of nuclear forces including dual capable delivery systems shall be ensured.

5.4. The survivability of the nuclear arsenal and effective command, control, communications, computing, intelligence and information (C4I2) systems shall be assured.

5.5. The Indian defense forces shall be in a position to, execute operations in an NBC environment with minimal degradation;

5.6. Space based and other assets shall be created to provide early warning, communications, damage/detonation assessment.

6. Security and Safety

6.1. Security: Extraordinary precautions shall be taken to ensure that nuclear weapons, their manufacture, transportation and storage are fully guarded against possible theft, loss, sabotage, damage or unauthorized access or use.

6.2. Safety is an absolute requirement and tamper proof procedures and systems shall be instituted to ensure that unauthorized or inadvertent activation/use of nuclear weapons does not take place and risks of accident are avoided.

6.3. Disaster control: India shall develop an appropriate disaster control system capable of handling the unique requirements of potential incidents involving nuclear weapons and materials;

7. Research and Development

7.1. India should step up efforts in research and development to keep up with technological advances in this field.

7.2. While India is committed to maintain the deployment of a deterrent which is both minimum and credible, it will not accept any restraints on building its R&D capability.

8. Disarmament and Arms Control

8.1. Global, verifiable and non-discriminatory nuclear disarmament is a national security objective. India shall continue its efforts to achieve the goal of a nuclear weapon-free world at an early date.

8.2. Since no-first use of nuclear weapons is India's basic commitment, every effort shall be made to persuade other States possessing nuclear weapons to join an international treaty banning first use.

8.3. Having provided unqualified negative security assurances, India shall work for internationally binding unconditional negative security assurances by nuclear weapon states to non-nuclear weapon states.

8.4. Nuclear arms control measures shall be sought as part of national security policy to reduce potential threats and to protect our own capability and its effectiveness.

8.5. In view of the very high destructive potential of nuclear weapons, appropriate nuclear risk reduction and confidence building measures shall be sought, negotiated and instituted. ■

NEWS FROM THE CENTER

Richard Russell Symposium National Security in the 21st Century: What Is It? How Do We Achieve It?

October 24-25, 1999
University of Georgia

Background. This will be the fourth symposium in a series funded by the Richard Russell Foundation in honor of the late Senator Richard B. Russell, Jr. Past programs have included Jeanne Kirkpatrick, Robert McNamara, Sam Nunn, William Perry, Brent Scowcroft, and other distinguished figures. The discussions have been covered widely in the media and 5,000 copies of the proceedings of each symposium have been distributed throughout the world.

1999 Topic. The 1999 Symposium will address the critical issues surrounding "National Security in the 21st Century." What is security in the post-Cold War era of globalization? What are America's vital security interests? How can they be achieved?

Attention has been given to future U.S. security and defense policy. The recent Quadrennial Defense Review, the National Defense Panel, the 21st Century National Security Study Group, the Administration's National Security Strategy for a New Century, and the Council on Foreign Relations' Defense Policy Review, among others, address American interests, options, and related issues. The 1999 Richard Russell Symposium will consider these efforts, and draw upon distinguished Americans to lay out the issues as they see them. The speakers are asked to address the following issues: 1) How should the United States think of national security in the coming decade? 2) What are vital U.S. security interests? 3) Are these issues receiving sufficient attention in the emerging presidential campaigns? 4) How should the U.S. pursue its national security interests in the next decade? 5) What should be done to prepare the American people for these challenges?

Speakers. Speakers include Paul Coverdell, senior U.S. Senator from Georgia, Jessica Tuchman Matthews, President of the Carnegie Endowment for International Peace, and James Schlesinger, former Secretary of Defense, Energy, and Director of Central Intelligence Agency. Daniel Schorr of National Public Radio will moderate a discussion following the speakers' presentations.

Venue and Audience. The Symposium will take place on the campus of the University of Georgia in the Georgia Center for Continuing Education. The meetings are open to the public. ■

The Sam Nunn Forum
March 26-27, 2000
 The University of Georgia

The rapid pace and indeterminate direction of globalization in the recent decade has radically reconfigured our understanding of the interplay between technology, trade, and security. Understanding this fundamental and crucial synergy will be of equal importance to policy makers and business leaders in the coming millennium. The 2000 Nunn Forum will address the importance of trade and technology transfer to American leadership and security in the 21st century.

The Forum topic is based upon a number of facts. First, technology is advancing at a tremendous pace. Second, the growth of trade and technology are critical to U.S. economic strength. Third, leadership in both trade and technology are key to U.S. power and national security. Fourth, the U.S. faces a rapidly unfolding and highly uncertain security environment. Fifth, a new formula for integrating strategic trade and technology transfer, on the one hand, and U.S. economic and security interests, on the other, must be found. Furthermore, The interplay amongst these issues are underappreciated and poorly understood.

In light of increasing interdependence, many U.S. trade regulations, are damaging both U.S. trade and nonproliferation interests. Current policy makes it difficult for U.S. industries to deliver high tech goods to allies, procure from foreign suppliers in a timely fashion, and engage competitively in international markets. Such policies are also encumbering business transactions with Chinese and Russian partners in ways that will help keep these foreign firms from becoming dependent on questionable partners (i.e., rogue states) and thus counter to U.S. non-proliferation interests.

Globalization and the end of the Cold War demand a re-evaluation of U.S. technology trade policies. Whereas government-funded research and development was once the driving force behind technological innovations in the commercial and defense sectors, increasingly technology emerges from the civilian sector. The drive to remain competitive in global markets places pressure upon companies to export and find new markets. Exports are now necessary to finance investment in cutting-edge technologies and to help the U.S. innovate faster than its rivals. The problem is that many of these technologies are dual-use, having military as well as commercial uses. While U.S. technology exports (high-speed computers, machine tools, etc.) provide needed profits, they also provide the tools needed by potential rivals to develop advanced weaponry and weapons of mass destruction.

Herein lies the challenge: How to restrict the spread of potentially destructive technologies, while preserving the ability of U.S. technology exporters to develop their global share of the growing civilian technology market and, consequently, contribute to overall global economic development. Can new

strategies and policies do a better job of addressing these concerns and meeting both economic and security interests?

The 2000 Nunn Forum at the University of Georgia will examine U.S. strategic trade and technology transfer policy with the goal of contributing to better policies and practices in the 21st century. The Forum will bring together the best minds from the business, government, academic, and other relevant communities to discuss these and related issues. It will place these issues within their proper international context. It will promote discussion and debate, education and research, more informed analysis and, ultimately, better policy and practice. It will develop new and creative public/private partnerships that will promote U.S. and global interests in the 21st century. For more information, contact Gary Bertsch or Mike Beck at the Center. ■

Two Workshops in Moscow

On September 21 and 24 Center for International Trade and Security held two workshops in Moscow on export controls.

Developments in Russia, Ukraine, Belarus and Kazakhstan clearly indicate that export control systems of these countries are undergoing substantial changes. Origins vary, but the fact is that export control mechanisms in these countries today are much different from those they had a year ago. In addition to the ongoing economic crisis, Russia has been beset by political instability. In Ukraine, a series of presidential decrees have re-assigned responsibilities of the major players and subordinated the entire export control system to the president. In April 1999, Russia and Belarus signed an agreement to unify their export control systems; this is to be followed by changes in the legal basis and procedures in both countries. In Kazakhstan, as a result of the move to a new capital (Astana), key ministries lost approximately 90% of their export control experts because officials were reluctant to move from Almaty to Astana. As a result, the institutional knowledge has significantly diminished and communication between government bodies is much more difficult. Export control issues occupy now an increasingly important place in the U.S.-Russian relations. U.S. National Security Council and Russia's Security Council are maintained a high level dialogue on this range of issues.

September 24, the Center for International Trade and Security will organize a Workshop "NIS Export Controls At the Cross-Roads" for Government officials and NGOs from Russia, Ukraine, Belarus and Kazakhstan. The workshop will focus on 1) the recent domestic export controls developments in these countries; 2) participation of these countries in multilateral export control regimes; 3) and their requirements for assistance and prospects of cooperation. The agenda will include discussion of the progress achieved so far in developing international compliance programs with a special emphasis on

Russia and Ukraine. Directors of the four nonproliferation centers which have been recently established in Arzamas-16, Chelyabinsk-70, Obninsk and Kurchatov institutes will also take part in the workshop. The workshop highlights, including recommendations, will be published and distributed among interested parties. The workshop was co-sponsored by the IMEMO (Institute for World Economy and International Relations) and the Moscow Center on Export Control.

September 21, the Center for International Trade and Security together with the Carnegie Moscow Center held a seminar for Russian government and industry officials involved in export control decision-making, as well as Moscow-based NGOs. The seminar focused on the role of export control in general context of U.S.-Russian relations. ■

Summer 1999 GES Project Update

This summer marked another chapter in the CITS Global Evaluation Survey (GES) of export controls project. For the past two years the GES project, funded by a grant from the Carnegie Corporation, has evaluated the export control systems of the republics of the former Soviet Union. The success of the effort resulted in the publication of *Arms on the Market: Reducing the Risk of Proliferation in the Former Soviet Union* (New York and London: Routledge, 1998) and the CITS publication, *Global Evaluation of Nonproliferation Export Controls, 1999 Report*. This summer's work expanded the number of countries and regions in the survey. Center associates traveled to South America, East Asia, Western Europe, the Middle East and Eastern Europe. Jonathan Benjamin-Alvarado, conducted research in Argentina; Liam Anderson in the United Kingdom; Scott Jones in the Czech Republic and Ukraine; Richard Cupitt in South Korea and Hong Kong; and Michael Beck in Israel. This third round of surveys brings to 24 the number of states whose export control systems have been surveyed and analyzed. The survey includes the *de facto* nuclear weapon states and many states considered potential proliferators.

Simultaneously work at the center has been progressing on the development of a research methodology for the evaluation of material protection, control and accounting (MPC&A). The project seeks to develop a means of assessing programs for material protection at the site specific and national bureaucratic levels by evaluating the criteria for: personnel reliability, site protection, accounting structures, quality assurance, emergency management, country stability, inspections regimes, nuclear information systems, intelligence structures, regulatory structures, transit regulations, and international status and compliance. Center efforts have incorporated studies and reports from expert sources to present a comprehensive view of an ideal system. CITS expects to have the methodology

completed by late this year and will carry out a pilot study of an MPC&A system in 2000.

Both the export control and MPC&A project's are part of a larger center project that is investigating proliferation threats into the next century. The focus on efforts to control and monitor the spread of weapons of mass destruction is considered essential to our understanding of nonproliferation efforts and can also serve as a basis of efforts to stem the proliferation of other types of weapons. ■

Eminent Indian Expert Visits CITS

M.D. Nalapat, former Contributing Editor to the *Times of India* (the world's largest circulation broadsheet English daily), economist, and director designate of the National Resurgence Institute in New Delhi, India, visited the Center on August 9, 1999. This was his second visit to the Center after attending the workshop, "*Expanding the Ambit of Indo-US Cooperation*," held in April 1998. Mr. Nalapat spoke to Center staff at a luncheon on issues of Indo-U.S. strategic convergence, where he gave the view from India. Among other things, he outlined the need for greater cooperation between India and the United States and pointed to converging interests in terms of stability, democracy and peace in South Asia. Later he met with members of the Center's South Asia Program and discussed possible initiatives in that area. He has been appointed a Distinguished Honorary Fellow of the South Asia Program at the Center, and will assist the Center's activities in that area. Mr. Nalapat has recently been appointed a Professor of Geopolitics at the Manipal Academy of Higher Education in India. ■

The Center for International Trade and Security invites readers to contribute articles, comments and opinions addressing the issues of proliferation of the weapons of mass destruction (WMD), arms control and disarmament, international and regional security, WMD terrorism, etc.

Contributions should not exceed 12-15 double-spaced pages and should be sent both in hard copy and electronic format (PC) for consideration to Dr. Igor Khripunov at the Center's address, or e-mailed to mudmn3@arches.uga.edu.

Please, find a moment to complete and mail the enclosed survey form. The information you provide will be essential for updating our mailing lists and will be greatly appreciated. Alternatively, you may fill out an electronic version of this survey at <http://www.uga.edu/cits/publications/monitor.htm>.

The Monitor

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