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**NUCLEAR NONPROLIFERATION
IN U.S.-RUSSIAN RELATIONS:
CHALLENGES AND OPPORTUNITIES**

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This book has been prepared within the framework of the "Russia in Nuclear Nonproliferation: 1991-2001 and Beyond" research project carried out by the PIR Center since 1994.

The study covers the period starting from the collapse of the Soviet Union in 1991 until December 2001. The book gives a detailed description of Russia's nuclear nonproliferation policy, the way it was shaped, its particularities and changes in the recent decade. It also examines the problems of uneasy dialogue between Russia and the United States in the 1990s on such matters as export controls, illicit trafficking in nuclear material, disposition of excess weapons-usable nuclear material, etc. The authors analyze tentative results of U.S. assistance programs in the area of cooperative threat reduction.

The book was written by leading Russian experts in the area of nuclear nonproliferation — researchers of the PIR Center.

The monograph is published in Russian and in English. Its target audience is Russian and U.S. policymakers whether in legislature or in the executive branch, who are involved in formulating and implementing nonproliferation policies. The book is also recommendable to a wide range of diplomats, military, and international security experts.

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CONTENTS

Introduction.....	5
Acknowledgements.....	10
Chapter I. Russian Nuclear Nonproliferation Policy and U.S.-Russian Nonproliferation Dialogue in the 1990s.....	12
Soviet Policy in the Area of Nuclear Nonproliferation. U.S.-Soviet Nonproliferation Dialogue.....	12
Russia as a Successor of the Soviet Union.....	16
Dynamics of Russian Nonproliferation Policy.....	20
Russia's Neighbors in the CIS.....	22
Nuclear Security.....	33
Illicit Trafficking in Nuclear Material.....	37
The Threat of Nuclear Terrorism.....	49
The 1996 Moscow Nuclear Safety and Security Summit.....	58
Nuclear Export Controls.....	65
Coordination of Nonproliferation Activities of the Russian Agencies.....	82
Russia — Iraq.....	92
Russia — North Korea.....	106
Russia — Iran.....	122
Russia and the IAEA.....	136
Russia's Nuclear Nonproliferation Policy under President Putin.....	140
Cooperation among Russian and U.S. NGOs in the Area of Nuclear Nonproliferation.....	148
Chapter II. Nuclear Nonproliferation and Arms Control in U.S.-Russian Relations in the 1990s.....	151
Nuclear Arms Reduction.....	151
U.S. Cooperative Threat Reduction Assistance Programs to Russia.....	162
The 1995 NPT Review and Extension Conference.....	182
CTBT.....	192
The 2000 NPT Review Conference.....	198
Nuclear-Weapon-Free Zones.....	210

Chapter III. U.S.-Russian Relations in Nonproliferation and Disarmament: Prospects for Dialogue and Cooperation.....	220
Interrelationship between Nonproliferation and Disarmament.....	220
Role of Nuclear Weapons and Relevance of Nuclear Deterrence in the Modern International System.....	222
Nuclear-Free World: Why It is Needed.....	232
A World without Nuclear Weapons: What Could It Look Like?...	236
Elimination of Nuclear Weapons: How to Start?.....	245
Some Practical Steps to Strengthen the International Nuclear Nonproliferation Regime.....	252
Chronology of Events in the Area of Nuclear Nonproliferation and Arms Control (1990-2001).....	260
Leaders of the Russian Federation and the United States on Nonproliferation Challenges and Strategic Dialogue.....	277
Acronyms.....	279
About the Authors.....	282
About the PIR Center.....	284

INTRODUCTION

When this book is sent for printing, the news agencies keep reporting on new cases of anthrax in the United States. Nowadays it is too difficult to assess the real scale of the threat, but it is clear that the terrorists, who use the weapons of mass destruction against the U.S. population, have managed to cause fear, uncertainty, and the feeling of vulnerability. Even Congress had to suspend its work. Under these circumstances, the risk of uncontrollable proliferation of WMD is growing and the world has to seek urgently the ways to combat this challenge.

Prevention of WMD proliferation is the area where U.S. and Russia's vital interests coincide for objective reasons. This challenge is considered to be one of the major national security threats to both states. And above all, this is applicable to nuclear arms — the most dangerous of all known types of weapons.

The developments of September 11, 2001 and the following establishment of the antiterrorist coalition may pave new ways to U.S.-Russian strategic partnership. The strategic rapprochement with the United States has become an important component of Vladimir Putin's foreign strategy. He strongly confirmed that position on the eve and during his visit to Washington DC and Crawford in November, 2001.

The cooperation in counter-proliferation and counter-terrorism measures, in particular, in such sensitive areas as weapons of mass destruction, their components, their technologies, their delivery systems, and — last, but not least — cyberterrorism may become a key issue on the bilateral strategic agenda.

Russia and the U.S., as major nuclear powers, are doomed to act together in the areas related to nuclear weapons and their proliferation. This dialogue requires a definite agenda. It also requires mutual trust.

As President Vladimir Putin stated in November, 2001, "we should realize that nonproliferation is one of the most urgent current challenges, one of the most important contemporary problems. Probably, it is the most important one. And, increasing level of trust in each other, we should establish cooperation [in this area] similar to what we have in some other areas like fighting drug trafficking where our experts work closely and very efficiently with each other. I am confident that we will be able to achieve the same level of efficiency in preventing proliferation".

However, other questions arise: what practical steps should be taken to prevent proliferation of nuclear arms, nuclear material and technology?

What domestic resources should be used to fulfill that task? What is the place of military power in the fight against nuclear proliferation? What is the place of national politics, and of multilateral and bilateral diplomatic efforts in curbing nuclear proliferation?

As for the latter, the most pressing issue is, what role could be played by an effective bilateral Russian-American dialogue on nuclear nonproliferation, or, more broadly, on nonproliferation of weapons of mass destruction and their delivery systems. We say "could" because, in our opinion, such constant effective dialogue was absent in recent years even though multiple contacts on various aspects of nonproliferation did take place. Meanwhile, the pattern of Soviet-American dialogue on nonproliferation productively conducted even in the most tense periods of the Cold War, has not been sufficiently replicated in the past decade. It seems to us that this example was a positive one, and has not lost its relevance even today.

Certainly at the end of the last century the world underwent significant changes, and simply copying the politics of the 1970s and 80s would not work today. One cannot help noticing a tendency toward a kind of isolationism in the area of nonproliferation, especially apparent under the administration of George W. Bush, when out of a narrow interpretation of national interest, the U.S. ignores signals coming from other nations, as well as the complexity of the international security framework, which, in its own right, irritates Washington. On the other hand, one should bear in mind the diminishing global influence of Russia (in comparison with the USSR) on various issues. This also has a certain impact on the spread of WMD and related delivery systems. Indeed, in recent years, the means of global influence available to the U.S. have grown immeasurably, but for Russia, they have greatly diminished.

Russia itself must face, with varying degrees of success, internal threats of proliferation originating from inadequate levels of MPC&A of weapons-usable nuclear materials.

Both states — Russia and the United States — are moving toward significant reduction (on a mutually agreed basis or unilaterally) of their nuclear arsenals. This trend is probably irreversible.

Nonetheless, even with smaller arsenals nuclear weapons continue to play an important part in the military policy of the two states. In the foreseeable future, Russia and the United States will remain the majority shareholders in the global nuclear club. They also bear a special responsibility as depositaries (together with the U.K.), for the continued viability of the indefinitely extended NPT.

In order to understand which steps to take next, how to shape Russian politics in the sphere of nuclear nonproliferation, how the bilateral Russian-American dialogue should be modified and made more productive — one should first examine the lessons of the recent past, to take *inventory*. It seems important to us to forewarn administrations in both states against repeating past mistakes and at the same time to draw their attention to the positive experience already accumulated (joint activities at the NPT Review and Extension Conference, the Nunn-Lugar Program, etc.), which will facilitate further dialogue. This book was written with these goals in mind.

The monograph was prepared by the PIR Center for Policy Studies, which is the leading Russian non-profit research institution dealing with the issues of nonproliferation and arms control. The book falls within the "*Russia and Nuclear Nonproliferation: 1991-2001 and Beyond*" project carried out by the PIR Center since 1994.

The study covers the period starting from the collapse of the Soviet Union in 1991 until fall 2001. The book gives a detailed description of Russia's nuclear nonproliferation policy, the way it was shaped, its particularities and changes in the recent decade. It also examines the problems of the uneasy dialogue between Russia and the United States in the 1990s on such matters as export controls, illicit trafficking in nuclear material, disposition of excess weapons-usable nuclear material, etc. The authors analyze tentative results of U.S. assistance programs in the area of cooperative threat reduction.

A particularity of this book is the dominant use of Russian sources. We did not mean to depreciate the numerous publications that have come out in the West, notably in the United States.¹ Studies by our U.S.

¹ Leonard S. Spector with Jacqueline R. Smith, *Nuclear Ambitions. The Spread of Nuclear Weapons 1989-1990*. Boulder, San Francisco, Oxford, Westview Press, 1990; Peter A. Clausen, *Nonproliferation and the National Interest. America's Response to the Spread of Nuclear Weapons*. N.Y., Harper Collins College Publishers, 1993; Rodney W. Jones, Mark G. McDonough, with Toby F. Dalton and Gregory D. Koblentz, *Tracking Nuclear Proliferation. A Guide in Maps and Charts, 1998*. Wash. D.C., Carnegie Endowment for International Peace, 1998; John Shields, William Potter (eds.), *Dismantling the Cold War*. Cambridge, The MIT Press, 1997; Gary Bertsch, William Potter (eds.), *Dangerous Weapons, Desperate States*. NY, Routledge, 1999; Graham Allison, Owen Cote, Jr., Richard Falkenrath, Steven Miller, *Avoiding Nuclear Anarchy*. Cambridge, The MIT Press, 1995; Robert S. Litwak, *Rogue States and US Foreign Policy. Containment after the Cold War*. Wash. D.C., The Woodrow Wilson Center Press, 2000; Jon Brook Wolfsthal, Cristina-Astrid Chuen, Daughtry Emily Ewell, *Nuclear Status Report. Nuclear Weapons, Fissile Material, and Export Control in the Former Soviet Union*. Carnegie Endowment for International Peace and Monterey Institute of International Studies, June 2001. Besides, analytical materials and facts can be found in such specialized publications, as *Arms Control Today*, *Bulletin of the Atomic Scientists*, *Nonproliferation Review* (USA) and *Disarmament Diplomacy* (U.K.).

colleagues from the Monterey Institute of International Studies, the Carnegie Endowment for International Peace, other institutions have always been discussed and carefully examined by the authors of this book. At the same time, one condition for the preparation of this manuscript was that we give a broad representation of Russian sources from past years, which previously had not been summarized, which are little-known or completely unknown outside of Russia.

The first chapter starts with a brief summary of key features and particularities of Soviet nuclear nonproliferation policy. We also analyze the Soviet-U.S. nonproliferation dialogue.

Chief emphasis is placed on the history of Russian nuclear nonproliferation policy from 1991 to the present (2001). The characteristics of the transition period are examined, as well as the formulation by Russia of its claims to the Soviet nuclear inheritance and the proliferation threats associated with it. A periodization of the stages of Russian WMD nonproliferation policy is offered, as well as an enumeration of threats that have emerged. In this context, Russian mutual relations with its neighboring CIS states are examined (in particular, with Ukraine) in the area of nuclear nonproliferation.

The first chapter also presents the authors' vision of nuclear security issues (MPC&A), particularly in the mid-1990s. We also scrutinize Russian approaches toward non-traditional threats such as the illicit trafficking in nuclear material and nuclear terrorism. The chapter describes the outcome of the 1996 Moscow Nuclear Safety and Security Summit.

The authors also focused on Russia's export control policy and practical measures to tighten export controls in Russia and to overcome emerging difficulties. The authors indicate different approaches taken by agencies towards nuclear export and export controls, noting the role of the Ministry of Atomic Energy (Minatom). Nuclear export and export controls issues (and occasionally missile export issues) are further analyzed in case studies — namely, Russian-Iraqi, Russian-North Korean, and Russian-Iranian relations. Russia's attitude towards the international nuclear nonproliferation regime and its institutions is discussed. The book also evaluates Russia's role in the IAEA.

One section is devoted to nuclear nonproliferation policies under President Putin (2000 and beyond).

Taking into account the growing role of NGOs in nuclear nonproliferation, the first chapter touches upon the issues of cooperation among Russian and U.S. NGOs and research institutions, which may help to restore an efficient inter-state nonproliferation dialogue.

The second chapter deals with the nuclear arms reduction process within the START I framework and in light of unilateral initiatives on tactical nuclear weapons. The chapter also analyzes the efficiency of U.S. cooperative threat reduction assistance programs to Russia, gives examples of successful bilateral agreements (the HEU-LEU deal, the plutonium deal) aimed at preventing such threats. Then Russia's activities at the NPT Review Conferences of 1995 and 2000, as well as the Russian position on the CTBT are also examined. Russia's approaches to nuclear-weapon-free zones are further explored.

The third chapter presents closing remarks on the prospects for U.S.-Russian relations in the sphere of nuclear nonproliferation, as well as possible steps by nuclear-weapon states and unrecognized nuclear-weapon states in order to strengthen the international nonproliferation regime.

During their work on the manuscript, the authors deliberately focused only on nuclear nonproliferation issues, because they considered these key issues in the possible future Russian-American strategic dialogue. As a consequence, issues related to the nonproliferation of missiles, missile technologies, chemical and biological weapons were omitted. We believe, in particular, that issues of missile nonproliferation occupy a more and more significant place on the international agenda, although it would hardly be possible to include everything within the scope of one study.

For the same reason, we had to omit detailed coverage of the U.S.-Russian arms control agenda. This terribly important and yet separate issue could become the subject of another comprehensive study. In this book, we limit ourselves to the problems of START I, START II, the ABM/NMD matters, the debate on U.S. intentions to deploy a system of missile defense, unilateral initiatives on tactical nuclear weapons, reciprocal on-site inspections on the INF Treaty, conclusion of the CTBT, since all the aforementioned matters fall within the framework of U.S.-Russian nonproliferation dialogue and should be assessed from this perspective.

The monograph is published in Russian and in English. Its target audience includes Russian and U.S. policymakers whether in legislature or in the executive branches, who are involved in formulating and implementing nonproliferation policies. The book is also recommended for a wide range of diplomats, military, and international security experts.

The authors would appreciate comments and remarks, which may be sent to PIR Center, Trekhprudny Per., 9, bldg. 1B, Moscow 103001, Russia; by fax (095) 234-9558 or by e-mail: info@pircenter.org.

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We started to work at this monograph in summer 2000. The work was nearly ready by late March 2001. The latest changes into the text of the English version of the book were made in December 2001.

But we can say it differently — we have been collecting materials for this book for several years in Moscow and Washington, Vienna and Geneva, London and Berlin, Tokyo and Seoul, Shanghai and Tel Aviv, and, to a large extent, in New York, where two of us attended the 1995 and 2000 NPT Conferences, as non-governmental experts, and had long and frequent talks with members of the Russian and U.S. delegations.

This work would have been impossible without the assistance of our colleagues. Some of them read this manuscript and made recommendations on how to improve it, others provided us with research materials from their personal archives, others gave interviews or participated in debate during numerous meetings held by the PIR Center, thus, helping us with their reminiscences, comments, and ideas. At various stages of our work, many PIR staff members, postponing their own work, selflessly and generously assisted the authors.

We will hardly manage to name all those who facilitated this research and publication. Among them are our PIR colleagues Ildar Akhtamzyan, Dmitry Evstafiev, Vitaly Fedchenko, Yury Fedorov, Dmitry Kovchegin, Vasily Lata, Yevgeny Maslin, Dmitry Polikanov; and Vladimir Baranovsky, Vladimir Belous, Marina Belyaeva, Oleg Bukharin, Matthew Bunn, Leonid Chumenko, Joseph Cirincione, Gennady Evstafiev, Dmitry Feoktistov, Anita Friedt, Sergei Galaka, Amy Gordon, Rose Gottemoeller, David Hoffman, Rebecca Johnson, Alexander Kalyadin, Gennady Khromov, Elina Kirichenko, Sergei Kislyak, Vasily Krivokhizha, Thomas Kuenning, Boris Kvok, Yury Marakhovsky, Vladimir Misyuchenko, Vladimir Novikov, Nikolai Ponomarev-Stepnoi, William Potter, Gennady Pshakin, Vladimir Rybachenkov, Ivan Safranchuk, Victor Slipchenko, Nikolai Sokov, Valery Syomin, Mikhail Vinogradov, Andrei Yefimov, Andrei Zobov, Yevgeny Zvedre.

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We give our special thanks to Alexander Saveliev, who kindly provided us with materials of his doctor dissertation "*Nuclear arms reduction*" and gave his consent to base this section on his materials. We congratulate Alexander Saveliev with brilliant defense of his doctoral thesis in May 2001.

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It is important to note that the opinions, findings, and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the United States Institute of Peace, or any other organization. The authors of the book bear full responsibility for its contents.

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CHAPTER 1. RUSSIAN NUCLEAR NONPROLIFERATION POLICY AND U.S.-RUSSIAN NONPROLIFERATION DIALOGUE IN THE 1990s

Before we turn to the topic of this chapter, that is, to the evolution of Russian nuclear nonproliferation policy in the last decade, let us give a brief assessment of the preceding period.

Soviet Policy in the Area of Nuclear Nonproliferation. U.S.-Soviet Nonproliferation Dialogue

The need to prevent emergence of new nuclear-weapon states was realized in the early 1960s, when four nuclear-weapon states appeared on the international stage (the U.S., the USSR, the U.K., and France), China was ready to conduct its first nuclear test, and a number of countries considered the possibility of developing nukes and even launched nuclear programs (Israel, Sweden, Switzerland, Italy, etc.). The international community began to regard the real threat of nuclear proliferation as a lethal menace to peace and international security. The principal incentive for the Soviet Union's commitment to nonproliferation was the fast development of the West German nuclear energy program, which raised justifiable concerns in Moscow.

Since that time, the Soviet/Russian position on nonproliferation has been quite coherent and consistent. In the preceding years, the Soviet Union assisted China in developing a nuclear infrastructure and in creating a basis for its nuclear arms production capabilities, thus helping Beijing to save a decade in building its first nuclear explosive device.¹ Since the early 1950s, the USSR signed agreements on peaceful nuclear energy use with several dozen states. According to these accords, these nations (mostly members or friends of the Soviet bloc) were supplied with energy and research reactors as well as fuel for them. At that time, Moscow, unlike Washington, did not insist on the control of supplied material, but the return of spent nuclear fuel to the Soviet Union was a condition for supply.²

In the early 1960s, the USSR changed its attitude towards the IAEA safeguards (from skeptical and negative to positive) and started intense

¹ Let us note that some nuclear-weapon and non-nuclear weapon states assisted a number of countries in acquiring nuclear capabilities (the United States helped the U.K., France helped Israel, Canada assisted India, etc.).

² For instance, Canada supplied India with equipment for a heavy-water natural uranium reactor (CIRUS) capable of plutonium separation, without asking to apply safeguards to it. This plant produced plutonium for the 1974 Indian peaceful nuclear explosion.

interaction with the United States, the U.K. and other countries to develop and improve the safeguards system.

In the late 1960s, the Soviet Union and the United States, as co-chairs of the Geneva-based Eighteen-Nation Disarmament Committee (ENDC), initiated and drafted the NPT. The two nations, along with Great Britain, became depositaries of the treaty and promoted its strengthening and universality.

In the mid-1970s, after the Indian peaceful nuclear explosion, the Soviet Union and the United States proposed the creation of the London Club (Nuclear Suppliers Group — NSG) to strengthen the nonproliferation regime for the long-term. The Soviets and Americans came to agreement in principal on the new group in late 1974 in Moscow. The Soviet Union took active part in involving other nuclear suppliers in the group, including France, which was not a State Party to the NPT by that time.

In January 1982, the Soviet Government approved the Statute on the Export of Nuclear Material, Technology, Equipment, Plants, Special Non-Nuclear Material, and Services. The document was based on the Guidelines for Nuclear Transfers adopted by the NSG. However, the Soviet statute provided for some even stricter export control norms than were required by the international obligations of the USSR under the Guidelines.³

In the 1970s and early 1980s, Western analysts paid particular attention to the Soviet nuclear trade (implemented or planned) with some non-signatories to the NPT, notably Argentina (heavy water), Cuba (nuclear reactors), India (heavy water), and Libya (nuclear reactors, heavy-water production plant). The latter was a State Party to the NPT, but many experts suspected Tripoli of possessing a nuclear weapons program aimed at developing an indigenous nuclear arsenal. A wide range of accusations included allegations of a Soviet desire to strengthen the Argentinean military nuclear program *vis-a-vis* the Brazilian one, and reproaches upon the Minatom for "its aggressive policy towards nuclear markets" (this recalls present-day criticism against Russia).

It is noteworthy that meanwhile, objective experts emphasized that the Soviet Union was carefully complying with its international commitments in the area of nuclear nonproliferation and its nuclear export policy deserved appreciation.⁴

³ See: *Vneshnyaya Torgovlya*, No. 4, April 1982, pp. 37-38.

⁴ William Potter, "The Soviet Union and Nuclear Proliferation". *Slavic Review*, Fall 1985, p. 487. This article by a U.S. expert contains a detailed analysis of the Soviet nonproliferation policy in the 1970s and early 1980s. The article gives a general overview and assesses relations with specific states of concern at that time.

For instance, in 1973-1974, the Soviet Union rejected the request of Saddam Hussein to sell a plutonium fabrication plant to Iraq. In 1975, Moscow pressured Libya into ratifying the NPT (Tripoli had tried to dodge this for seven years after signing the treaty). The USSR and Libya signed an inter-governmental protocol on peaceful nuclear energy use, but Moscow continued to delay granting its consent for a number of even technologically safe and proliferation-resistant supplies, until Tripoli concluded a safeguards agreement with the IAEA in 1980.⁵ Moscow also kept Washington informed of its intentions concerning nuclear contracts with Libya.

As far as Argentina was concerned, the Soviet Union found itself in a more complicated legal situation. In 1981, Argentina signed a safeguards agreement and the problem was solved. At the same time, Buenos Aires came to an agreement with Switzerland on the purchase of a heavy-water fabrication plant. Soviet supplies of heavy water to India, which commenced in 1976, complied with Moscow's international commitments. Besides, Moscow convinced New Delhi to sign a safeguards agreement with the IAEA.⁶

Even in one of the most difficult periods of the Cold War (the early 1980s), when the USSR and the U.S. interrupted arms control negotiations, twice a year the two states had intense consultations on ways to strengthen nuclear nonproliferation. The consultations covered a wide range of nonproliferation issues, including regional aspects, e.g. exchange of opinions on the nuclear situation in North Korea.⁷

It would be enough to look at the active schedule of meetings and negotiations in 1982-1985 (despite the quite unfavorable state of bilateral relations): Washington, December 15-16, 1982; Moscow, June 14-16, 1983; Vienna, February 16-18, 1984; Moscow, November 28-30, 1984; Helsinki, April 15-19, 1985. In the course of negotiations the parties discussed a broad range of issues, including the role of the IAEA, the functioning and improvement of the international export control

⁵ William Potter, "The Soviet Union and Nuclear Proliferation". *Slavic Review*, Fall 1985, pp. 477, 478, 480. This article by a U.S. expert contains a detailed analysis of the Soviet nonproliferation policy in the 1970s and early 1980s. The article gives a general overview and assesses relations with specific states of concern at that time.

⁶ Roland Timerbaev, *The Nuclear Suppliers Group: Why and How It Was Created (1974-1978)*. M., PIR Library Series, 2000, pp. 62-64.

⁷ In the early 1980s, during the U.S.-Soviet crisis caused by the Soviet invasion of Afghanistan and plans of SS-20 and Pershing II deployment, Soviet Foreign Minister Andrei Gromyko told his close associates that nuclear nonproliferation was the only silk thread connecting the two superpowers at that time.

system, etc.⁸ Both the Soviet Union and the United States realized the usefulness of cooperation in nuclear nonproliferation.⁹

One should also note that the Soviet leadership and all major agencies dealing with nuclear nonproliferation made joint decisions on principal and practical matters of maintaining the nonproliferation regime. The Inter-agency Commission on Nonproliferation of Nuclear Weapons was established in the late 1970s. The body was chaired by the First Deputy Foreign Minister and was comprised of deputy ministers of defense, nuclear industry, the KGB, the Academy of Sciences, the Customs Committee and other agencies. Examples of poor coordination among these ministries were an exception at that time.

One of the authors remembers a case of differences between the military-industrial complex and the MFA in the late 1970s. Libya, which was rich with oil dollars, made an attempt to procure Soviet assistance in developing a full nuclear fuel cycle, including the construction of a heavy-water reactor using natural uranium and building of a heavy-water production plant. The Soviet Government and leaders of the nuclear industry were ready to strike a deal (Libya offered about \$10 billion), but the MFA was against such a deal so fraught with danger. In the end, a reasonable decision prevailed, and Libya eventually had to abandon the deal since its treasury was empty by the end of the world oil crisis.

This example demonstrates that the MFA, the MOD, and the secret services were strong supporters of nuclear nonproliferation at that time, whereas the nuclear ministry and economic agencies within the Government, as well as departments dealing with military-technical cooperation, were often willing to make concessions in this area in order to obtain economic, and sometimes short-term political and ideological gains.

In the mid-1980s, Western nations realized that plans for intensification of Soviet nuclear exports were mostly of commercial character, rather than politically driven. These large-scale programs caused serious concerns (e.g. Soviet-Chinese negotiations).

However, the same situation could be witnessed in some other states.¹⁰

⁸ William Potter, "Nuclear Export Policy: The Soviet Union and Nuclear Proliferation". *Slavic Review*, Fall 1985, p. 473.

⁹ See William Potter, "Nuclear Proliferation: U.S.-Soviet Cooperation". *Washington Quarterly*, Winter 1985, p. 153.

¹⁰ For more details on Soviet policy and practice in the area of nuclear nonproliferation in the post-World War II period see Roland Timerbaev, *Rossiia i yadernoye nerasprostraneniye (Russia and Nuclear Nonproliferation), 1945-1968*. M., Nauka, 1999, 384 pp.; Roland Timerbaev, *The Nuclear Suppliers Group: Why and How It Was Created (1974-1978)*. M., PIR Library Series, 2000, 91 pp.).

Russia as a Successor of the Soviet Union

On June 12, 1990, the Russian Soviet Federative Socialist Republic (RSFSR) declared state sovereignty. Nonetheless, this largest republic of the Soviet Union headed by Chairman of the Supreme Soviet Boris Yeltsin remained within the USSR until late 1991 and had no significant impact on the defense or foreign policy of the Soviet Union. The RSFSR had its own Ministry of Foreign Affairs (led by Andrei Kozyrev), but had no MOD, General Staff, or any security bodies.

On August 21, 1991, supporters of Boris Yeltsin suppressed the coup aimed at overthrowing President Gorbachev and preserving the Soviet Union. On this day, began the countdown to the end of the Soviet Union. Formally, the Soviet state continued to exist, but its rapid disintegration intensified. Russia was actually becoming an independent state, but mechanisms of foreign and defense policy were still characterized by Soviet inertia.

On December 8, 1991, Russia, Ukraine and Belarus concluded the Belovezhskiye Accords, which created a *de jure* framework for the *de facto* collapse of the Soviet Union.

The demise of the Soviet Union was a unique event in the history of international relations and in the history of nuclear nonproliferation. The world community had to face a completely new problem: it was the first dissolution of an internationally recognized nuclear-weapon state.

On December 25, 1991, President Gorbachev handed over the nuclear button — a major symbol of great power status, the symbol of Russian might — to President Yeltsin. Thus, Russia inherited nuclear-weapon state status, and an arsenal of approximately 30,000 nuclear warheads.¹¹ Nuclear weapons belonging to Russia were deployed not only on its territory, but also in some neighboring countries — Ukraine, Belarus, and Kazakhstan. Soon it became obvious that Moscow had only a vague

¹¹There is different data on the number of nuclear warheads at the moment of the collapse of the USSR because there has never been public data on Soviet tactical nuclear weapons. According to the report by U.S. Congress analysts (October 10, 1993), Russia had about 12,000 strategic and 15,000 tactical nukes. Two other sources also note nearly the same number: Amy F. Woolf, Foreign Affairs and National Defense Division, Nuclear Weapons in the Former Soviet Union: Location, Command, and Control, Updated November 27, 1996; Center for Defense Information, www.cdi.org/adm/transcripts/519. According to a report on the nuclear heirs of the Soviet Union, in late 1990, the USSR had about 20,000 strategic and 6,000-13,000 tactical nuclear warheads. The Council for a Livable World (www.clw.org/coalition/nukelev.htm) argues that at the moment of demise, the Soviet Union had 11,000 strategic and 11,000 tactical warheads, while 16,000 more were stored and awaited dismantlement.

vision of what should be done with this arsenal. The 1990s were characterized by a substantial evolution of the Russian attitude towards nuclear weapons and their role in maintaining national security.

Even though the attitude toward nuclear nonproliferation was quite well-defined, interest in these issues wavered. In fact, Russia's unequivocal position on nuclear nonproliferation made a striking contrast to its ambiguity on many other foreign policy and defense matters. Presumably, the consistency of Russian nonproliferation policy was accounted for by a consensus of major political forces on this issue.¹² This consensus emerged in post-Soviet Russia and has been preserved during all years of its independent development.

Being the successor of the Soviet nuclear status, Russia inherited all rights and commitments of the Soviet Union under the key international treaty regulating nuclear nonproliferation — the NPT. Russia (together with the United States and the U.K.) became one of three depositaries of the treaty.

In accordance with Article IX(3) of the NPT, Russia began to enjoy the internationally recognized right to possess nuclear weapons.¹³ This right became permanent, after the indefinite extension of the NPT in May 1995. Thus, Article IX of the NPT, along with the U.N. Charter (Article 23 of which provided for Russia's permanent seat on the U.N. Security Council), is the document ensuring Russia's Great Power status (equal to that of the United States, France, China, and the U.K.). The rapidly diminishing political and economic importance of the Soviet Union and then Russia in the world, which began in the 1980s and intensified in the early 1990s, can hardly be fully compensated by preserving its elite status in conformity with international law. At the same time, it is apparent that the very fact that Russia can maintain its significant voice in international affairs is to a large measure ensured by its recognized nuclear-weapon state status.

Russia's obligations under the NPT include:

- not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices;
- not in any way to assist, encourage, or induce any non-nuclear weapon state to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices;

¹²Alexander Kalyadin, "Nerasprostraneniye: rol Rossii v stabilizatsii rezhima DNYAO (Nonproliferation: Russia's Role in Stabilization of the NPT Regime). In Alexei Arbatov (ed.), *Razoruzheniye i bezopasnost (Disarmament and Security)*, 1997-1998. M., Nauka, 1997, p. 118.

¹³Treaty on the Non-Proliferation of Nuclear Weapons.

- not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear weapon state for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards of the IAEA;
- to facilitate and to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy, to cooperate in contributing to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear weapon States Parties to the Treaty;
- to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament.¹⁴

Nowadays, it is obvious that from 1991 until the present Russia has complied with its commitments under the NPT and continues to do so. There is no reason to say that Russia has ever violated the letter of the NPT. At the same time, one should bear in mind that Moscow has managed to stick to NPT obligations despite the unfavorable circumstances as a consequence of the demise of the Soviet Union, and aggravated by an acute and lengthy economic crisis. Taking into account the transitional character of the governing bodies (including the command and control system of the armed forces), which was typical of Russia in the early 1990s, decline of the military-industrial complex, chaotically established market relations in the absence of legal framework, the profound psychological breakdown of Russian society, the triumph of organized crime, and the need for non-stop nuclear arms reduction, one can only admire Russia's compliance with NPT commitments, which should not be taken for granted.

Even aside from the Yugoslavian-style redistribution of the Soviet inheritance, transitioning from one system to another and from one type of state to another, is fraught with extremely high risks. The fact that in the sphere of nuclear nonproliferation in the early 1990s, the world escaped confronting threats from the territory of the former Soviet Union was the result of efforts first of all by Russia, but also due to the international assistance through cooperative threat reduction programs.

Russia's decision to undertake effective measures to strengthen the nuclear nonproliferation regime was stated in President Yeltsin's January 27, 1992 letter to the U.N. Secretary General. The document stipulated

¹⁴Treaty on the Non-Proliferation of Nuclear Weapons.

two major conditions for the new Russian policy pertaining to international security. Firstly, Russia was ready "to maintain stability within the borders of the former Soviet Union" and, secondly, it was willing "to promote constructive interaction with other states to strengthen international security." The statement emphasized that,

"Awareness of this high responsibility before the world guides the actions of Russia, Belarus, Kazakhstan and Ukraine to ensure the unified and reliable control of nuclear weapons and to prevent their proliferation, measures to preserve the core of the united armed forces with a unified command, as a contribution to international concord."

He maintained,

"We are no longer enemies with the United States and other NATO countries and believe it obsolete to stay under the threat of the each other's nuclear trigger. We should take joint efforts to get rid of this Cold-War legacy of confrontation."¹⁵

As the successor of the former Soviet Union, Russia reaffirmed its commitments under the bilateral and multilateral treaties and agreements that had entered into force or been signed in the area of arms limitation and disarmament. Russia stated that it would take efforts to ensure the "complete elimination of tactical nuclear weapons in the foreseeable future".

"Along with the destruction of nuclear weapons, we support the complete and verifiable elimination of other types of WMD. We stand for efficient measures to strengthen the regime of nonproliferation of nuclear weapons, other WMD and their delivery systems."¹⁶

Russia declared its intention to continue implementation of the program to stop weapon-grade plutonium fabrication.

"Industrial reactors for weapons-usable plutonium production will be shut down by 2000, some of them will be shut down with accelerated pace in 1993. We reiterate our proposal to the United States to agree on verifiable cessation of production of weapons-usable fissile materials."¹⁷

Russia also reaffirmed its commitment to the NPT.

"We hope for the earliest possible accession to the treaty by Belarus, Kazakhstan, and Ukraine, as non-nuclear weapon states, and hope that other CIS member states will join the treaty."

¹⁵Address by President of the Russian Federation Boris Yeltsin to the U.N. Secretary General. A/47/77-S/23486, January 27, 1992.

¹⁶Ibid.

¹⁷Ibid.

Russia expressed its full support for IAEA activities and spoke in favor of "enhancing the efficiency of its safeguards".

Russia intended to

"[...] Take additional measures, so that export from Russia may not lead to proliferation of WMD. In accordance with this goal, we are studying the question of applying the principle of IAEA full-scope safeguards as a condition for our peaceful nuclear exports, and are considering the possibility of accession to the MTCR as a full member."¹⁸

President Yeltsin announced Russia's plans

"[...] To adopt domestic legislation regulating export from Russia of dual-use materials, equipment and technologies that can be used to develop nuclear, chemical and biological weapons, as well as missiles", to develop "an efficient system of state control over such exports," and to promote "the closest possible cooperation and coordination among CIS member states on these issues."¹⁹

Russia's attitude towards nuclear nonproliferation was developed in the Basic Provisions of the Military Doctrine of 1993. The document maintained that Russia "together with other countries concerned takes appropriate measures to strengthen and ensure universality of the nuclear nonproliferation regime". Among the key activities providing for the military security of the state, the document named the

"Enhancement of existing and establishment of new efficient international mechanisms for control of proliferation of WMD and their delivery systems"; "creation of conditions for indefinite extension of the NPT and measures to expand the number of States Parties to this treaty, involvement of all states possessing the potential for WMD development in the WMD nonproliferation regime."²⁰

Thus, the policy of nuclear nonproliferation became one of the elements of Russian foreign policy inherited from the Soviet Union without any significant changes.

Dynamics of Russian Nonproliferation Policy

Although Russian nonproliferation policy remained mainly unchanged in the 1990s, its implementation was highly dependent on changes in domestic policy, on the very approaches of the Russian leadership

¹⁸Address by President of the Russian Federation Boris Yeltsin to the U.N. Secretary General. A/47/77-S/23486, January 27, 1992.

¹⁹Ibid.

²⁰Basic Provisions of the Military Doctrine of the Russian Federation. *Rossiyskiye Vesti*, November 2, 1993.

towards strategic decision-making. This is why Russia's attitude to nonproliferation issues (above all, nonproliferation of nuclear weapons and their delivery systems) had its particularities in each period of Boris Yeltsin's rule (1991-1999).

One can specify the following stages indicating the dynamics of Russian approaches to nonproliferation matters. *The first phase* lasted from August-December 1991 (when Russia achieved state sovereignty) until late 1993-early 1994. This stage has the following characteristics: strategically, Russia was willing to ensure continuity of the nonproliferation policy inherited from the Soviet Union; tactically, one could notice fluctuations, mirroring domestic political struggle in the country. During this stage, Russia was enthusiastic and actively tried to coordinate its steps with the United States and other Western countries, easily agreed to concessions and believed itself to be a part of the Western world. This stage was characterized by a certain romanticism in assessing the role and place of nonproliferation in international relations, and to a certain degree a lack of appreciation for the role of Russia's national interests. Finally, Russia underestimated the danger of internal proliferation threats, such as illicit trafficking in nuclear material, nuclear terrorism, the lack of clear and legally-binding export control regulations, the weakness of customs and border controls.

The second phase began in 1994, when euphoria was replaced by more profound contemplation of the goals of domestic and foreign policy objectives, of its national interests. Also, noticeably, the new composition of the parliament, which did not meet the expectations of Boris Yeltsin and his team, as a result of December elections of 1993, would not provide the support for a continuation of past policies. Thus, Russia began to think about restoring close relationships with Iran, North Korea, Iraq; Moscow intensified its interaction with China and India. On the *domestic front*, chaos in the area of nuclear security was intensified by a drop in standards of living and the emergence of *nuclear dealers* connected with criminal groups. As a result, there were several cases of large theft (the Northern Fleet), smuggling of missile components (Iraq) and ill-thought-out declarations on intentions to supply some materials from the trigger lists (Iran). This was the time when major disagreements on nonproliferation between Russia and the United States were emerging, but this did not preclude them from acting jointly on strategic issues, such as the indefinite extension of the NPT in 1995. Meanwhile, Russia's image in the West was being transformed — from young democracy to unpredictable double-headed eagle, whose heads turned away from the West and more and more looked Eastward.

The third stage commenced in 1996, when the Kozyrev era was over and his post was taken by Yevgeny Primakov (The latter was appointed on

January 9, 1996). *The Primakov period* continues today: although the Minister of Foreign Affairs and the President have changed, there have been no substantial changes in nonproliferation policy. This phase was the end of rapprochement and the beginning of a *cool peace* with the United States. In this period, Russia began form closer ties some states of concern. The paradox was that Moscow had managed to partly solve some of its domestic problems by that time. Moscow tightened control of weapon-grade nuclear material (thanks to internal efforts and U.S. assistance), enhanced the level of physical protection, accounting and control of nuclear materials. Russia agreed that the problem of illicit trafficking existed and put forward a number of measures to minimize this threat (some of them were quite successful). The level of foreign policy coordination increased and the risk of independent moves by some export-oriented ministries and state-owned enterprises diminished. At that time, Russia began to learn (for its own benefit and not for the outside world) the rules of nuclear nonproliferation. Strategic vision of national interests was separated from the search for short-term and dubious benefits; at least, Russia intended to distinguish between these two. Russia ratified the CTBT, START II, and put forward a number of nuclear nonproliferation initiatives. One cannot, however, argue that positions within the leadership were homogenous. As before, nonproliferation decision-making engaged both people defending Russia's international commitments in this area and those who were ready to review these obligations, if deemed necessary.

Petty differences and clashes prevailed in U.S.-Russian relations at this stage (above all, the matter of Russian exports to Iran, which has become a constant issue throughout these years). The parties failed to discuss strategic problems and could not respond to such nonproliferation challenges, such as the 1998 nuclear tests in India and Pakistan. Moscow and Washington have also failed to find effective and mutually acceptable ways to curb missile proliferation. They have not helped the CD in Geneva to overcome its deadlock and have failed to sustain the momentum for a FMCT.

Russia's Neighbors in the CIS

The collapse of the Soviet Union resulted in serious nonproliferation challenges relating to nuclear weapons and their components. Russia realized that if nuclear weapons remained in the hands of Belarus, Ukraine and Kazakhstan for a long time, it would be quite difficult to ensure security of this arsenal. The tensions were stimulated by rumors in U.S. and Israeli press, which reported in early 1992 that, according to *reliable sources*, Kazakhstan had allegedly sold one or two nuclear

warheads to Iran.²¹ It was evident that this gossip was groundless and was politically driven, but no one in Moscow could guarantee that this *science fiction* would not become a reality one day.

The Soviet military managed to anticipate this scenario and before the final collapse of the Soviet Union they had collected all tactical nuclear weapons on the territory of Russia, Ukraine, and Belarus. This step helped to reduce the threat of nuclear proliferation, which would have become inevitable after the demise of the Soviet Union. The withdrawal of tactical nukes took place in complex circumstances, when some political groups intensified their activities and could even have impeded the activities of the Soviet military by force. According to an officer of the Soviet Air Force, withdrawal of nuclear warheads from Azerbaijan in 1990 (after the clashes in Baku) was hampered by actions of some groups connected with the Azerbaijani People's Front, which attempted to bar the military from such withdrawal. The nukes were secretly transported to a military aerodrome, but the airstrip was blocked by a group of civilians, who tried to prevent the aircraft from taking off. According to the witness, the situation was quite tense, and crews had to fire a couple of shots, using weapons from bombers that were used to transport the warheads. Fortunately, the crowd dissipated and there were no casualties, so the aircraft could safely take off.²²

The fundamental problem was, however, *the presence of the strategic nuclear arsenal of the former Soviet Union on the territory of four new states* — Russia, Belarus, Kazakhstan, and Ukraine. The fate of these weapons was immediately the focus of discussion of the CIS leaders and stirred up interest in political circles of many other countries.

In this case, one could see how the interests of Russia and the United States fully coincided. Both states could not accept in any manner Ukraine, Belarus, or Kazakhstan claiming a portion of the nukes and becoming *de facto* nuclear-weapon states. As NPT depositaries (founding *guardians* of the treaty) and as nuclear-weapon states, Russia and the U.S. believed that these nations should join the NPT only as non-nuclear weapon states. There was no problem with Belarus, since it sought non-nuclear weapon state status from the very beginning. However, the situation in Kazakhstan and Ukraine was different and Russian and U.S. diplomats (jointly and separately) had to conduct difficult consultations with these two countries. In case of Ukraine, the negotiations were often within a hair's breadth of failure.

²¹See Steve Rodan, "Iran Paid \$25m. for Nuclear Weapons, Documents Show." *Jerusalem Post*, April 10, 1998.

²²Vladimir Orlov, Nikolai Sokov (eds.), *Yadernoye nerasprostraneniye (Nuclear Nonproliferation Textbook)*. M., PIR Library Series, 2000, p. 207.

On December 30, 1991, the CIS countries signed the Minsk agreement on strategic forces and recognized "the need for the unified command of the Strategic Forces and for preserving single control of nuclear weapons [...]" Article IV specified,

"Until complete elimination of nuclear weapons, any decision on their use is taken by the President of the Russian Federation in coordination with heads of states of the Republic of Belarus, Republic of Kazakhstan, Ukraine, in consultations with heads of states of other States Parties to the Commonwealth."²³

The agreement maintained,

"Until complete elimination, nuclear weapons deployed on the territory of Ukraine should be under supervision of the unified command of the strategic forces to ensure their non-use and dismantlement by late 1994."

The elimination of nuclear weapons deployed on the territory of Belarus and Ukraine were to be carried out "under joint control of the CIS member states". The agreement could be called fulfilled and no longer valid for those states whose territory was cleared of strategic forces and nuclear weapons.²⁴

Meanwhile, the unified strategic forces were not set up in reality. The very idea of their establishment was merely a compromise, an interim concession of Russia at that time, immediately after the collapse of the USSR. Moscow was willing to start free market reforms and needed the support of its CIS neighbors. Among other reasons for the emergence of this concept was the desire to comfort the West and Boris Yeltsin's willingness to ensure the neutrality of the armed forces during the dismantlement of the Soviet Union (one of the demands of the military was to preserve a single command for the nuclear arsenal).

Looking closely at the agreement on united strategic forces, one would notice that terms required further elaboration, primarily in the parts dealing with effective mechanisms of control over the *nuclear button*, options for making prompt decisions in case the use of nuclear weapons was authorized, and issues of funding for the strategic forces. Russia was the only state capable of maintaining appropriate combat readiness, reliability, safety and security of nuclear weapons, as well as providing acceptable salaries and highly qualified personnel. Besides, the issue of multilateral (although unified) control raised concerns among other nuclear-weapon states. This increased the unpredictability of the Soviet

²³Nerasprostraneniye yadernogo oruzhiya (Nonproliferation of Nuclear Weapons). Collection of Documents, p. 228.

²⁴Ibid.

successor states' behavior. In 1991-1992, many politicians and journalists worldwide asked one simple question, "Who keeps a finger on the nuclear trigger?"²⁵

The situation was aggravated by the lack of an efficient Defense Ministry in Russia.²⁶ In October-November 1991, when the new Russian Government was formed, the Defense Minister of the RSFSR was not appointed and the ministry was not set up. This was a tactical maneuver by Boris Yeltsin, who tried to convince President Gorbachev that he had no intention of dismantling the USSR. If the Defense Ministry had been established, this would have been one of the most serious blows to Soviet power, and could have put an end to the USSR.

As we have mentioned above, on December 25, 1991, Mikhail Gorbachev handed the nuclear *briefcase* over to Boris Yeltsin. This was a partial answer to the question of who controlled the strategic nuclear arsenal of the former Soviet Union.

On March 16, 1992, Boris Yeltsin signed a decree establishing the Defense Ministry and appointed himself Acting Minister. On May 18, 1992, Pavel Grachev took this post; at that time, there was a conflict between him and Yevgeny Shaposhnikov, former Soviet Defense Minister, who commanded the Joint Armed Forces of the CIS—an amorphous and powerless body (it was particularly notable, as the influence and powers of the Russian Defense Minister grew, including nuclear area). By fall 1992, one of the nuclear *briefcases* was given to Grachev and in spring 1993, Shaposhnikov had to give up his *briefcase* as well. As a result, real control of strategic nukes was exclusively in the hands of Moscow, without any participation on the part of Minsk, Kiyv, or Almaty.

On July 6, 1992, nine states of the CIS (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Ukraine, Moldova, and Turkmenistan) reiterated their support for Russia as a nuclear-weapon state under the NPT and pledged to join the NPT as non-nuclear weapon states. This was a legal solution to the problem of succession, and the Russian Federation became a full-fledged successor of the Soviet Union, as far as the possession of nuclear weapons was concerned. Russia possessed all nuclear weapons of the former Soviet Union, including those deployed on the territory of Ukraine, Belarus, and Kazakhstan. Meanwhile, the Ukrainian leadership, which declared its desire to get rid of nuclear weapons deployed on its territory, in practice, made every

²⁵See, for example, *Times*, December 23, 1991, p. 7.

²⁶Since August 19 until September 9, 1991, Konstantin Kobets was Defense Minister of the RSFSR (albeit there was no ministry). This post was then abolished.

attempt to delay the elimination and withdrawal, calling into question Russia's right to the nuclear warheads. Ukraine argued that, although Russia was responsible for the command and control of the nuclear weapons, the launchers and the warheads were the property of Ukraine.

On May 23, 1992, Russia, the United States, Ukraine, Belarus, and Kazakhstan signed the Lisbon Protocol to START I. According to the protocol, Ukraine, Belarus and Kazakhstan were recognized as parties to START I along with Russia. They promised to eliminate or to transfer to Russia all strategic nuclear warheads after the treaty's entry into force and pledged to join the NPT as non-nuclear-weapon states.

Belarus and Kazakhstan complied with the provisions of the Lisbon Protocol. *Belarus* had some delays in implementing the withdrawal schedule, but in late November 1996 (on the eve of the OSCE summit) the last 18 SS-25 ICBMs (18 warheads) were withdrawn from Belarusian territory and returned to Russia. Thus, the international commitments of Belarus were fulfilled, and its non-nuclear weapon status was confirmed. On July 22, 1993, Belarus acceded to the NPT as a non-nuclear weapon state.

Kazakhstan was technologically more ready to develop nuclear weapons than Belarus and had nearly the same capabilities as Ukraine. In the first few months of 1992, a number of Kazakh ultra-nationalists insisted on achieving nuclear weapon status for the republic. However, their attempts failed. Nursultan Nazarbayev preferred to refrain from the policy of nuclear bluff and by May-June 1992 reaffirmed Kazakhstani commitments to Russia and the United States. On February 14, 1994, Kazakhstan joined the NPT as a non-nuclear weapon state. All 104 SS-18 ICBMs (1,040 warheads) that had been deployed on its territory were withdrawn.

The problem of nuclear warheads and launchers in *Ukraine* was much more complicated. It took three years to resolve this issue. The story of the Ukrainian nuclear arsenal may help to identify some challenges that may emerge after the collapse of a nuclear-weapon state.

At the moment of the Soviet Union's collapse, the nuclear arsenal deployed in Ukraine contained: 130 SS-19 (780 warheads), 46 SS-24 (460 warheads), and about 600 warheads from Bear H and Blackjack aircraft. Thus, Ukraine possessed a nuclear arsenal exceeding those of the U.K., France and China combined. The Ukrainian leadership and parliament repeatedly stated that elimination of nuclear weapons on its territory was one of its fundamental foreign policy priorities. But in practice, Ukraine behaved otherwise, consistently moving toward gaining status as a full-fledged nuclear-weapon state. When in Lisbon, Russia,

Ukraine, Belarus and Kazakhstan signed the protocol to START II, the heads of these states, including Ukrainian President Leonid Kravchuk, submitted letters to the U.S. President promising to eliminate nuclear weapons on their territory and to join the NPT. However, soon after Ukrainian officials argued that this letter was "a private message and not a legal-binding document".

On September 3, 1993, Russian Prime Minister Victor Chernomyrdin and Ukrainian Premier Leonid Kuchma met in Massandra (Crimea) and signed three protocols: on assurances related to the supervision of launchers; on the utilization of nuclear charges; and on major principles of nuclear warhead elimination. According to these documents, the nuclear arsenal deployed in Ukraine must be taken to Russia and dismantled at the producing plants. HEU from the warheads must be depleted in Russia and returned to Ukraine, as a fuel for its nuclear power plants.

However, what happened next was rather unconventional in diplomatic practice. This was witnessed by one of the authors: Ukrainians made amendments in hand-writing to already signed documents and dramatically altered the basis of the entire agreement.²⁷ According the handwritten amendments, Ukraine agreed to dismantle and give Russia only SS-19 warheads, and SS-24's would remain on Ukrainian territory. A member of the Russian delegation at the negotiations with Ukraine called this case "an unprecedented step in diplomatic practice" and Russia denounced the agreement.²⁸

The foreign policy motive for this behavior was explained to one of the authors by a well-known Ukrainian politician and member of the Ukrainian parliament, Sergei Golovaty:

"We must possess a powerful deterrent against Russia's aggressive policy. Otherwise Ukraine will follow the fate of Georgia, Moldova, and Tajikistan, where Russia uses imperialistic methods to pursue its vital interests."²⁹

It seems, however, that the real motive was somewhat different. Ukrainian security interests were of secondary importance in comparison with economic interests, which were reflected, in particular, in the attempts to haggle as significant sums as possible from the United States during a severe economic crisis. James Goodby, U.S. ambassador-at-

²⁷The amendment was initiated by Anton Buteiko, Foreign Policy Aide of the Ukrainian President. This style of international agreement was called the Buteiko precedent.

²⁸See: Vladimir Orlov, "Yadernaya Ukraina: bolshoy blef ili bolshaya ugroza (Nuclear Ukraine: a Big Bluff or a Big Threat?)". *Moscow News*, No. 45, November 7, 1993, p. A5.

²⁹Interview of Sergei Golovaty by Vladimir Orlov, May 1993.

large, who held negotiations with Ukraine from 1992 to 1994, directly pointed this out.³⁰ One must also admit that Ukraine was also trying to bargain as much funding and financial concessions as possible from Russia, especially when it came to HEU compensations.

In 1992-1993, Ukraine was not able to maintain efficient indigenous control of all warheads deployed on its territory (i.e. to launch them or to prevent launches). Meanwhile, it was presumably capable of establishing partial control of nuclear warheads within several months (up to 18 months). It was a matter of negative control, i.e. Ukraine could have developed a capability to prevent launch of missiles from its territory if there was no Ukrainian consent for such launch. As for positive control, expert opinions differed. The dominant view was that Ukraine still retained some capabilities for positive control. First, permissive action links were manufactured in Ukraine — in Kharkiv. Second, the command post of the 46th Missile Army (all communications between headquarters and launchers passed through this command post) was situated in Vinnitsa. Third, the Ukrainian military could, in principle, calculate the flight trajectory of missiles and, hence, could arrange flight missions.

At the same time, the lack of satellite-based information required to position new targets brought the realistic capability of positive control to a minimum, if not to zero. Finally, the financial and economic situation in Ukraine in 1992-1993 would have prevented any attempts to relocate the missiles (unlikely to have been included in the plans of the Ukrainian military-political leadership) and moreover, attempts to establish effective positive control over the nuclear arsenal. As was correctly stated by a senior Ukrainian diplomat, "both the problem and the evident fact is that we cannot afford to maintain nuclear weapons neither on a political, nor a military, nor an economic level."³¹ Indeed, the whole the problem of control of nuclear weapons in Ukraine was political rather than technological.

The true goal of the Ukrainian nuclear policy in 1992-1993 was to use nuclear bluff, in order to increase its international prestige as a sovereign state and to receive substantial economic assistance from the West in exchange for transferring warheads to Russia. This was one of the reasons for the November 1993 decision of the Ukrainian Rada, which, for all practical purposes, proclaimed Ukraine to be a nuclear-weapon state.

At the same time, we have to note that, despite tough negotiations conducted by Russian diplomats and military with their Ukrainian

³⁰Lecture by Ambassador-at-Large Prof. James Goodby at the Center for International Security and Arms Control, Stanford University, February 25, 1994.

³¹Interview of Konstantin Grishchenko by Vladimir Orlov, May 1993.

counterparts, the *Massandra effect* characterized these exchanges. Seemingly the positions were close, but the sides could not reach a final resolution. It was explained by a fact well-known in Kiyv: the keys for the hard currency safe were located not in Moscow but in Washington. Besides, Ukrainian officials believed that it was precisely Washington and not Moscow, that would place a higher priority on smooth course of the 1995 NPT Review and Extension Conference and the indefinite extension of the NPT. Non-participation of Ukraine in this forum, as a non-nuclear state, as was correctly believed in Kiyv, would have compromised the work of the conference, impeded achievement of its planned objective as well as could have set a precedent of ignoring the NPT for a number of states.

Without U.S. involvement, it would have been quite difficult to work out an effective agreement on the Russian nuclear arsenal deployed on Ukrainian territory. At first, Russia was sure that this issue could be solved in a friendly and neighborly manner without any external involvement. However, in the end, Moscow had to admit that it was impossible to find a solution without U.S. assistance (and not as a symbolic mediator, but as an equal and even leading participant).

Ukraine had, on the whole, succeeded in pursuing its goal. On January 14, 1994, Russia, Ukraine and the United States signed the Trilateral Presidential Statement in Moscow. Ukraine committed to a transfer of all nuclear warheads deployed on its territory within seven years after START I's entry into force.

The statement maintained,

"President Kravchuk reiterated his commitment that Ukraine accede to the Nuclear Non-Proliferation Treaty as a non-nuclear-weapon state in the shortest possible time."³²

The presidents acknowledged "the importance of compensation to Ukraine [...] for the value of the highly-enriched uranium in nuclear warheads located" on its territory. The parties agreed to provide "fair and timely compensation to Ukraine, Kazakhstan, and Belarus, as the nuclear warheads on their territory are transferred to Russia for dismantling."³³

Three presidents decided

"[...] On simultaneous actions on transfer of nuclear warheads from Ukraine and delivery of compensation to Ukraine in the form of fuel assemblies for nuclear power stations."³⁴

³²Trilateral Statement by Presidents of Russia, USA, and Ukraine, January 14, 1994.

³³Ibid.

³⁴Ibid.

Presidents Yeltsin and Clinton informed President Kravchuk that Russia and the United States were ready to provide security assurances to Ukraine, as soon as START I entered into force and Ukraine became a non-nuclear State Party to the NPT. The following assurances were named:

- to respect the independence and sovereignty and the existing borders and recognize that border changes can be made only by peaceful and consensual means;
- to refrain from the threat or use of force against the territorial integrity or political independence of Ukraine;
- to refrain from economic coercion designed to subordinate to their own interest the exercise by Ukraine of the rights inherent in its sovereignty and thus to secure advantages of any kind;
- to seek immediate U.N. Security Council action to provide assistance to Ukraine, as a non-nuclear-weapon state party to the NPT, if Ukraine should become a victim of an act of aggression or an object of a threat of aggression in which nuclear weapons are used;
- not to use nuclear weapons against Ukraine, except in the case of an attack on themselves, their territories or dependent territories, their armed forces, or their allies, by such a state (Ukraine) in association or alliance with a nuclear-weapon State.

Presidents Yeltsin and Clinton informed President Kravchuk that they had had consultations with the U.K., the third depositary state of the NPT, and the U.K. was prepared to offer the same security assurances to Ukraine once it became a non-nuclear-weapon state party to the NPT.³⁵

As the Ukrainian leadership insisted, the Trilateral Statement was directly linked to supplying Kiyv with \$125 million of U.S. assistance and compensation in the form of LEU; later the assistance was expanded.

At the same time, after signing the document, the Ukrainian parliament did not rush to ratify the NPT. On the eve of the NPT Review and Extension Conference such delays in particular raised the concerns of the United States. Washington wanted to see Ukraine a full-fledged member of this conference, as an example of the success of nuclear-weapon states (above all, the United States) in preventing potential threats related to the collapse of the Soviet Union. U.S. pressure on Ukraine transformed from *stick* in 1992 to numerous *carrots* in late 1993 and 1994. U.S. pressure on Ukraine was in sharp contrast with the Russian policy of that time. Moscow held exhausting negotiations with Kiyv, but its position at these talks was reluctant, uncreative, and Russia did not insist on the implementation of the signed agreements.

³⁵Trilateral Statement by Presidents of Russia, USA, and Ukraine, January 14, 1994.

By fall 1994, the Ukrainian parliament felt increasing pressure from abroad (notably, from the U.S.). The Ukrainian leadership understood by that time that it was not able to maintain its nuclear arsenal and realized the need to implement the Trilateral Statement. Further delay in ratification of the NPT, as a non-nuclear weapon state, especially on the eve of the final decisive session of the PrepCom, would dangerously lead the state toward international isolation. Having realized that the possibilities for *nuclear bluff* and *nuclear bargain* were both exhausted, the Supreme Rada of Ukraine ratified the NPT on November 16, 1994 (301 — for; 8 — against). The ratification law was accompanied by the demand to nuclear-weapon states to grant Ukraine special security assurances. Three depositaries — Russia, the U.S., and the U.K. — provided Kiyv with these assurances in their joint memorandum at the Budapest summit of the CSCE (December 5, 1994). France and China also released separate statements on security assurances to Ukraine. Thus, on December 5, 1994, after numerous delays, Ukraine finally joined the NPT. A significant source of tension and of potential nuclear proliferation on the territory of the former Soviet Union was, from a legal point of view, eliminated. It was also important that Ukraine's accession to the NPT enabled START I to enter into force. As is known, the Russian parliament ratified START I in 1992 with a reservation that it would become effective for Russia only after Ukraine's accession to the NPT. Ukraine strictly complied with its obligations under the Trilateral Statement, START I, and the Lisbon Protocol. In June 1996, the last nuclear munitions were removed from Ukrainian territory and returned to Russia.

This precedent demonstrated the limitations in Russia's ability to influence its CIS neighbors (at least, at that time). Indeed, before the United States joined the Russian-Ukrainian agreements in January 1994, these agreements were not observed. One has to admit that without U.S. pressure, it is unlikely that Ukraine would have agreed to the complete elimination of nuclear weapons on its territory or would have prolonged this process for an unacceptably long period.

The demise of the Soviet Union resulted in *other significant proliferation challenges*. Taking into account the weakness of export controls in all FSU states, except Russia, one may conclude that during 1992-1994, the risk of horizontal nuclear proliferation increased due to the disintegration of the former Soviet Union. Only in 1995-1996 did these risks begin to diminish, thanks to the improvement of national export control systems in Belarus, Ukraine, and Kazakhstan. Another positive factor was the adoption of full-scope IAEA safeguards by all of these countries.

After having actively participated in withdrawing its nuclear weapons from the territory of the three CIS states, Russia did not show much

initiative in developing national systems of export control in these countries. Coordinating mechanisms were established, but, like many other CIS mechanisms, they were only formal and yielded no intended result. Russia, in essence, withdrew from assisting the CIS countries in solving the problems of physical protection, accounting and control of nuclear material, even though it was evident that the risk of nuclear material leakage and illicit nuclear trafficking was the highest in such states, as Ukraine, Kazakhstan, Georgia, and Uzbekistan. Neither did Russia play any significant part in preventing nuclear brain drain from the CIS,³⁶ although it is known that Osama bin Laden, for example, was recruiting nuclear physicists from Central Asia and the CIS. The Russian military were quite critical of the situation:

"On the territory of the CIS countries there are citizens, who used to serve at the Soviet nuclear facilities. Depending on their awareness and duties, they know the design of nuclear munitions and how to handle them, location of storage facilities on the territory of the Russian Federation, security systems [...], external characteristics of vehicles transporting nuclear munitions, and other information that may be interesting for terrorist groups antagonistic to Russia."³⁷

However, Russia's position — withdrawal — is understandable to some extent. Moscow had many similar problems at home, multiplied by the scale of Russian nuclear complex, and could not afford to be involved in solving such problems in the CIS (although, probably, Russia could have showed more initiative in sharing information and experience).

As a result, the Russia's role in the region was substituted by the United States, which provided substantial financial and educational assistance to the CIS in the 1990s, in order to reduce the risks of nuclear proliferation. A classic example is operation *Sapphire*. In 1994, the United States removed several dozen kilograms of enriched uranium from the Ulba Combine in Kazakhstan, for according to some sources, Iranian secret services had demonstrated interest in this uranium.³⁸ Russia ignored Kazakhstan's request to take away the material. The same situation occurred in 1998, when Russia refused to accept over four kilograms of enriched uranium from Georgia. The United States agreed with the U.K. that this material would be transferred to the experimental nuclear reactor in Scotland. The United States paid \$2 million for transportation and \$125-million compensation to the Institute of Physics in Georgia.³⁹

³⁶ *Interfax*, October 7, 2000.

³⁷ Igor Valynkin. Records of the State Duma hearings, November 1996.

³⁸ See: William Potter, "The 'Sapphire' File: Lessons for International Nonproliferation Cooperation". *Transition*, November 17, 1995, pp. 14-15, 18.

³⁹ *Kommersant*, April 23, 1998, p. 5.

Nonetheless, joint actions by Russia and the United States in the early 1990s, above all, with respect to Belarus, Kazakhstan and Ukraine, were extremely significant. According to Russian experts,

"The interests of two most powerful nuclear-weapon states in preventing nuclearization of these former Soviet republics coincided. As a result, Russia and the United States made serious steps to meet halfway, trying to put into practice the process of elimination of nuclear weapons deployed on the territory of these nations. An example of fruitful cooperation of two major nuclear-weapon states — the U.S. and Russia — in extraordinary conditions emerging because of the problems of possible nuclear proliferation, is quite instructive, for in this case the solution is achieved within the NPT framework and with full compliance, rather than beyond the NPT framework."⁴⁰

Nuclear Security

Russian politicians, military and experts did not immediately understand the scale of the problems of maintaining the security of nuclear munitions and materials which emerged as a result of the collapse of the Soviet Union.

Throughout the development of the Soviet nuclear energy sector, the industry was characterized by a highly centralized system of state power and physical protection. This did not require the creation of a flexible, developed legal basis with clearly proscribed rights and obligations for the parties, to facilitate regulation. *Iron curtain* on borders, high stability within the country, nearly total control over the population and personnel of nuclear facilities, priority funding for the nuclear complex, highly reliable employees, high salaries and job prestige — all this led to a situation, in which the primary task of the MPC&A system was to ensure secrecy or, at least, to protect the arsenal from a distant external enemy.

The situation changed swiftly in the 1990s, when the external enemy disappeared and the threat of a domestic enemy emerged, be it a terrorist, or an unreliable employee of a nuclear facility.

Former Israeli Prime Minister Benjamin Netanyahu mentioned in conversation with one of the authors,

"The only thing I admired in the Soviet Union was its ability to ensure control of its weapons-usable nuclear materials. This control was the best guarantee against their proliferation."

⁴⁰The Russian Foreign Intelligence (SVR). *Dogovor o nerasprostranении yadernogo oruzhiya. Problemy prodleniya (NPT: Problems of Extension)*. M., 1995.

Perhaps many leaders and experts felt a similar nostalgia in the early 1990s. Economic and administrative chaos in Russia caused them to suspect that there was no trigger list anymore and one could buy anything in Russia. This implied that Russian nuclear materials and specialists might be used for development of indigenous nuclear weapons programs in Iran, Libya, North Korea, while international terrorist groups would make Russia their source of WMD.

Nowadays, one can say that these apprehensions were instigated for certain political reasons. But let us ask: were there grounds for the fear, was there the threat of accidental proliferation in the early 1990s? And our answer will be unequivocal — yes. This answer is based on a significant number of documents regarding nuclear security at Ministry of Defense and Minatom facilities, and on the conclusions of officials at Russian government agencies, including the offices of the Prosecutor General and the Chief Military Prosecutor.

According to former head of the 12th Main Directorate of the MOD Col.-Gen. Yevgeny Maslin, who was in charge of secure storage and transportation of the Russian nuclear arsenal, in 1992-1993 and later,

"I had to face a completely new, non-typical situation, when it was necessary to maintain full control over entrusted munitions. Specialists who worked with nuclear weapons at that time were at a certain loss due to a growing number of tasks — we had to transport nuclear munitions throughout Russia by railroad and vehicles more often than before. There was an increasing munitions inflow from the FSU states. The process of arms reduction intensified, above all under START I. It is worth mentioning that the new challenges emerged, e.g. the attempts of nuclear terrorism and unauthorized access to stored or transported nuclear weapons. We felt the most serious threat in 1991-1992, at the time of the escalation of the Chechen conflict. I don't want to describe the situation in terms of Hollywood action movies, showing our nuclear arms storage facilities simply as a yard with a through-passage for any kind of terrorists [...]. At the same time, I'm not going to run to another extreme; we have to admit that the situation was quite problematic."⁴¹

The word "problematic" implied that there was a sharp decline in the living standards of the officers who guarded nuclear facilities, a loosening of control over recruitment of personnel, a lack of funding for physical protection activities with respect to munitions at the storage facilities and weapon-grade nuclear material, an absence of specially equipped cars for transportation of munitions, an aging system of accounting and control, which did not meet the requirements of the time, an overall deterioration in the situation, due to the greater openness of the facilities.

⁴¹Yevgeny Maslin, "The CTR Program and Russia's National Security Interests". In: Ivan Safranchuk (ed.), CTR Program: How Efficient? *PIR Study Paper*, No. 13, 2000, p. 5.

Vladimir Obarevich, head of the Supervisory Division for Nuclear Security of the Russian MOD, described the situation in the mid-1990s as follows:

"[...] I cannot imagine how people dealing with nuclear weapons in the Defense Ministry survive. They have no money, they have nothing to live on. Major maintaining nuclear munitions loses his conscience because of hunger. How can we maintain nuclear munitions? Besides, maintenance of these munitions requires materials and we have no money for them. We even have no slippers for officers to enter the room, as it is required by technological standards, for the officer cannot walk there in his own shoes. We have reached the bottom. We hoped that [...] the situation may improve, but as far as I understand, it is deteriorating."⁴²

Igor Valynkin, then Deputy Head of the 12th Main Directorate of the MOD (at present, head of this directorate) said,

"Special facilities designated for the storage of nuclear munitions have been exploited for 30-40 and more years and now require repairs and reconstruction of certain elements and systems. We are concerned about overstock of nuclear munitions with expired service life and with munitions subject to dismantlement in compliance with international treaties concluded by Russia. At present, the number of munitions with expired service life is growing at our facilities because we do not fulfill the schedule of dismantlement. However, designers do not allow us to store such munitions and we have more than 2,000 of them. If we do not increase the pace, this amount will grow [...] several times. The matter of particular concern is the state of logistics and maintenance — the funds allocated for these activities are not sufficient... The amount of work has significantly grown in the last few years, due to unplanned tasks of withdrawing and maintaining munitions returned from the near abroad [...]. There are growing tensions in the military units providing security of nuclear munitions and nuclear weapons; this may become one of the reasons for blackmail or nuclear terrorism."⁴³

In the early and mid-1990s, Russia possessed more than 400 land-based railroad and mobile strategic missile systems and twice as many nuclear charges with a total yield of 400 megatons. This equipment was deployed near large cities, their design did not provide for protection even from 0.30-inch rifle. The systems were stored in street garages, like many automobiles in Moscow. On the other hand, the military admitted that if such a missile system was hit by a grenade-launcher, the nuclear charge would be vulnerable:

"Under the current circumstances, we had to limit movements of the railroad systems. It is idle now and does not move, although it must be mobile and continue patrolling. The movement of mobile systems is also limited, but they continue to be on alert and move to combat and training sites. They are really dangerous."

⁴²Vladimir Obarevich. Records of the State Duma hearings, November 1996.

⁴³Igor Valynkin. Records of the State Duma hearings, November 1996.

Analyzing the conditions of transportation of nuclear munitions, the military also recognized that the weapons could be attacked and fired at with bullets or grenades, or the munitions could fall down because of overloading:

"Our nuclear munitions are quite dangerous: our explosives are more vulnerable to fire than U.S. ones and can easily be detonated. This is why if the munition falls down or is hit with bullet, it may explode."⁴⁴

Special vehicles protecting munitions from bullets, shell fragments, fire and turnover (so called NG-9T-1 vehicles) were commissioned, but apparently in insufficient quantity. In 1996, the military units were only 16.5%-equipped with such vehicles. Transportation of nuclear munitions did not comply with international standards. It would be enough to say that the trains carrying nuclear munitions had no communication line between the engine driver and the locomotive brigade.

The situation was not much better at Minatom's facilities — which, by the mid 1990's, comprised 57 of the largest and most important enterprises and scientific research organizations.⁴⁵ By late 1996, the service life of 70% of technical security equipment at the Minatom's facilities had expired, and 20% had been used for two or three times the expected service life. "They try to maintain them, but it is impossible", admitted Lev Ryabev, First Deputy Minister of Atomic Energy.⁴⁶ The majority of checkpoints had no means of detecting the unauthorized transit of nuclear materials, metals and explosives.

Gosatomnadzor stated that,

"Nuclear facilities in Russia work in the conditions of growing crime, terrorist acts, increasing number of criminal activities aimed at procurement of different materials, including fissile materials and radioactive substances [...]. The state of physical protection systems does not meet even existing standards stated in regulation documents. Physical protection of nuclear plants and materials is not efficient from the point of preventing technological terrorism at the corresponding facilities [...]. We have no modern means of physical protection of nuclear and nuclear-related facilities. As a rule, the fences have no anti-ramming devices. Very often, it is a regular fence. I will not tell you how many sites belonging to nuclear industry have [...] holes in [...] these fences."⁴⁷

⁴⁴The Russian military conducted an experiment with the Pioneer mobile system at the Semipalatinsk test range. They fired at Pioneer with an automatic rifle. The explosion was so powerful that nothing was left of the system.

⁴⁵They include 29 energy units at nuclear power plants with the capacity of 21.2 million kW, industrial reactors for fabrication of weapons-usable materials (in Chelyabinsk, Krasnoyarsk-26, Tomsk-7), radiochemical plants for nuclear fuel reprocessing, storage facilities for the spent nuclear fuel, and highly radioactive waste.

⁴⁶Lev Ryabev. Records of the State Duma hearings, November 1996.

⁴⁷Alexander Dmitriyev. Records of the State Duma hearings, November 1996.

Representatives of the closed cities were even more harsh. According to an official of VNIIEF (Sarov),

"What kind of physical protection of nuclear weapon facilities are we talking about, when dozens of thousands of people inside the facility have such low wages? How should they work? And remember that nuclear devices pass through their hands every day. If we do not take urgent measures, very soon we will have a few qualified specialists capable of maintaining safety and security of nuclear weapons. And crime is thriving in our city. The number of people who were previously convicted, has recently amounted to 3,500 and 120 of them still have convictions. So, I would like you to think — even three-lined protection of external perimeter will not save nukes from criminals inside the city, who are armed with firearms [...]. Our primary task nowadays is to preserve personnel. If we do not take urgent measures, in the next few years the equipment will be left without people. Nuclear weapons without specialists — this is a disaster."⁴⁸

Authoritative experts of the Defense Ministry concluded,

"One cannot rule out the possibility of [...] accidents and emergencies caused by the attempts of theft, seizure, unauthorized activities with nuclear weapons. Possible consequences of unauthorized activities at nuclear facilities are radiation catastrophe and irreplaceable political damage to Russia."⁴⁹

Under these circumstances, the Cooperative Threat Reduction Program proposed by the United States and aimed at reducing the risk of nuclear proliferation from Russia was not only politically acceptable to Russia, but was the only way to render immediate assistance to Moscow in improving MPC&A systems for nuclear munitions and fissile materials. Meanwhile, Russia could accumulate its own funds for that purpose. The program will be described in detail in the second chapter.

Illicit Trafficking in Nuclear Material

In recent years the term "illicit trafficking in nuclear material"⁵⁰ has emerged and has been widely discussed by the media, experts and top politicians.

⁴⁸Records of the State Duma hearings, November 1996.

⁴⁹Ibid.

⁵⁰The illicit trafficking in nuclear material is intra- or inter-border movement of nuclear materials, sensitive from the standpoint of nonproliferation (i.e. uranium with 20% enrichment and higher, plutonium, irradiated fuel reprocessing plants, plants for separating uranium isotopes, heavy water production plants, enriched uranium and plutonium conversion plants, and major components of these plants) and acquired as a result of unauthorized access to them.

The Soviet Union (1989-1991) and Russia have often been identified in the world press, as a source of illicit nuclear trafficking. The reason for this was the collapse of the USSR and the suspicions of insufficient physical protection of nuclear materials and weakness of the MPC&A systems. The *first wave* of information about nuclear smuggling from the Soviet Union/Russia dates back to 1989-1992. The typical headlines of that time were: "In January 1992 in Switzerland an employee of Italian radio and television got an offer to buy five kg of Russian plutonium."⁵¹ Serious Western experts were concerned about the new Russian danger no less than journalists. These apprehensions were based on irresponsible statements by some leaders of Russian companies, who regarded the market economy as unlimited freedom and who publicly offered to buy, for example, chemical weapons.

That is why the newspapers reported that if one wanted to buy a fast-breeder reactor, enriched uranium, heavy water or even some peaceful nuclear explosive devices, one should make this purchase in Moscow.

Among the states whose territories served most often as the transit point for materials from Russia, were Italy, Switzerland, and Austria. One of the most active accusers of "Russian nuclear contraband" (including HEU, plutonium and so called red mercury) was deputy prosecutor of the Italian town of Como, Romano Dolce. However, in the fall of 1993, the prosecutor himself was arrested for participation in an international criminal group involved in secret machinations with false dollars, counterfeited bank certificates, arms, drugs, and radioactive materials. After this scandal the first wave of charges against Russia for its inability to prevent nuclear smuggling quickly died out.

The second wave began in summer 1994 when three incidents were discovered in Germany, allegedly involving Russian weapons-usable nuclear materials. One of the cases concerned plutonium seized in Tengen. Further investigation and research showed that it was not Russian plutonium but more likely material from the Rosendorf nuclear center (situated in East Germany).

The most notorious incident, known as *the Munich affair* (when weapon-grade plutonium was seized in the Munich airport on a *Lufthansa* flight from Moscow), marked the peak of accusations for those who saw Russia as the main source of nuclear smuggling in the world. The scandal soon abated, however, when it turned out that it involved German secret services and the Russian origin of plutonium could not be proven.

The *Munich scandal* in a sense compromised the very notion of combating illicit nuclear trafficking. At the same time Russia, as other

⁵¹ *Literaturnaya Gazeta*, November 3, 1992, p. 15.

powerful states, soon realized the importance of coordinated actions to prevent illicit trafficking and the significance of dialogue in this area. Starting in 1995-1996, the provocative tone and policy of mutual reproaches with regards to illicit trafficking was replaced with constructive cooperation among leading states.

Nowadays, two questions may be posed. First, is there any reason for a growing illicit trafficking in nuclear material at present? Secondly, are there any reasons to allege that Russia was (and is) the primary source of the risk of illicit nuclear trafficking?

Let us start with *the first question*. Presumably, the increasing threat of illicit nuclear trafficking in recent years has been caused by the following factors:

- The release of a considerable number of weapons-usable nuclear materials resulting from the global process of nuclear arms reduction.
- Increasing obstacles to legally obtaining nuclear materials for non-nuclear weapon states who are developing their own military nuclear programs, due to the strengthening of the international system of export controls.
- The growing number, influence and increasing financial capabilities of non-governmental actors in international relations, such as terrorist groups, transnational organized crime groups, ethnic separatist movements, and religious sects.

As far as *the second question* is concerned, we believe that the difficulties in adequately responding to illicit nuclear trafficking are not a *headache* for one state but for all states that possess nuclear weapons and nuclear fuel cycle enterprises. At the same time, it is obvious that the risk of illicit nuclear trafficking and unauthorized access to weapons-usable nuclear materials or nuclear weapons with terrorist purposes is considerably high in two states — the United States and Russia. These two states possess the largest stockpiles of nuclear weapons and nuclear materials sensitive from a nonproliferation standpoint, and, moreover, are the states where the process of nuclear arms reduction is the most dynamic.

As far as Russia is concerned, there were at least 52 cases of illicit nuclear trafficking in the 1990s.⁵² In most cases, information about nuclear theft or nuclear smuggling shows that trafficked radioactive substances are not nuclear materials and cannot be used to produce nuclear weapons. These are primarily natural uranium and uranium dioxide, enriched to 2-4% of uranium-235 (in some cases with a higher degree of enrichment) as well as sources of ionizing radiation. Sometimes they were intended for resale

⁵²Dmitry Kovchegin, "Illicit Trafficking in Nuclear Material from Russia in 1999-2000". *Russian Security*, Appendix 1, January 2001, p. 1.

inside the country, where the materials were obtained, sometimes for smuggling abroad. These cases do not pose any threat to the nonproliferation regime.

The problem of analyzing illicit nuclear trafficking is complicated by the considerable amount of unverified information and conjectures. To a certain extent, it can be accounted for by the mass media's desire to report the sensational to attract readers. Besides, journalists are not always expert enough to explain the difference between highly enriched and depleted uranium to the readers.⁵³ In some cases, the problems of illicit trafficking are targets for political and diplomatic games, or the tools of misinformation activities by intelligence services.⁵⁴ Finally, some cases of illicit nuclear trafficking cannot be revealed without detriment to national security and are classified or distorted. Hence, one should be cautious in assessing the evidence surrounding illicit nuclear trafficking. One should take into account that the press stirred the growing number of attempts of radioactive material theft in Russia in the early 1990s by giving the impression that there was an enormous global demand and high prices would be paid for any radioactive material.

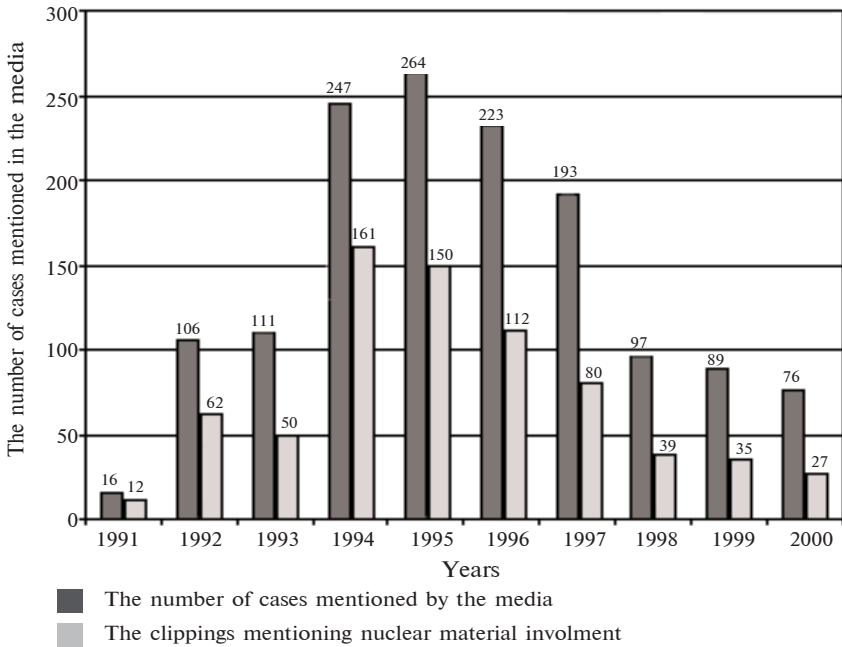
Meanwhile, it would be wrong to say that there was no illicit nuclear trafficking in Russia, as some Russian officials did in the early 1990s: "There is no illicit trafficking in Russia, because it can never occur." The more they denied any possibility of theft, the more alarming were the facts described in the press.

We believe that in the late 1980s, organized crime groups realized that the Soviet territory was becoming a source of strategic substances, including fissile material, that could be transferred to end-users, i.e. to

⁵³Valery Davydov, *Journalists and Nuclear Weapons*. M., Prava Cheloveka, 1995.

⁵⁴"Seized materials, and I speak about 99% of cases, were not weapons-usable materials, as we call them. This was a deliberate confusion. Some said that these were highly-enriched materials, but highly-enriched means more than 20% enrichment. They were not weapons-usable by condition [...] This was a multi-purpose operation. On the one hand, it was artificial instigation of demand, an attempt to prove that Russia had organized crime, nuclear mafia similar to drug barons — you just have to order something and they will get it for you. But there is no such mafia. People, who steal these materials, hide them carefully and for long and then start to look for customers. Some thieves kept these materials for 18 months because they could not find the clients. End-user is always crucial for such deals. It is noteworthy that we have failed to get a clear answer from our foreign counterparts concerning this end-user. Who is striving to acquire nuclear materials? There are myths about Libya, Iran, Iraq... The aforementioned countries cannot depend on accidental and vague supplies of non-professionals. These myths may help to discredit or to provoke them, but make no other sense. All these nations try to develop an indigenous and self-sustained system for production of enriched nuclear materials. By no means, they are involved in deals with strangers." (Head of the Department of the Russian Foreign Intelligence (SVR) Gennady Evstafiev answers the questions of Vek newspaper). *Vek*, No. 37, 1995.

Chart 1. Media Clippings on Illicit Trafficking in Nuclear and Radioactive Material from Russia in 1991-2000



Source: Dmitry Kovchegin, "Illicit Trafficking in Nuclear Material from Russia in 1999-2000". *Russian Security*, Appendix 1, January 2001, p. 1.

states with developing military nuclear programs. After the collapse of the USSR, these criminal activities intensified: it seemed so easy to deceive the inexperienced new leadership.

In this connection, one may remember the story of *red mercury*. It was a substance that could allegedly have brought Russia lots of money, but none could explain the value of this material, which was eventually considered to be "non-existent". However, secret Resolution No. 75-rps of February 25, 1992 signed by Boris Yeltsin was effective for a short period, at least a year (when it was extremely easy to find loopholes in legislation and gates in customs to export strategic raw materials). This document permitted the export of red mercury to the Yekaterinburg-based *Promekologia* concern: "manufacture, purchase, storage, transportation, supply and sale of red mercury for rubles and hard currency within the limits of annual export quota of 10 tons". Profits from these deals were tax-exempt to avoid any evidence. It is not

important whether red mercury was a myth, a result of sincere mistake of the secret services or a secret codename for real items. It is significant that export of material, which was supposed to be radioactive and usable for specific military equipment, was authorized by... a secret decree. No licenses, no export control commissions, just a classical move: since red mercury does not exist and it is not mentioned in trigger lists, then there is no problem with its export.

This secret document was discovered and presented to the public by Vice President Alexander Rutskoi, who used it in a domestic political struggle. The question is how many secret resolutions like that were issued, but remained undisclosed just because they could not be used in political intrigues. How many companies, like *Promekologia*, worked to satisfy the transient demands of reformers and post-reformers?

Nowadays it is impossible to say what was behind the mystery of red mercury: financial machinations or actual supplies of unknown material. It is noteworthy that Alexander Gurov, who was then in charge of criminal investigation and now chairs the Duma's Security Committee, admitted that even after studying hundreds of documents red mercury remained a mystery for him.⁵⁵

Meanwhile, archives concerning red mercury contain a strictly confidential unsigned document issued by the Ministry of Security (the name for the FSB in the early 1990s), which argued that Russia exported weapon-grade plutonium under the guise of red mercury:

"Different sources inside the country and abroad independently and repeatedly mention two characteristics of the substance: density of 20.2 g/sm³, low radioactivity and short life in this state. One of the possible uses is adding it to explosives of nuclear warheads. Price amounts to \$300-600,000 per kilo. Isotope of Pu-239 meets all these requirements and has a density of 19.8 g/sm³. It has low radioactivity and costs ten times more than red mercury. The material requires special safety and security measures during direct transportation. However, all difficulties can be eliminated if plutonium amalgam is used (metal solved in extra pure mercury) [...] Quicksilver captures neutrons and there is no need for special containers for delivery. To extract plutonium from amalgam mercury can be evaporated without residual. Thus, this is a unique method of secret transportation of weapon-grade plutonium under the guise of red mercury. Another proof for this assumption is the diminishing nuclear arms production in Russia, which, in turn, gives an opportunity to mafia to export stockpiles of weapon-grade plutonium. This is quite possible, taking into account current conditions of storage of dismantled warheads."⁵⁶

⁵⁵Alexander Gurov, *Taina krasnoi rtuti (Secret of Red Mercury)*. M., Kommerchesky Vestnik, 1995, p. 299.

⁵⁶Ibid., pp. 242-243.

On the other hand, some officers of the Russian secret services regarded scandals concerning red mercury or leakage of uranium as activities planned by Western states to discredit Russia. According to a senior officer of the Russian Foreign Intelligence (SVR),

"The topic of mafia and related threats has not emerged accidentally. It is a new element of a long-term campaign. In early 1992, Western nations began to assert that after demise of the Soviet Union Russia had lost all control over its nuclear arsenal and atomic weapons of its recent allies. In a series of publications Kazakhstani President Nursultan Nazarbayev was accused of selling nuclear missiles to Iran. This campaign abated a year later: none had any clear evidence that Russia was not able to control its nuclear missiles. Then another issue emerged — smuggling of red mercury. Dozens of articles, several books and movies were devoted to this topic and afterwards it turned out that such material did not exist in nature [...] This topic also began to breathe its last. Red mercury was immediately replaced with speculations about smuggling of radioactive materials, above all weapon-grade plutonium. However, plutonium, especially weapons-usable plutonium, has some characteristics that make it possible to find out its country of origin and production facility."⁵⁷

As it was stated by the G-8 leaders at the Moscow summit in April 1996, the illicit trafficking in nuclear material continued to pose a global proliferation risk and a potential danger to public health and safety.⁵⁸ The criminal diversion of nuclear material could assist states or terrorist groups to bypass the carefully crafted controls of the international nuclear nonproliferation regime and permit them to construct or otherwise acquire a nuclear or radiological weapon.⁵⁹

The G-8 leaders admitted that the majority of cases so far had involved only small amounts of fissile material or material of little use for weapons purposes, and many apprehended nuclear traffickers had been swindlers or petty thieves. Nevertheless, cases of illicit nuclear trafficking continue to occur.⁶⁰

According to our estimates, the most serious test happened in *the early 1990s*. For instance, two cases of theft took place in 1993 in the North Fleet — uranium fuel assemblies (26-36%-enriched uranium) were stolen. In January 1995, in Ozersk (PO *Mayak*) a loss of 0.33-g plutonium pellet was detected. The pellet was ready for disposition in unit PO373 and was delivered from Department No.14 of *Instrument-Making Plant* after dismantlement in July 1994. Nuclear materials were stolen at *Luch* plant (Podolsk, Moscow region), VNIIEF (Sarov, Nizhny Novgorod region), etc.

⁵⁷ *Izvestiya*, October 16, 1997, p. 3.

⁵⁸ "Program for Preventing and Combating Illicit Trafficking in Nuclear Materials. Moscow Nuclear Safety and Security Summit." *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 16.

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*

For instance, in November 1993 at the North Fleet base *Sevmorput* radioactive materials were stolen — cores of three fuel assemblies for nuclear reactors of nuclear-powered submarines, containing about one kg of uranium-235. According to the military prosecutor, the warehouse had the following protection:

"On the part of the Kolsk Gulf — no fencing at all: just take a boat in the night, come and do what you want. On the part of Murmansk industrial zone — ship-repairing plants, woodworking combines, holes in the fences here and there. There is no strip to control footprints around the warehouse. It is easy to reach the backdoor of the storage facility. The warehouse has anti-atomic protection, i.e. the system to control self-sustaining chain reaction, the fire-prevention system, and the water alarm mechanism. However, there is no security alarm itself. There is a simple contact switch: if the door is open, the pin is not in place and the alarm turns on. The door closes, the pin returns to its normal position, no electrical contact — no alarm. Such security alarm is connected to a control panel, which is 100 meters away from the warehouse. Besides, the alarm had a faulty contact: if one opens a door (at the entrance or the backdoor) the other door will open without alarm signal. The wire of the alarm went through a trailer — cloakroom of the loaders, where there was no lock on the electric switch panel. In other words a criminal could sit in the trailer, cut off the electricity and then act. Two old ladies guarded the control panel of the alarm. If they need to go to the warehouse they will have to come across the grounds full of various rubbish and in winter there are huge snowdrifts. No lights at all. The warehouse had a simple rusty padlock, which was sawed by the criminals in ten minutes."⁶¹

On October 26, 1995, a martial court found Seamen P. and A. guilty of stealing radioactive materials used in nuclear power plants and sentenced them to four and three years imprisonment, respectively, under Article 223-3 of the Russian Criminal Code. In accordance with Article 44 of the Criminal Code, the court decided suspend the sentence and to grant them a probation period of one year.

On November 3, 1995, a martial court in the Moscow Military District accused Major K. of illicit acquisition of containers with radioactive materials and their illegal transfer to foreigners. He was sentenced to five years imprisonment under Articles 223-3 and 223-2 (1) of the Russian Penal Code. The sentence was suspended and he was granted a probation period of five years.

On December 13, 1995, a martial court in the Far Eastern Military District found Private K. guilty of stealing material, and of the theft and illicit storage of radioactive materials. He was sentenced to five years

⁶¹Mikhail Kulik, "Nekotorye problemy khraneniya yadernykh materialov na Severnom Flote (Some Problems of Nuclear Materials Storage on the North Fleet)". *Yaderny Kontrol*, No. 2, February 1995, pp. 12-15.

imprisonment under Articles 223-3, 223-2 (1), 218-1 (2) (theft of munitions and explosives). The perpetrator had disassembled the stolen source of ionizing radiation and threw it into the river, but it was found during the investigation and returned to the military unit.⁶²

Mr. Smirnov, machine operator at NPO *Eko-Luch* (Podolsk), knew the technology of radioactive material reprocessing well. And not only the technology, in fact: the investigation showed that Smirnov had knowledge of the shortcomings of accounting and control, since the weight of the reprocessed product increased after burning by 2-3%. Indulgence of plant's security was also a plus. Smirnov every time took away 50-70 grams of unaccounted technological surpluses and finally stole more than 1.5 kg of uranium-235, hoping to sell it with profit. He also stole three storage containers for radioactive substances.

Another channel for nuclear material theft is illustrated with by case of Mr. Yatsevech, stockman of specialized production at workshop No. 103 of the VNIITF (Chelyabinsk-70). He made a deal with Engineer Shelomentsev and stole blank of non-enriched uranium-238 (5.5 kg). He was stealing other things as well. Investigation revealed an interesting fact: despite all inventories, Yatsevech had never had surpluses or deficits. Beside uranium, he stole 151 g of platinum, 13.5 kg of titanium, and 49.5 kg of tantalum. The explanation turned out to be very simple: executive accounting of special production was his main system of accountancy and enabled Yatsevech to commit his crime.

Unemployed Vasin was detained in Arzamas-16 with 5.1 kg of uranium-238. It turned out that he had tried to sell this uranium to Ukraine with the help of a group of accomplices, but had failed. Experts proved that uranium came from local facility — VNIIEF.⁶³

In 1996, the loss of one fuel assembly with 90% enriched uranium, containing 145 g of uranium-235 was discovered at the Tomsk Institute of Nuclear Physics of the Tomsk Polytechnic University. The material was never recovered.⁶⁴

According to Assistant to the Prosecutor General Alexander Mytsykov,

"Inspections performed by prosecutors indicate that there were cases of nuclear theft and further incidents of theft cannot be precluded. Criminal cases [...] demonstrate

⁶²Letter of Major-General Yakovlev, Head of the 2nd Directorate of Inspectorate of the Chief Military Prosecutor's Office, to *Yaderny Kontrol*, No. 32-33, August-September 1997, p. 39.

⁶³Alexander Mytsykov, "Yadernye khishcheniya i yadernaya bezopasnost: chto govoryat dokumenty Generalnoy Prokuratury (Nuclear Theft and Nuclear Security: Documents of the Prosecutor's General Office Speak)". *Yaderny Kontrol*, No. 9. September 1995, pp. 2-3.

⁶⁴*Voprosy Bezopasnosti*, No.16, October 1996, p. 8; Interview with a GAN official, May 1997.

how dangerous it can be when there is 'plus or minus one kilo' philosophy or other errors in accounting and storage of nuclear material [...] Inventory procedures at the Minatom's enterprises do not provide for true data on the amount of available fissile material. For instance, shop No. 1 of PO Luch there was no executive accounting of uranium even at the final phase of reprocessing. The production was stored in unsealed container. Enriched uranium was accounted only after completion of entire technological cycle. The possibility of fissile material leakage is enhanced by flaws in the system of evaluating norms of their irretrievable losses. For example, at PO Mayak this norm (calculated with statistical methods) was 0.08-0.85%. Taking into account, that there are tons of source material at Mayak, such gap may enable a swindler to make any stocks of unaccounted excess material. Checkpoints of secret enterprises have no devices to detect radioactive substances, and there are real chances for unauthorized acquisition of fissile materials, or for other criminal activities. Shabby, aging and imperfect security facilities are a matter of special concern [...]. At the Instrument-Making Plant, loading and unloading of nuclear munitions and specialized items take place at the railroad platform, which is outside the protection fence. The platform is guarded only when works are under way and is the most vulnerable place from the point of seizure of items, or destruction of components and mechanisms of the platform. At Sevmashpredpriyatiye, nuclear material is stored during the first phase in the room without alarm, without guard and with only one lock on doors. Efficiency of such control became obvious after inspections at checkpoint of electromechanical plant Avangard in Kremlev (Arzamas-16). Inspections revealed that soldiers who guarded the checkpoint missed every second-third conventional thief."⁶⁵

The second half of the decade can be characterized by an obvious decrease in the number of proven cases of nuclear theft, losses and smuggling which would cause grave concern. The decrease can be accounted for by joint, intensive efforts by states in strengthening national MPC&A systems, toughening customs control, and participating in an international exchange of information.

Meanwhile, cases of illicit nuclear trafficking continued during this period, as did the interest of certain states and non-governmental actors in boosting their military research and development programs in the nuclear area with the help of illicitly trafficked nuclear material.

The latest case under wide discussion occurred in 1998, when the detention of a criminal group that had stolen fissile material from a Minatom enterprise in the Chelyabinsk region was reported. The stolen amount was allegedly enough to create an A-bomb.⁶⁶

Russian officials present different data on illicit nuclear trafficking. For instance, in February 2000, Sergei Ivanov, then Secretary of the Russian

⁶⁵Alexander Mytsykov, op. cit., p. 3.

⁶⁶"Victor Yerastov: The Minatom Has All Conditions for Providing Safety and Security of Nuclear Material". *Yaderny Kontrol*, November-December 1999, p. 40.

Security Council, argued that in 1998-1999 the FSB had investigated about 10 cases related to the smuggling of radioactive substances,⁶⁷ arms and dual-use military equipment."⁶⁸ Victor Yerastov, head of the Department of Nuclear Material Accounting and Control (Minatom), maintained,

"We have officially registered 52 cases in our database. In most cases the illicit trafficking involves radioactive substances having nothing to do with fissile material. These sources of radiation are mainly used in the national economy, in various industries. The last case of fissile material theft in the Minatom structure dates back to 1995."⁶⁹

On September 28, 2000, Deputy Minister of Atomic Energy Valentin Ivanov stated that "during the last 10 years, at least 23 attempts of nuclear material theft occurred in Russia." One of them, according to Valentin Ivanov, was more than serious, for the swindlers "tried to steal up to three kilos of HEU."⁷⁰

The sellers of nuclear materials have been mainly individual amateurs — workers at nuclear fuel cycle enterprises, who committed theft independently or in a group; or secret services' officials (or people, who acted upon the orders of the secret services). In the first case, the sellers tried to get personal benefits, to earn some money, but had no political or terrorist objectives. In the second case, the sellers accomplished the mission of revealing the interest of terrorist groups or the organized crime community in nuclear materials.

The end-buyers of nuclear materials have not been identified. There has been no proof that the interest in nuclear materials came from governmental structures within threshold states.

As for middlemen, press reports on the existence of an international nuclear mafia have not yet been confirmed with documentation. It is presumed that the lack of continual demand for nuclear materials and the increased attention by leading developed states and their secret services to the problem of illicit trafficking have reduced the attractiveness of illicit nuclear transactions for transnational organized crime groups, especially in comparison with well-established and super-profitable drug trafficking, conventional arms smuggling, and control over the international prostitution market.

According to official Russian data, there are no organized crime groups on Russian territory who specialize in this area. All participants in known

⁶⁷The FSB deals with defense-related materials, including nuclear material.

⁶⁸*ITAR-TASS*, February 25, 2000.

⁶⁹Victor Yerastov, *op. cit.*, p. 40.

⁷⁰*Vremya Novostei*, September 29, 2000.

illicit trafficking are only middlemen, who have nothing to do with nuclear facilities and very often have no concept of the item being traded (retransfer) or its qualitative characteristics.

Does this mean that the problem of illicit nuclear trafficking is exaggerated? To a certain extent it is. Illicit trafficking has not yet reached the scale that allows us to speak about the menace of nuclear materials proliferation with the intent of acquiring weapons capability, and the scale of the problem has been exaggerated by the mass media. At the same time, illegal operations even with small amounts of nuclear materials are quite dangerous. One should proceed on the basis that there are reasons neither for panic nor for removing the issue from the agenda.

Potential buyers of smuggled nuclear materials do exist. They include both states and non-governmental actors, such as: threshold states, terrorist groups, transnational organized crime groups, ethnic separatist movements, and extremist religious sects.

Efforts to prevent illicit trafficking in nuclear material should primarily be aimed at strengthening the *first line of defense*, i.e. safe and secure storage of nuclear materials and efficient measures of protection, control and accounting to prevent proliferation. They should also include the tightening of national export control systems.

International cooperation in this area, sensitive from the national security standpoint, has its limits. It is understood, however, that without international cooperation (which as a rule is bilateral and sometimes multilateral), the problem of illicit nuclear trafficking, which, by definition, involves more than one state, cannot be solved.

This is why Russia and the United States should carry out the following joint tasks to prevent illicit nuclear trafficking:

- cooperation among intelligence, customs, and law enforcement agencies to prevent the international transportation and sale of diverted nuclear materials;
- joint efforts to identify and suppress illicit supply of, and demand for, fissile materials and to deter potential traffickers;
- exchange of information on nuclear theft and smuggling incidents, in accordance with the Convention on the Physical Protection of Nuclear Material;
- exchange of information on significant incidents in this area, especially if sensitive material is involved;
- coordination among national intelligence, customs, and law enforcement agencies in order to ensure prompt investigation and successful prosecution in cases of illicit nuclear trafficking;

- exchange of scientific information and data to permit the identification of the origin, history, and route of seized illicit nuclear materials.

The main principles of bilateral cooperation in preventing illicit trafficking should be:

- respect for the confidentiality of shared information;
- organization of cooperation on the basis of intelligence (verified when possible), including the engagement of the appropriate technical experts;
- strict control and, if necessary, prohibition to pass obtained information on the incidents to the mass media until completion of the investigation;
- obligatory analysis of seized samples of nuclear materials under international control in the state of the supposed theft, since the legislation of some states requires demonstration of the samples of diverted or smuggled material as evidence for a trial;
- refraining from conducting operations, which may provoke actions by criminal groups. Special caution and prudence is required in creating and using so-called controlled channels of illegal nuclear materials shipment, established by law enforcement agencies and secret services. These activities may resemble the existence of a black market and as a result, increase the demand of criminal entities for fissile materials.

We believe that U.S.-Russian bilateral cooperation in preventing the threat of illicit nuclear trafficking in the world is to play a key role in meeting this proliferation challenge.

The Threat of Nuclear Terrorism

In the 1990s, Russian doctrines and major conceptual documents treated nuclear terrorism as one of the major threats to national security.

"[...] There is a broadening range of threats related to international terrorism, including possible use of nuclear weapons and other WMD."⁷¹

WMD terrorism, along with the issue of illicit nuclear trafficking, helps to unify the practical efforts of Russia and the West (Russia and the United States in particular), and obliges them to work together for common interests.

Until 2001 there was no large-scale use of WMD, except the Tokyo subway incident, albeit there are many known facts of employment of

⁷¹National Security Concept of the Russian Federation. *Rossiyskaya Gazeta*, December 26, 1997.

highly toxic chemical agents for terrorist purposes. In fall 2001, soon after the terrorist attacks in New York and Washington the spread of anthrax began in the United States (via mail), as far as we know — in a weapons-usable form. Though the number of infected people is low (only 18, out of which five died), but the political and psychological effect has been enormous.

It would be wrong to say that no one ever thought about WMD terrorism issues in the Soviet Union. Specialized research was conducted, but it was disseminated only in a narrow expert community. The issue began to be discussed amongst the public and in the academic community in the early 1990s, when terrorist groups intensified their activities in Russia and along its borders. Besides, this was the time of weakening MPC&A systems and growing problems pertaining to the transportation of nuclear munitions, as we mentioned above.

In 1992, the Russian counterintelligence service warned that the threat of nuclear blackmail with respect to nuclear power plants was more than a movie fantasy. Officers of the Russian secret service published an article in the state-owned newspaper and informed the public on the developments of 1990 and 1992, when directors of the Kursk and the Smolensk nuclear power plants received letters with a threat to blow up or to seize the plants.⁷² In 1993, one of the leaders of the Chechen militants — Shamil Basayev — said that he had been offered a nuclear explosive device for \$1.5 million. In October 1994, Moscow Mayor Yuri Luzhkov delivered a speech at the special session of the Moscow Government devoted to the prevention of terrorist threats at nuclear facilities in the city. He admitted that he was concerned about possible emergencies at nuclear facilities and the possibility of their seizure.⁷³

In 1995, Chechen militants deployed a container with the radioactive isotope cesium-137 in Izmailovsky Park in Moscow. The material was not extremely dangerous and was supposed to have psychological, rather than any military effect.⁷⁴ In the same year experts close to the secret service reported that there was a dangerous link between ethnic terrorist groups and organized crime groups in Russia, on the one hand, and international criminal communities, on the other. For instance, Russian criminals established ties with Italian, Colombian, and Arab counterparts. The channels for arms and drug trafficking connected Gorny Badakhshan (Tajikistan), Abkhazia (Georgia), Chechnya and Ingushetia (Russia) with Colombia, Antigua, Pakistan, Yemen, Laos, and

⁷² *Rossiyskiye Vesti*, No. 30, July 1992.

⁷³ *Izvestiya*, October 6, 1994

⁷⁴ For more gossip and reality about WMD use for terrorist acts by Chechen militants, see Yevgeny Antonov, "Chechnya: The Threat of WMD Terrorism". *Yaderny Kontrol*, No. 2, March-April 2001, pp. 55-70.

Estonia. Some presumed that these well-established channels could be used for the transfer of WMD for criminal and terrorist purposes.⁷⁵

In March 1996, M. Barsukov, then Director of the FSB, in his interview with the Moscow News argued that attempts of seizure of NPPs, other hazardous facilities, CW storage sites and nuclear weapons themselves were "quite possible".⁷⁶

In 1997, during a trial in Tokyo, one of the leaders of *Aum Shinri Kyo* maintained that the sect had acquired in Russia a secret technology for sarin production with the support of Oleg Lobov, then Secretary of the Russian Security Council.⁷⁷ Indeed, photographs of Lobov with the *Aum Shinri Kyo* leader Asahara were a matter of public knowledge. However law enforcement agencies involved in the investigation in Moscow did not confirm the information.

In the spring of 1997, the FSB prevented an attempted diversion at a nuclear power plant. The President's Office in Moscow received a phone call with a warning saying the nuclear power plant would be seized. According to the FSB, the intentions of this terrorist were quite serious and the threat was very real. He was arrested — a victory for the FSB, as its director called it.⁷⁸ In August 1997, during an *Atom-97* exercise in the Murmansk region, *Vypel* group was trained to prevent capture by terrorists of the Kolsk nuclear power plant and the *Siberia* atomic icebreaker. Lt.-Gen. Gerasimov made the following comment: "The threat of nuclear terrorism is still relevant in the Murmansk region."⁷⁹

Assessments of the possibility of nuclear terrorism in Russia indicate that illicit nuclear trafficking may decrease, whereas nuclear terrorism may increase.⁸⁰ It is understood that this problem is supranational and trans border, so Russia pays much attention to international cooperation to prevent nuclear and WMD-terrorism. On June 27, 1996, President Yeltsin signed the Lyon Declaration on Terrorism, which named counter-terrorist activities a top priority with particular emphasis on nuclear, biological and chemical materials and toxins that could be used for terrorist purposes.⁸¹

Terrorist attacks against the United States organized by *Al Qaida* on September 11, 2001, resulted in more than 3,000 casualties in the World

⁷⁵ *Moscow News Confidential*, February 1995, pp. 2-10.

⁷⁶ *Moscow News*, March 9, 1996.

⁷⁷ *Segodnya*, April 26, 1997, p. 4; *Izvestiya*, May 25, 1997, pp. 1, 3.

⁷⁸ *Krasnaya Zvezda*, May 8, 1997, p. 1.

⁷⁹ Sergei Gorlenko, "Zaslon terrorizmu (A Shield against Terrorism)". *Nezavisimoye Voennoye Obozreniye*, September 5, 1997, p. 7.

⁸⁰ Yuri Marakhovsky. Report at the Carnegie Moscow Center, September 1998.

⁸¹ Lyon Summit. Declaration on Terrorism. June 27, 1996, p. 1.

Trade Center in New York, the Pentagon building in Washington, and in the plane crash over Pennsylvania. These deeds marked a new stage of confrontation between the civilized international community and the international terrorists. The following BW terrorist acts in the United States, i.e. the dissemination of anthrax via mail, go on, as we send this book to the printers; the appropriate investigation is also under way.

Experts analyzing the activities of Osama bin Laden and his group noted *Al Qaida's* interest in developing radiological weapons and, presumably, nuclear explosive devices in the future.⁸²

Though it is difficult even for major international terrorist networks to obtain access to WMD components and related technologies, but the possibility that this task may be accomplished cannot be ruled out. In the beginning of the 21st century, it becomes obvious that terrorist organizations have shifted their attention from traditional limited terrorism to the procurement of WMD components. Major motivation of megaterrorists is their hatred to political regimes and their leaders, although they change their priorities in the direction of ethnic, nationalistic and religious (apocalyptic) terrorism.

Chemical weapons are the most likely tools of terrorists because certain chemical agents:

- are extremely toxic and quite small amount of substance is lethal (it is 40 times more efficient to use CW than conventional explosives). It is difficult to identify specific chemical agent used and the source of the attack;
- have particular characteristics making them applicable for combat use (volatility, quick absorption through the skin, etc.). Chemical weapons cannot be detected by traditional antiterrorist sensors;
- may be employed with the help of specialized technologies easily transformed for terrorist purposes;
- are cheap and easy to produce. Chemical agents may be manufactured by a small group of specialists, even by one skilled chemist in the small laboratory and disseminated via the vacuum fan. Methods of synthesis have repeatedly been published. CW may be used secretly, in doses and may affect the body for a preset period of time. Neither population nor authorities expect the use of CW and, probably, will detect the attack when it is too late. CW may inflict thousands of casualties if they are used against a crowd of people in the closed medium. It is particularly effective to use binary CW;
- are efficient for provoking panic and fear.

⁸²See: Adam Dolnik, "America's Worst Nightmare: Osama bin Laden and WMD". *Yaderny Kontrol*, No. 4, July-August 2001, pp. 7-9.

As far as *biological weapons* are concerned, the possibility of their employment is less probable than the use of CW, but is more likely than the recourse to nuclear and radiological weapons for terrorist purposes. However, BW are quite easy to acquire and use and they are cheap. Besides, BW are good for secret use and may have selective effect. The most probable is the use of such germs, as typhoid, paratyphoid, botulism toxins, and others, in the buildings equipped with air-conditioning systems and ventilation. The viruses may also be applied to fresh water tanks, food, and cosmetics. The choice of anthrax by the authors of the terrorist acts in the United States was quite surprising, due to the low efficiency of this virus. This case revealed some new aspects of the WMD terrorism.

Nuclear terrorism is the least probable, but the most dangerous from the point of general consequences (political, military, social, environmental, and psychological). The acts of nuclear terrorism may be classified in the following manner:

- *Detonation (or the threat of detonation)* of nuclear explosive device. The nuclear explosion is the most devastating act of terrorism. Hence, the security of strategic nuclear materials (highly-enriched uranium and plutonium) and nuclear munitions is vitally important for national security and should be the utmost priority in maintaining the security of nuclear complex. The threat of use of nuclear weapons by terrorists is still hypothetical.
- *Contamination with radioactive materials.* The use of radioactive materials (cesium-137, plutonium, cobalt-60, etc.) in large-scale acts implies their dispersion in the form of aerosols or their dilution in water sources. Significant efforts must be taken to eliminate the consequences of such act. In most cases (dilution of plutonium in reservoirs, its dispersion in the form of aerosols, detonation of the container with cesium), radioactive contamination will be local and will not lead to tremendous damage. At the same time, according to some Russian experts, dispersion of the small amount of plutonium with the use of aircraft may result in consequences comparable to nuclear explosion.
- *Sabotage at nuclear facilities.* In most cases the consequences of damaging research plants or nuclear fuel cycle enterprises will be local (within the industrial ground). Global catastrophe is possible if diversion is targeted against nuclear reactor of the NPP, which has higher radioactivity and high internal energy burning capacity.

Analysis made by the PIR Center has indicated that even under current circumstances of increased interest by international terrorist networks to mega-terrorist methods, *there is no significant evidence* of preparations for WMD terrorism. Our conclusions mainly coincide with ones expressed by the former deputy assistant Secretary of Defense Mitchel

Wallerstein in his thoughtful essay written for the *Chicago Tribune* in November, 2001: "As worrisome as these dangers are, we should not overreact or blow them out of proportion".

Our analysis enables us to make the following conclusions concerning the most threatening megaterrorism scenario — nuclear terrorism challenges in the near future.

- It is hardly possible that any terrorist group will manage to develop a nuclear explosive device on its own or with the help of recruited nuclear scientists. At the same time, experts note that there is a plutonium problem that will be even more topical in the early 21st century. By 2010 civilian reactors will fabricate about 450-500 tons of plutonium. This amount exceeds demands of the states. In this context, the risk of creating an indigenous nuclear explosive device from reactor plutonium cannot be ruled out.
- Unauthorized access of terrorist groups to nuclear munitions is also quite unlikely. At the same time, access to and theft of nuclear munitions during transportation or dismantlement cannot be precluded. Nonetheless, protective mechanisms of the munitions help to avoid their unauthorized detonation
- Terrorist attacks are normally aimed at achieving immediate dramatic effect. The easiest way to attain it is to use radioactive materials. For instance, an attack by a light-armed group of terrorists against the nuclear plant or the statement concerning the use of nuclear weapons and materials may not inflict realistic damage, but will cause hysteria and fear. Hence, the number of declarations pertaining to the intention to seize nuclear facilities and the number of corresponding attempts (even if they doomed to failure) will probably increase.
- One should not rule out the possibility of well-prepared terrorist acts targeted against NPPs. One of the worst-case scenarios would be another Chernobyl, which damaged health and caused psychological traumas to thousands of people, contaminated vast agricultural areas, led to the loss of energy source and resulted in high expenditure to eliminate the consequences of the emergency. Even if it is possible to prevent radioactive fallout, long break in the work of reactor may lead to large economic and sociopolitical damage.
- It cannot be ruled out that international terrorist organizations may develop radiological weapons, using radioactive waste.

A new area of concern for U.S., Russian, and European governments, as well as a new potential area of active interest by international criminal networks and terrorist organizations is *cyberterrorism*. Cyberterrorism has grown from hacking, freaking and other information hooliganism, which uses the means to affect the information and communication systems. It has later transformed into an independent component of criminal activities with an unlimited potential for affecting any (even the most

critical) state structures. According to current Russian government estimates, cyber terrorism will become an integral part of all future (if not prevented) WMD terrorist acts.

As Russian governmental expert Alexander Fedorov pointed out in his report "Terrorism and International Information Security" published in *Yaderny Kontrol* in December 2001, the United States is nearly the absolute champion in surviving the attacks against local area networks, workstations and servers connected to the global nets. Rank and file hackers do not always initiate these attacks, though the latter have inflicted serious damage to individual users and states. According to Mr. Fedorov, until recently, about 94% of such crimes originated from internal users. As the Internet develops and the criminal and political groups are armed with IT, the situation changes and becomes difficult to analyze. However, according to the recent NSC study, at least, 13 countries have cyber warfare programs targeted against the United States. Besides, the United States has detected successful cyber attacks on the part of Chinese, French, Israeli, Russian and other hackers. The U.S. government manages to detect no more than 10% of those who attempt to hack the governmental computer networks. There have been attacks against the computer networks of practically all state bodies. According to the US DOD, its computer networks are hacked about 250,000 times per year, out of which 500 make serious attempts to penetrate the secret systems. Computer networks of the US Navy have been attacked 12,000 times a year. The Chinese hackers launched a paramilitary attack against some servers of the US governmental agencies during the conflict about the US aircraft captured by China. The hacker attack started in an organized manner and stopped also in an organized manner. It blocked many systems and demonstrated that China had a considerable information warfare capability and could even threaten the United States. In February 2000, the massive attack against the popular Web sites took place (Yahoo!, Amazon.com, CNN, etc.). Individual users suffered from this attack, but it had a substantial impact on the US financial markets and led to the decrease in stock prices. As a result, the Dow Jones Index went down by 260 points (about 2.4%), the NASDAQ index decreased by 64 points (about 1.5%).

According to the above mentioned report, the United States is not the only country that has to face such problem. Every year more than 300 successful hacking acts are detected in the military, state and commercial networks of Western Europe. There are facts of attacks against the information networks of Russia, China, Taiwan, India, Indonesia, Armenia, etc.

Such developments should provoke significant concerns of the governments taking leading roles in the counter-terrorist coalition. Some

Russian experts in the information warfare believe that the next attack by most radical and aggressive anti-Western international terrorist networks (who use Islamic rhetoric) may be targeted at information systems of South-East Asia and/or East Asia, with the goal to provoke panic and destroy financial system in the region, just recently restored after the crisis.

There are increasing concerns in Russia that the treat of megaterrorism cannot be prevented by national security means only. An intention to cooperate with the United States in this field, closely and not only episodically, has been expressed by top Russian officials more and more actively. As President Putin said in November, 2001, "we may fight the threat *only* if we unite our efforts..."

Russia has joined the international antiterrorist coalition. Thus, President Putin made an important choice in favor of supporting U.S. efforts to destroy terrorists on the territory of Afghanistan.

At the same time, it is obvious that the solution to the problem of international terrorism is more complex. One should eradicate the roots of terrorism, cut the financial flows and realize the reasons for the recent wave of international terrorism targeted primarily against the United States. This is a work for more than one state, whatever mighty (politically, economically, and military) it may be.

Concerted international efforts to curb nuclear and other WMD-terrorism are crucial for the success of such activities. Cooperation between states in this domain should provide for:

- appropriate legal measures to prevent preparation of WMD-terrorist acts on their territories, including measures to prohibit illegal activities of individuals, groups and organizations that support, instigate, organize or participate in WMD-terrorist acts;
- exchange of information to prevent WMD-terrorism. As different opportunities (including financial) for super-terrorists emerge, counter-terrorist activities involving traditional political methods become less efficient. Under these circumstances, early exchange of intelligence data is decisive. This exchange should be strictly confidential, to avoid interception by terrorists;
- reporting of the results of investigations to other states concerned, if WMD-terrorist acts take place or suspects of such terrorist activities are detained.⁸³

The fight against international terrorism gives impetus to U.S.-Russian rapprochement. This is one of a few areas, where vital interests of both

⁸³The Russian Criminal Code, Article 205 (terrorism). According to the 1999 amendments, the punishment for nuclear terrorism or attempt of nuclear terrorism is 10-20 years of imprisonment.

states coincide, or are very similar. The developments of September 11 and the establishment of the antiterrorist coalition give a new chance to strategic partnership between the two states. The strategic rapprochement with the United States has become an important element of Vladimir Putin's foreign strategy.

It seems that currently the Russian political and military leadership follows the strict instructions of the President and become to regard the crusade (jointly with the United States) against international terrorism as a must. At the same time, such policy has certain limitations, or conditions.

Firstly, Russia expects to participate in the joint threat assessment with the United States.

Secondly, Russia claims for an access (at least, limited) to the decision-making mechanisms concerning the combat against megaterrorism.

Thirdly, in this fight against international terrorism Russia would not prefer to focus on states (above all, Iraq), but on non-recognized regimes (as it was with the Taliban in Afghanistan) or on various non-state actors (like separatist groups or extremist religious cults). Another matter of concern is to prevent the convergence of terrorist groups and international criminal communities (such concerns are also raised by some US NATO allies, notably the UK).

Fourthly, when it comes to megaterrorism, Russia would prefer to focus on the threat of cyber terrorism and joint efforts to prevent this challenge while the U.S. does not believe that this should be an area for close bilateral cooperation and information exchanges.

Washington may not be ready to accept such conditions of Moscow. In this case, there would still be the window for compromise and maneuver, but it would become narrower, whereas the joint actions would be more declarative and far less practical.

Russia would be more than anxious about the US military interference in Syria or Iran under the pretext of fighting against the international terrorism. Russia would not be ready for any compromises in this area. At present, Washington does not think about shifting the strikes from Afghanistan to Iran or Syria. On the contrary, the United States actively uses the valuable contacts in Syria (obtained from Russia and some other coalition partners) to accomplish the antiterrorist tasks in the region. And the handshaking of two heads of foreign services in New York in November proves the rumors (dating back to late September) about slow US-Iranian rapprochement. However, Russian administration is extremely nervous and sensitive to any indication that U.S. current

neutral policy towards Iran, still very fragile, will become no more than a tactical maneuver, and may be revised, without any consultation with Russia. This nervousness only increased after an Op-Ed column in *New York Times* on November 29, 2001, defining current Iranian regime as the U.S. "enemy", accusing it in "killing Americans... in Saudi Arabia" and in efforts to have its nuclear bomb, unequivocally linking "local tyranny" to "global terror" and concluding in a forecast of "democratic revolution". If this is part of U.S. "global" anti-terrorism plan, U.S.-Russian antiterrorist alliance should be considered dead.

The two parties may miss the opportunities for establishing the effective partnership. This risk may presumably be caused by US unwillingness to regard Russia as an equal partner, to share information with Moscow, to assess jointly the emerging threats. It as well may be caused by Russia's inability to join quickly and efficiently the forming international security mechanisms, and by emerging *silent* opposition to Putin's proamericanism by certain circles in mid-level bureaucracy, notably in the General Staff and in counterintelligence.

But the window of opportunity is open, and still open wide. Results of the Crawford (November, 2001) summit were assessed by the U.S. Ambassador in Moscow Alexander Vershbow in his emotional article as "beginning of a U.S.-Russian alliance"(well, followed with a question mark in the title, which was then omitted in the conclusions), "based on shared interests and shared values". This assessment is basically repeated in Kremlin these days, though, maybe less emotionally. Working on a set of measures to jointly prevent WMD and cyber terrorism, in the broader context of preventing proliferation and international crime, would be a rare, if not unique, chance to experimenting with *strategic partnership* and *new security framework* not in speeches, but in practice.

The 1996 Moscow Nuclear Safety and Security Summit

In the mid-1990s, Russia tried for the first time in that decade to take the initiative on several questions related to nuclear nonproliferation. Additionally, Russia's approach towards nonproliferation was elucidated in two doctrinal documents.

The 1996 Presidential National Security Address to the Federal Assembly identifies among potential sources of military threat "proliferation of nuclear weapons and other WMD, their delivery systems" and "the possibility of use (including unauthorized use) of nuclear weapons and other WMD possessed by a number of states."⁸⁴

⁸⁴Presidential National Security Address to the Federal Assembly. M., 1996.

The document also noted that Russia and the United States should act as partners as far as nuclear issues were concerned, since their interests in this sphere coincided:

"Russia and the United States have a number of coinciding interests, such as countering proliferation of WMD, illicit drug trafficking, threats of international terrorism, etc."⁸⁵

The 1997 National Security Concept recognized that,

"Proliferation of nuclear weapons, other WMD, related technologies and delivery systems constitutes a serious threat, above all in countries and regions neighboring Russia or situated close to its borders". Under these circumstances, "an indispensable condition for realization of Russia's foreign policy efforts must be [...] further improvement of the international arms control regime and regimes of nonproliferation of WMD and their delivery systems."⁸⁶

In June 1995, at the G-7 summit in Halifax, Canada, President Yeltsin, as he himself recounted it,

"Proposed a discussion of nuclear safety and security matters [...] and that such a meeting should be held in Moscow. If not right away, after some deliberations, the idea was endorsed. Thus, the status of Russia, as a Great Power and as one of the leading states of the world, was recognized."⁸⁷

Jacques Chirac pointed out that the first response to Boris Yeltsin's proposal was not very enthusiastic:

"President Yeltsin said in Halifax [...], 'I have an idea, I would like to discuss issues of civilian nuclear safety.' I must say that at first, we had some doubts, but Boris Yeltsin insisted, everybody agreed [...]"⁸⁸

President Yeltsin's initiative in Halifax was indeed a sensation. It was astonishing: Russia, which had always been accused of an insufficient level of MPC&A systems and extreme secrecy pertaining to its nuclear weapons program, proposed to add nuclear issues to the agenda of the summit. Was Russia ready for greater transparency, or was this some sort of political or diplomatic trick? The term itself was confusing and problematic. It was not clear whether Russia meant safety (civilian

⁸⁵Presidential National Security Address to the Federal Assembly. M., 1996.

⁸⁶The National Security Concept of the Russian Federation, 1997.

⁸⁷Press conference by President of Russia Boris Yeltsin and President of France Jacques Chirac on the results of the G-8 nuclear safety and security summit. Moscow, April 20, 1996. *Federal News Service*, April 20, 1996.

⁸⁸Press conference by President of Russia Boris Yeltsin and President of France Jacques Chirac on the results of the G-8 nuclear safety and security summit. Moscow, April 20, 1996. *Federal News Service*, April 20, 1996.

nuclear sector) or security (as it was initially translated by an interpreter, i.e. including military issues). Bill Clinton was the first to welcome Boris Yeltsin's initiative in Halifax and proposed to also discuss nuclear smuggling matters, including ways to resist potential theft of low-yield nuclear charges.⁸⁹ Russia did not like this approach: Moscow explained that it wanted to negotiate safety issues, notably safety of nuclear power plants and radioactive waste management.

Following lengthy discussions at the expert and governmental levels of each state, when it seemed at times that it would be buried, the proposal was accepted by the G-7. For example, in August 1995, according to a competent Russian official who participated in preparatory activities, "it hung by a thread" and many (even in the Kremlin) considered retreating. The format of the meeting was not clear either. Now and then, there would be mention of "a conference," whose participants would include, besides the G-8, China and Ukraine: even Norway figured among the states who claimed representation in the course of the "forum on nuclear security." Only after lengthy consultations, the format of the meeting was defined as "a political summit of the G-8" with an invitation to the Ukrainian President to take part in breakfast and discussion on the issue of Chernobyl (a similar request by Belarusian President Lukashenko was not even seriously discussed). A compromise was also hidden in the title of the meeting — nuclear safety and security summit. However, the parties agreed to focus on nuclear energy issues in general and on nuclear safety of the civilian sector, to touch upon slightly some nonproliferation matters and not to deal with nuclear arms matters (Boris Yeltsin reminded Bill Clinton of this fact during their phone conversation on the eve of the summit).⁹⁰

It is notable that from the very beginning the eight nations refused to set specific goals to be achieved in the course of the summit. On the contrary, general issues were on the agenda and no time was provided for detailed discussion of these matters. According to the organizers' plans, the summit would adopt very general and declarative documents, that would demonstrate commitment to common objectives in the area of nuclear safety, security and nonproliferation, rather than a desire to overcome specific problems. The only exception was preparation of the joint document on the CTBT. However, there was nothing new about it—just reiteration of the previous statements on the CTBT.

The G-7 leaders decided to make the discussion nearly "sterile," i.e., not to raise controversial issues at all. According to the Bonn correspondent of *Izvestiya*,

⁸⁹See: *USIA Newsletter*, June 21, 1995.

⁹⁰*Izvestiya*, April 18, 1996, p. 5.

"Another favor of the Federal Chancellor to the Russian President [...] this time will take the form of silence at the G-7 security summit, rather than conduct heated discussion on urgent matters. Bonn proceeds from the assumption that the Moscow summit will be a forum of empty declarations. In the final declaration, Russia's partners in the West intend to proclaim together with Boris Yeltsin their commitment to the principles of maintaining nuclear safety and security, but disputable problems will, presumably, be set aside. Germany and its Western partners agreed not to make any financial promises to Moscow, not to promise new credits and to try to avoid sensitive topics, taking into account the pre-election situation. The state of nuclear reactors in Russia and the state of its NPPs in general is a matter of concern for the Germans, but they do not want to miss this chance for supporting Boris Yeltsin in this difficult time. Demonstration of formal agreement will signify such support."⁹¹

Other G-7 leaders had a similar approach. Informed Russian analysts had no illusions about the summit either. According to military analyst Pavel Felgengauer,

"In Moscow world leaders will mostly apathetically voice the texts of reports prepared beforehand by agencies concerned. Even during the difficult years of the Cold War professional politicians had little knowledge of complicated nuclear and technological issues and had to rely on specialists. Nowadays, there are no principal differences on nuclear safety and security among the eight great powers."⁹²

In this connection, it would be reasonable to ask: why convene such meeting, which had little output, lots of noise and cost about 15 billion denominated rubles to Russian taxpayers?

The first answer is — President Yeltsin needed it to gain the support of Western leaders on the eve of the presidential elections of June 16, 1996. Western leaders, on their part, wanted to closely examine the pre-election situation in Russia and in the Kremlin. For instance, Yury Baturin, former Presidential Aide for National Security, said concerning these assumptions,

"Yes, sometimes it is said that the summit was some sort of election campaign event. But I must say that agreement on it had been reached long before the election plans were laid down. The choice of date depended on G-7 members and Russia. It did not depend on Russia only and this is why it would be wrong to regard this summit, as timed for the elections. During the election campaign any event, any action, any step, or even its absence, or refusal to take certain steps, obviously, undoubtedly acquire a pre-election character [...]. In case of success, the prestige of the president, who initiated this meeting, was co-chair of the meeting and its host, would [...] evidently increase and would have a positive impact on his election campaign."⁹³

⁹¹ *Izvestiya*, April 19, 1996, p. 3.

⁹² *Segodnya*, April 19, 1996, p. 1.

⁹³ Press conference by Yury Baturin, Presidential Aide for National Security. Moscow, April 18, 1996. *Federal News Service*, April 18, 1996.

Nowadays, we can say that this presidential aide was evasive. Boris Yeltsin devoted only several lines to the 1996 summit in his memoirs after resignation and confessed,

"The very fact of convening the summit here had extreme political importance. Since my 1996 election campaign started with difficulties, this unprecedented arrival of G-8 leaders in Moscow was a source of invaluable moral support for me."⁹⁴

During the two days of the summit President Yeltsin behaved as a grand host, showing his guests the restoration work done in the halls of the Kremlin, but did not think much about nuclear safety and security, as the reason for the arrival of G-7 leaders in Moscow.

The guests, notably Bill Clinton, Helmut Kohl and Jacques Chirac — also strived to back Boris Yeltsin. No one made attempts to accuse Russia or make reproaches. For instance, President Chirac answered toughly one of the questions concerning "chaos with nuclear material security in Russia",

"Perhaps, someone could say something like this four-five years ago, but nowadays no one says this because it is nonsense. We discussed security issues in detail, with relevant references, serious people were sitting at the table, no one questioned those measures to enhance safety and security undertaken by Russia today. And I say this absolutely sincerely."⁹⁵

One cannot help noting that less than two weeks before the aforementioned statement, Warren Christopher, U.S. Secretary of State, referred to the security situation at Russian nuclear facilities "from Murmansk to Vladivostok", as extremely poor.⁹⁶

Minister of Atomic Energy Victor Mikhailov was quite content with the outcome of the summit and told one of the authors,

"The predictions of the press did not come true. The media expected reproaches with respect to Russia on the part of Western leaders, but there were no reproaches. There was full endorsement of the Russian efforts, constructive dialogue on cooperation."⁹⁷

Thus, the Russian side could say that its expectations had been realized 100%. Moscow managed to accomplish two important tasks: it showed that the master of the Kremlin was firmly in control, and emphasized

⁹⁴ Boris Yeltsin, *Prezidentsky marafon (President's Marathon)*. M., AST Publishers, 2000, p. 159.

⁹⁵ Press conference by Presidents Yeltsin and Chirac.

⁹⁶ Quotation from *Moscow Times*, April 4, 1996.

⁹⁷ Vladimir Orlov, "Yaderny sammit v Moskve: podvodya itogi (Nuclear Summit in Moscow: Summing up the Results)". *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 3.

Russia's willingness to efficiently solve problems of nuclear safety and security, and to cooperate with the G-7 in this area.

As far as the expectations of the international community were concerned, they were too high from the very beginning. It would have been enough to look at the agenda of the summit to realize that nuclear discussions would last only a few hours or even less. Although each participant was obliged to make a statement, it was clear that the discussion was mainly formal and all documents were agreed upon beforehand. They were not even reviewed during the meeting. In other words, how could one expect a breakthrough from three-hour talks? Certainly, it was not clear what kind of breakthrough had been expected. Evidently, the format of such summits does not normally provide for resolution of specific issues. Moreover, the participants spent much time on an issue very distant from nuclear safety — the situation in South Lebanon, which required immediate response from Presidents Clinton, Chirac, and Yeltsin.

The summit approved four documents,⁹⁸ including the Declaration of the Moscow Nuclear Safety and Security Summit, a Program for Preventing and Combating Illicit Trafficking in Nuclear Materials, statements on the CTBT and Ukraine.⁹⁹

The declaration emphasized the significance of nuclear nonproliferation matters. Taking into account existing and potential threats, the G-8 leaders reaffirmed their willingness to strengthen,

"In the spirit of the decisions adopted during the New York Conference of May 1995 on review and extension of the Non-Proliferation Treaty (NPT), including the Decision on Principles and Objectives for Nuclear Non-Proliferation and Disarmament, we will increase our cooperation in the field of nuclear non-proliferation and disarmament i.a. by promoting universal adherence to the NPT, working vigorously to strengthen the International Atomic Energy Agency (IAEA) safeguards system and through effective and responsible export control measures."¹⁰⁰

The parties concluded,

⁹⁸As one of the outcomes of the meeting, the parties disseminated the "Information and Reference Paper on Nuclear Safety and Security Issues" containing agreed positions of the participants on accounting and control of nuclear materials, safety of civilian nuclear reactors, nuclear waste management, safe storage of excess fissile materials designated as no longer required for defense purposes.

⁹⁹For more on the adopted documents, see Vladimir Orlov, "Yaderny sammit v Moskve: podvodya itogi (Nuclear Summit in Moscow: Summing up the Results)". *Yaderny Kontrol*, No. 18-19, June-July 1996, pp. 1-19.

¹⁰⁰The Declaration of the Moscow Nuclear Safety and Security Summit. *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 14.

"The security of all nuclear material is an essential part of the responsible and peaceful use of nuclear energy. In particular, the safe management of fissile material, including material resulting from the dismantling of nuclear weapons, is imperative, not least as a safeguard against any risk of illicit trafficking in nuclear materials."

They renewed their commitment to the immediate commencement and early conclusion of negotiations on a non-discriminatory and universally applicable convention banning the production of fissile material for nuclear weapons or other nuclear explosive devices.

The G-8 summit reaffirmed the fundamental responsibility of nations to ensure the security of all nuclear materials in their possession and the need to ensure that they are subject to effective systems of nuclear material accounting and control and physical protection. These systems should include regulations, licensing and inspections. The leaders expressed their support for the IAEA safeguards regime, which played a critical role in providing assurance against the diversion of nuclear material going undetected. They underlined the need for the urgent strengthening of IAEA capabilities to detect undeclared nuclear activities.

The parties pledged their support for efforts to ensure that all sensitive nuclear material (separated plutonium and HEU) designated as not intended for use for meeting defense requirements was safely stored, protected and placed under IAEA safeguards as soon as it was practicable to do so.

They noted major steps that had been taken in recent years towards nuclear disarmament.

"This has created substantial stocks of fissile material designated as no longer required for defence purposes. It is vital, as mentioned above, that these stockpiles are safely managed and eventually transformed into spent fuel or other forms equally unusable for nuclear weapons and disposed of safely and permanently."

The primary responsibility for the safe management of weapons fissile material rested with the nuclear-weapon states themselves, but other states and international organizations were welcome to assist where desired.

They welcomed the steps that the United States and the Russian Federation had taken to blend highly-enriched uranium (HEU) from dismantled nuclear weapons to low-enriched uranium (LEU) for peaceful non-explosive purposes, and the cooperation programs of Canada, France, Germany, Italy, Japan, the United Kingdom, the United States of America and other states with the Russian Federation for the safe storage, the peaceful uses of fissile material released by the

dismantlement of nuclear weapons, and their safe and secure transportation for that purpose, and other efforts along these lines. Particular attention was focused on nuclear waste management and safety of civilian nuclear reactors.¹⁰¹

The parties paid special attention to the problem of illicit nuclear trafficking. All participants of the meeting recognized the significance of this issue and pointed out that,

"As risks continue to exist, we have agreed on, and released, a programme for preventing and combatting illicit trafficking in nuclear material to ensure increased cooperation among our governments in all aspects of prevention, detection, exchange of information, investigation and prosecution in cases of illicit nuclear trafficking."¹⁰²

The outcome of the 1996 Moscow summit caused equivocal response in the world. It was criticized for its overly general statements. Some environmental movements believed that the tone of support for development of nuclear energy in the 21st century was too tough and did not take into account debates over the role of nuclear energy under way in some states, especially in Germany. Nonetheless, one can say that the Moscow summit had an important and positive effect on the international nuclear nonproliferation regime. The leading countries of the world jointly expressed their intention to strengthen this regime through coordination of activities, exchange of information and cooperation. The most notable achievement in this area was the adoption of the program for combating illicit nuclear trafficking.

In addition, in the course of the Moscow summit, the Russian delegation put forward a proposal on the non-deployment of nuclear weapons beyond the national territories of the nuclear-weapon states. This initiative was not endorsed by other participants.

Nuclear Export Controls

Russia, as other civilized nations, believes that an effective national system of export control is an important means to prevent WMD proliferation.

The documents regulating international nuclear export control regimes, such as the Zangger Committee and the Nuclear Suppliers Group (NSG), point out that no international regime can replace the national export controls of nuclear suppliers. Moreover, international

¹⁰¹The Declaration of the Moscow Nuclear Safety and Security Summit. *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 14.

¹⁰²*Ibid.*

requirements in the area of export controls cannot directly be applied in the States Parties; they need national legal acts specifying the standards of the regime for each particular state. For any state the national system of export control is part of its national security policy.

As we have seen from the previous sections, export control issues became urgent to Russia immediately after gaining its sovereignty in December 1991. However, unlike other post-Soviet states, Russia did not have to establish a system of export controls. Moscow inherited the Soviet system, including inter-agency mechanisms for coordination of decisions. The system had to be adapted to new conditions, and Russia did it quickly by adopting *appropriate laws and regulations*.

Thus, on March 27, 1992, President Yeltsin signed Decree No. 312, applying the full-scope safeguards principle to Russian nuclear exports to non-nuclear weapon states, which now had to place all their nuclear activities under the IAEA safeguards and conclude special agreement with the IAEA on control of source and special fissionable material. Such supplies were prohibited to non-States Parties to the NPT which possessed nuclear plants and material not under IAEA safeguards.

The formulation and updating of national export controls in Russia¹⁰³ was a step-by-step process, which went hand in hand with the times, sometimes was even ahead of the times (as it was with Governmental Resolution No. 57 of January 22, 1998¹⁰⁴), and sometimes fell behind modern requirements.

For a long time, the lack of legislation on export controls was a serious problem, since export control activities were mostly regulated by numerous presidential decrees (including trigger lists) and governmental resolutions. This problem was solved in July 1999, when the Federal Law "*On Export Controls*" entered into force.

According to the law, Russia pursues a state policy in the area of export controls, which constitutes part of Russia's foreign and domestic policy

¹⁰³Presidential Decree No. 312 of March 27, 1992 "On Export Controls of Nuclear Materials, Equipment and Technology from the Russian Federation".

¹⁰⁴According to Resolution No. 57 of January 22, 1998, "On the Improvement of Controls over the Export of Dual-Use Goods and Services Related to Weapons of Mass Destruction and Missile Delivery Vehicles", all Russian foreign traders (both private and state-owned) shall refrain from any export deals with dual-use goods and services, currently not subject to Russian legal acts in the field of export controls, if they know that these goods and services can be used to develop weapons of mass destruction or their missile delivery vehicles. The government introduced a system of comprehensive control (referred to as "catch-all" in Western countries), enabling it to consider any issue that does not formally fall under the restrictions of export control regimes but relates to dual-use technology.

and is implemented solely to ensure the security of the state, its political, economic, and military interests.

The law declares the goals of export controls as: protection of the Russian Federation's interests; compliance with international treaties signed by Russia in the area of nonproliferation of WMD and delivery systems and export controls of military and dual-use equipment; and creation of conditions for integrating the Russian economy into the world economy.¹⁰⁵

State policy in the area of export controls is shaped in accordance with the following basic principles:

- compliance in good faith with Russia's international nonproliferation commitments;
- legality, openness and availability of information on export controls;
- priority of national security interests;
- execution of export controls only to the extent required for achievement of its objectives;
- single customs area of the Russian Federation;
- harmonization of procedures and rules of export controls with universally recognized international norms and practices;
- interaction with international organizations and foreign states in the area of export controls in order to strengthen international security and stability, to prevent proliferation.¹⁰⁶

In accordance with the internationally recognized norms and Russian practices, the following methods of export controls were identified:

- permissive procedure of conducting foreign economic transactions with goods and technologies subject to control, providing for licensing as a method of state regulation;
- customs control and customs clearance of exported items and technologies subject to control, in compliance with customs legislation; identification of controlled goods and technologies;
- currency control, including control of timely and full transfer of hard currency to appropriate bank accounts in the Russian Federation;
- use of sanctions against individuals and corporations violating Russian export control legislation.¹⁰⁷

The law outlines the powers of the President and the Government, as far as formulation and implementation of export control policy is concerned.

The President, in particular, defines the major trends in the state export control policy, ensures coordination, smooth functioning and interaction

¹⁰⁵Law "On Export Controls". *Rossiyskaya Gazeta*, July 29, 1999.

¹⁰⁶*Ibid.*

¹⁰⁷*Ibid.*

of state authorities in the area of export controls; finally, he approves trigger lists of items and technologies subject to control.

The Government provides for implementation of the state export control policy, including with respect to international export control regimes; determines and specifies the procedures for foreign economic activities pertaining to goods, information, services, intellectual products that may be used to develop WMD, their delivery systems and other kinds of arms and military equipment; within its area of competence, takes decisions on conducting negotiations and signing international treaties of the Russian Federation in the area of export controls.¹⁰⁸

The law envisages the establishment of *an inter-agency coordination body on export controls*, to coordinate the activities of the federal executive authorities and secure organizational and methodological supervision for export control activities.¹⁰⁹ In fact, this was the legal basis for the activities of the Inter-Agency Export Control Commission (*Exportkontrol*), which existed before the adoption of the law. The intensity and productivity of its work depended mostly on the person who headed it.¹¹⁰

One of the new provisions was the requirement to set up internal compliance programs. The law maintains that *internal compliance programs* are obligatory for organizations carrying out research and production to meet the federal defense and security needs of the Russian Federation. They are also mandatory for corporations gaining revenues from foreign trade in goods and technologies subject to control. Organizations with internal compliance programs are subject to state accreditation. This means that practically all enterprises of the military-industrial complex performing export transactions are required to undertake measures to establish internal compliance programs. Thus, the leadership of an enterprise will be fully informed of its powers and duties in the area of export control; personnel skills may be improved if necessary; the process of striking export deals will be more streamlined and responsible. In other words, the establishment of internal compliance programs enables us to speak about promotion of the nonproliferation culture.

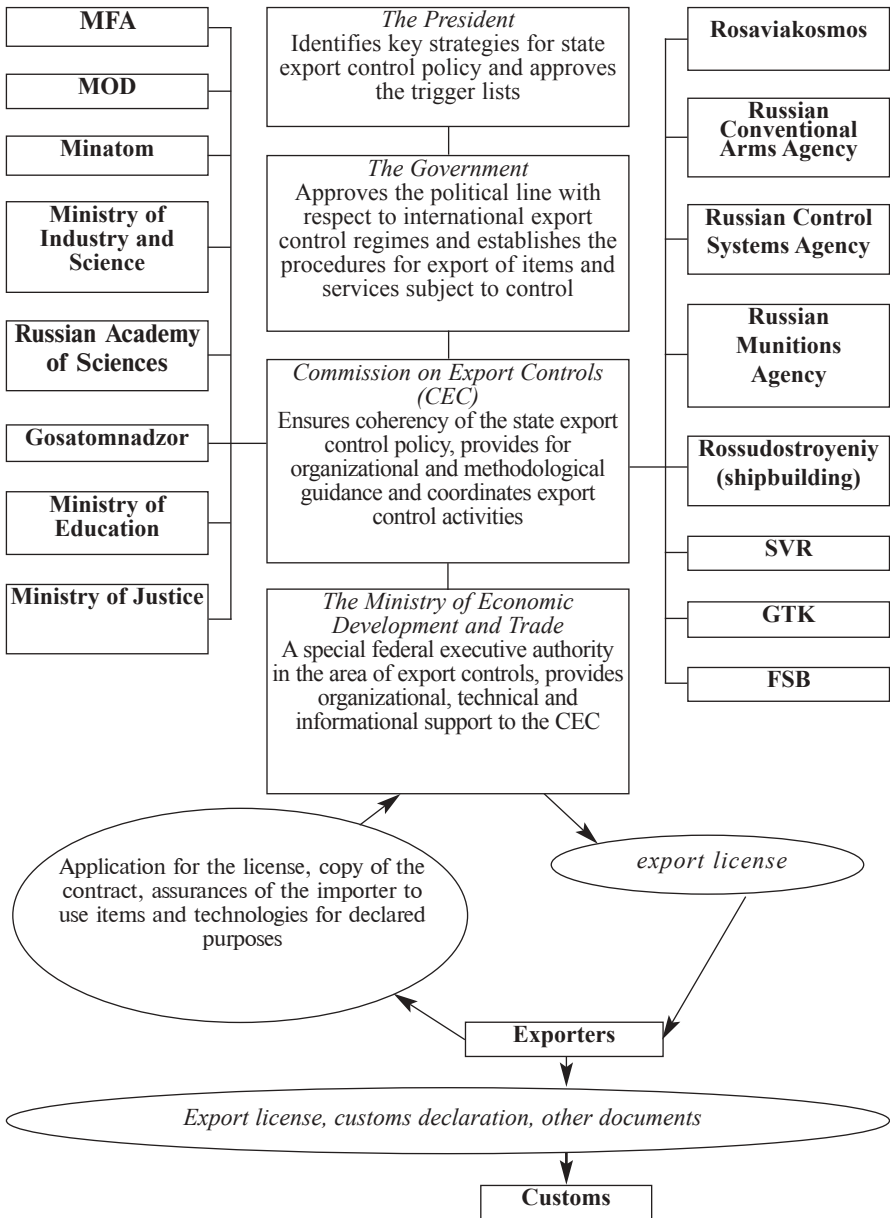
The law gives detailed descriptions of requirements *for foreign trade deals in controlled goods and technologies*. For instance, it stipulates that such deals can be made only after receiving the written commitment of a

¹⁰⁸Law "On Export Controls". *Rossiyskaya Gazeta*, July 29, 1999.

¹⁰⁹*Ibid.*

¹¹⁰On January 29, 2001, President Putin signed the decree establishing the Commission on Export Controls (CEC) headed by Vice Prime Minister Ilya Klebanov. The decree maintains that the CEC shall consider current export control issues and introduce proposals to amend the law and existing practices. See Presidential Decree No. 96 of January 29, 2001 "On the Commission on Export Controls of the Russian Federation".

Chart 2. Export Controls in the Russian Federation



Source: *Nezavisimoye Voennoye Obozreniye*, No. 8, March 2, 2001.

foreign partner that the items and technologies will not be used to develop WMD or delivery systems (the end-user certificate). Meanwhile, the Russian Government can impose additional requirements and stipulate terms of foreign transactions with controlled goods and technologies, including the right to verify compliance of the foreign partner with its commitments concerning the use of goods and technologies.

All foreign economic transactions providing for transfer of controlled goods and technologies to a foreigner *must be licensed*. The licenses are issued by the Ministry of Economic Development and Trade, if the state expert examination gives approval. Licenses are issued upon written request of the exporters. These applications must include documents with exact data on goods, information, work, services, intellectual property, and indication of a foreign state to which the items are to be transferred. Notification of rejected requests is given to the applicant in written form and must describe the reasons for rejection. These reasons could include: false, distorted, or incomplete information in the submitted documents; rejection by the state examination board; terms of export that may inflict damage or pose a threat of such detriment to Russian interests.

The license can be used by its legal owner only to perform the foreign economic transaction for which the license was issued. The license can be nullified without warning or can be suspended by the Ministry of Economic Development and Trade if the licensee circumvents the terms and requirements of the license.

Based on the law, "*On Export Controls*," in order to defend national interests and comply with Russia's international obligations, bans and restrictions can be imposed on foreign economic activities with respect to controlled items and technologies: pertaining to foreign states, bans and restrictions are imposed by federal laws; pertaining to new goods and technologies — by decrees and directives of the President; pertaining to certain foreign individuals whose activities are incompatible with nonproliferation principles (*black lists*) — by governmental resolutions.

Adoption of the Law "*On Export Controls*" facilitated the establishment of a comprehensive legal basis for national export controls in Russia.

The law is comprehensive and regulates export control activities concerning different items (nuclear, chemical, biological, missile), technologies, services and information that may be used to develop WMD and their delivery systems. Thus, the law also covers nuclear exports.

Nuclear exports are regulated in detail by a *number of acts* passed before the law's entry into force. These documents are still in effect, as they do not run counter to the new law.

To make the list of controlled nuclear items compatible with the renewed NSG list (INFCIRC/254/Part 1), the President signed Decree No. 202 of February 14, 1996. The decree approved a new list of nuclear materials, equipment, special non-nuclear materials and related technologies subject to export controls. The list entered into force on May 19, 1996. As the international list is changed, Russia makes appropriate amendments to its national mechanism. On May 8, 1996, Governmental Resolution No. 574 approved the new Statute on the Control of Nuclear Export and Import.

Nuclear export and import are conducted in conformity with the licenses of the Ministry of Economic Development and Trade on the basis of applications which approved and verified in advance by Minatom. Licenses are granted only to corporations that have the permission of *Gosatomnadzor* to carry out certain activities relating to nuclear energy uses, including production, use, storage and/or transportation of related materials. Minatom and the Ministry of Economic Development and Trade hold consultations with the MFA pertaining to compliance of the importer with existing international and bilateral agreements. The exporter must inform Minatom of all foreign trade deals involving nuclear materials.

In accordance with its international obligations, Russia developed a safeguards system in order to ensure that exported sensitive technologies are used only for declared peaceful purposes.

Nuclear export from Russia to non-nuclear weapon states can take place only upon formal governmental assurances from recipients that the exported items, nuclear and special non-nuclear material derived from the exports, equipment, and plants:

- a) shall not be diverted from peaceful use to nuclear weapons and other nuclear explosive devices and shall not be used in such a way as to further any military purpose;
- b) shall be placed under International Atomic Energy Agency safeguards throughout the entire term of their use, in accordance with the safeguards agreement covering all peaceful nuclear activities of the recipient;
- c) shall be guarded at a sufficient level of physical protection not lower than that recommended by the Agency;
- d) shall be re-transferred or transferred in accordance with the aforementioned requirements. Retransfer of uranium with more than 20% enrichment, plutonium and heavy water shall take place only upon the written approval of Minatom.

According to international commitments and existing legislation, nuclear export from the Russian Federation is conducted only with those non-nuclear weapon states whose entire peaceful nuclear activities are placed

under IAEA full-scope safeguards. At the same time, the Guidelines for Nuclear Transfers adopted by the NSG, to which Russia is a member, provide for exceptions in case of extraordinary events, e.g. to ensure the safe operation of nuclear plants under IAEA safeguards. To clarify this, Vladimir Putin signed a decree of May 6, 2000, and added the aforementioned exception to Russian nuclear transfer regulations.

The decree maintains that these exports can be carried out under the special decision of the Government and under the following conditions:

- the supply does not run counter to the international commitments of the Russian Federation;
- the Government of the recipient has given formal assurances that the exported items shall not be diverted from peaceful use to nuclear weapons and other nuclear explosive devices;
- the supply is carried out solely to ensure the safe operation of existing nuclear plants on the territory of the recipient;
- the aforementioned nuclear plants are placed under IAEA safeguards.¹¹¹

The adoption of this decree became the legal prerequisite to the signing of the contract with India for the supply of uranium fuel for the Tarapur Atomic Power Station (TAPS) — the contract was signed in October 2000 and implemented in late 2000, early 2001. More details of the deal will be discussed below, but for the moment, we would like to note that the decree stipulated that the possibility of such transfers was directly linked to "exceptional" safety conditions. In this context, the presidential decree correctly interprets NSG regulations. However, it would be dangerous to use the rationale of "providing safety" for those transfers to subjects whose safety is not in critical danger — which, according to the majority of experts, was the case with the Tarapur plant.

Customs regulation of nuclear materials export using trigger lists is one of the key elements of the national export control system of Russia, towards the goal of nuclear nonproliferation.

The efficiency of the customs agencies is depended on to demonstrate how well the government manages to interpret legal, normative documents and put into practice the system of curbing the unauthorized export of nuclear materials. It would not be an exaggeration to say that the Russian customs borders have become a true battlefield for the sake of the nuclear nonproliferation regime.

¹¹¹Decree "On Amendments to Presidential Decree No. 312 of March 27, 1992 'On Control of Export of Nuclear Materials, Equipment and Technologies from the Russian Federation". Press Service of the President of the Russian Federation, May 7, 2000.

The following threats pertaining to nuclear transfers should be identified and prevented by customs agencies:

- attempts of unlicensed and undeclared export (smuggling);
- attempts of unlicensed export, when nuclear material is declared as not subject to trigger lists and licensing;
- attempts of export under forfeited license;
- discrepancies between what was authorized on the license and the actual exported goods.

Customs officers work to prevent these threats on their own and in cooperation with other agencies and units, including the FSB, the SVR, the MFA (to identify if the declared end-user is a real end-user), Minatom (its laboratories and institutions may be used to carry out the necessary investigations), etc.

A major challenge to nuclear nonproliferation is not nuclear smuggling, but nuclear fuel cycle enterprises or their export-oriented units, which non-deliberately (due to the lack of knowledge about licensing procedures) or deliberately provide false information on exported items. For instance, a disparity between the declared and the actual weight of the cargo (then, the question is who will be the recipient of the undeclared excess), a discrepancy between the declared and the real end-user, or characteristics of the cargo different than those authorized by the license.

The customs authorities face complicated problems, such as a lack of skilled personnel, technical means of detection, and full-scale geographic coverage by the activities undertaken to prevent nuclear export violations.

To solve these problems, appropriate units were established within the GTK (State Customs Committee) structure in 1995-1997. At the largest checkpoints (in Sheremetyevo-2 and Sheremetyevo-1 airports in Moscow and Pulkovo airport in St. Petersburg, in Astrakhan seaport, etc.), modern devices were installed to detect the illicit transfer of radioactive substances. These activities, aimed at equipping Russian customs borders with appropriate technical means, are called the second line of defense. The first line of defense is MPC&A systems at the enterprises. In some cases the installed equipment is purchased, using the funds allocated by the United States within the CTR framework. Meanwhile, installation of advanced equipment for detection of radioactive materials at all checkpoints on Russian borders is a matter for the future.

The most urgent issue is the control of nuclear material transfers within the Customs Union and beyond its borders (the Union comprises Russia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan).

So far, the GTK officers responsible for curbing WMD smuggling admit that organized crime groups and large state-owned corporations still can circumvent customs regulations. Hence, any fight against illicit nuclear export is possible only thanks to information leaks by business rivals. It is noteworthy that most violations in Russia have been prevented, thanks to these sources, and not because of technical means.

A national system of export control with the goal of nuclear nonproliferation, or internal programs of export control at the facility-level, can be effective only if those making export decisions and those participating in this process realize that in case *of violations of export control law, they will inevitably be punished.*

The Russian legislation envisages the following export control violations:

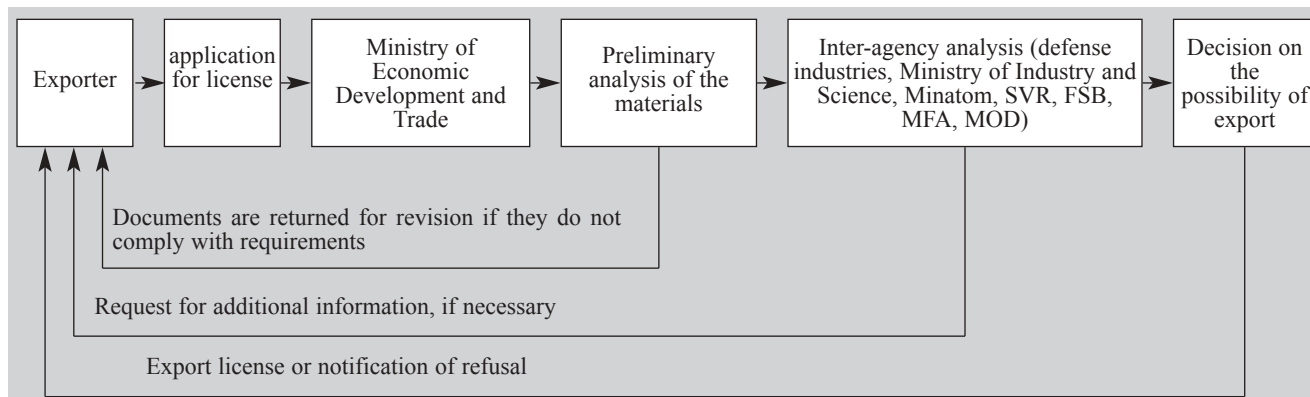
- violation of legally-binding rules concerning foreign economic activities;
- obtaining licenses by submitting forfeited or false documents;
- breach of requirements and terms of licenses;
- non-compliance or inappropriate compliance with the instructions of the Commission on Currency and Export Controls;
- hampering export control activities of federal executive officials;
- groundless refusal to provide information demanded by federal executive and legislative officials for the purposes of export controls, its deliberate distortion or concealment;
- circumvention of established accounting procedures for foreign trade deals involving items from trigger lists.

Russia has a three-stage level of liability for violations in the area of export controls: civil, administrative, and criminal. It may take the form of fines, withdrawal of license for foreign economic activities, or criminal prosecution. If the crime inflicted serious damage to Russian political and economic interests, its defense or security, or if the crime is repeated, the organization may lose the right to perform foreign economic activities for up to three years. The appropriate decision is taken by the Government.

The Criminal Code of the Russian Federation envisages severe punishment for violators of national export control standards.¹¹² However, there is the problem of the certainty of punishment. According to the official position of the FSB,

¹¹²Article 189 of the Russian Criminal Code "Illicit Export of Technologies, Scientific and Technical Information and Services Used to Develop WMD, Arms, and Materiel" envisages a severe penalty for such violations. The article is applicable only to those subjects that enjoy the right to such export in accordance with the legislation. The punishment is broad — from a fine to three-seven years of imprisonment. Before July 1999 this norm could hardly be used, because export controls were based on constantly changing acts and regulations. After the adoption of the Law "On Export Controls" the situation changed for the better.

Chart 3. Decision-Making in the Area of Export Controls



The following documents are attached to the application:

- a copy of the contract on export of the item or technology subject to control;
- importer's assurances of non-use of the item for undeclared purposes and for retransfer to the third parties;
- a copy of the certificate of state registration of the exporter;
- if necessary, import certificate, certificate proving the delivery and other documents.

Preliminary analysis includes:

- registration of the application
- review of the set of documents and their completion;
- primary analysis and summarizing of available information related to the export deal.

In the process of inter-agency review the export deal is evaluated from the standpoint of:

- compliance with Russia's international obligations in the area of export controls;
- compliance with political, economic and military interests of Russia;
- validity of declared uses of the exported item and the possibility of its diversion for prohibited activities;
- commitment of the recipient to nonproliferation principles;
- importance of the export deal in regards to its potential for contributing to capabilities for the development of WMD and their delivery systems;
- reliability of importer and end-users.

Source: *Nezavisimoye Voennoye Obozreniye*, No. 8, March 2, 2001.

"Violators of international control regimes must know that they will be severely punished in conformity with law enforcement procedures provided for in international law and Russian legislation. [...] None should doubt that the practical experience and traditions of our Service will ensure appropriate protection of Russian national interests and efficient verification of commitments taken in the field of control over nonproliferation[...]."¹¹³

At the same time, one can hardly recollect any successful trials concerning violations of export control legislation. The Criminal Code does not work properly and hence, its impact on potential violators is diminished.

In the second half of the 1990s, export control issues became a *priority matter* on the U.S.-Russian bilateral agenda and played a significant role in Russia's dialogue with a number of states (the U.K., Germany, Italy, Israel, etc.). They were also widely discussed at multilateral international forums involving Russia, such as G-8 summits.

At certain stage, export control issues replaced a general discussion on nonproliferation, and took on a momentum of their own. Confusion of these notions and their substitution led to a distortion of the real role of export control in nonproliferation and enabled the parties to politicize matters that were purely technical and organizational.

As a rule, Russia was accused of having an export control system that did not work, or worked inefficiently.

In this manner, during negotiations, Russia found itself in the role of a perennially failing pupil, who was regularly called to the blackboard, singled out, severely examined, whose homework was checked by a fussy teacher who assumed in advance that the homework was half or poorly done, and who constantly threatened the student with keeping him back another year.

For many years in a row, Russia has had to defend itself, to report about its export control *homework*. Any attempts by Russia to assume an attacking position, to examine the *teachers* or, at least, to question their unshakeable authority, have been ignored.

As was indicated earlier, initially Russia was at fault because as a result of the collapse of the Soviet Union and its command-style administrative system, its planned centralized economy and totalitarian methods of control, Russia had to accomplish the extraordinary task of creating in a short time, and in essence from scratch, a system of export controls while maintaining on its territory a gigantic military-industrial complex, and

¹¹³ *Rusky Telegraph*, May 8, 1998.

nuclear fuel cycle, where it was practically impossible at times to distinguish between military and civilian components. In addition, the ill-prepared transition to a market economy in 1992-1993 impoverished the Russian scientific elite, above all in the nuclear weapons complex, and led to the collapse of some enterprises located in the closed cities.

U.S. pressure on Russia concerned mainly the export of missile technologies and, to a smaller extent, the transfer of other WMD-usable materials and technologies.

However, in general, Russia pursued the policy of compliance with its international export control commitments during the 1990s, although sometimes lobbying activities of exporters made Moscow balance on a thin line between "allowed" and "prohibited".

For instance, Russia intends to implement the agreement on construction of the Koodankulam nuclear power plant and further cooperation with *India* in the area of transport reactors. The agreement was signed in the Soviet times (November 20, 1988), i.e., before the NSG's decision to apply full-scope safeguards, which had no retroactive force.¹¹⁴ Russia plans to build two VVER-1000 reactors and then, probably, add four more reactors (this was a proposal by former Minister of Atomic Energy Yevgeny Adamov). The United States and several other countries opposed this cooperation.

Let us note that new Minister Alexander Rumyantsev also backs the idea of building six new power reactors in India and the supply of natural uranium to the nuclear power plant in Rajasthan, which is under IAEA safeguards.¹¹⁵

Some Russian experts believe that "Russia does not break international legal norms by constructing NPP in India" and "Russian-U.S. disagreement concerning Russian nuclear export to India are mostly political", albeit "one can hardly exclude economic factors":

"In early 1998, the media reported on the intentions of U.S. companies to begin nuclear exports to India. However, since the Indian nuclear tests, U.S. companies have not been

¹¹⁴The main reason for delay of implementation is financial. Negotiations on this issue commenced in 1992, when the parties began to draft the Supplement to the 1988 Agreement. The Supplement envisaged that the NPP and spent nuclear fuel management operations should be placed under IAEA safeguards. On June 21, 1998, the Supplement was signed, enabling Russia to begin practical implementation. Russian credit for the construction of two VVER-1000 is \$2.5 billion. 25% of this amount will be repaid with Indian goods, 75% — in hard currency. Hence, Russia will grant India a loan of 85% of the price of the NPP. The total amount of construction in Koodankulam is more than \$3 billion. The contract is expected to be signed in November 2001.

¹¹⁵*RIA Novosti*, June 26, 2001; www.nuclear.ru/news_r/2706011.htm, June 27, 2001.

allowed to make nuclear transfers to India, for the U.S. President will hardly present written assurances to the Congress that India does not develop nuclear weapons."¹¹⁶

In fact, the abovementioned March 1992 presidential decree concerns contracts signed after April 4, 1992 and cannot be applied to Soviet agreements (including Koodankulam). Russian supplies under such contracts can be carried out if the exported item is placed under IAEA safeguards, and just such an agreement has already been reached.

Nonetheless, other Russian analysts justly point out that

"The formal aspect of the problem should not overshadow its essence: The need to be extremely cautious when it comes to nuclear exports to states with nuclear plants, which are not under IAEA safeguards. As far as potential new contracts, the priority should be given to the requirements of strengthening the nuclear nonproliferation regime. New cooperative projects in nuclear power plant construction between Russia and those countries that have considered a military nuclear program — must be subject to a thorough examination. Russia should find a balance between two contradictory tasks: to promote nuclear production on the world markets and to comply with the NPT commitments, to establish an effective mechanism of interaction among nuclear industry, the Government, the Federal Assembly in the process of taking decisions on export control of nuclear and dual-use technologies and items."¹¹⁷

Otherwise nuclear supplies would comply with the letter of international agreements, but might weaken their spirit.

According to the report "*Rossiia i Zapad: krizis otnosheniy v sfere bezopasnosti i problema kontrolya nad vooruzheniyami* (Russia and the West: Crisis of Security Relationship and the Issue of Arms Control)" prepared by leading Russian experts,

"Russian-Indian rapprochement is understandable: it is not a matter of short-term interests, but of serious strategic considerations. Meanwhile, there is an impression of light-minded attitude to the very problem of nuclear nonproliferation and to its significance for Russia. At the same time, taking into account, at least, geographical factors, the problem is more serious for Russia than for the United States [...]. Our initiative in this field would be more than relevant [...]."¹¹⁸

¹¹⁶Vladimir Novikov, "Yaderny export v svete rossiysko-amerikanskikh otnosheniy (Nuclear Export in Light of U.S.-Russian Relations)". *Yadernoye Rasprostraneniye*, No. 29-30, April-June 1999, pp. 51-64.

¹¹⁷Alexander Kalyadin, "Sem opor yadernogo nerasprostraneniya: vklad i perspektivy Rossii (Seven Pillars of Nuclear Nonproliferation: Russia's Contribution and Perspectives)". *Yaderny Kontrol*, No. 34-35, October-November 1997, p. 18.

¹¹⁸*Rossiia i Zapad: krizis otnosheniy v sfere bezopasnosti i problema kontrolya nad vooruzheniyami (Russia and the West: Crisis of Security Relationship and the Issue of Arms Control)*. M., IMEMO, 1999, p. 35.

At present Russia faces the same export control problems as many other developed states. The problem is how to balance two contradictory tasks: promoting national goods in world markets and implementing international commitments on WMD nonproliferation, developing international technical cooperation (implying access to foreign technologies) and preventing the transfer of sensitive defense technologies.

As in other states, clashes between lobbyists of the exporting enterprises and the state (pursuing the export control policy) are inevitable. During confrontation, it is only possible to prevent export control violations by respecting and strictly adhering to the law by the exporter, on the one hand, and preserving the independence of the state official from lobbyists, on the other.

For a developed national export control system in the area of nuclear nonproliferation to function effectively, the following are necessary:

- political will on the part of the country's leadership to adhere consistently to nuclear nonproliferation policy, in accordance with Russian international commitments, above all in conformity with the NPT;
- improvement of inter-agency coordination in pursuing export control policy and in preventing any attempts to ignore it or bypass export controls;
- a set of financial and technical measures to establish an efficient second line of defense along the entire customs border of the Russian Federation;
- completion of the process of state accreditation of enterprises that have implemented the intra-firm export control program, to verify the presence of a growing nonproliferation culture among enterprise personnel;
- strict compliance with the three-stage system of liability of individuals and corporations for violations in the export controls area, including criminal prosecution;
- expansion of international cooperation, first of all, in exchanging information on problems relating to export controls and, at the same time, continuation of Russia's independent policy in the area of nuclear export controls, based on pre-approved control lists;
- implementation of nuclear export control activities, proceeding from the objectives and principles of export controls, provided for in the Federal Law "*On Export Controls*".

Russia will have to strictly enforce in practice the political principles of export controls adopted in recent years. Heightened attention to this problem is due to the fact that a number of states are still very interested in Russian materials and technologies that may be used to develop WMD and delivery systems. In addition, one may assume that international organized crime and terrorist groups would also be interested in profiting

from loopholes in Russian export controls to acquire some materials and technologies.

This book does not strive to give a detailed analysis of materials and technologies that attract the interest of potential buyers. Let us note that at present, materials should not be the primary concern anyway. The threat of unauthorized export of dual-use technology (particularly, biotechnology that can be used in the development of biological weapons), scientific knowledge, and bearers of this knowledge (scientists and engineers) should be considered much more grave. There is a high risk of penetrating export control barriers in the area of missile technologies.

The countries that display the greatest interest in Russian sensitive materials and technology are, among others, China, Iran, Iraq, India, North Korea, and Syria. Their interest raises great nonproliferation concern in the world community. Of course, Russia's political and legal relationship with each of these states varies.

As for contacts with *Iraq*, Russia has imposed an embargo on the shipment of sensitive materials to that country. That said, we have already witnessed serious Iraqi initiatives to gain access to Russian missile equipment components, corresponding technology, and perhaps biotechnology.

In our opinion, the building of the Russian nuclear power station in Bushehr (Iran) does not violate export control regulations. On the contrary, it meets the requirements of the NPT. At the same time, Iran's striving to acquire Russian missile technology to develop its ambitious missile program, as well as to procure the centrifuge plant for enrichment of uranium has become a serious problem in recent years. In 1995, Minatom's leader, Victor Mikhailov, gave tentative consent to supply such a plant and a heavy-water reactor. In 1996, the NIKIET, headed by Yevgeny Adamov, made a deal with the Atomic Energy Organization of Iran (AEOI) to conduct feasibility studies for the heavy-water production plant project. In December 2000, the Prosecutor General's office started an investigation under Article 189 of the Criminal Code into the illegal export of technology, scientific and technological information and services, raw materials, materials and equipment used to develop WMD, arms and materiel.¹¹⁹ Yevgeny Adamov was questioned.

China is a nuclear-weapon state, and therefore, its construction of a centrifuge plant for uranium enrichment raises no concerns about the

¹¹⁹Conclusion of the State Duma's Commission on Fighting against Corruption Pertaining to Business Activities of Minister of Atomic Energy of the Russian Federation Yevgeny Adamov, March 2, 2001. Published on the Web site of the Civil Center for Nuclear Nonproliferation, www.ccnp.ru/2001/03/full_greenpeace01_03_02.htm.

violation of the nonproliferation regime. At the same time, leakage of some Russian dual-use technology to China would be a serious blow to Russian national security and to the international system of export control on the whole. One should ask whether it would meet Russia's national interests to assist China in the nuclear activities, which may later be converted for military purposes.

To illustrate, the director of an advanced Russian military-industrial enterprise once came up to the head of a high-ranking Chinese delegation and gave him a file with documents, saying, "Look at our proposals and just let us know if you find anything of interest to you." All this happened in the presence of the CEC chairman. As the internal investigation later revealed, the director of the enterprise did not take inventory of these strictly confidential documents handed over to the Chinese. It didn't occur to him that he could undermine Russian security interests by transferring scientific technical data.

In February 2001, the FSB agents arrested Valentin Danilov, Director of the Heating Engineering Center of the Krasnoyarsk State University. According to the FSB, Danilov sold the All-Chinese Export-Import Company for Precise Machine-Building some technologies that model compound impact of space environment, which enabled China to save at least 15 years of development of its own military space division with high-level defense. The scientist was accused of treason and espionage. When this book was ready, the investigation was still under way.¹²⁰

This and many other cases indicate that export control culture at many enterprises is extremely poor. According to one of the leading Russian governmental nonproliferation experts,

"If we don't solve this problem in the near future we'll have to deal with the most surprising violations. Very often they are deliberate, and careful methods are used to conceal criminal activity. The situation is aggravated by the participation of secret services on the part of rogue states, which have sophisticated methods of procuring secret technology and materials from closed, primarily defense industries. Moreover, they share this technology [...]"¹²¹

On February 22, 2001, export control practices were discussed at the special meeting of the Russian Security Council. Two types of questions were considered — the political and the technological components of export control. The results of the discussion took the form of corresponding instructions to ministries and agencies to develop a

¹²⁰ *Kommersant*, June 18, 2001, p. 3.

¹²¹ Gennady Evstafiev, "Naivno ozhidat prostykh resheniy (It Would Be Naive to Expect Easy Solutions)" in Dmitry Evstafiev, Vladimir Orlov (eds.), *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*. M., PIR Library Series, 2000, p. 188.

normative and legal framework. It was emphasized during the meeting that the interests of exporters, scientists and specialists possessing intellectual property should not be infringed upon. In the course of the discussions, the participants decided upon an objective — to set up an agency of experts in international economics, to carry out constant supervision of transactions, since the volume of such activity is growing and export licenses are issued daily. There are well-founded suspicions that some agencies may benefit from this lack of control and act selfishly, without taking into account state interests. In order to enhance control of transactions, to analyze the condition of export controls in general, the Government plans to set up a federal databank in the near future. At the same time, participants of the meeting admitted that there was no efficient barrier for those academics and producers, who were ready to share their multi-million know-how for the one-hundred-dollar bill. Concrete decisions are being prepared in this area: so that experts prefer to resort to the laws on information security, rather than act on their own and for smaller profits.¹²²

It is worth noting that the federal authorities are considering organizing this work without excessive centralization. Powers to regulate some less important items and supplies are transferred to the regions. Practices of the St. Petersburg region are admittedly effective in that its inter-industry public commission, according the Security Council, is highly professional. It has been suggested that in order to decentralize export control, presidential emissaries in the regions will supervise these economic activities and establish under their authority a kind of "mini-security-council" in each region.¹²³ It is too early to make any conclusions regarding the practical realization of this model, and whether the attempts to decentralize would present a good opportunity for local defense enterprises to get around effective export controls.

Coordination of Nonproliferation Activities of the Russian Agencies

One of the most serious nonproliferation problems for Russia in the 1990s was the lack of a clear and coherent state policy in the area of WMD nonproliferation and, as a result, the lack of appropriate coordination, redistribution of powers among the agencies involved in export control decision-making.

¹²²Vadim Solovyev, "Nastupatel'naya, no jentlemenskaya konkurentsia. Sovbez sovershenstvuet exportny kontrol, prokladyvaya dorogu vo Vsemirnyu torgovuyu organizatsiyu (Offensive, but Gentlemanly Competition. The Security Council Improves Export Controls, Paving the Way to the WTO)". *Nezavisimoye Voennoye Obozreniye*, No. 8, March 2, 2001.

¹²³Ibid.

Perhaps, after the above words regarding the consensus of major Russian political forces on nonproliferation and the firm commitment of the state to its international obligations, it may seem illogical to speak of the absence of a consistent state policy. We maintain, nevertheless, that this is the case.

General statements made by the top leadership were rarely transformed into practical steps, and with each passing year, the growing economization of Russian foreign policy could create false illusions among export-oriented agencies. That said, the Russian leadership was not always in a hurry to dissipate these illusions, and as a result, a few domestic decisions were taken only after external pressure, above all, from Washington. Obviously, this dynamic irritated Russian executives who thought that Boris Yeltsin's nonproliferation policy was directly dictated from abroad. However, one should bear in mind that the Russian Government had no efficient mechanisms to control the implementation of its declarations. As a result, Russian nonproliferation declarations were devalued — the world began to view them as "export declarations," while at the same time, Minatom and other organizations involved in military-technical cooperation dominated Russia's internal politics.

Until late 1995-early 1996, Russia's formulation of its priorities and positions in the area of nonproliferation was chaotic. Several ministries and agencies tried to push forward their own interests instead of protecting state interests. This led to certain distortions, above all, as far as sensitive exports were concerned. Meanwhile, agencies such as the MFA and the SVR, succeeded in resisting the attacks of those who were ready to sell everything. Since 1996, when Yevgeny Primakov was appointed Foreign Minister, the ministry has managed to coordinate foreign policy and to prevent illegal activities on the part of other agencies.

Changes in the Russian leadership (Vladimir Putin became Prime Minister in August 1999 and then President in May 2000) did not have significant impact on the role of the MFA, as far as foreign policy coordination was concerned, including nonproliferation issues. Seemingly, with the active President, who pays much attention to efficient governance, the problems of poor inter-agency coordination should have disappeared. However, as we will discuss below, under President Putin, Minatom's leadership began to influence Russia's nonproliferation policy, running counter to the MFA's position and some of the President's conceptual documents.

Now let us examine the role of the Minatom in nonproliferation during the 1990s.

Nuclear export — trade in any peaceful nuclear components, starting from NPP reactors to uranium enrichment plants and technologies, is one of the

three pillars of Russian exports. This pillar is absolutely independent from the others and the notion "Minatom" includes some state-owned companies, such as *Techsnabexport* and *Zarubezhatomstroi*, which have formally independent status, but are really subordinate to the Minister of Atomic Energy. It would be more correct to speak about the *Minatom Empire*.

The *empire* is part of the military-industrial complex. It is impossible to distinguish between military and peaceful components here, for it makes up a single organism. This issue of distinguishing military and civilian elements of the nuclear fuel cycle is always a problem for exporters, who prefer to speak about full interdependence and indivisibility of the industry. The *empire* is characterized by a highly complex bureaucracy, secrecy (even if it is not necessary sometimes), difficulties with or even the impossibility of independent auditing, a high level of corporate loyalty and active lobbying of corporate interests within the federal executive and legislative branches through the use of personal connections.

Minatom must comply with the general rules of the game developed by the state in the area of nuclear export. Documents, such as the NPT, international commitments within the NSG (1978, 1992, etc.), the law "*On Export Controls*" (1999), should guide Minatom's leadership if it wants to defend Russia's national interests, rather than undermine Russia's image on the international arena.

In this vein, Minatom's nuclear trade is impeded by numerous international restrictions, which are replicated in national export control legislation. But Minatom is not new to operating in such tough conditions. Russian and Western analysts agree that national export controls in the Soviet Union were extremely strict and efficient — any violations of the rules were authorized by the Politburo on the basis of conclusions of the inter-agency nonproliferation commission ("big five"),¹²⁴ as it was with North Korea (Moscow rendered assistance, although it knew about Pyongyang's intentions to develop an A-bomb) and with heavy-water supplies to India.

After the demise of the Soviet Union, Minatom, like the rest of the military-industrial complex, found itself in deep crisis. The industry was accustomed to measuring its wealth not by salary bonuses, but by the amount and quality of fringe benefits. Suddenly it had to face unemployment, chronic arrears in wages, and plant closings. Under these circumstances, Minister Victor Mikhailov had to add some merchant and managerial skills to his skills of academic and administrator. After his appointment he argued, "The revival of industry will start from my ministry

¹²⁴The MOD, the MFA, the Military-Industrial Commission, the KGB, and the Secretary of the Central Committee of the CPSU, who was in charge of defense industries.

and, hence, Russia's grandeur will revive."¹²⁵ Victor Mikhailov did his best to resume the Soviet agreements: started negotiations with India, gave positive assessments of proposals by Pakistan and Iran. But in its first stage, it was mostly passive business: India, Iran, and Pakistan took the initiative in promoting their offers, while Minatom mostly reacted to them.

The state, however, demanded growing exports. Otherwise, it would have called into question the very advisability of developing the nuclear energy sector in Russia. Victor Mikhailov, who belonged to the Minatom elite, could not afford to be called *the grave-digger of the industry*. So he staked everything he had.

It is noteworthy that at this stage, the Russian Foreign Ministry did not back the idea of aggressive nuclear exports. Most likely, it was simply decided not to interfere with Victor Mikhailov moneymaking. It was Minister Mikhailov who sought support from diplomatic circles who, he hoped, would ensure his breakthrough and allow him not only to fend off his rival, but also to take offensive action. Victor Mikhailov was one of the first to claim outright that Russia's lifelong business rival in this area would be the United States. He was sure that Washington saw in Russia a potential competitor, who must be blocked in all markets by using any pretext to prevent Russia's ascent to leading positions in the global nuclear market. At first, Minatom was shocked by U.S. attempts to bring anti-dumping legal action against Russian uranium exports in 1992.¹²⁶ Afterwards he learned an even more instructive lesson — when a scandal erupted concerning Russia's supplies of cryogen engines and technologies to India.¹²⁷ The contract had nothing to do with Minatom, and its

¹²⁵Vladimir Orlov, "Chto vygodno Minatomu (What Is Profitable for the Minatom?)". *Pro et Contra*, Vol. 2, No. 3, Summer 1997, p. 40.

¹²⁶*Moscow News*, No. 27, July 5, 1992.

¹²⁷The contract was signed by the Soviet organization — Glavkosmos. It planned to supply the Indian Space and Research Organization with technology or cryogen engines and boost assemblies using these engines. India needed the liquid-fuel jet engines to develop missiles capable of launching satellites to geo-stationary orbit.

India could have acquired cryogen engines from five nations (the U.K., China, Russia, the U.S., and France). China was not a possible partner for political reasons. In 1986-1988, India contacted the United States, France, and the U.K.. In October 1989, SEP — a French state-owned company — offered New Delhi the engines and technology, but had to withdraw its proposals after U.S. threats of imposing sanctions against France. Soon after, President Bush sent representatives of General Dynamics to India for negotiations—they demanded \$700-800 million. The Soviet terms were much more favorable.

Tentative agreement was reached in 1990. According to the initial contract, Russia supplied India with two cryogen boost assemblies, test benches, equipment for launches and production. Moscow was to provide technological documentation and training by Russian specialists. On January 18, 1991, Glavkosmos of the USSR and the Indian Space and Research Organization signed a \$350-million contract with a reservation pertaining to peaceful uses of the equipment and technology. Glavkosmos started technology transfers in

leadership was at a loss: why was the United States allowed to supply advanced computers to the Pakistani nuclear center, and we were not?

1992 until September 1993. The payment was transferred through a clearing account with subsequent compensational supplies of Indian goods.

The United States was against the deal since the conclusion of the tentative agreement. The United States bombarded the Russian Foreign Ministry with notes, touched upon this issue in conversations with ambassadors, ministers and other officials. External pressure was amplified by internal disagreements in Russia. State Secretary G. Burbulis and the Ministry for Foreign Economic Links endorsed the contract, whereas the Foreign Ministry (Andrei Kozyrev) opposed the idea.

The bill on sanctions against Russia for this cryogen deal was initiated and sponsored by Senator Al Gore during the 1992 presidential campaign in the United States. On March 6, 1992, the United States imposed sanctions on Glavkosmos, arguing that its cooperation with ISRO fell under the MTCR restrictions (category I). Key emphasis was placed on the unacceptability of technology transfer. The bill did not take into account that in 1992 Russia was not a member of the MTCR and had no legal-binding commitments concerning such supplies.

Russia preferred to accept the U.S. demands. On September 2, 1993, the two parties signed the memorandum, where Russia committed itself to MTCR obligations. Moscow pledged to modify the contract and to exclude technology transfers. By that time, the Russian organizations had transferred 85% of technological documentation on cryogen engines (and Moscow informed the U.S. of this fact) and India paid 60% of the deal.

New Delhi did not take part in this discussion and was officially informed only after all decisions had been taken. Its first response was voiced in the MFA's statement of July 19, 1993, which pointed out Russia's inability to implement the contract. The issue was repeatedly discussed in the Indian parliament and within the Government. Many in India believed that U.S. actions were a revenge for the refusal to sign the contract with U.S. companies.

When Washington lifted sanctions from the Khimmash design bureau, the Salut design bureau, and the Khrunichev Space Center, and the parties signed a new contract with ISRO (December 1993), the amount of the deal was reduced to \$220 million. As compensation, India received four boost assemblies and an option to buy three more. The total amount of the deal (including the option) was \$228 million. Russia's losses (lost profit) amounted to \$25 million (without three additional engines and the option for four more assemblies by 1997-1998).

After this, the prime contractor was the Khrunichev Center, who was a middleman for Salut and Khimmash, also involved in the deal. The contracts had reservations concerning peaceful use, a ban on retransfers and modernization without Glavkosmos' consent. Russian specialists received full access to assembly plants and launching sites where the Russian cryogen technology was used.

U.S. experts and officials kept a close eye on Russian-Indian space cooperation and cryogen deals, but finally stopped raising concerns about the modified contract. In March 1994, the term of sanctions against Glavkosmos expired and they were automatically lifted. The United States had no more formal reasons to impede Russia's accession to the MTCR. See: Alexei Rey, "Exportny kontrol i aviakosmicheskaya promyshlennost Rossii (Export Controls and Russia's Aerospace Industry)" in *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*. M., PIR Library Series, 2000, p. 127-128; Gennady Khromov, "Indiiskaya politika v oblasti raketnogo i yadernogo nerazprostraneniya i sotrudnichestvo s Rossiyei (Indian Nuclear and Missile Nonproliferation Policy and Cooperation with Russia)", *ibid.*, pp. 86-87.

The anti-American rhetoric of Minister Mikhailov and some other senior officials in his ministry is notorious. They looked at the situation as businessmen, rather than as governmental officials. They had to face massive U.S. opposition in practically every area of Russian nuclear export — Iran, India, Cuba, Germany. One of the most serious fiascos Minatom had to face was in North Korea, when Russia tried to *pass off* its light-water reactors instead of South Korean ones under the KEDO deal led by the U.S. Russia planned to obtain KEDO membership in exchange for its former investments in the North Korean nuclear energy sector. Russia believed that its VVER-1000 reactors would be the cheapest and, hence, the most acceptable option to appease Pyongyang. However, Russia's participation was conditioned on financial contributions to KEDO (which Moscow could not afford); besides, the supply of South Korean reactors was predetermined.

It is noteworthy that Jack Matlock, U.S. Ambassador to the USSR (1987-1991), called U.S.-Minatom relations during Victor Mikhailov's era the "most serious defeat of the United States" on the Russian diplomatic front. Jack Matlock emphasized that many U.S. analysts portrayed Victor Mikhailov as

"Aggressive, devious, and unyielding except under pressure [...]. However, an outside observer would note that the U.S. has made no serious effort to work out cooperative relations with Minatom; Mikhailov's politics should have been predictable to anyone who understood the problems he faced in 1991 as the Soviet Union collapsed."¹²⁸

Jack Matlock believes,

"U.S. policy showed no such clarity of purpose in 1992 and 1993-or thereafter for that matter. It seemed driven more by very narrow commercial interests than by any reasoned concept of national security [...]. Without cooperation from Minatom, we cannot be confident that the vast quantities of fissile materials in its custody are safe from theft and diversion. [...] There is no way to persuade the Russians to allow the United States to take a more active part in protecting their weapons of mass destruction without convincing them that U.S.-Russian relations are fundamentally cooperative rather than competitive."¹²⁹

During Victor Mikhailov's (1991-1998) and Yevgeny Adamov's (1998-2001) reign, Minatom has repeatedly proven that it was not able (despite its strong desire) to play any independent role in promoting nuclear exports, for the ministry was unable to assess adequately the political dimension. The ministry did not always realize that for political reasons, the criteria for upon which the advisability of the deal should be judged

¹²⁸Jack Matlock, Jr., "Russian's Leaking Nukes". *New York Review*, February 5, 1998, p. 17.

¹²⁹*Ibid.*, p.18.

should include Russia's international obligations, national legislation, and long-term strategic interests, rather than short-term and selfish ends.

In 1994-1995, Minatom, inspired with a first success in Asia, received signs of Pakistan's intention to build a nuclear power plant. Minatom estimated that the cost of the project would be about \$1.8-2 billion, and stated its resolute interest in closing a deal. It seems that it received support even from the Ministry of Economics for the following reason:

"If we are not involved, then somebody else will do it. China has long been offering services to Pakistan, and behind China are the French with their technologies. Russia will be left high and dry."¹³⁰

According to Deputy Minister of Atomic Energy Yevgeny Reshetnikov,

"Pakistan was ready to place the nuclear power plant under IAEA safeguards, but again, as it was in the case of India, one could not insist on placing all nuclear programs of a de facto nuclear-weapon state under IAEA safeguards. Our Foreign Ministry does not allow us into Pakistan [...]. Our Foreign Ministry insists: going there is prohibited [...]. Pakistan has contacted us many times, but the MFA blocks our efforts."¹³¹

The MFA finally did block these efforts, but the above quotation clearly characterizes Minatom's perception of the MFA.

In 1995, Victor Mikhailov signed the protocol of intentions with Iran and abused his powers. He agreed to supply Tehran with gas centrifuge equipment. Here is the quotation from the protocol.

"On January 5-8, 1995, Minister of Atomic Energy of the Russian Federation Prof. Victor Mikhailov visited Iran [...]. In the course of the visit, the parties held negotiations on cooperation in peaceful nuclear energy uses. The parties expressed their content with the outcome of the visit and achieved the following agreements [...]. The parties will instruct their organizations concerned to prepare and to sign [...]: within six months, the contract on construction of the uranium vault in Iran, and then to conduct negotiations on the contract on construction of the centrifuge plant for uranium enrichment on terms similar to those of contracts signed by Russian organizations with the companies of third nations [...]."¹³²

According to the NSG rules of 1978, nuclear suppliers had to show restraint in supplying non-nuclear weapon states with gas centrifuge and similar plants. In practice, such supplies never went beyond the *nuclear club*.

¹³⁰ *Moscow News*, March 12-19, 1995.

¹³¹ *Ibid*.

¹³² From the protocol of negotiations between Minister of Atomic Energy V. Mikhailov and Vice-President of Iran Dr. Reza Amrollahi. January 1995, Tehran.

According to experts who analyzed the situation with Iran and approved of construction of the nuclear power plant in Bushehr, Russia should not have even mentioned the possibility of gas centrifuge equipment supplies. The position of the MFA, along with other agencies, was ignored. Dissatisfaction with Victor Mikhailov reached a critical level and it was recommended that the President fire him for his "spontaneous actions". However, this might show the world that there was complete chaos in the Kremlin, and also might frighten Iran, a partner the Kremlin and MFA did not want to lose. At that moment, the United States, which received a copy of the protocol from its intelligence community, leaked the information. It was easy to retort U.S. objections concerning the nuclear power plant, but Moscow could say nothing about the centrifuge equipment. But to fire Minister Mikhailov to please the Americans would have been even more unreasonable. So he was sent on a long visit to Havana, and Moscow decided to pardon him. At the same time, the Kremlin decided to halt negotiations on gas centrifuge equipment and not to return to this issue in the future. The same explanation was given to the United States during the May 1995 summit. To demonstrate Russia's unwillingness to arm Iran, Moscow and Washington signed the notorious memorandum concerning military-technical cooperation with Tehran.

The next Minister of Atomic Energy — Yevgeny Adamov — made his nuclear deals under the disguise of "the importance of nuclear nonproliferation", although some of these contracts did not meet Russia's national interests or international commitments.

For instance, in October 2000, during Vladimir Putin's visit to India, Yevgeny Adamov lobbied to supply India with 58 tons of uranium dioxide for the Tarapur atomic power station. Both reactors there were constructed with U.S. assistance in the late 1960s and are under IAEA safeguards. The fuel for these reactors was supplied by the United States and France (before the principle of full-scope safeguards was adopted), then by China (which did not recognize this principle). However, after the 1998 Indian nuclear tests Beijing stopped the supplies.¹³³ Russia justified its interests by explaining the need to ensure safe operation of the Indian nuclear power plant, and to prevent an energy collapse in the adjacent territory.¹³⁴

The supplies ended in February 2001. This deal had only limited commercial appeal, but it undermined Russia's political positions, since it was an obvious violation of Moscow's obligations, as a member of the Nuclear Suppliers Group. Minatom's lawyers had to provide legal justification for the activities of their boss and hastily sought legal grounds

¹³³Vitaly Fedchenko, "The Russian-Indian Nuclear Cooperation: More Questions than Answers." *Yaderny Kontrol Digest*, Vol. 6, No. 3, Summer 2001, p. 22.

¹³⁴*Nezavisimaya Gazeta*, November 16, 2000.

for the initiative. Nonetheless, at the NSG meeting in December 2000, all member states, except Belarus, denounced Russian steps. Several states within the NSG that had recently agreed to follow the NSG principles (such as Argentina, Brazil, South Africa and some others) were perplexed. They doubted why they should strictly observe NSG restraints while Russia ignored its obligations. The U.S. administration named the Tarapur deal "a serious threat" to the nonproliferation regime. If in the case of Bushehr (Iran), Russian diplomacy had enough trumps to defend its position, the contract with India made it vulnerable. Minister Adamov dealt a hard blow to Russia's international prestige.¹³⁵ At the next NSG meeting in Aspen (U.S.) in May 2001, the majority of its members criticized Russia's actions.

Minister Adamov, however, went further and in December 2000, on Russia's behalf publicly declared that Russia might withdraw from the NSG and other international export control regimes "if current restrictions concerning cooperation in peaceful nuclear energy uses are not modified".¹³⁶

On February 16, 2001, the U.S. State Department gave a harsh statement criticizing Russia. In March 2001, the U.S. State Department spokesman called the Tarapur deal one of the most serious nonproliferation challenges.¹³⁷ He pointed out that the United States, together with other members of the NSG, used bilateral channels to express their concern to Russia and explained why this case was so important for the United States,

"One of the questions raised in the [NSG] December [2000] meeting by the Russian side was whether the full-scope safeguards requirement continued to served a useful purpose, and whether we were prepared to discuss that issue. Ambassador Ritch, our representative to the IAEA, replied that we were always willing to discuss issues, but not under the pressure of an imminent shipment that did not comply with the NSG Guidelines. Since that time, the Russians have again suggested further consultations on that issue. And I have heard some say that maybe full-scope safeguards has accomplished all it can, because withholding peaceful nuclear technology is not going to convince the NPT holdouts to adhere to the Treaty. That may be true, but is it the right question to ask?

When we are faced with a particular pending export license, especially to a State which does not have full-scope safeguards, we ask ourselves two questions. The first question is 'do we think the item will be diverted to an unsafeguarded use?' But even if the answer to that question is no, we then ask ourselves whether we want

¹³⁵ *Moscow Times*, April 2, 2001, p. 10.

¹³⁶ *Hindu*, December 17, 2000.

¹³⁷ Richard Stratford, "Starting over Building a Nonproliferation Regime from Scratch". — Report at the conference "How to Harmonize Peaceful Nuclear Energy Uses and Nonproliferation? Future of Nuclear Energy Development in Asia", March 8, 2001.

to engage with peaceful nuclear cooperation with that State. If the State is trying to be a proliferator, then the answer is no because of the danger of diversion, since the State is violating its NPT commitment. But what if the State is a non-NPT party with a nuclear weapons program, and you know that they can be fully trusted not to misuse your export? Our answer would be to deny the export, not because of fear of diversion, but because of a foreign policy judgment that we prefer to reserve cooperation in the peaceful uses of nuclear energy to States who are prepared to forswear the acquisition of nuclear weapons.

It would appear that we are about to enter into a dialogue about the usefulness of the full-scope safeguards condition of nuclear supply. The Russian Government is seeking consultations on that issue [...]. So, how would you see the issue? Would you offer nuclear cooperation as an incentive for some progress? Say for CTBT or FMCT adherence, but not full-scope safeguards? Would you open the doors to full nuclear cooperation on the grounds that withholding it will have no effect on whether the NPT holdouts adhere to the Treaty? I can tell you that countries like Argentina, Brazil and South Africa do not think so. They would find it grossly discriminatory that for years they were promised nuclear cooperation, but only if they adopted NPT-type safeguards — and then the world were to go the other direction and engage in nuclear cooperation with other countries who not only would not undertake that commitment but who openly pursue a nuclear weapons program”.¹³⁸

The full-scope safeguards principle is the most important element, a cornerstone of existing international export controls, and if exporters decide to change practices (as it was done with respect to the safe operation of nuclear plants), such modification may take place under Article 16 of the Guidelines for Nuclear Transfers, i.e. with the unanimous consent of all NSG members. Unilateral actions may undermine the entire system of export controls and the international nonproliferation regime as a whole.

At present, Russia is implementing contracts with China in Tianwan (the first reactor is scheduled to be completed by 2004, the second unit — by 2005), with Iran (the first reactor in Bushehr is to be completed by 2002), and also plans to build two power reactors in India. As far as Tehran is concerned, Russia will receive 20% of payment in goods and the rest — in cash; with China most of the deal will be paid for in goods.¹³⁹ The current contracts with China and Iran do not seem to threaten any violation of Russia's international commitments and do not challenge Russia's national interests. Agreements with India should be studied more carefully from legal, political and practical points of view, before one can make a final conclusion about their compliance or incompliance with Russia's obligations and interests.

¹³⁸ Ibid.

¹³⁹ *Vremya Novostei*, October 16, 2000.

Exports and export controls should be two facets of a unified state policy — promote exports in all cases if they do not undermine national security and do not contradict Russia's international commitments.

Russia — Iraq

Iraq has become a hotbed of tensions and concerns in the 1990s. All these apprehensions were connected with the dismantlement of Iraq's WMD programs.

In July 1990, Iraq-Kuwait relations deteriorated, after Baghdad demanded compensation (\$2.4 billion) for allegedly illegal oil extraction from a border oil field; a rescheduling of its debt to Kuwait (\$17-billion loans were received during the Iran-Iraq war); and the rental or acquisition two strategically important islands. On the night of August 2, 1990, Iraqi troops invaded Kuwait and on August 8, Baghdad declared the amalgamation of Kuwait and Iraq.

The U.N. Security Council condemned the aggression and demanded the immediate and unconditional withdrawal of Iraqi troops. On August 2, 1990, comprehensive trade and economic sanctions were imposed against Iraq. After the Gulf War (Desert Storm operation) and liberation of Kuwait by anti-Iraq coalition forces, the U.N. Security Council passed Resolutions 686 and 687 (April 3, 1991) and a number of other resolutions defining the parameters of a post-war settlement in the Gulf and specifying the characteristics of the sanctions regime.

The embargo is governed by U.N. Security Council Resolution 661 (August 2, 1990). It provides for bans on the import of any goods or production from Iraq, sales or supplies of any goods or production to Iraq, including arms or any other military equipment. There is also a ban on transfer of financial or economic resources to Iraq, use of vessels to transport goods to and from Iraq. There was only one exception to the economic embargo — medical and food supplies to Iraq, as humanitarian assistance, and transfer of money for medical purposes only. In accordance with Article 6 of Resolution 661, the U.N. established the Sanctions Committee of the U.N. Security Council, which comprised all members of the Council.

Resolution 687 cancelled the ban on the export of food to Iraq with the condition of providing preliminary notification to the Sanctions Committee, whose permission was enough to allow supplies for basic civilian needs. The resolution reaffirmed the embargo on supplies of arms and materiel, related technologies, instructors, or materials for the training of Iraqi personnel and maintenance of such systems. According

to Resolution 665 (August 25, 1990), all member states that had sent their Navy to the region, enjoyed the right to stop all vessels for inspection of their cargoes under U.N. Security Council oversight. The largest participant in this naval group is the United States. The group also comprises ships and aircraft deployed by Australia, Canada, Belgium, the Netherlands, New Zealand, and the U.K. Members of the Gulf Cooperation Council render assistance to the naval group by providing logistical support, sending its representatives to the ships of the group and conducting inspections of the detained vessels. Resolution 687 secured the inviolability of the Iraq-Kuwait border established by the Agreed Protocol between the two states of October 4, 1963. The U.N. Secretary General was entrusted with assisting in its demarcation, while Iraq and Kuwait were urged to comply with this agreement.

In accordance with the U.N. Security Council resolutions, the U.N. undertook unprecedented measures to verify Iraq's military might. For instance, Resolution 687 urged Iraq to agree to the destruction, withdrawal or dismantlement under international control of all its chemical and biological weapons, all ballistic missiles, whose range exceeded 150 km, and all means and materials that could be used to develop nuclear weapons. Iraq also was required not to use, develop, build or acquire the proscribed WMD and missiles.

The Soviet Union participated in the *Desert Storm* operation along with the United States, although Moscow did not send its troops or military equipment into the region of hostilities. Russia also initially supported the U.S. policy towards Iraq and joined the U.S. and its allies during the U.N. Security Council vote.

The United Nations Special Commission (UNSCOM) was set up to monitor Iraq's compliance with disarmament demands and U.N. Security Council resolutions, in order to prevent the restoration of Iraq's WMD potential. UNSCOM was established by the U.N. Secretary General in 1991 under Article 9 of Resolution 687, as a subsidiary body to the U.N. Security Council. Until 1996, the commission was headed by Rolf Ekeus, a Swedish diplomat, and from 1996 until June 1999 — by Australian diplomat Richard Butler.

As far as nuclear issues were concerned, the primary agent was the IAEA, which worked in coordination with UNSCOM. Resolution 715 (October 11, 1991) approved the plans for permanent monitoring and verification, whose implementation was the responsibility of UNSCOM together with the IAEA.

Russia sent its representatives to UNSCOM and viewed the activities of Rolf Ekeus and the IAEA quite positively. At the same time, Moscow

welcomed less the steps taken by Richard Butler, which coincided with the start of Russia's rapprochement with Iraq.

During 1997-1998, Iraqi-UNSCOM relations were spoiled by a number of crises, which resulted in U.S.-U.K. military actions against Baghdad. Iraq sharply criticized the actions of UNSCOM with its "inspection fever" (including inspections of presidential facilities) and other provocative steps aimed (as Iraq believed) at fuelling conflicts. Iraq repeatedly accused Rolf Ekeus and Richard Butler of fulfilling U.S. plans for preservation of the blockade, while UNSCOM inspectors were suspected of conducting intelligence activities for the CIA.

After the MFA appointment of Yevgeny Primakov (1996), who had rich experience in the Middle East and close ties with regional leaders, including Saddam Hussein, Russia's policy toward Iraq became more rigid, while Baghdad transformed into one of the major irritants in U.S.-Russian relations. This turn of events reflected dramatic changes in Russian foreign policy, for Moscow was eager to turn away from the liberal pro-U.S. course and to promote "multi-vector" contacts (including links with the so-called *rogue states* under the pretext of ensuring Russia's economic and geopolitical interests).

During this period, thanks to the efforts of Russian diplomats, it was possible to find peaceful solutions to emerging problems: Moscow (with its special relationship with Saddam Hussein) played the role of mediator between Baghdad and the West.

U.N. Secretary General Kofi Annan also played an important and independent role in this process. His personal endeavors lead to the Memorandum of Understanding between the Iraqi Government and the U.N. (signed on February 23, 1998). The document put an end to another pause in relations between Iraq and the international community. Baghdad reaffirmed its commitments to cooperate with the UNSCOM staff and the IAEA. Iraq had to provide international inspectors with immediate, unconditional and unlimited access to any suspicious facilities, including the president's palace. The memorandum contained specific verification procedures for eight clearly identified presidential facilities. As a result, UNSCOM obtained access to closed facilities and the presidential palace.

However, in late 1998, the situation followed the force scenario. The conclusion of the Butler Report of December 15, 1998 was a pretext for military action. Richard Butler argued that Iraq did not cooperate in good faith with UNSCOM in the course of implementation of Resolution 687. The report gave a biased assessment of the results of inspections and monitoring activities in Iraq conducted after November

14, 1998, when Baghdad resumed cooperation with the U.N. The report contained many petty errors and distortions, while ignoring the regular activities conducted by UNSCOM in Iraq.

For instance, the report maintained that Baghdad had allegedly imposed additional restrictions on monitoring activities, refused to submit data on Al-Samoud missiles, prohibited the photographing of some equipment at the inspected facilities, denied access to such facilities during the weekends and holidays, etc. The report described in detail all cases of Iraqi poor compliance. Special emphasis was placed on Iraq's unwillingness to hand over required documentation to UNSCOM.

On December 16, Richard Butler abused his powers and without any consultations with the U.N. Security Council (which was discussing his report at that time), ordered the withdrawal of all UNSCOM personnel from Iraq. From December 17-19, 1998, the United States and the U.K. made a series of missile and bomb attacks against Iraq. As a result of this military operation, which lasted for about 70 hours, important state and military facilities were destroyed, including the building belonging to the *Ba'ath* party leadership, the Air Force HQ, television and radio, and some residential districts in Baghdad.

UNSCOM did not return to Iraq after the December bombings. In June 1999, Richard Butler left his post as the Executive Chairman of UNSCOM (under pressure from Russia, France, and China), since his contract with the U.N. had expired.

The missile strikes significantly hampered efforts toward post-conflict settlement in the Gulf, including endeavors to ensure eventual dismantlement of Iraqi WMD potential in compliance with the U.N. Security Council resolutions. The system of international monitoring, meticulously established since 1991, was practically destroyed.

Iraq fulfills U.N. resolutions under substantial international pressure, for Baghdad has not agreed to some of their provisions. However, the process of post-conflict settlement was slowly moving forward until the December 1998 crisis. After the 1990-1991 hostilities and the adoption of Resolutions 686 and 687, Baghdad officially recognized these decisions and abolished all decisions of the Council of Revolutionary Command pertaining to Kuwait passed after August 2, 1990. Despite certain tensions in Iraq-UNSCOM relations, there was a certain level of progress in the implementation of Resolution 687 and its disarmament requirements.

The most impressive results were achieved in the nuclear area. Since 1991, the IAEA has managed to get a comprehensive impression of the Iraqi clandestine program and its full cycle: purchase of natural

uranium — development of enrichment processes — arming munitions with HEU. Meanwhile, there were no indications that Iraq had succeeded in attaining the primary goal of its program.

Most of the IAEA activities in Iraq were completed by late 1992. By this time, the Agency managed to discover and neutralize Iraq's secret nuclear program. The specialized facility — Al Atheer — was dismantled and destroyed. Until 1990, the facility served for development and creation of an atomic bomb. The inspectors also monitored the destruction of the Al-Tuwaitha nuclear research center, the Tarmiya uranium enrichment complex, the Al Hadre test range. Discovered weapon-grade plutonium and HEU were withdrawn from Iraq.

In February 1994, the IAEA completed the withdrawal of nuclear material from Iraq. In its report to the U.N. Security Council of October 10, 1994, the Agency maintained that up to 1,900 items of equipment and 600 tons of special material were eliminated under its control. This equipment and materials, including for uranium enrichment, were involved in the nuclear arms development. Paragraph 31 of the report concluded that Iraq had practically no capability to produce nuclear weapons or materials (enriched uranium or plutonium).¹⁴⁰

According to the IAEA experts, in the course of technical verification covering the entire state and aimed at proving the lack of facilities or activities, which could be easily concealed, some uncertainty inevitably remains. Therefore, the U.N. Security Council decision to charge the IAEA with the mission to eliminate all components of the nuclear weapons program in conformity with paragraphs 12-13 of Resolution 687 can hardly be expected to be fully carried out even if Iraq provides the closest cooperation with inspectors. The IAEA regards the following as its norm: in the process of applying nuclear safeguards to other states, the Agency never states the lack of violations but speaks about lack of evidence concerning violations. IAEA official reports have many times reaffirmed this with respect to Iraq. For objective reasons, the Agency will not be able to add anything to this, or offer firmer guarantees than they already have, regardless of additional of inspections.

Thus, in its report to the U.N. Security Council of October 1997 (paragraph 79, Doc. 8/1997/779), the IAEA concludes that, to close Iraq's nuclear file, it is necessary for the U.N. Security Council to make a political decision and not rely on the Agency's technical report. Since that time, the Agency has proven unequivocally that its activities concerning Iraq's nuclear program have reached the point where further efforts will provide lesser results.

¹⁴⁰S/1994/1151.

The July 1998 report unequivocally stated that Iraq's progress in this area enabled the Agency to speak about long-term monitoring, for the IAEA had a comprehensive and complete vision of the nuclear situation in Iraq. However, the Agency failed to close the nuclear record in July 1998, due to the objections of the U.S. and the U.K.

In the course of considering Iraq's disarmament record at the meetings of the U.N. working group chaired by former Brazilian Permanent Representative to the U.N. Celso Amorim (March 1999), experts backed the IAEA statement that there was no evidence proving that Iraq possessed nuclear weapons or a sufficient amount of nuclear material for their production. The existing uncertainty concerning the lack of some technical documentation and the procedure of rendering foreign assistance was not regarded as a serious obstacle to implementing the IAEA monitoring plan.

Until December 1998, UNSCOM monitored the elimination of Iraqi missiles and conducted 919 inspections. As a result, Baghdad surrendered 817 out of 819 Scud missiles (two missiles did not have readable serial numbers) and 14 launchers. One can be sure that Iraq's missiles with a range exceeding 150 km have been eliminated and related programs have been shut down. Meanwhile, one cannot rule out that Iraq still possesses some scientific, production and other capabilities to restore these programs.

The last six-month report by Richard Butler (October 1998) mentioned among its priorities, as far as missile programs were concerned, the advisability of material balances of conventional warheads (nowadays 80-100% of them have been identified, depending on their types) of non-Iraqi origin, of missile equipment produced by Iraq, and of rocket fuel. The issue of specialized warheads with VX gas was not resolved either. The survey of fragments of 46 warheads conducted in U.S., French and Swiss laboratories to find traces of VX decay, did not yield unequivocal results. The United States revealed traces of the gas in 11 warheads. The French did not find any VX, but reported elements of G- and V-gas in one of the samples. They also mentioned that the substance could be a product of the decay of other components, which had nothing to do with chemical weapons, e.g. detergents. The Swiss did not find any trace of CW. Iraq, on its part, stated that the contamination of warhead fragments was due to deliberate falsification of the chemical composition of the samples, delivered to the U.S.

The activities of UNSCOM in the missile area were accompanied by a number of scandals. One of the most notorious cases was the gyroscope deal. On November 10, 1995, the Jordanian government intercepted a shipment of Russian missile-guidance gyroscopes and accelerometers bound for Iraq. The equipment was designed for Soviet-made missiles. The total amount of seized articles was 180 and their import to Iraq was prohibited under Resolution 687. According to the materials submitted by

Iraq to UNSCOM, the deal was performed with the mediation of Wi'am Gharbiya, a Jordanian citizen, who had conducted negotiations with several Russian companies developing and producing such items. Besides, in December 1996, UNSCOM presented the evidence to Russia — samples of gyroscopes pulled out from the bottom of the Tigris River and earlier delivered from Russia in circumvention of Resolution 687. Hence, Russia was publicly exposed as a violator of the U.N. sanctions against Iraq.¹⁴¹

According to U.N. Security Council Resolution 687 of April 1991, suppliers of goods related to military technologies and dual-use goods to Iraq must obtain special permission. It is prohibited to supply missiles with a range above 150 km and related equipment to Iraq. It is known that Russia joined the sanctions against Iraq. However, detailed documents on the subject were not passed in Russia for six and a half years. On November 7, 1997, i.e. after the gyroscope scandal, Prime Minister Victor Chernomyrdin signed the legal provisions which determined the method for controlling the export from the Russian Federation to Iraq of dual-use goods and technologies and other means originating in the Russian Federation or released in free circulation within the territory of the Russian Federation, included in the List of Dual-Use Goods and Technologies and Other Means, whose export to Iraq, in compliance with the U.N. Security Council Resolution, is controlled and subject to approval, or is banned.¹⁴²

It must be noted that in the 1990s, Russia was repeatedly accused of supplying missile technologies to Iraq in violation of the MTCR and U.N. embargoes. At times, the conclusion was made that such supplies reflected Russia's state policy aimed at exporting everything sellable to any country that could buy it. Moreover, it was said that such supplies had not only economic, but also underlying political motives.

Our studies of a number of cases,¹⁴³ which the press named the illegal export of missile components and technologies or attempts of such export to Iran and Iraq, indicate that a substantial amount of information is not proven with facts, whereas in actuality incidents did not reflect any Russian policy but resulted from criminal negligence at the enterprises.

¹⁴¹Vladimir Orlov, Anna Otkina, "The Lessons of the Gyroscope Deal". *Yaderny Kontrol*, No. 2, March-April 1998, pp. 4-17; Vladimir Orlov, William Potter, "The Mystery of Sunken Gyros". *Bulletin of the Atomic Scientists*, Vol. 54, No. 6, November/December 1998, pp. 34-39; *Washington Post*, September 12, 1997, p. A01.

¹⁴²Governmental Resolution "On Control of Export to Iraq of Dual-Use Goods and Technologies and Other Items Subject to International Mechanism of Permanent Monitoring and Verification". *Rossiyskaya Gazeta*, November 18, 1997.

¹⁴³See: Vladimir Orlov, "Iraq: okhota za rossiyskimi raketnymi komponentami i tekhnologiyami (Iraq: Hunting for Russian Missile Components and Technologies)" in *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*. M., PIR Library Series, 2000, pp. 143-156.

At the same time, we have to note that not long ago (from 1992-1995) it was extremely easy for the emissaries of certain states developing missile programs to pursue their goals through contacts with Russian enterprises.

Under these circumstances, the gyroscope deal is quite an eloquent example. It tells how Iraq made an attempt to illicitly import Russian gyros and other missile equipment in the 1993-1995 timeframe. This incident helps to identify the weakest points of missile export controls in Russia and to understand how sensitive smuggling to the Middle East and other regions occurred.

The case of Gharbiya left many questions unanswered. Some experts presumed that it was staged by U.S. secret services, whose agent Gharbiya was, in order to discredit Russia on the world stage. There was some logic to these suppositions. Other analysts argued that the gyroscope deal did not reach court because the Russian authorities covered up for the suspects.

In our analysis, we can hardly speak with any authority about possible assistance given to Wi'am Gharbiya by the Russian authorities for his activities in Russia in 1993-1995. At the same time, it seems strange that he had no problems with movement or meeting with representatives of the Russian military-industrial complex.

We believe it to be unfair that the case was closed. Though changes made to the Criminal Code gave a pretext to close the investigation, the new Code contains one provision that might have been used to accuse Russian parties to the deal, if there was political will to do so. Article 188, part II provides for up to seven years of imprisonment for

"Transfer through the customs border of the Russian Federation of [...] materials and equipment that can be used to develop weapons of mass destruction", if these activities are carried out "with fraudulent use of documents or customs identification, or with [...] false statements".¹⁴⁴

The major conclusion of this story is that the Russian legislation demonstrated its inefficiency in punishing violators of the export control regime who had inflicted damage, above all, to the image of Russia. This makes one believe that there is a significant discrepancy between the public declarations and their practical implementation.

Another conclusion is that due to the economic decline of the Russian military-industrial complex, criminals can find different ways of smuggling the proliferation-sensitive equipment abroad, and passing

¹⁴⁴Criminal Code of the Russian Federation. M., Yuridicheskaya literatura, 1996, p. 121.

through the customs barriers. In this connection, it is extremely important to support the enterprise leadership's persistent educational efforts, above all in the space and missile industry.

Unfortunately, we cannot go into details of the problems related to Iraq's chemical and biological record. Let us only note that, as far as chemical weapons were concerned, the Butler report emphasized that there was no clear picture concerning 550 artillery shells and 500 RS-400 air bombs. The report stated that Iraq had failed to account for 600 metric tons of CW produced in excess of the officially declared amount, including four tons of VX gas, 100-150 tons of sarin, and 500-600 tons of mustard. The amount and technology of production of VX and inventory of equipment for CW production were left as open questions.

Meanwhile, the report argued that, as far as chemical and missile records were concerned, UNSCOM's work was coming to an end. There were only a few matters left, which could have promptly been transferred into the sphere of monitoring, if Iraq had been ready for cooperation.

Little progress was achieved with respect to the *biological dossier*. UNSCOM experts noted that in this area, Baghdad's declarations were not substantively confirmed. For instance, Baghdad was accused of changing, without documentary evidence, data on the actual use of various bio-components affecting the total count of germ missile warheads. These changes, according to Richard Butler, led to the need to review the inventory concerning other delivery systems (air bombs, shells) and missiles, for the new data contradicted the information received from interviews with Iraqi specialists. A significant discrepancy was pointed out between the amount of biomass purchased by Iraq and the amount which was used, hidden, or could be produced "on the spot". The Americans named 3.5 tons of unaccounted biomass.

Reports on 1995 Russian-Iraqi contacts in the area of unicellular albumen production had serious repercussions. The U.S. media blamed Russia for contributing to Iraqi's advanced germ warfare program.¹⁴⁵ In response to an UNSCOM inquiry, the MFA reported that in 1995 some officials of the State Committee for Chemical and Petrochemical Industry held negotiations with the representatives of Iraq. In the course of talks, Iraqis received advertising materials on the production of *GosNIISintezbelok* — forage albumen from carbohydrates for agricultural purposes.

Iraq, on its part, believes that it has fulfilled all commitments concerning WMD dismantlement and insists on the abolition of sanctions.

¹⁴⁵ *Washington Post*, December 18, 1998, p. A1.

In order to establish permanent international monitoring and to prevent restoration of Iraq's WMD potential, Resolution 715 (recognized by Iraq) set up an international mechanism for constant monitoring and verification of dual-use supplies to Iraq. On March 27, 1996, the U.N. Security Council passed Resolution 1051, approving this mechanism and urging all states to form national export controls for dual-use supplies to Iraq.

The conditions for the mitigation and abolition of sanctions are generally described in Resolution 687. Paragraph 21 states that the Security Council

"[...] Shall review the provisions [concerning sales of civilian commodities to Iraq — **Auth.**] every sixty days in light of the policies and practices of the Government of Iraq, including the implementation of all relevant resolutions".

Paragraph 28 concerning restrictions on military cooperation with Iraq (except for WMD and missile equipment) maintains that the Security Council

"[...] Shall review its decisions [paragraphs 22-24 — **Auth.**] on a regular basis [...] taking into account Iraq's compliance with the resolution and general progress towards the control of armaments in the region".

There is a clear procedure for lifting the oil embargo. Paragraph 22 says that "upon Council agreement that Iraq has completed all actions" contemplated in disarmament paragraphs of the resolution,

"The prohibitions against the import of commodities and products originating in Iraq and the prohibitions against financial transactions related thereto contained in Resolution 661 shall have no further force or effect".

However, in 1998, the review of sanctions was halted because Iraq breached its commitments on cooperation with the U.N. Security Council.

The current phase of Iraq's relations with the international community began, following a prolonged pause, with the adoption of Resolution 1284 on December 17, 1999, which provided a chance at overcoming the stalemate.

Resolution 1284 stated for the first time that the U.N. Security Council was ready to suspend sanctions, as the first step in response to Iraq's efforts to restore disarmament cooperation with the U.N. The unrealistic demand for "*full*" cooperation was withdrawn. The document noted that progress in the disarmament tasks left (and not their *virtual* closure) would be a criterion for suspension of the embargo.

Paragraph 33 of Resolution 1284 makes a linkage between the suspension of sanctions and Iraq's cooperation and compliance:

"Upon receipt of reports from the Executive Chairman of UNMOVIC and from the Director General of the IAEA that Iraq has cooperated in all respects with UNMOVIC and the IAEA in particular in fulfilling the work programmes in all the aspects referred to in paragraph 7 above, for a period of 120 days after the date on which the Council is in receipt of reports from both UNMOVIC and the IAEA that the reinforced system of ongoing monitoring and verification is fully operational, to suspend with the fundamental objective of improving the humanitarian situation in Iraq and securing the implementation of the Council's resolutions, for a period of 120 days renewable by the Council, and subject to the elaboration of effective financial and other operational measures to ensure that Iraq does not acquire prohibited items, prohibitions against the import of commodities and products originating in Iraq, and prohibitions against the sale, supply and delivery to Iraq of civilian commodities and products other than those referred to in paragraph 24 of resolution 687 (1991) or those to which the mechanism established by resolution 1051 (1996) applies."¹⁴⁶

It is worth noting that Russia abstained from voting, along with China, France, and Malaysia. Moscow's decision can be accounted for by discontent with the regime of anti-Iraqi sanctions and by the eagerness to prevent a split within the P-5 (it would have been inevitable if the resolution had been vetoed).

According to the resolution, the U.N. Monitoring, Verification and Inspection Commission (UNMOVIC) was established, as a subsidiary body to the U.N. Security Council. On March 1, 2000, the U.N. Secretary General appointed as new Executive Chairman of the Commission — Hans Blix, a Swedish diplomat and former Director General of the IAEA. Russia supported his candidacy, since Hans Blix was known for his reputation of an experienced administrator and unbiased leader, who did much to enhance the efficiency of IAEA safeguards. The new commission has to face complicated tasks and the prospects for its activities are still vague: Saddam Hussein refuses to cooperate with UNMOVIC.

According to paragraph 2 of Resolution 1284, "UNMOVIC will undertake the responsibilities mandated to the Special Commission by the Council with regard to the verification of compliance by Iraq with its obligations". UNMOVIC should establish and operate a reinforced system of ongoing monitoring and verification and address unresolved disarmament issues. The new commission has

¹⁴⁶UN Security Council Resolution 1284, December 17, 1999.

"[...] Immediate, unconditional and unrestricted access to any and all areas, facilities, equipment, records and means of transport which they wish to inspect in accordance with the mandate of UNMOVIC, as well as to all officials and other persons under the authority of the Iraqi Government whom UNMOVIC wishes to interview".

At the same time, the reference to certain resolutions and declarations on Iraq (paragraph 4) indicates that such access should be in conformity with the respect for the sovereignty and territorial integrity of Iraq, as well as in compliance with the bilateral U.N.-Iraqi agreements, notably the Memorandum of Understanding of February 23, 1998 concerning the visits to sensitive facilities. Key distinctive features of UNMOVIC are the division of the inspection and analytical functions in the sphere of disarmament, and the principle of priority of monitoring activities over inspections.¹⁴⁷

On March 10, 2000, after consultations with Hans Blix and members of the Security Council, Kofi Annan appointed 16 members of the College of Commissioners — the principal consultative body for UNMOVIC. Today (June 2001) Hans Blix continues his activities to form UNMOVIC and to prepare for inspections in Iraq. Meanwhile, the United States finds it useful for UNMOVIC to rely on the experience accumulated within the framework of UNSCOM, especially as far as intrusive inspections at Iraqi facilities are concerned. UNMOVIC has not yet started its real work.

Since the U.S. administration has changed in 2001, Washington began to develop a new U.S. approach to Iraq. Its main objective: to shut down Iraq's channels of funding from oil smuggling and to tighten controls of dual-use supplies. For that purpose, a firewall would be built around Iraq — a system of checkpoints. At the same time, the inflow of humanitarian goods to Iraq should be facilitated by simplifying the Sanctions Committee procedure of approving contracts.

The French position has also changed. Paris used to support a comprehensive solution to Iraq's problems, but under severe U.S. pressure, France has had to abandon some of its previous agreements with other members of the Security Council. France is ready to take a more pragmatic position, i.e. to endorse some of the U.S. proposals (on elimination of civilian sanctions and preservation of the U.N. special account, on freezing humanitarian contracts, on developing a short list of dual-use items, on verification of contracts by UNMOVIC experts in order to discover WMD-related components). Paris maintains that it cannot agree with the force element of U.S. motions, especially if such steps are taken unilaterally.

At the 2000 NPT Review Conference, Russia backed the Iraqi delegation in its efforts to find a compromise formula acceptable to Iraq and leading

¹⁴⁷ Ibid.

to the conclusion of the Final Document of the Conference. This compromise was found.

Since November 2000, Russia has been promoting a package solution to the problem of Iraq, providing for suspension and then complete abolition of economic sanctions in exchange for the restoration of international disarmament monitoring on the Iraqi territory. Moscow supports the signing of a new memorandum of understanding between the U.N. and the Iraqi Government.

The growing interests of large Russian businesses have become one of the most important factors determining Russia's policy towards Iraq. Even despite anti-Iraqi sanctions and their consequences, the country can still be regarded as Russia's largest trading partner in the Middle East: in 2000, Russian companies signed \$1.25 billion worth of contracts to supply Iraq with civilian production and exported \$5.5 billion worth of crude oil for sale in third countries.

In spring 2001, Washington and London outlined a plan for *smart sanctions*, which implied that permission for supplies of all civilian goods would be given in exchange for tightened control of possible arms supplies and dual-use supplies. Civilian supplies would have not required special permission of the U.N. Sanctions Committee and the *Oil for Food* program would have been preserved (enabling the U.N. to supervise the only source of income for Iraq).

In summer 2001, the threat of a Russian veto on the U.S.-U.K. draft of the resolution made Washington and London abandon their plan.

Baghdad cannot continue to reject Resolution 1284 and hope for the gradual erosion of sanctions. Iraq believed that many nations, such as Syria, Turkey, Egypt, would not be able to afford any longer to reject Iraq's trade proposals made outside the framework of the U.N. humanitarian operation. Iraq has recently concluded free-trade agreements with Egypt, Syria and Tunisia and is preparing similar agreements with Morocco, Yemen, and Algeria. This signifies a qualitatively new phase in the erosion of sanctions.

Iraq is not flexible in its dialogue with the U.N., albeit Baghdad does not refuse continued contacts with Kofi Annan. The prospects for final settlement in Iraq are quite ambiguous thus far.

Russia's policy of gradual closing the disarmament files and lifting international sanctions irritates and disappoints the United States. Washington assumes that the U.N. Security Council has established a clear, coherent and humane mechanism of sanctions against Iraq,

whereas Saddam Hussein does his best to get away with not fulfilling disarmament requirements. Baghdad is blamed for stubbornness and rejection of any solutions, except those it may speculate on, e.g. lifting the ceiling for oil exports.

The media continues to make allegations about the remilitarization of Iraq and the missile ambitions of Saddam Hussein. For instance, a recent CIA report on Iraq (2000) argues that the country has recently conducted tests of the Al-Samoud missile. German BND says it has discovered secret factory that produces Ababil-100 missiles (the range of both missiles does not exceed 150 km, so there is no violation of the U.N. resolutions). The factory and the Ababil project were demonstrated to the UNSCOM in 1998.¹⁴⁸

Despite the protests of Moscow, U.S. and U.K. Air Forces continue to attack Iraqi facilities in no-flight zones in the north and in the south of the country. The United States maintains that without such *patrolling*, Iraqi troops will flood the zones and Washington may lose an important channel for collection of intelligence data.

In the framework of the jabs exchanged — at times rather painful — between Washington and Moscow on the *Iraqi issue*, the U.S. has been blocking primarily Russian contracts to supply Iraq with humanitarian goods in the Sanction Committee. During the first seven phases of this humanitarian operation, U.S. and U.K. representatives suspended 1,989 contracts (\$3.1 billion). 885 of them dealt with the oil sector, 223 with healthcare, 244 with energy, 192 were signed by the Iraq's Ministry of Commerce. The committee approved no more than 21% of contracts concerning oil equipment supplies. The abovementioned CIA report argues that Saddam Hussein grants appropriate benefits to the countries lobbying Iraq's interests in the U.N. These states get the lion's share of contracts within the *Oil for Food* program. Allegedly, Russia, France, and China account for one third of all contracts, while Germany and Japan — key Baghdad's partners before the Kuwait crisis — account for 1%.

Some analysts presume that, as the sanctions regime is washed out, Iraq will not have any incentives to resume cooperation with the U.N. in the near future and to receive international inspectors on its territory. Sanctions have become a substantial burden not only for Iraq, but for many nations, which now try to restore and develop trade relations with Baghdad, even beyond the U.N. humanitarian activities. As a result, the U.N. may lose all levers to influence the situation in Iraq.¹⁴⁹

¹⁴⁸See: "Iraq's Nuclear Record", *Security Issues*, No. 21, November 2000, p. 8.

¹⁴⁹*Ibid.*

Some experts also believe that Russia, which expects dividends from restoring full-scale economic cooperation with Baghdad impeded by the U.N. sanctions, has intensified its diplomatic activity in this area. At the same time, Moscow will try to avoid making Iraq another key item in the list of disagreements with the United States.

Presumably, the Bush administration will intensify its pressure on Iraq to overthrow the Saddam Hussein regime. This was proven by air raids against Baghdad's suburbs conducted in February 2001 by U.S. and U.K. Air Forces. U.S. Secretary of State Colin Powell announced an uncompromising course towards Iraq.¹⁵⁰ Attitude towards Iraqi settlement may become another obstacle for U.S.-Russian bilateral dialogue, bearing in mind past differences. A pretext for tensions may be the existence of WMD and delivery systems in Iraq contrary to U.N. demands.

Russia — North Korea

The North Korean nuclear crisis of the early 1990s indicated the limited role of Russia in Northeast Asia in contrast to the former influence of the Soviet Union.

In 1993, Pyongyang took advantage of the NPT provisions allowing for withdrawal from the treaty, announcing it would begin pulling out of the treaty. This step was preceded by the deepest crisis ever in relations between the IAEA and a member state. In May 1992, the Agency started a series of inspections and visits to North Korean nuclear facilities to take inventory of Pyongyang's equipment and nuclear material stockpiles. By late 1992, it became obvious that North Korean nuclear capabilities as declared were much less than those actually revealed by the Agency. For instance, analysis of the chemical composition of fuel assemblies indicated that they were repeatedly used for plutonium separation. According to IAEA experts, plutonium separation attempts commenced in 1989.¹⁵¹ They also called into question the North Korean statement that there had been no cores replaced in the 5-MW reactor (operational since 1986), whereas plutonium had been separated from a limited number of defective assemblies. In early 1993, the Agency requested a special inspection at two undeclared nuclear facilities near Yongbyon. The DPRK denied access, declared the beginning of its withdrawal from the NPT and canceled its IAEA membership. This decision was later suspended.

¹⁵⁰Statement of Secretary of State-Designate Colin L. Powell Prepared for the Confirmation Hearing of the U.S. Senate Committee on Foreign Relations, January 17, 2001. www.usinfo.state.gov.

¹⁵¹*Washington Post*, April 27, 1993.

The center of North Korea's nuclear infrastructure is in Yongbyon with its 5-MW operational gas-cooling graphite-moderated uranium reactor, Soviet-made research reactor (under IAEA safeguards from the very beginning of its operations), and industrial and research uranium enrichment laboratories. There are also some unfinished nuclear facilities: a 50-MW nuclear reactor capable of plutonium production for 10-12 nuclear explosive devices per year and a plutonium separation plant (where civilian construction has not been completed). North Korea also possesses an unfinished 200-MW reactor in Taechon and laboratories in Pyongyang using out-of-date Soviet equipment. The DPRK also has some uranium deposits.

After long negotiations with the U.S. and the IAEA authorities, the DPRK agreed in March 1994 to let inspectors into declared nuclear sites but prohibited taking of samples during the inspection at the plutonium fabrication plant in Yongbyon. The situation deteriorated even more when North Korea unilaterally began to extract fuel from the 5-MW reactor. As a result, the IAEA lost the opportunity to detect how long the fuel assemblies had stayed in the reactor and hence, if the fuel had been previously replaced. This complicated the process of determining whether the DPRK had managed to stockpile undeclared weapon-grade nuclear material. In response, the IAEA ceased technical assistance to North Korea, and the U.S. proposed that the U.N. Security Council implement step-by-step sanctions, including an embargo on arms supplies, a lowering in the level of diplomatic relations, and eventually the suspension of any economic relations. The U.S. would not have been affected by these measures, since it did not have any ties with Pyongyang, whereas China and some other nations would have suffered from such embargo.

On June 16-17, 1994, the former U.S. President Jimmy Carter and DPRK leader Kim Il Sung met in Pyongyang and agreed to freeze the North Korean nuclear program and resume talks.

On October 21, 1994, after lengthy consultations, the DPRK and the U.S. signed the Agreed Framework which paved the way for a solution to the crisis surrounding North Korean nuclear program. According to this agreement, Pyongyang committed:

- to halt the construction and use of reactors in Yongbyon and at the uranium-enrichment plant;
- to refrain from the separation of plutonium from fuel assemblies of the reactors;
- to move spent nuclear fuel outside the DPRK;
- to take measures to dismantle all nuclear proliferation-sensitive facilities;
- to provide for IAEA step-by-step inspections.

In exchange, an international consortium of the U.S., South Korea and Japan was established that would supply DPRK's national energy sector with two light-water reactors, install them and put them under IAEA safeguards, as well as supply North Korea with 500,000 tons of oil per year until the first reactor became operational. To develop the agreement, on March 9, 1995, the parties established the Korean Energy Development Organization (KEDO). In December 1995, the agreement on financing reactor supplies was signed.

Since November 1994, the IAEA has had access to all North Korean nuclear facilities, except the reprocessing plant. The Agency can measure the amount of spent nuclear fuel but cannot analyze it. North Korea presumes that it is not obliged to provide any additional information until the light-water reactors are installed.

In the Soviet times, the USSR assisted Pyongyang in developing its peaceful nuclear energy capabilities. The Soviet Union supplied North Korea with a small enriched-uranium research reactor, which became operational in 1966 and was under IAEA safeguards. However, the USSR never facilitated North Korea's development of any components of its nuclear weapons program and for some time was even unaware of Pyongyang's plans.

Taking into account difficult bilateral relations and the high degree of mutual distrust in the 1970s-early 1980s, the USSR took quite a cautious approach towards nuclear energy development in North Korea. In 1979, the DPRK turned to the Soviet Union with a request to purchase fuel for an experimental nuclear installation built solely by North Korean specialists. The Soviet Union rejected this request on the grounds of its long-standing policy to sell nuclear fuel only for Soviet-made equipment.¹⁵² However, the USSR gave some assistance to the DPRK in the early 1980s.

Relations became warmer in 1984, when Kim Il Sung visited the USSR and met Communist Party Secretary General Konstantin Chernenko. This was the first time the Korean leader asked the USSR to build a nuclear power plant. When Mikhail Gorbachev came into power in 1985, cooperation intensified and Moscow modified its attitude towards Pyongyang: officials in the Kremlin stressed that the DPRK was a strategic ally that was extremely important to the national interests of the Soviet Union and security in the Far East. Development of friendly ties with Pyongyang was declared one of the priorities of Soviet foreign policy.¹⁵³

¹⁵² *Komsomolskaya Pravda*, July 13, 1994.

¹⁵³ Natalya Bazhanova, "North Korea's Decisions to Develop an Independent Nuclear Program". In: James Clay Moltz, Alexander Mansourov (eds.), *The North Korean Nuclear Program*. N.Y., L., Routledge, 2000, p. 128.

The USSR facilitated North Korean accession to the NPT (1985), taking advantage of Pyongyang's interest in building a nuclear power plant with the help of the Soviet Union.

In December 1985, the parties signed a Pyongyang-sponsored agreement on constructing a nuclear power plant with four VVER-440 reactors. In 1992, Russia clarified that it would supply three VVER-640-type reactors, which seemed to be safer. Construction started near Sinp'o, Russia finished a technical study and Russian specialists began their field activities. In addition, in 1991, the USSR and the DPRK signed a \$185-million contract concerning fuel assembly supplies.¹⁵⁴

In the late 1980s — early 1990s, peaceful nuclear cooperation between the two states faced some difficulty, which, in fact, had nothing to do with nonproliferation. The DPRK refused to make payments to Russia, since Pyongyang did not recognize it as the Soviet successor.¹⁵⁵

North Korean diplomats made a mistake, since they could not predict dramatic changes in Mikhail Gorbachev's foreign policy. Soviet rapprochement with the U.S. (starting from 1987-1988) and establishment of diplomatic relations with South Korea (1990) were a serious blow to Pyongyang. The USSR started to shift its relations with the DPRK to an economic track. Pyongyang failed to obtain Soviet reactors for free. Meanwhile, the North Korean strategic alliance with China was also in ruins. Thus, in the late 1980s, Kim's regime found itself in a tight corner, without traditional allies and seemingly without any room for further maneuver. According to an old Chinese proverb "a frightened cat becomes a tiger".¹⁵⁶

Some experts conclude, in this connection, that all this made Kim Il Sung start an indigenous Korean nuclear program as a key element for survival of the regime, since the nuclear weapons program might have been used as a bargaining chip for economic aid and diplomatic recognition.¹⁵⁷ This logic has some merit. Disruption of relations with the USSR/Russia made Kim Il Sung feel that his regime could be saved only with emergency measures. On the other hand, a political decision to develop nuclear weapons was taken in the early 1970s because of apprehensions concerning Seoul's efforts to develop a nuclear weapons

¹⁵⁴Georgy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations". In: *The North Korean Nuclear Program*, p. 18.

¹⁵⁵*Ibid.*, p. 19.

¹⁵⁶Alexander Zarubin, "The Korean Peninsula: From Inter-Korean Confrontation to a System of Cooperative Security". In: *The North Korean Nuclear Program*, p. 215.

¹⁵⁷One of the most exciting and sound studies is Natalya Bazhanova's "North Korea's Decision to Develop an Independent Nuclear Program". In: *The North Korean Nuclear Program*, pp. 128-131.

program.¹⁵⁸ Another reason was Pyongyang's belief that the economic war with South Korea had been lost and that the DPRK would soon lose the diplomatic battle as well.¹⁵⁹

The first evidence of North Korean nuclear ambitions was detected by U.S. intelligence satellites in 1982. This was the time when the United States began to discuss the possibility of negotiating common approaches towards Pyongyang's nuclear ambitions with the Soviet Union. In 1984, even more serious photo evidence was obtained. In 1986, satellites took threatening pictures of the Yongbyon reactor. And in December 1988, Washington initiated its first cautious dialogue with Pyongyang concerning this topic.¹⁶⁰

In 1986, North Korea started to operate its indigenous 5-MW gas-cooled graphite-moderated reactor with capabilities for plutonium production. It also commenced the construction of two more powerful industrial reactors to develop capabilities for the reprocessing of irradiated nuclear fuel and the separation of weapons-usable plutonium.

In 1989, North Korea was suspected of recharging its nuclear reactor, reprocessing discharged nuclear fuel and obtaining about 12 kg of weapons-usable plutonium. This amount was enough to manufacture a couple of nuclear warheads.¹⁶¹

During the late Gorbachev period (1988-1991) and then later, during the early Yeltsin period (1992-1995), the USSR/Russia regarded the North Korean nuclear program as one of the most serious regional challenges to the international nuclear nonproliferation regime. Further development of the North Korean nuclear program was regarded as contradicting Soviet/Russian interests, because, among other reasons, the USSR and then Russia were not able to influence the situation in any significant way. Moscow tended to believe that North Korea did not possess any nuclear explosive devices¹⁶² and that the program was frozen (allegedly since 1992). Nonetheless, there was

¹⁵⁸It is known that in the 1970s, South Korea made independent and successful attempts to develop nuclear weapons. It would have obtained nuclear weapons by 1981 and in 1978, the project was nearly implemented. It was hampered by the assassination of President Park Jung Hee (October 1979) and fierce U.S. pressure. *Izvestiya*, October 7, 1995.

¹⁵⁹Valery Denisov, "Nuclear Institutions and Organizations in North Korea". In: *The North Korean Nuclear Program*, p. 23.

¹⁶⁰David Reese, "The Prospects for North Korea's Survival". Adelphi Paper 323. L., IISS, 1998, pp. 43-44.

¹⁶¹North Korean plutonium estimates can be found in: David Albright et al., *Plutonium and Highly Enriched Uranium 1996. World Inventories, Capabilities, and Policies*. Oxford University Press, 1997, pp. 282-308.

¹⁶²*Komsomolskaya Pravda*, July 13, 1994.

no accurate data and this lack of information confirmed Russia's worst suspicions.¹⁶³

In the secret report signed by Chairman of the KGB Vladimir Kryuchkov, KGB experts provided the following assessment:

"From a reliable source, the KGB has received information that scientific and experimental design work on the development of atomic weapons is actively continuing in the DPRK. North Korean leaders, notably Kim Il Sung, who personally supervises the aforementioned research, strive to achieve military superiority over South Korea and join the group of nuclear-weapon states.

According to this data, the development of the first atomic explosive device has been completed at the Institute of Nuclear Research of the DPRK, located in Yongbyon. For the time being, tests are not planned in the interests of hiding the fact of the DPRK's production of an atomic weapon from the world community and from international organizations responsible for nuclear safeguards".¹⁶⁴

In 1993, in its report, the Russian Foreign Intelligence maintained that while the DPRK's applied military nuclear program was at "an advanced stage", it also expressed "serious doubts" that the DPRK had made "any breakthrough" in developing its own nuclear weapons yet.¹⁶⁵ In his interview with one of the authors, head of the SVR Arms Control and WMD Nonproliferation Department Lt.-Gen. Gennady Evstafiev assessed North Korean nuclear weapons program as approaching the stage of creating a nuclear explosive device but failing to do so, due to domestic financial difficulties and a number of other problems.¹⁶⁶

Immediately after the North Korean statement concerning its withdrawal from the NPT, the Russian president signed decree No. 249-RP banning all projects under the 1985 agreement. At that time, Pyongyang's debt was about \$1.72 million¹⁶⁷ (later estimates said about \$4.7 million¹⁶⁸). At the same time, according to Russian leading expert on North Korea Yevgeny Bazhanov,

¹⁶³Valery Denisov, "Nuclear Institutions and Organizations in North Korea". In: *The North Korean Nuclear Program*, p. 26.

¹⁶⁴Quotation from *Izvestiya*, June 24, 1994, p. 4.

¹⁶⁵Novyi vyzov posle kholodnoy voyny: rasprostraneniye oruzhiya massovogo unichtozheniya (The New Post-Cold War Challenge: Proliferation of Weapons of Mass Destruction). SVR Report. M., 1993, pp. 92-93.

¹⁶⁶Gennady Yevstafiev, "Devyat voprosov o yadernom nerasprostranении (Nine Questions about Nuclear Nonproliferation)". *Yaderny Kontrol*, No. 1, January 1995, p. 13.

¹⁶⁷Georgy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations". In: *The North Korean Nuclear Program*, p. 19.

¹⁶⁸Alexander Zhebin, "A Political History of Soviet-North Korean Nuclear Cooperation". In: *The North Korean Nuclear Program*, p. 33.

"The Russian Government [...] was too preoccupied with its various internal crises to pay much attention to [...] obscure developments in the DPRK".¹⁶⁹

Russia had a vague picture of the North Korean nuclear program and could hardly understand whether signals concerning the rapid progress of Pyongyang's nuclear weapons program proved that North Korea had started technological implementation of a corresponding political decision, or it was deliberate disinformation to be used later by North Korea for nuclear bluff and blackmail.¹⁷⁰

Russia's inability to affect the Korean nuclear program resulted in a situation in which Russian leadership accepted the loss of Russia's role in solving the North Korean nuclear problem. Gennady Evstafiev then admitted,

"There is no price [...] that would not be worth paying for refusal of any rogue state to acquire nuclear capabilities."¹⁷¹

As a result, Washington, Japan and South Korea willingly paid this price.

At first, Moscow agreed with the *buy-out* of the North Korean nuclear weapons program for the construction of light-water reactors. But after a while, Russia began to accuse the U.S. of double standards and to compare Washington's policy towards North Korea (*carrot*) and Iran (*stick*). One can hardly deny that double standards existed, but, in fact, initially Russia was not against the Agreed Framework and hoped to profit from the U.S. efforts and get rid of a potential long-term nuclear headache in the region (if the problem had not been solved in time). Russia did not pay out of principle, but simply because it could not afford to. Moreover, it had a naive dream that the U.S. would help Russia to get its share of North Korean peaceful nuclear quasi-market within the Korean Energy Development Organization (KEDO). Some experts in Moscow presumed that this share would be "substantial", since Russia voluntarily left North Korea "for the sake of nonproliferation". In September 1994, President Yeltsin's special envoy Alexander Panov came back from Pyongyang and reported that "North Koreans do not want to replace their reactors with South Korean ones."¹⁷² This information, however, was hardly true.

In the late 1990s, Russia made several attempts to participate in the nonproliferation dialogue in the region. All these endeavors have failed. In the nuclear area, Russia missed the KEDO train, even the last car of

¹⁶⁹Yevgeny Bazhanov, "Military-Strategic Aspects of the North Korean Nuclear Program". In: *The North Korean Nuclear Program*, p. 105.

¹⁷⁰About nuclear blackmail see: *Segodnya*, August 26, 1994.

¹⁷¹Gennady Evstafiev, "Devyat voprosov...", p. 13.

¹⁷²*Interfax*, September 27, 1994.

it. The Russian initiative to build a nuclear power plant for North Korea on the territory of Primorsky krai (the safest possible scenario as far as nonproliferation is concerned)¹⁷³ received no response.

Until recently, Minatom neglected reality and contradicted its own accusations of the U.S.-KEDO double-standard policy by reaffirming Russia's willingness to supply Pyongyang with VVER-640 and/or VVER-1000.¹⁷⁴ And the Russian Foreign Ministry tried to convince North Korea that "attempts to ignore the IAEA and to make separate deals with the U.S. have no future."¹⁷⁵

Now it is too late. Moscow can talk only about entering KEDO as a regular member, which includes financial contributions, instead of the expected compensations.

According to competent Russian experts, whose opinion we share, U.S. policy towards North Korea in the recent years "conceals Washington's willingness to hamper long-standing peaceful nuclear cooperation between the USSR/Russia and the DPRK and take Russia's place in this process."¹⁷⁶ The U.S. actions "have caused Russia economic and political damage, while also showing Russia considerable disrespect".¹⁷⁷ At the same time, these experts admit that "it is impossible to deny Russia's own mistakes and inconsistency: why should it rush to leave North Korea and actually invite their Westinghouse reactor technologies!"¹⁷⁸ A top-ranking Russian diplomat seemed to apologize to North Korea in his article to the official journal of the Russian Foreign Ministry and argued that "Moscow has many times demonstrated to Pyongyang its not very flexible position [...] which made Pyongyang accuse Russia of pro-American sentiments".¹⁷⁹

However, the issue of nuclear power plant construction should be considered in the context of Soviet/Russian-North Korean relations in the late 1980s-early 1990s. For instance, in January 1991, the Soviet Foreign Minister had to bear explicit pressure and blackmail by his North

¹⁷³ *Russky Telegraf*, June 20, 1998.

¹⁷⁴ Georgy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations". In: *The North Korean Nuclear Program*, p. 20.

¹⁷⁵ Valery Denisov, "Yadernaya bezopasnost Koreiskogo poluostrova trebuetsya mnozhestvennykh dialogov (Nuclear Safety of the Korean Peninsula Requires Multilateral Dialogues)". *Mezhdunarodnaya Zhizn*, No. 5, 1995, p. 30.

¹⁷⁶ Andrei Zobov, "Review of the book by James Clay Moltz, Alexander Mansourov (eds.), *The North Korean Nuclear Program. Security, Strategy and New Perspectives from Russia*. NY, L., Routledge, 2000." *Yaderny Kontrol*, No. 3, May-June 2000, p. 85.

¹⁷⁷ Georgy Kaurov, "A Technical History of Soviet-North Korean Nuclear Relations". In: *The North Korean Nuclear Program*, p. 19.

¹⁷⁸ Andrei Zobov, op. cit., p. 85.

¹⁷⁹ Valery Denisov, op. cit., p. 30.

Korean counterpart. When it became obvious that the USSR would recognize South Korea, the DPRK Foreign Minister argued that Pyongyang would firstly, consider itself free of its obligations not to develop weapons of mass destruction; secondly, would support Japan in its territorial dispute with the Soviet Union; and, thirdly, would open negotiations with the United States on establishing direct diplomatic relations.¹⁸⁰ North Korea attacked Russia from time to time at international forums by accusing Moscow of polluting the Sea of Japan with radioactive waste. North Korean leaders many times referred to Russian policy on the Korean peninsula as "criminal".

According to some Russian experts, the Agreed Framework did not guarantee a cessation of Pyongyang's attempts to develop nuclear might and provided North Korea with a significant freedom of maneuver.

Firstly, the agreement allows for postponement for four-six years of IAEA inspections at two formerly clandestine plants and hence, ensures Pyongyang's unprecedented safeguards status and double standard in comparison with other non-nuclear weapon states participating in the NPT. This calls into question the comprehensive character of the IAEA safeguards system, especially concerning the Agency's rights to conduct special inspections.

Secondly, the agreement enables the DPRK to store the previously fabricated plutonium for another four-six years without any control and, perhaps, to continue to possess one or two nuclear warheads.

Thirdly, the agreement with the U.S. enables North Korea to produce more warheads, since if the Agreed Framework becomes ineffective Pyongyang will have immediate access to spent nuclear fuel separated at the 5-MW reactor, to the reprocessing plant and to production of nuclear explosives. Finally, the agreement provides a justification for those who would like to violate the NPT without formally abrogating the treaty.

A number of Russian experts believe that if North Korea fails to comply with its agreement with the IAEA on comprehensive control over all its nuclear activities, the U.S. runs the risk of breaching its commitments under the NPT by continuing its nuclear assistance to Pyongyang. That is, according to Article III (2) of the NPT, the U.S. pledged not to supply nuclear material and equipment to any other state, if this material was not covered by the Agency's safeguards applied to all source or special fissionable material the recipient used in its peaceful nuclear activities.

¹⁸⁰Alexander Platkovskiy, "Nuclear Blackmail and North Korea's Search for a Place in the Sun". In: *The North Korean Nuclear Program*, p. 97.

Russia is more and more concerned about the fact that the IAEA is not allowed to implement its safeguards in North Korea. This is extremely important, bearing in mind that key nuclear equipment for light-water power reactors will be soon supplied, whereas the Agency will require at least several years to ensure appropriate verification, as IAEA Director General Mohamed ElBaradei emphasized.

In any case, as a result of the North Korean crisis of the early 1990s, Russia has managed to avoid a potential *headache*, but did not make any political gains and, on the contrary, suffered some indirect economic losses by losing (perhaps, forever) the Korean energy market.

The North Korean nuclear weapons program was not the only *headache* for Russia caused by the DPRK.

Swift development of the North Korean missile program, which started with modification of Soviet Scuds and continued by creating Nodong-1 (with foreign assistance) and Taepodong-1 (tested in August 1998), led to three new challenges facing the Russian military and political leadership.

Firstly, at the Russian eastern border, there emerged a state with an advanced program of developing WMD launchers that may reach the Russian territory. Russia cannot but interpret this as a direct threat to national security and national interests. Test launch of a Taepodong-1 missile in 1998 was a painful shock to the Russian media and experts, since the first stage of the missile fell in the Sea of Japan close to Russian territory, and the Russian early-warning system failed to detect the launch. Russian sentiments were clearly stated in the following headline of a nation-wide newspaper "North Korea demonstrates the vulnerability of our defense".¹⁸¹

Secondly, North Korean missile export capabilities pose the threat of secondary missile proliferation¹⁸² and may pose potential threats to Russia in other regions of the world neighboring its territory or the territory of its allies under the Collective Security Treaty.

Thirdly, the North Korean missile threat has become a key trump card for those U.S. policymakers who lobby for the deployment of a national missile defense (NMD) system. Russia regards NMD deployment as a major menace to its national security. If implemented, the system will

¹⁸¹ *Izvestiya*, September 2, 1998, p. 3.

¹⁸² Gennady Evstafiev, "Naivno ozhidat prostykh resheniy (It Would Be Naive to Expect Easy Solutions)" in Dmitry Evstafiev, Vladimir Orlov (eds.), *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*. M., PIR Library Series, 2000, p. 188; Bazhanov, op. cit., p. 105.

undermine the 1972 ABM Treaty which Moscow considers to be the cornerstone of strategic stability.

In the late 1990s, many Russian experts agreed (regardless of differing estimates of the DPRK's program) that, as it was put by Andrei Zobov,

"The particular role of the North Korean threat for Russian national security and for security of other Asia-Pacific nations is determined by aggravating political and economic instability in the DPRK, whose leadership is notorious for its unpredictability and can undertake military adventures to ensure overall victory of its [...] ideology, sacrificing the cause of peace, the interests of the neighbors and its own people. Evidence of North Korean efforts to develop missiles and arm them with nuclear warheads deserve particular attention and endeavors to seek the solution to this dangerous situation."¹⁸³

In the 1990s, North Korea was a source of constant concern for Russia, and was considered a contraband state in terms of smuggling Russian sensitive WMD materials and technologies, as well as conventional arms. The DPRK became one of the centers for the proliferation-sensitive brain drain from Russia and the CIS.

In December 1992, it was officially stated that the Russian secret services had prevented a group of 64 Russian missile experts from traveling to North Korea.¹⁸⁴ In November 1993, North Korean Major-General and Counselor at the DPRK Embassy in Moscow Nam Gye-Bok was expelled from the embassy for attempting to recruit Russian scientists to work in North Korea.¹⁸⁵ In early 1994, according to the Japanese press and alleged reports by the Russian General Staff, "since the late 1980s... about 160 Russian nuclear and missile specialists have passed through North Korean labs and research centers" and by 1994, there were nine Russian nuclear experts and 17 skilled missile specialists in the DPRK.¹⁸⁶ However, we have reasons to doubt this information. In 1994, two DPRK citizens were detained in the Primorsky krai region. They had tried to sell eight kilograms of heroin in order to raise the money to buy Russian military secrets mainly in the nuclear field. In particular, they had intended to buy technologies related to the dismantlement of nuclear reactors at one of Russia's shipyards, as well as the patrol schedule of Russian nuclear submarines.¹⁸⁷ In the opinion of the Primorsky Department of Internal Affairs and the Federal Security Service (FSB),

¹⁸³ Andrei Zobov, op. cit, p. 84.

¹⁸⁴ *Rossiyskaya Gazeta*, December 11, 1992.

¹⁸⁵ *Nezavisimaya Gazeta*, January 12, 1994, p.4. Also see: James Clay Moltz, "The Renewal of Russian-North Korean Relations". In: *The North Korean Nuclear Program*, pp. 206-207.

¹⁸⁶ *Izvestiya*, January 27, 1994.

¹⁸⁷ Alexander Zhebin, "A Political History of Soviet-North Korean Nuclear Cooperation". In: *The North Korean Nuclear Program*, p. 36.

more than half of the North Korean workers in the region were actually employees of the North Korean intelligence service and special forces.¹⁸⁸ Head of the Russian FSB Sergei Stepashin admitted that North Korean secret services intensified their activities in the Far East and "strive to acquire the nuclear secrets of the Pacific Fleet".¹⁸⁹

It is not surprising that an official of the Russian Security Council recognized that in the 1990s that North Korea was an *enfant terrible*,¹⁹⁰ as far as Russian security interests were concerned. Hence, Pyongyang was a headache and not a partner. However, declining Russian-Korean relations in the last decade have resulted in the loss of Russian influence (although small) on the DPRK and, hence, Russia found itself left out of the international game on the Korean peninsula.¹⁹¹

As in 1993-1994, Russia was not ready for the North Korean nuclear crisis, again in 2000 it was surprised by the June meeting of "two Kims".¹⁹²

It would be fair to say that even the U.S. lacked a clear vision of the events and did not expect such a dynamic development of the inter-Korean dialogue in 2000 (in 1993, Washington was also unaware of North Korean plans to withdraw from the NPT).

Moscow had to react immediately to this sudden breakthrough in the inter-Korean dialogue. According to the statement of June 15, 2000,

"Russia is content with the fact of historic meeting and negotiations between the leaders of two Korean states and appreciates with optimism the agreements reached in Pyongyang. We regard this summit as a sign of good will and sincere intention of the both Korean parties to decide the fate of the nation with their own means in the climate of stability, peace and serenity."¹⁹³

On June 30, three days after receiving the South Korean ambassador, Moscow was visited by the President of the Supreme People's Assembly Presidium Kim

¹⁸⁸Larisa Zabrovskaya, "The Korean Peninsula and the Security of Russia's Primorskiy Kray". In: *The North Korean Nuclear Program*, p. 193.

¹⁸⁹*Interfax*, June 16, 1994.

¹⁹⁰Alexander Zarubin, "The Korean peninsula". In: *The North Korean Nuclear Program*, p. 212.

¹⁹¹Anatoly Torkunov, *Problemy bezopasnosti na Koreiskom poluostrove (Problems of Security in the Korean Peninsula)*. M., MGIMO, 1995, p. 14.

¹⁹²On June 13-15, 2000, the historic meeting of the two Korean leaders occurred in Pyongyang. Presidents Kim Jong-il and Kim Dae-jung discussed a wide range of measures to promote national reconciliation on the Korean peninsula, to ensure peaceful cooperation between the two states, to ease military-political confrontation on the peninsula, to strengthen sub-regional peace and stability with a view toward future rapprochement and unification of the people of Korea. The parties signed a joint declaration that stated the need to promote national unification by joint efforts of Koreans on both sides of the border.

¹⁹³The Russian Foreign Ministry. Press Statement. June 15, 2000.

Young-nam. The parties commended the "historic significance" of the inter-Korean summit for settlement on the peninsula and for strengthening peace in Northeast Asia and exchanged opinions on "the prospects for the process". Russian Foreign Minister Igor Ivanov emphasized that

"Russia supports productive dialogue to the benefit of inter-Korean settlement, stability and security on the Korean peninsula."¹⁹⁴

Russia proceeded from the assumption,

"The problem of unification of Korea is not on the agenda today [...]. It will not happen soon. It is a matter of peaceful coexistence of two Korean states for a long period of time."¹⁹⁵

Moscow made another attempt to remedy the situation during Vladimir Putin's visit to Pyongyang in July 2000 (this was the first visit of a Soviet/Russian leader to North Korea). The visit was supposed to have an "external effect" — to show the West that Russia was returning to its traditional spheres of influence and would receive economic and political dividends in the process. In the case of North Korea, it was not a matter of economic benefits. Moscow did not hope for a political breakthrough either and therefore, none expected any significant practical results from this meeting. On the eve of the visit President Putin explained his mission:

"The DPRK is our neighbor, we have a common border. And it is crucial for us to be sure that peace and concord are restored in the region, since this will directly affect Russia."¹⁹⁶ "We know that the situation on the Korean peninsula is still dangerous and Russia is interested to avoid any dangerously explosive situation near its borders. This is our national, state interest. And my visit to Korea is connected with these problems, with our direct national interests."¹⁹⁷

Later, Vladimir Putin elaborated the hidden goal of the visit, which was hardly connected with inter-Korean settlement:

"In the course of discussion on global security issues we heard an argument concerning various military and missile threats, and the DPRK is more and more often mentioned in this connection. Obviously, we want to get to the country for a *field study* of the problem".¹⁹⁸

¹⁹⁴The Russian Foreign Ministry. Press Statement. June 30, 2000.

¹⁹⁵Deputy Director of the 1st Asian Department of the Russian Foreign Ministry Georgy Toloraya in his interview with *Vremya Novostei*, June 9, 2000, p. 6.

¹⁹⁶Interview of Russian President Vladimir Putin to correspondents of ORT, Japanese TV-company NHK and *Reuters* news agency. July 11, 2000. www.gov.ru/president.

¹⁹⁷Press conference in the International Media Center concerning results of the G-8 summit. July 23, 2000, Okinawa.

¹⁹⁸Ibid.

Furthermore, it was a real surprise for the Russian delegation in the course of the meeting when Kim Jong-il made a priceless gift to the Russian president on the eve of the Okinawa G-8 summit, President Putin's next destination after Pyongyang. President Kim Jong-il, as far as Russia understood it, expressed his willingness to cancel the North Korean missile program if third nations supplied Pyongyang with missiles for its satellites and rendered other technological assistance to the DPRK for exploration of outer space.

President Putin took full advantage of this statement at the Okinawa summit. Leaders of the G-8 countries expressed substantial interest in the result of his visit to North Korea and welcomed the outcome. Meanwhile, the Russian president spoke about the North Korean visit mostly in conjunction with U.S. NMD plans. "It seems to me that the arguments presented this time had a positive effect for all participants of our meeting,"¹⁹⁹ he said later, meaning Russia's arguments against NMD based on brand new information (or let's say recent impressions) brought by President Putin from Pyongyang.

However, experienced Russian diplomats and experts on Pyongyang's policy did not rush to make foregone conclusions, though they confirmed the success of the visit. They became especially cautious after press reports saying that during his talk with South Korean journalists Kim Jong-il allegedly called his statement "a joke".²⁰⁰

Vladimir Putin himself made a moderate assessment of his visit to Pyongyang.

"In my opinion, the fewer blank pages we have the better. In order to understand what is going on, one should have contacts, ties, information. If we hear that there are some apprehensions concerning missile programs being developed by North Korea, we should know what these programs are, what their scale is and what the scale of the threat is. Strategic stability issues are chiefly discussed by the U.S. and Russia, but fate of other nations depend on how adequate our vision will be and how thoroughly we will prepare the decision. Thus, to obtain a high-quality solution to these problems, we should possess credible information [...]. I'm content with the results of the visit. Naturally, one can hardly make any global and final conclusions as a result of two-day negotiations and meetings. However, without contacts and additional information, it is impossible to make any conclusions at all. And it is impossible to take any decision, above all, global decisions. As far as my impressions of North Korean leadership are concerned, [...] I have an impression that the Korean leader can

¹⁹⁹Ibid.

²⁰⁰*Nezavisimaya Gazeta*, August 15, 2000.

listen and hears what he is told. He has adequate reaction to arguments in the course of discussion. And he can be a partner at negotiations, he is the person you can have dialogue with."²⁰¹

Moscow observed that Kim Jong-il used Vladimir Putin as a messenger for the North Korean peace initiative, while he himself wanted to talk to those who have money and real influence on the entire complex of processes in Northeast Asia, i.e. with Americans. North Korea, like in 1994, does not accept Russia's idea of internationalization of the inter-Korean process (the only way for Russia to be involved in any settlement). As in 1993-1994, Pyongyang prefers to solve the problems (now not nuclear, but missile) with those who pay and, unlike in 1994, plays the *Russian card* for that purpose: if the U.S. does not want to buy the glory of peacemaking, this glory will be offered to Russia with a *discount*.²⁰²

After his return from Pyongyang, President Putin admitted,

"We hope that the results of my visit will serve all parties concerned. We do not want to monopolize these results."²⁰³

On August 5, President Putin signed the law "On Ratification of the Treaty on Friendship, Neighborly Relations and Cooperation between the Russian Federation and the Democratic People's Republic of Korea" and, thus, completed the ratification process of the treaty. Earlier, on July 19, the law was passed by the State Duma (363 votes in favor) and on July 26, approved by the Federation Council. Russia believes that this treaty is decisive in expanding Moscow's ability to participate in the Korean peace process and helps to normalize the situation on the peninsula, making it more predictable.²⁰⁴

In the joint declaration signed by Vladimir Putin and Kim Jong-il in Pyongyang, the parties emphasize that signature of the treaty has demonstrated their mutual intention to forge a traditional friendship, neighborly relations, mutual trust and multifaceted cooperation, to respect principles and objectives of the U.N. Charter, to promote international security and stability, to develop equal and mutually beneficial cooperation in Northeast Asia and in the world.

²⁰¹Press conference in the International Media Center concerning results of the G-8 summit. July 23, 2000, Okinawa.

²⁰²According to Russian journalist Alexander Platkovsky, "in the coming years, full-scale efforts at exploiting the differences among the major powers active on the Korean peninsula is the main field where Pyongyang will attempt to reap its harvest". — Platkovsky, p. 100.

²⁰³Press conference in the International Media Center concerning results of the G-8 summit. July 23, 2000, Okinawa.

²⁰⁴The Russian Foreign Ministry. Press Statement. August 5, 2000.

The treaty contains provisions concerning bilateral contacts if security challenges emerge and concerning consultations on a broad range of issues. However, Russia can hardly have more influence than that on the situation in the region given its current economic capabilities.

Russia's realistic approach is exemplified by the fact that several weeks after Moscow's "missile settlement" victory in North Korea, Russia ceded the initiative to the U.S., although this success might have helped Moscow to solve the ABM/NMD issues. The U.S.-North Korean negotiations in Kuala Lumpur, the visit of a top-ranking North Korean official to Washington and finally, Madeleine Albright's visit to Pyongyang in October — all this demonstrated that with Pyongyang's full consent, the key to the missile issue still remained in Washington's and Pyongyang's hands, without the right to pass it to any other country, albeit Moscow, Tokyo, Beijing or Seoul.

Russia has accepted this state of affairs:

"We regard the visit to the DPRK by U.S. Secretary of State Madeleine Albright as a revaluation of values by the two parties, another success of the policy of common sense. We would like to believe that the result of the negotiations and of the supposed visit to Pyongyang by U.S. President Bill Clinton will be easing tension on the peninsula and in the region and progress in the inter-Korean dialogue. May countries, including Russia, take efforts to normalize the U.S.-DPRK relations and to strengthen peace and stability on the Korean peninsula."²⁰⁵

However, President Clinton failed to visit North Korea. The new U.S. administration takes a hard line approach with respect to the DPRK and speaks more about *sticks*, rather than *carrots*.

In early 2001, the North Korean press published a number of harsh articles on U.S. commitment to its KEDO obligations. For instance, the North Korean News Agency emphasized that the U.S. administration was "willing to avoid responsibility for not fulfilling provisions of the 1994 Agreed Framework" by suggesting that it should be modified. Pyongyang was bewildered by U.S. proposals to build thermal power stations instead of light-water nuclear reactors (one should bear in mind that there is a shortage of fuel for thermal plants in the DPRK). Pyongyang noted that if it was not for the 1994 agreement, North Korea could have made several more reactors operational since 1997 and hence, total capacity of the power plants in the country would have amounted to 2,000 MW.

²⁰⁵The Russian Foreign Ministry. Press Statement. October 26, 2000.

"North Korea agreed to 'nuclear moratorium' only in exchange for U.S. commitments, and Washington's refusal to build reactors and compensate for energy losses of North Korea will lead to adequate steps on the part of Pyongyang."²⁰⁶

Proposals to review the Agreed Framework and to replace nuclear power plants with thermal power stations of similar capacity must have been conveyed to Pyongyang in early May 2001 during the KEDO delegation's visit. There was no official statement on these negotiations.

According to some experts, the United States strives to revise the Agreed Framework because of its recent apprehensions that light-water reactors may still be used to fabricate weapons-usable plutonium. However, the U.S. State Department's spokesman argued that Washington intended to fulfill its commitments and expected the same approach on the part of North Korea. At the same time, he admitted that the United States was ready to discuss the possibility of modifying the Agreed Framework.²⁰⁷

Now that the United States has substantially toughened its North Korean policy, the initiative for averting the nuclear weapons program and missile program of North Korea may return to Russia. Taking into account the strong Russian interest in restoring its presence on the Korean peninsula and denying the U.S. a major argument for NMD deployment (notably, the North Korean missile challenge), one should expect an intensification of Russia's policy in the region.

Russia — Iran

Numerous analytical reports concerning Iran's desire to procure nuclear weapons²⁰⁸ suffer from a lack of verifiable information and cannot claim to reflect reality. Despite the long-standing debate over the Russian-Iranian contract to construct the Bushehr nuclear power plant,²⁰⁹ there is still no unequivocal answer to the question: would Iran like to develop its own nuclear bomb, or it is merely interested in developing its civilian

²⁰⁶www.nuclear.ru, May 25, 2001.

²⁰⁷*Ibid.*

²⁰⁸See, for example, Michael Eisenstadt, "Living with a Nuclear Iran?". *Survival*, Autumn 1999, vol. 41, No. 3, pp. 124-148.

²⁰⁹For more on the polemics of how the Russian-Iranian nuclear contract meets Russian interests, refer to the following publications: Alexei Yablokov, "Nekotorye voprosy po povodu atomnoy sdelki s Iranom (Some Questions Concerning Nuclear Deal with Iran)". *Yaderny Kontrol*, No. 5, 1995, pp. 20-21; David Fischer, "Pochemu ya podderzhivayu rossiysko-iranskiy kontrakt. Otvet professoru Yablokovu (Why Do I Support the Russian-Iranian Contract. Answer to Professor Yablokov)". *Yaderny Kontrol*, No. 6, 1995, pp. 20-21; Anton Surikov, Igor Sutyagin, "Rossiya dolzhna popytatsya privyazat k sebe Iran (Russia Should Try to Tie Iran)". *Yaderny Kontrol*, No. 7, 1995, pp. 13-15.

nuclear energy sector? The answer would be extremely important, for Iran is a large southern neighbor of Russia. The emergence of a real threshold state with its unpredictable leadership in proximity to Russian borders would create another national security challenge. At the same time, Russia today regards Iran as a potential ally in the region, and bilateral cooperation with Tehran may compensate for the deterioration of Russian-Turkish relations. Besides, this interaction would enable Russia to block Tehran's attempts to start expansion to Central Asia, which is still considered to be Russia's domain and the zone of Moscow's vital interests.

Iran has been developing a large-scale nuclear program since the Shah's regime. Tehran was planning to build more than 20 power reactors with the active support of the Western states. Before the 1979 revolution, the construction of two light-water reactors (with 1,300-MW capacity each) began and significant progress was achieved. These reactors — Bushehr I and II — would have used LEU. The construction had been carried out by *Siemens* (Germany), but during the Iran-Iraq war (1980-1988) the facility was substantially destroyed. After the war, under the U.S. pressure, Germany refused to continue the construction.

The Soviet Union entered the Iranian market only in the late 1980s after the Iran-Iraq war. In 1989, a long-term trade and cooperation program valid until 2000 was adopted. Preparation of the contract to build a nuclear power station started, presumably, around 1991.

On August 17, 1992, the Russian-Iranian agreement "*On the Peaceful Use of the Nuclear Energy*" was signed and was sharply criticized in the West. In April 1993, the agreement was ratified by the Iranian side and entered into force. Russia spent more than two years to convince Iran to abandon plans for nuclear power plant construction in the north of the country, near the Caspian Sea, where the conditions for construction were quite unfavorable (due to high seismic activity). On January 8, 1995, the contract to complete the construction of the first block of the Bushehr station was signed by *Zarubezhatomenergostroi* and the AEOI in Tehran. The Russian company was ordered to finish the construction of the nuclear power plant and to install there a 1,000-MW Russian reactor. Russia was supposed to supply Iran with three more reactors in the future — one 1,000-MW and two 440-MW reactors.²¹⁰

The contract was perfect from the legal point of view. It met all requirements of the IAEA and this was recognized by Europe and by the United States. However, the United States repeatedly opposed Russian-Iranian nuclear cooperation because of Tehran's alleged nuclear

²¹⁰"Russian-Iranian Nuclear Cooperation and Export Controls". PIR Press Conference at the National Press Institute, November 25, 1998

ambitions. Russia, for its part, emphasized that cooperation with Iran in the nuclear power plant construction complied with all its international nonproliferation obligations, and with the NPT in particular. Moscow also stressed the need to train the required number of local personnel for safe operation of the nuclear power plant. Russia condemned the double standards, for the U.S.-DPRK agreement provided for the construction of the same type of light-water reactors in North Korea.

Some Minatom officials and representatives of the expert community from time to time promoted further nuclear cooperation with Iran. We have already mentioned the protocol on intentions signed by Victor Mikhailov above. It is noteworthy that even after when the issue seemed to have been solved in favor of Russia's international commitments, and when the story of the gas centrifuge equipment broke, in July 1995 the following was proposed by some Russian experts:

"It is quite possible today to sell to Iran some obsolete gas centrifuge plant for uranium enrichment: the equipment of the second and the third generation is out of date. However, in accordance with a good old Soviet tradition, this equipment has not been destroyed and is stored for a rainy day. Russian enterprises have to pay huge amount of money for mobilization assets. And we have the example of such sale — our centrifuge equipment supplies to China several years ago. The problem is, however, that China possesses enrichment facilities without our help and is able to provide itself with fuel for NPPs, but Iran has no such opportunity. We are not going to make any final recommendations, but let us think whether we should tie Iran with the contract on nuclear fuel supplies (such contracts are always long-term) and give work to our own fuel fabrication plant. We assume that there is some sense in this proposal. And perhaps, Russia should assist Iran in extracting uranium ore at the vault in Yazd and even build the plant for ore concentrate production, but this uranium should be enriched [...] at the Urals Electrochemical Combine."²¹¹

None of the Russian-American high-level meetings and summits could avoid discussing the so-called Iranian problem.²¹² The criticism gained a new vigor in 1997 when Israel got involved in the matter, especially during the visit to Russia of Israeli Prime Minister Benjamin Netanyahu.²¹³

²¹¹Anton Surikov, Igor Sutyagin, "Rossiya dolzhna popytatsya privyazat k sebe Iran (Russia Should Try to Tie Iran)". *Yaderny Kontrol*, No. 7, 1995, p. 15.

²¹²The Iranian affair was discussed during the Moscow summit (May 9-10, 1995), in Helsinki (March 21, 1997) and during the meetings of the Gore-Chernomyrdin Commission in May 1995, the 1997 Helsinki summit (March 21, 1997), the Washington visit by Prime Minister Sergei Stepashin (July 1999), during the Kasyanov-Gore negotiations in June 2000, the Clinton-Putin meeting at the Millennium Summit in New York in September 2000.

²¹³*Rossiyskiye Vesti*, March 13, 1997, p. 2.

The U.S. and Israeli complaints can be summed up with the following:

- the Russian reactor may be used for creation of plutonium for military purposes;
- cooperation with Iran in the field of atomic energy will enhance Iran's ability to work with nuclear material, which in turn will support their military nuclear program.

In reality, the Russian reactor is not capable of producing plutonium for military purposes: the plutonium-239 content in the waste fuel of a VVER reactor does not exceed 56.5%, while for military use the content of plutonium-239 must be 93.5% or ideally 97%. Theoretically, it is possible to enrich plutonium to a weapons-usable state. All suspicions could be quelled by the return of the spent nuclear fuel to Russia for reprocessing.

The U.S. argument that the Iranians will gain the experience necessary for creating their own nuclear bomb is viewed in Russia as an unjustified and unfair stance. Iran observes the NPT. All this makes Iran eligible (under Article IV of the NPT) for access to nuclear technologies. Russian officials believed that Russian-Iranian cooperation

"Would be a certain test range to probe the possibility and the necessity of implementing Article IV commitments by a nuclear-weapon State Party to the NPT. According to the latter, parties have to promote equal and non-discriminative cooperation in peaceful nuclear energy uses and to prevent proliferation of nuclear weapons at the same time."²¹⁴

On the other hand, one has to admit that Russian specialists interviewed by us after their return from the construction site in Bushehr do agree that Iran's major objective is to form indigenous skills to accelerate its nuclear weapons program.

Critics of Russian-Iranian cooperation in the field of peaceful nuclear technologies also stressed the *expediency* of the deal. Firstly, the U.S. made financial aid to Russia dependent on the rejection of the contract (formally, the U.S. administration did not author this policy — the idea of connecting the two issues was born on Capitol Hill). The U.S. Secretary of State Warren Christopher spoke in 1995 of the connection between rejection of the contract and Russian participation in G-7 meetings and the transformation of the group into the group of 8 nations (G-8). In several off-the-record interviews some American officials even voiced a possible link between the Bushehr project and the ABM negotiations.

²¹⁴The Russian Foreign Intelligence (SVR). Dogovor o nerasprostranении yadernogo oruzhiya. Problemy prodleniya (NPT: Problems of Extension). M., 1995.

Secondly, pressure was applied by discrediting Iran. The Americans were attempting to convince Russian officials that Iran had a nuclear military program and that Iran was not able to fulfill the financial terms of the deal.

Instead of presenting numerous arguments by Russian experts in favor of the Bushehr deal, let us quote former Assistant Director General of the IAEA and leading nonproliferation expert David Fischer:

"Iran is a member to the IAEA. Its entire territory is under IAEA inspections. Iran stated, 'The IAEA may inspect any site on our territory. Inspections may cover both declared facilities and facilities that may cause concerns of the IAEA. In neither case we will make any obstacles to the IAEA inspections.' And the IAEA conducted such inspections twice. Both times it monitored three facilities declared by Iran and three facilities of concern to the Agency (presumably, on the basis of the CIA information). Both times the IAEA inspectors found nothing, absolutely nothing that could make evidence of Iran's incompliance with the NPT commitments or IAEA safeguards. I obtained detailed information on the results of the second inspection from an official of the French Nuclear Energy Agency. I know him as a professional and I am sure that he knows what he speaks about.

The United States agrees that nowadays Iran has no capability to develop nuclear weapons. But, Americans say, we are not sure of Iran's further intentions and long-term capabilities. We do not understand why Iran should develop nuclear energy when it has enormous oil and gas reserves. But why didn't the United States asked this question to the shah, who launched the program of nuclear energy uses in the 1970s and planned to build 23 NPPs? And Iran did not have smaller oil and gas reserves at that time. U.S., German, French corporations rushed to Iran and competed for the right to fulfill this large-scale program, and no one spoke about its possible military transformation. What has changed since then? Only one thing has: the shah was overthrown and the new regime was regarded as an enemy by the United States. Is it a good reason to impede Iran's development? [...] Despite concerns that Iranian specialists may 'gain nuclear knowledge in Moscow', everyone knows that Iran has many highly-skilled nuclear physicists and engineers. Many of them left Iran after the Khomeini's revolution and Iranian authorities do their best to convince this people to return home. Besides, it is impossible to ban education in nuclear physics or to hamper such training [...]. The training of Iranian specialists in Moscow will enable them to maintain efficiently and safely light-water reactors to be built by Russia, will enhance their knowledge of nuclear safety issues, but not of nuclear bomb development!"²¹⁵

Fischer made the following recommendation to Russia:

²¹⁵David Fischer, "Pochemu ya podderzhivayu rossiysko-iranskiy kontrakt. Otvet professoru Yablokovu (Why Do I Support the Russian-Iranian Contract. Answer to Professor Yablokov)". *Yaderny Kontrol*, No. 6, 1995, pp. 20-21.

"Russia should not pay attention to the U.S. pressure. These attempts have political reasons. One of them is the pressure of the powerful Israeli lobby on the Clinton administration. Many in Israel believe that after elimination of nuclear facilities in Iraq, Iran becomes a real and primary adversary to Israel. This is why Israeli lobby in Washington put into motion the giant propagandistic machine working against the Russian-Iranian deal. Whatever the reasons of the U.S. discontent concerning the Russian-Iranian contract are, Russia should fulfill its commitments to Iran."

At the same time, he made a reservation,

"The wisest policy for Russia would be to stipulate the implementation of the contract with Iran with a number of provisions (similar to those incorporated in the U.S.-DPRK agreement). The most important thing would be: spent nuclear fuel should be exported back to Russia after extracting it from the reactor [...]. This argument of the opponents of the contract seems to be irrelevant, for Russia has recently repeatedly pledged its willingness to withdraw spent nuclear fuel from Iran, whereas the Iran itself does not oppose this idea."²¹⁶

Despite the significant pressure on Russia, Iran has many times received Moscow's assurances (even at the top level) of its firm commitment to cooperation with Tehran. Russia has managed to dodge any formal pledges to the West (above all, to the U.S.) and has defended its right to cooperation with Iran under international law. The United States did not insist on this debate, for the bilateral agenda contained many other more significant political issues. In an interview with one of the authors (March 2001), a senior U.S. diplomat confirmed that the Bushehr topic had been removed from the U.S.-Russian bilateral agenda.

Russia began to implement the Bushehr deal in January 1996. At first, about 750 Russian specialists worked at the construction site to adjust it to the Russian VVER-1000 light-water reactor. Later on, when the work started in full swing, the number of Russian specialists amounted to 1,000. However, the construction still lagged behind the schedule.

In the course of the visit of President Khatami to Moscow in March 2001, President Putin maintained that Russian-Iranian nuclear energy cooperation was extremely important.

"It is important both for Iran and for the Russian Federation [...]. Iran has plans for expanding its nuclear energy sector and the Russian Federation, in accordance with the international rules, is interested and will be ready to participate in appropriate tenders. As far as Bushehr is concerned, there is a certain delay in the implementation schedule. We [...] discussed [...] this topic, examined the reasons for this delay and concluded that they were of technical character. These delays are caused by sluggishness of partners on both sides. We will correct this. I would like

²¹⁶Ibid.

to emphasize (and my colleague agreed with this) that all activities in this area can only be based on the IAEA rules and under its control."²¹⁷

Early in April 1998 the Ministry of Atomic Energy announced that Russia was interested in deliveries to Iran of a research reactor with an enrichment capacity of up to 20%. Yevgeny Adamov explained this in the following manner,

"I do not want to see 15 years from now that the political flirtation that has begun today with the visit of American sportsmen to Iran will end up for example with the U.S. supplying it [Iran — **Auth.**] with a research reactor with 90% enrichment capacity. That is, with exactly the same fuel that is used for military purposes."²¹⁸

This statement was widely criticized in the U.S. and Israel. The deal was not implemented.

In July 2000, during the G-8 Okinawa summit, President Clinton requested that President Putin stop the supply of laser equipment to Iran, for the United States feared that the equipment might be used to enrich uranium to a weapon-grade state. Under the contract, Russia was to supply Iran with 15-20-W lasers (whereas export control procedures impose ban on lasers, whose capacity exceeds 40 W). This issue was raised during the meeting between U.S. Secretary of Energy Bill Richardson and Yevgeny Adamov, at the meeting of Al Gore and Prime Minister Mikhail Kasyanov, and then again at the top level — during the meeting of the two presidents at the U.N. Millennium Summit in New York in September 2000. As a result, Russia agreed to suspend the supplies, "realizing the sensitivity of the issue".²¹⁹

The Russian side sees cooperation with Iran as mainly a commercial project. There is no indication that the Russian authorities or individual groups are pursuing any political goals, which could be prevailing over economic interests. Lev Ryabev, First Deputy Minister of Atomic Energy, put it this way,

"Yes, we are fighting for the market, but we are doing it in a civilized manner, in compliance with international rules [...] and none has been able to put forward to us any specific and proved claims."²²⁰

²¹⁷Press conference after the negotiations between President of Russia Vladimir Putin and President of Iran Mohamed Khatami. March 12, 2001, www.president.kremlin.ru.

²¹⁸*Izvestiya*, April 8, 1998, p. 1.

²¹⁹Anton Khlopkov, "Rossiysko-iranskoye sotrudnichestvo v oblasti atomnoy energetiki i problema nerassprostraneniya: tekhnicheskiye i pravovyye aspekty (Russian-Iranian Nuclear Energy Cooperation and Nonproliferation: Technological and Legal Aspects)". Master paper. M., MEPhI, 2001, pp. 22-23.

²²⁰*Krasnaya Zvezda*, March 14, 1998, p. 2.

The emphasis gradually shifted from nuclear cooperation to alleged missile proliferation matters.

Officially, there is no Russian-Iranian missile cooperation. There is evidence, however, that certain Russian companies are actually engaged in such cooperation. The West, first of all the U.S. and Israel, accuses Russia of missile deliveries to Iran, or at least of supporting the Iranian missile program. However, there is no information about state-effected or state-sanctioned deliveries by the Russian Federation to Iran of technologies or machinery in violation of international regulations (MTCR). On the contrary, in the 1990s, Russian authorities were making serious efforts to prevent deliveries of missile equipment, spare parts and machinery to Iran.²²¹ This is good by itself, for this demonstrates the commitment of official structures to international law and obligations of the country. On the other hand, it may be regarded as a real sign of Iran's repeated attempts to acquire Russian materials and technologies that can be applied to missile program development. There is no information on whether all these attempts have failed or have been prevented.

Although there are accusations that Russia is contributing to the missile rearmament of Iran at a state level, nevertheless the West has now begun to take a *differentiated* approach. The fact is that Russian military industry enterprises make unauthorized deliveries of missile equipment to Iran in violation of international agreements in this area and bypassing Russian official structures. The Clinton Administration considered imposing sanctions against several Russian companies and research institutes as early as 1997, without applying these sanctions to the Russian Government "as it may sometimes fail to control these processes".

In April 1998, the U.S. State Department made up a *black list* of companies and organizations suspected of supplying missile technologies to Iran: it contained about 20 Russian companies and organizations, according to unofficial sources. U.S. officials made the following informal comments:

"President Clinton does not want sanctions. It is a diplomatic game, and the Administration has not only to look at Russia, but also to think about the Congress. This is a hint to legislators: OK, we control the situation, but we should not be in a hurry and put anti-Russian sanctions into a legally-binding form".²²²

On July 29, 1998, President Clinton signed the Executive Order on sanctions against companies suspected of cooperation with Iran in the

²²¹ Ivan Safranchuk, "Iran's Nuclear and Missile Programs and Russia's Security". *PIR Study Paper*, No. 8, 1998, p. 21.

²²² *Izvestiya*, April 22, 1998, p. 3.

missile area.²²³ Clearly, it was mainly targeted against Russian companies that tried to sell their hi-tech production on the foreign markets. This perception of U.S. motives is quite popular with the Russian hi-tech manufacturers. One has to admit that there are certain grounds for such a view, for sometimes U.S. sanctions are imposed on Russian hi-tech enterprises that do not export any military or dual-use products.²²⁴

The U.S. President rejected the bill on sanctions. However, sentiments in the Congress indicated its willingness to overcome the veto. So, Bill Clinton did not wait for this confrontation and in late July 1998 he imposed sanctions on seven Russian companies: NPTs INOR, NII Grait, the Baltic State Technical University, *MOSO*, *Evropalas-2000*, *Glavkosmos*, and NII *Polyus*.²²⁵

In March 2000, the United States passed the Iran Nonproliferation Act. The law envisages administrative, financial and economic sanctions against any foreign individual or corporation if there is credible evidence of transfer of WMD technologies to Iran. Commenting on the adoption of the law, Bill Clinton maintained that the United States had repeatedly applied sanctions to Russian organizations for cooperation with Iran (in January 1999 against NIKIET, MAI and RkhTU) and would be ready to use them again, if it deemed necessary.

However, we believe that there are no sufficient grounds for accusing Russia of breach of any international legal norms in cooperation with Iran. On the contrary, we have witnessed intense efforts of the state structures to prevent any attempts of technological drain from Russia to Iran. In this context, one should consider the Russian Governmental Resolution No. 57 of January 22, 1998 — "*On the Improvement of Controls over the Export of Dual-Use Goods and Services Related to Weapons of Mass Destruction and Missile Delivery Vehicles*" — and "*Methodological Guide on Internal Export Control System in Companies and Organizations*" which was adopted on May 12, 1998 by the Russian Federal Service for Currency and Export Control. It is an alarming sign, however, that many companies that should be guided by these documents in their foreign economic activities were critical about them. The main argument here is that following the prescribed procedures will impede foreign economic activities, which is currently the main source of income. So, there is a conflict: the state's attempts to toughen export control are criticized by those over whom this control is exercised, since

²²³Executive Order 13094 and Forerunner. In: Kenneth Katzman, *U.S.-Iranian Relation: An Analytic Compendium of Laws, Regulations and Policies*. The Atlantic Council of the United States, September 14, 1999, pp. 134-135.

²²⁴Ivan Safranchuk, "Iran's Nuclear and Missile Programs and Russia's Security". *PIR Study Paper*, No. 8, 1998, p. 35.

²²⁵*Ibid.*, p. 22.

the state does not finance them properly, and they have to place their main emphasis on foreign contracts. In fact, this problem can be solved only if an export control system is organized. This is a problem related to Russia's economic and scientific policies.²²⁶

Nowadays, Russia and the United States still have some disagreements concerning Iran and continue to discuss them at high-level talks. For instance, U.S. Secretary of State Colin Powell, speaking at the confirmation hearings of the U.S. Senate Committee on Foreign Relations, made a general review of foreign policy priorities of the Republican administration, and emphasized that Russia should stop proliferation of missile technologies and nuclear materials and put an end to sales of destabilizing conventional weapons to such states, as Iran.²²⁷

We presume, however, that the problems of Russian-Iranian cooperation in the context of U.S.-Russian relations are not of nonproliferation character. They mostly relate to deep strategic and political interests of the two powers and are caused by some problems in their relationship.

The position of Israel had a significant impact on the Iranian issue. It is worth listening to one of the senior Israeli officials. In his conversation with one of the authors in 1998, he gave the following description of the chronology of the U.S.-Israeli-Russian dialogue on Iran's missile programs:

"For the first time we detected leaks of missile equipment from Russia in late 1996. We informed the Americans. What are you talking about, they said, we have not noticed anything. The argument began and it involved both civilians and the military. Exchange of information took several months. And each lost month cost a lot, we could not afford more delays on the part of the [Clinton] administration and by early summer 1997 we informed the Congress through our channels about alarming and indisputable evidence. Some motion started in the Congress. In June [of the same year] Yeltsin and Clinton agreed in Colorado to appoint two responsible negotiators on Iran: Koptev from the Russian side and Wisner from the U.S. side. In July we were asked [by the Clinton administration] not to exert pressure on the Congress. We continued contacts with the administration, but there were no changes, while the situation with Iran was more and more clear for us. We were not sure about one thing: whether the Russian leadership knew about these technological leaks. Netanyahu spoke to Yeltsin. The latter denied everything and said, show me the facts. It was fall 1997, and the United States, notably Madeleine Albright, did not want to exert pressure on Russia [for missile leaks to Iran]. [In September] we

²²⁶ Ivan Safranchuk, "Yadernye i raketnye programy Irana i sotrudnichestvo s Rossiyei (Iran's Nuclear and Missile Programs and Cooperation with Russia)". In: *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*, p. 74.

²²⁷ Statement of Secretary of State-Designate Colin L. Powell Prepared for the Confirmation Hearing of the U.S. Senate Committee on Foreign Relations. January 17, 2001. www.usinfo.state.gov.

in Israel decided to act more energetically, because we could not afford to lose more months. We kept working with the Clinton administration and with the Congress. Then Wisner and Gallucci [ambassador, U.S. president spokesman, nonproliferation expert] appeared. Starting from October, we felt that Clinton and Gore had been involved in developing the tactics. It was decided to put an end to known practices and to make Russia adopt legal documents [penalizing for missile leaks to Iran]. The Congress began to be impatient. In November we [again] decided to act on our own and sent a delegation to Moscow headed by Shcharansky [...]. In January [1998] the administration requested the Congress to suspend the bill on sanctions. Gore began active contacts with the Russian Government. We also proceeded from the assumption that the Congress had an approved agenda and it should not be under constant pressure. We thought that Israel should hide again and let the United States act. As a result [albeit after some delays], U.S. actions were successful. Russia undertook some measures against its companies [suspected of illicit trade with Iran]: some of these measures were publicly declared, some were disclosed via bilateral channels. And that what we know makes us hope. At the same time, we know that not all Russian companies ceased their activities and deals with Iran."²²⁸

The problem of the Russian-Iranian nuclear contract is mostly an issue of Russia's long-term global policy. Russia should make up its mind on the following matters. Firstly, does Russia regard its relations with Iran as a priority in the Middle East and Southwest Asia? Secondly, is this deal a political or economic step? Thirdly, does Russia have enough information on the inner workings of Iran? Fourthly, are there any tangible possibilities for economic and energy cooperation? Fifthly, is there consensus within the Russian executive branch concerning contacts and contracts with Iran? Sixthly, what is hidden behind Russia's refusal to follow the U.S. recommendations to stop any nuclear cooperation with Iran: a desire to show the muscles or the understanding of real national interest?

Presumably, Russia is still developing its policy towards Iran. Will the economic benefits of the nuclear contract (it is not clear whether there will be more contracts to follow) be commensurate to possible losses, if Iran develops its nuclear explosive device in the next 8-10 years? This issue has been discussed for several years, but the debate is still under way.

It seems that the fragmentary information on the Iranian nuclear program available to Russia does not give grounds for panic statements by Washington. One may presume that Iran does not demonstrate interest only in civilian components of the nuclear program. At the same time, there is no evidence that Iran may develop a nuclear weapon capability in the near future. The Russian authorities come to this

²²⁸See: Vladimir Orlov, "O nekotorykh osobennostyakh positsii Israiliya v voprosakh nerasprostraneniya (On Some Aspects of the Israeli Position on Nonproliferation)". *Yaderny Kontrol*, No. 6, November-December 1998.

conclusion as well. However, this consensus dissipates when it comes to mid-term and long-term intentions and capabilities of Iran.

Another argument is: if Russia is pushed away from the Iranian nuclear market for some reason, its place will immediately be occupied by China. The latter may create a monopoly on this market. Would this be a positive outcome for the cause of nuclear nonproliferation?

Nowadays, one can hardly say whether Iran will become Russia's strategic partner in the early 21st century (some events prove this trend), or it will be a source of threat from the South (including nuclear challenges). So far there is no evidence of nuclear threats or any threats coming from Iran, albeit some experts point out that active Iranian interest in nuclear energy is not caused solely by the desire to solve energy problems. It is noteworthy that in 1993, Russia refused to supply Iran with a heavy-water reactor (Iran insisted but did not want any publicity). Besides, Russia was the first to offer the United States a joint assessment of Iran's nuclear intentions (in 1993), but got no response from Washington.

It seems that Iran may intend to develop an indigenous A-bomb.²²⁹ The country has complicated relations and territorial disputes (latent and evident) with most of its neighbors. Besides, it has a regional rivalry with Pakistan: after losing control of developments in Afghanistan, Iran has to play its own geo-strategic game. On the one hand, this contributes to Tehran's rapprochement with Russia, which is in the same situation (although for different reasons). On the other hand, the pragmatic religious leaders of Iran may be playing the Russian card in their ideological and military confrontation with the United States and may not be seeking any long-term alliance with Russia. In this connection, one should not rule out the *Sadat* scenario, when close bilateral

²²⁹Official evaluation of the SVR is "we have no data proving that Iran has a military program [...]. We have no grounds to change our previous assessments concerning Iran. We endorse them. But, obviously, we keep a close eye on the whole range of issues pertaining to nuclear nonproliferation, including Iran. If the SVR receives alarming signs and the need to publicize them, I am sure that we will do this. So far, we see no reasons why we should share U.S. official views on this issue." This statement was made by Yevgeny Primakov, who then headed the SVR, at the press conference and presentation of the aforementioned report "NPT. Problems of Extension" on March 23, 1995. Since then, the SVR's position has not changed, or, at least, the public has not been informed of such changes. In fact, in 1993, the SVR presumed that Iran "has a program of applied military research in nuclear area. However, without external scientific and technological assistance, Iran will hardly acquire nuclear weapons in this millennium. Even if such assistance is not hampered and the program receives appropriate funding (\$1-1.5 billion per year), Iran will not possess nuclear weapons sooner than in 10 years." *Novyi vyzov posle kholodnoy voyny: rasprostraneniye oruzhiya massovogo unichtozheniya* (The New Post-Cold War Challenge: Proliferation of Weapons of Mass Destruction). SVR Report. M., 1993.

cooperation (including military ties) swiftly transformed into cool relations. Finally, one should bear in mind that Iran relies on long-term military cooperation with China, including in the nuclear area. This relationship suits the interests of the Chinese, for Iran poses neither a direct nor a potential threat, due to geographical distance. Tehran, however, may become an important bridge used by China to strengthen its positions in Southwest Asia and may be used as a splinter near Russia's southern borders.

One has to take into account that Russia's consistent cooperation with Iran in the nuclear sphere yields some political results. Iran supported the indefinite extension of the NPT in 1995 and did not block consensus on the extension decision. Iran facilitated conclusion of the CTBT and signed this document. Russian-Iranian relations improved after the visits by Sergei Ivanov (then Secretary of the Security Council) and Igor Sergeyev (then Minister of Defense) to Tehran in late 2000, and after the official visit of President Khatami to Moscow in March 2001.

The prospects for a joint Russian-Iranian *game* are quite ambiguous. Firstly, U.S.-Iranian rapprochement may diminish their disagreements which provide the basis for converting Russian-Iranian rivalry into cooperation. Secondly, we believe that capabilities prevail over intentions when it comes to an assessment of external threats. Hence, there is a potential for permanent Russian-Iranian antagonism, although its actual emergence will depend on many other factors and is not predetermined.²³⁰

Iran is an obvious battlefield for U.S.-Russian competition. One can hardly expect any significant changes in this area in the foreseeable future. It would be naive to think that Russia and the United States will soon come to an agreement and negotiate some common approaches to Iran. This did not happen in 1996-1999, when due to domestic political problems, Russia could have abandoned some of the key components of its cooperation with Iran.

As one can see, the opposite happened. In late 2000, Russia refused to comply with the previous agreements on not supplying Iran with certain types of conventional weapons. We presume that this step was quite logical in light of recent developments, since Russia had undertaken groundless voluntary self-restrictions, as far as conventional arms were concerned.²³¹

²³⁰Ivan Safranchuk, "Yadernye i raketnye programy Irana i sotrudnichestvo s Rossiyei (Iran's Nuclear and Missile Programs and Cooperation with Russia)". In: *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*, pp. 58-59.

²³¹Vadim Kozyulin, "Russian-Iranian Cooperation in Nuclear and Military Spheres: Before and After President Khatami's Visit to Moscow". PIR Press Conference at the Press Development Institute, March 16, 2001.

In the area of military-technical cooperation and interaction in peaceful uses of sensitive technologies, Russia should continue to develop relations with Iran in these spheres, but should try to prevent buildup of military capabilities that may later be used against Russia.

This means that Russia is not interested in the development of an Iranian WMD program, especially nuclear weapons and delivery systems capable of hitting Russian territory. According to an FSB officer,

"[...] Russia, more than the United States, is interested in preventing the ever emergence of states with advanced long-range missiles near its southern borders."²³²

We assume that Russia's desire to strengthen nuclear cooperation with Iran was fuelled by the double standards of the United States, which was ready to supply North Korea with nuclear technology. According to a Deputy Minister of Atomic Energy,

"[...] Some more effort and we will lose what we have, as we lost North Korea after the death of Kim Il Sung, where South Korean light-water reactors are installed with the U.S. assistance instead of ours (similar to those we will supply Iran with). I remember how Mr. Gallucci, U.S. presidential spokesman on nuclear issues, visited Russia and we asked him why the United States were so inconsistent, at least, towards Korea. 'The one who pays orders the music', he smiled."²³³

After its failure in North Korea, Russia strived to use Bushehr for further economic expansion (so far, little success has been achieved), for political presence in the vacuum zone (which was free from U.S. or Chinese influence) and for obtaining information on Iran's military intentions (being close to the sources of information), in order to control the situation and be able to predict developments. In the meantime, the North Korean experience demonstrated that one might grant assistance to one nuclear power plant and have no idea what was going on nearby.

The U.S. policy of *sticks* towards Iran and Russian-Iranian cooperation in Bushehr was counterproductive. Moscow was concerned about Iran's intentions and did not need any *instructions* from the United States. The Kremlin attempted to replicate in Iran the U.S. experience with KEDO, but at the preemptive stage. This is why U.S. pressure caused irritation, bewilderment and a mixture of the two.

As a result, some governmental experts and the military in Moscow began to think that the United States understood only the same language,

²³² Mikhail Kirillin, "Neskolko amerikanskikh firm, zanimayushchikhsya razrabotkoi raketnoi tekhniki, svyazany s irantsami (Some U.S. Companies Developing Missile Equipment Have Connections with Iran)". *Yaderny Kontrol*, No. 2, March-April 1998, p. 37.

²³³ *Moscow News*, No. 17, March 12-19, 1995.

i.e. Russia should have demonstrated in Iran the independence of its foreign policy. They, perhaps, also implied the independence from international nonproliferation commitments. Let us point out that expansion of cooperation with Iran was a *consequence* of U.S. (and Israeli) pressure on Russia. This could have been realized during the Kosovo crisis (1999), when U.S.-Russian relations deteriorated. But this was not the case, for the Russian leadership decided to observe the rules for a number of domestic reasons and considerations.

Meanwhile, among Russian officials involved in these matters a feeling of frustration has built up over the last few years due to constant and unreasonable U.S. pressure — since 1995, the Iranian issue has been discussed at all negotiations and consultations. This frustration may become a significant- and also negative- factor in further developments and decision-making.

At the same time, it is unlikely that Vladimir Putin, like Boris Yeltsin, will take any deliberate steps to promote the development of Iran's nuclear weapons program. Unlike Boris Yeltsin, who noticed the frustration of his advisors, but took U.S. pressure into account, Vladimir Putin will rely on the assessment of risks, notably the threat to Russia's security of the emergence of a nuclear Iran.

Russia and the IAEA

In the 1990s, Russia continued to cooperate actively with the IAEA, as the Soviet Union had done previously. Russia maintained links with key members of the Agency, including the United States, in order to prevent proliferation of nuclear weapons, and to contribute to other areas of the Agency's activities.

When in 1991, Iraq's secret program was discovered, the Agency undertook intensive efforts to strengthen major elements of the safeguards system. Russia fully supported the IAEA in these activities. In 1991-1993, the Board of Governors reaffirmed the right to conduct special inspections (carried out by the Agency if it considers that information made available by the state or obtained from routine inspections is not adequate for the agency to fulfill its responsibilities). The Board also took some decisions concerning early reporting on the design of plants to be constructed or modernized, pertaining to a broad accounting scheme for export and import of nuclear material and the export of specialized equipment and non-nuclear material.

In July 1993, the Board of Governors approved the "93+2" Program aimed at establishing a more efficient system of safeguards. In the process of its implementation, the IAEA confirmed that measures lying within its legal

competence included obtaining additional information from the states on the plants that had possessed or would have nuclear material subject to safeguards; extended use of undeclared inspections; environmental sampling at the sites to which IAEA inspectors had access; use of improved technologies for remote control of nuclear material movements.

In order to tighten safeguards (and this required extra legal powers), the Board of Governors adopted the Additional Protocol in May 1997 (INFCIRC/540), as a model agreement for additional protocols to the comprehensive safeguards agreements (INFCIRC/153). The Board also proposed to hold negotiations on signing the Additional Protocol between the IAEA and nuclear-weapon states as well as the IAEA and states that had not placed all their nuclear activities under IAEA safeguards. The protocol provided for the following measures:

- obtaining information and access for inspectors to all components of the nuclear fuel cycle of the states — from uranium mines to uranium waste storage facilities, and to all other sites with nuclear material designated for non-nuclear use;
- obtaining information on research and development activities related to the fuel cycle, and the mechanisms of their inspection;
- obtaining information on all buildings situated at nuclear sites and access for the inspectors to these buildings with short-notice notification;
- obtaining information about the development and export of sensitive technologies related to nuclear activity, and the mechanisms of corresponding on-site inspections;
- taking environmental samples beyond the declared sites if the IAEA deems it necessary;
- administrative activities improving the process of appointing inspectors, granting multiple-entry visas (necessary for undeclared inspections) and the IAEA's access to modern means of communication.

The Board of Governors has approved Additional Protocols for 58 states, including all nuclear-weapon states. However, only 22 agreements have become effective (among states with significant nuclear activities only Japan and Canada made them enter into force). Russia signed the Additional Protocol on March 22, 2000. We must note that the signature process for the protocol is progressing very slowly.

Since adopting the Additional Protocol, the Agency has continued its endeavors to improve the system of safeguards. The next stage is to develop an integrated system of safeguards, aimed at their optimization with regard to new measures provided in the Protocol, and including the most economically feasible use of modern technical means. If the Agency knows that the undeclared irradiated fuel reprocessing plants really do

not exist, it may reduce the level of safeguards currently required for such fuel. Optimization may also involve other categories of nuclear material which are not sensitive from the viewpoint of nuclear nonproliferation. The economized resources can be used to safeguard more sensitive nuclear material and to apply international safeguards to an increasing amount of nuclear material released from defense programs. Nonetheless, so far the experience of integrated system indicates that it has not led to the expected economizing of funds.

In September 1996, Russia, the U.S. and the IAEA launched the Trilateral Initiative aimed at solving technical, legal and financial problems of IAEA verification of weapon-origin fissile material, designated as no longer required for defense purposes. The joint task force has been developing a framework verification agreement for five years. In the U.S., the Agency will inspect the K-Area Material Storage Facility at the Savannah River Site and the Lynchburg Babcock and Wilcox Uranium Downblending Facility. In Russia, the monitoring will be organized at the Fissile Material Storage Facility at the *Mayak* plant, which is under construction in the Urals.

The parties stated that substantial progress in developing and testing the verification equipment had been achieved. This is a new technology known as *information barriers* designed to allow the inspectors to derive sufficient information for the verification to be credible and independent, while preventing access to classified information as it is required by Article I of the NPT. The verification of dismantled nuclear munitions and secret forms of fissile material should go hand in hand with the assurance that IAEA inspectors get no access to information about the particularities of design and construction of the weapons.

The standard verification agreement may be used by other nuclear-weapon states parties to the NPT to provide for international monitoring of the fissile material released in the future under arms control agreements. The negotiations succeeded in achieving significant progress, but the process of negotiating the framework agreement so far has not been completed.

At the U.N. Millennium Summit in New York in September 2000, President Putin put forward an initiative to exclude the usage of enriched uranium and pure plutonium in world atomic energy production. He argued that incineration of plutonium and other radioactive elements would create a necessity for making a final decision concerning the problem of radioactive waste. Vladimir Putin proposed to work out and fulfill an appropriate international project under IAEA aegis.

Several weeks later, at the annual session of the IAEA General Conference, September 2000, heads of some delegations, including the Indian

representative, endorsed Vladimir Putin's proposal. Chairman of the Indian Atomic Energy Commission Rajagopala Chidambaram stated that the IAEA, with its comprehensive membership, including developing countries, bore the collective responsibility for finding technological solutions to such problems. He also emphasized that India always did its part in supporting such efforts and would actively participate in such initiatives.²³⁴

IAEA Director General Mohamed El Baradei also welcomed the Russian proposal,

"I note with interest the initiative of President Putin at the Millennium Summit, in which he called upon all countries to join an international project under the auspices of the IAEA, to develop new technology that could generate nuclear power without requiring or producing weapon-grade material, and in parallel to focus on emerging technology to burn long-lived wastes from spent fuel and weapons stockpiles. If requested, the Agency is ready to offer its support in coordinating this project."²³⁵

The General Conference adopted, by consensus, a resolution that was sponsored by Russia. The resolution proposed that the member states concerned should combine their efforts under the aegis of the Agency in considering the issues of the nuclear fuel cycle, in particular by examining innovative and proliferation-resistant nuclear technology.²³⁶

The Agency set up the Task Force for Innovative Nuclear Reactors and Fuel Cycles (INPRO) involving Russian specialists. The task force began work in late 2000. The group will study Russian proposals and projects put forward by many other nations. The success of the project will depend on the activities of the task force and on scientific and material contribution of the states which have appropriate capabilities. At present, more than 25 innovative reactor projects are being implemented in different countries.

In his speech at the IAEA General Conference Mohamed El Baradei maintained that the Task Force "will assess future energy and technology demands and identify the technical reactor and fuel cycle features that could meet these demands." One may presume that the Task Force will consider various concepts of innovative nuclear technologies set forth by member states. Russia allocated several hundreds of thousands of dollars to the IAEA extra-budgetary fund to finance the activities of the group.

²³⁴Quotation from Roland Timerbaev, Dmitry Kovchegin, "Putin's Initiative at the UN Millennium Summit". *Yaderny Kontrol*, No. 6, November-December 2000, p. 62.

²³⁵Ibid.

²³⁶GS (44) Res/21.

Minatom proposed the concept of fast reactor with uranium-plutonium fuel and lead coolant developed by the Moscow-based NIKIET. However, this project received differing evaluations by many Russian and Western specialists.²³⁷

Obviously, the success of the international innovative technology development project proposed by Russia will depend greatly on the participation of developed nations, which have rich experience in reactor technology development and nuclear power plant construction. It is also necessary to bear in mind the acceptability of new technologies and reactor sites for the general public and the population of the states concerned.

In 2001, the General Conference adopted a new resolutions in support of the INPRO project.

Russia's Nuclear Nonproliferation Policy under President Putin

Vladimir Putin has actually been leading Russia since August 9, 1999, when President Yeltsin, who could hardly perform his duties by that time, appointed him Prime Minister and successor. On December 31, 1999, Vladimir Putin was officially declared Acting President. On March 26, 2000, he was elected President of Russia by receiving 53% of votes. His inauguration took place on May 7, 2000. The emergence of a new president in Russia and the December 1999 parliamentary elections signified a new stage in the Russia's development.

At present, all major components of the transition are in place. New Russian authorities review political processes and their results and work out proposals to adjust the strategy or to formulate completely new approaches for the next three to seven years.

Foreign policy, as well as defense and national security policy, is not an exception. In 2000, three key documents were adopted in an attempt to lay down the strategy for the period of post-transition: the National Security Concept (January 2000), the Military Doctrine (April 2000) and the new Foreign Policy Concept (June 2000).

The adoption of these documents is quite logical, for Russia has been seeking its role and position in international affairs during the recent decade. The process is quite long and not always coherent, but we may presume that currently, development of Russian foreign and security policies is being completed. The two new concepts and doctrine

²³⁷See: Nikolai Ponomarev-Stepnoi, "Feasibility of Putin's Initiative: Ways to Ensure Sustainable Energy Supply". *Yaderny Kontrol*, No. 2, March-April 2001, pp. 43-47.

summarize the experience of the past decade, comprise successful positions and approaches and set forth new strategic goals.²³⁸

It is noteworthy that the new documents have gained the support of the major political forces in Russia. In assessing President Putin's *new course*, one should take into account that its implementation is facilitated by political and economic stability, which has emerged in Russia for the first time in the last 15 years.

New documents contain some substantial novelties concerning national priorities, specific assessments, and tools to pursue foreign policy, defense and geo-strategic goals. In brief, these priorities can be reduced to *realism* and *pragmatism* whether it concerns global or regional tasks.

In the future, Russia will attempt to act based on its capabilities rather than on any abstract values or notions. Nowadays, Russia has a more realistic assessment of the situation in the world, of its own objectives and abilities. Though Moscow argues in public that it will not be satisfied with a modest role in new world order, new principles and objectives actually imply Russia's diminishing participation in solving many global and regional problems. Russia tries to focus on such areas and regions that are vital for its national interests and where Moscow may have significant influence on the situation. This realistic approach means a retreat from the established vision of international security and world affairs, but it provides for the recognition of such facts, as the existence of a single superpower, the continued importance of force in international relations, the emergence of active non-state actors in the global arena (international terrorist groups, transnational criminal organizations, etc.).

Another important attribute that Russian foreign and security policy has purportedly gained is pragmatism. At present, foreign policy should become an

"[...] Efficient assistant in solving the problems of domestic development. We realize that our foreign policy resources are objectively limited at the moment. Hence, they should be concentrated in the areas that are vitally important for the Russian state. These are, above all, maintenance of security and creation of maximum favorable conditions for progressive economic development".²³⁹

Russia no longer intends to *fly its flag* in the far reaches of the planet, does not strive for a diplomatic presence for the sake of its presence alone. Russian foreign policy is meant to be "more profitable in political

²³⁸Igor Ivanov, "Vneshnyaya politika Rossii na sovremennom etape (Russian Foreign Policy at the Current Stage)". Speech at the First Convent of the Association of International Studies, April 20, 2001. www.mid.ru/mid.

²³⁹Ibid.

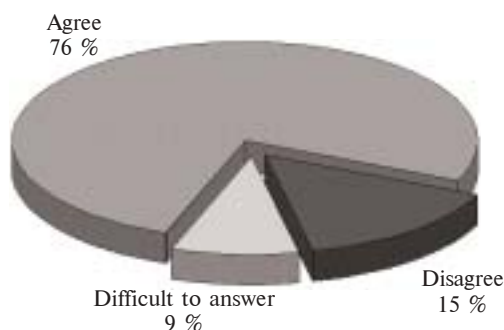
and economic terms".²⁴⁰ This also indicates that in the next few years the role of economic diplomacy will grow.

Diplomats and the military are following the new strategic course and trying to improve the imbalance to prevent domination by the only superpower. Primarily these objectives determine Russia's strategic relations with the United States.

According to some experts, the 1999 parliamentary and the 2000 presidential elections proved that the country began to reach a consensus: to raise the status of Russia, a more deliberate policy towards the West is required. This consensus is based on the following principles that constrain the President's foreign policy options:

- Russia can preserve its Great Power status only through the strictest measures to maintain its unity and integrity;
- nuclear weapons are a key factor in preserving Russia's influence in the world and in protecting it against any pressure on the part of the West;

Chart 4. Do you agree with the statement "Nuclear weapons play a decisive role in maintaining Russia's national security?"



Source: Russians on Nuclear Weapons and Nuclear Threats. M., PIR Library Series, 2000, p. 18.

- Russia's partnership with the West in the first years of democratic reforms weakened Russia's influence on world affairs and brought no dividends to the state and the people;
- despite a complicated relationship with the West, Russia is not interested in encouraging confrontation or in accepting the force scenario;

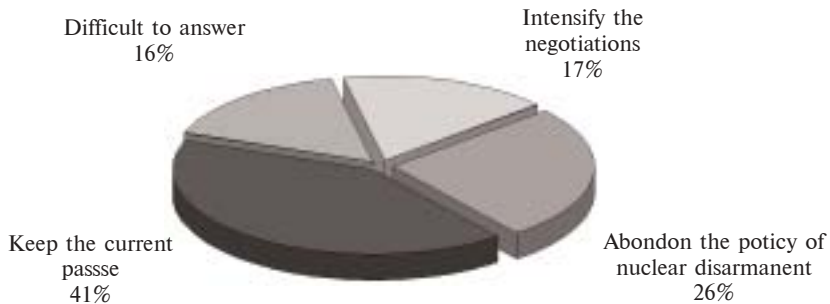
²⁴⁰Igor Ivanov, "Vneshnyaya politika Rossii na sovremennom etape (Russian Foreign Policy at the Current Stage)". Speech at the First Convent of the Association of International Studies, April 20, 2001. www.mid.ru/mid.

- taking into account national interests and existing international commitments, Russia should strengthen and develop the WMD nonproliferation regime.²⁴¹

Hence, as we may see, WMD nonproliferation issues remain one of the links between Russia and the West in general and for Russia and the United States in particular.

Before Vladimir Putin's inauguration he had no published program related to nuclear nonproliferation. This fact did not preclude a renowned Russian paper from calling Vladimir Putin "the initiator of developing and practical establishment of export controls in Russia" (when he headed the Security Council).²⁴²

Chart 5. Should the new President of Russia Vladimir Putin intensify the negotiations on nuclear disarmament, maintain the current pace, or abandon the policy of nuclear disarmament?



Source: Russians on Nuclear Weapons and Nuclear Threats. M., PIR Library Series, 2000, p. 64.

The problems of nonproliferation and export controls were discussed on August 4, 1999 during a telephone conversation between Vladimir Putin (at that time the Secretary of the Security Council and soon to be Prime Minister) and U.S. National Security Advisor Samuel Berger. Vladimir Putin argued that

"Russia demonstrates its firm commitment to strengthen export controls and WMD nonproliferation regime. Our country takes into full account the U.S. concerns about export controls and can expect appropriate feedback from Washington. However, regretfully, the problem of lifting U.S. sanctions against a number of

²⁴¹Dmitry Evstafiev, Dmitry Kovchegin, "New Russian Authorities and Arms Control Issues". *Yaderny Kontrol*, No. 2, March-April 2000, p. 6.

²⁴²Vadim Solovyov, op. cit.

Russian enterprises and institutes still exists. I hope that this matter will be solved in the very near future."²⁴³

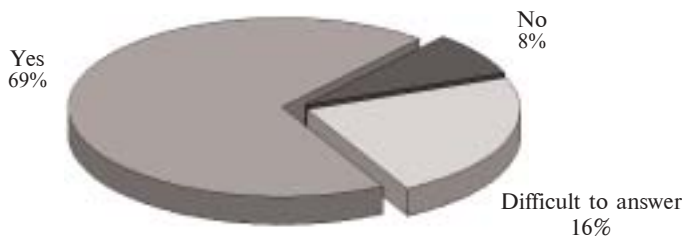
As Acting President, Vladimir Putin maintained that new generation international security challenges became more and more urgent; the dangers of nuclear and WMD proliferation became obvious.²⁴⁴

On February 29, 2000, Vladimir Putin, as Prime Minister and Acting President, signed several documents to improve the system of export controls in the Russian Federation:

- Government Resolution No. 176 *"On Approving the Statute on State Accreditation of the Organizations, Which Have Established the Intra-Firm Export Control Programs"*;
- Presidential Decree No. 447 *"On Making Amendments to the List of Dual-Use Goods and Technologies, Whose Export Is Controlled, Which Was Approved by Presidential Decree No. 1268 of August 1996 'On Control over the Export of Dual-Use Goods and Technologies from the Russian Federation'"*.

On the eve of the March 2000 elections, experts believed that Vladimir Putin would be more flexible as far as nuclear security, nuclear nonproliferation and export controls were concerned. They supposed that Vladimir Putin would actively lobby for immediate ratification of START II and CTBT by the State Duma, in order to form new spheres of cooperation with the West (along with deliberately maintained tension in relations with the West on some national security matters).²⁴⁵

Chart 6. Will Vladimir Putin be able to defend Russia's interests in the area of nuclear disarmament at the negotiations with the U.S.?



Source: *Russians on Nuclear Weapons and Nuclear Threats*. M., PIR Library Series, 2000, p. 66.

²⁴³Press Service of the RF Security Council, August 4, 1999.

²⁴⁴Vladimir Putin revealed his foreign policy concept. Statement of the Acting President at the opening session of the Group of Facilitators of Multilateral Negotiations on the Middle East at the level of foreign ministers. *Nezavisimaya Gazeta*, February 3, 2000.

²⁴⁵Ibid.

Neither Vladimir Putin, nor the State Duma acted surprisingly in this area: both START II and the CTBT were quickly ratified (April 14 and 21, 2000, respectively).

The National Security Concept signed by Acting President Putin and developed during his work in the Security Council includes some different approaches towards WMD nonproliferation in comparison with the strategic documents of President Yeltsin's era. The Concept maintains,

"International relations are being shaped in the conditions when some states strive to enhance their influence on international politics by developing weapons of mass destruction". As far as nuclear nonproliferation is concerned, "Russia and other states continue to have objective common interests" in this area.²⁴⁶

One of the key tasks in maintaining Russia's national security is to strengthen the nonproliferation of WMD and delivery systems, while at the same time, the threat of proliferation of these weapons comprises the most serious challenge to Russian security.²⁴⁷

In the 2000 Military Doctrine, nuclear and missile proliferation is regarded as a major factor contributing to military-political developments. The document states that

"Russia stands for universality of the regime of nonproliferation of nuclear weapons and their delivery systems, for enhancing efficiency of this regime, for moratorium and comprehensive test ban."²⁴⁸

When primary threats to military security are analyzed, the Doctrine argues,

"Under the current circumstances, the threat of direct military aggression in traditional forms against Russia or its allies has decreased, thanks to positive changes in international environment, Russia's commitment to peaceful foreign policy, maintenance of sufficient military might, above all nuclear deterrence potential."²⁴⁹

Since the threat of direct aggression, including nuclear attack, is considered to be distant, Russia's major nuclear-related external threats are

²⁴⁶The National Security Concept of the Russian Federation. *Krasnaya Zvezda*, January 20, 2000.

²⁴⁷*Ibid.*

²⁴⁸The Military Doctrine of the Russian Federation. *Rossiyskaya Gazeta*, April 25, 2000.

²⁴⁹*Ibid.*

"The activities aimed at undermining global and regional stability through interdicting the work of Russian systems of state and military control, systems providing for the normal functioning and combat viability of the strategic nuclear forces, missile attack early warning, missile defense, controlling outer space, and for the normal functioning of nuclear munitions storage facilities, nuclear energy facilities, nuclear and chemical industry facilities, and other potentially dangerous objects."²⁵⁰

However, practical implementation of WMD nonproliferation policy was quite inconsistent with these stated goals during the first year of Vladimir Putin's presidency.

On the one hand, Russia took quite a tough position on the eve of the 2000 NPT Review Conference and at the initial stage of this forum. It seemed that the delegation was following instructions from Moscow and did its best to ensure that the term "strategic stability" be included in the final documents. The obsession with this goal indicated Russia's commitment to its position on the ABM/NMD issues. On the other hand, Russia helped to overcome the stalemate at the Conference, demonstrated flexibility and agreed to some radical disarmament demands of the New Agenda Coalition (NAC) for the sake of passing the Final Document.

Russia seemed to strengthen export controls and tracked sensitive contracts that could undermine national security. However, the President was convinced by Minatom to supply nuclear fuel for the Tarapur power station — a serious blow to Russian NSG obligations.

Moreover, the President kept silent when in December 2000 one of the ministers argued on behalf of Russia that Moscow might withdraw from the NSG and other international export control regimes, "if current restrictions on cooperation in peaceful use of nuclear energy were not modified."²⁵¹

This position runs counter to the Russian official policy towards the NSG. This policy has recently been clearly explained by a senior official of the Russian Foreign Ministry in charge of forming and coordinating Russian foreign policy:

"The Nuclear Suppliers Group has become an essential mechanism of control over nuclear export. We presume that the activities of the group, spanning a quarter of a century, have contributed to strengthening the nuclear nonproliferation regime, which eventually met the interests of global and regional stability."²⁵²

²⁵⁰The Military Doctrine of the Russian Federation. *Rossiyskaya Gazeta*, April 25, 2000.

²⁵¹*Hindu*, December 17, 2000.

²⁵²Andrei Yefimov, "Vyzovy mezhdunarodnomu rezhimu nerasprostraneniya i Grupa Yadernykh Postavshchikov (New Nonproliferation Challenges and the NSG)". In *Exportny kontrol: politika i praktika (Export Controls: Policy and Practice)*, p. 32.

To sum up Russia's nonproliferation policy in 1991-2001, one has to admit that despite some inconsistency (which still exists), Russian authorities had no political motivations and made no practical steps to support military nuclear programs in *states of concern*. Any attempts by lobbyist groups and some officials to circumvent these norms have normally been nipped in the bud.

Russia in that period had, and continues to have, *fear, suspicions, and concerns even* from rumors that nuclear instability may appear near its borders. The state has insufficient information resources to ensure adequate identification of possible new proliferation risks. Russia has not enough financial resources or any political levers to influence the situation in the states of concern. This is why Moscow prefers to play it safe and to expect the worst-case scenario. According to the assessments of the Russian Security Council, there is

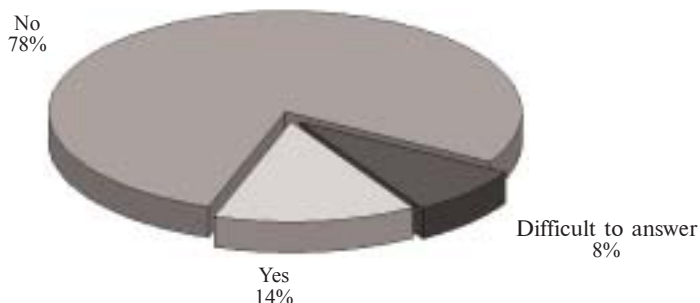
"The trend of enlarging the memberships of nuclear and missile clubs, i.e. there are a number of states that cannot restrain their ambitions concerning WMD and delivery systems. The areas of most grave concern are the Middle East, Central Asia, and the Far East. We do our best to prevent this list from growing. [...] Globalization has made us take these threats even more seriously. It would be not reasonable to downplay them while the situation in the Middle East is deteriorating".²⁵³

These foreign policy priorities do not enable Russia to recognize explicitly some of its concerns related to military nuclear programs of some third nations. The lack of public statements does not mean that there are no such apprehensions.

One cannot rule out that President Putin's foreign policy pragmatism might lead to nuclear cooperation to such an extent that Russia would circumvent its international commitments or profit from vague restrictions. Nonetheless, Moscow would pursue such a policy only towards its long-term strategic partners, rather than towards potential troublemakers. This is why Russia would hardly agree to provide nuclear assistance to East Asia (China, North Korea) or the Middle East (Iran, Syria, Libya), even if Moscow received such requests. Perhaps the only state that theoretically may count on Russia's help is India, but Moscow still refuses to recognize India's nuclear-weapon state status.

²⁵³Oleg Chernov: "Globalization Makes Russia Even More Sensitive to New Missile Challenges". *Yaderny Kontrol*, No. 1, January-February, 2001, p. 27.

Chart 7. Should Russia transfer its nuclear weapons and technologies to other states?



Source: *Russians on Nuclear Weapons and Nuclear Threats*. M., PIR Library Series, 2000, p. 51.

Cooperation among Russian and U.S. NGOs in the Area of Nuclear Nonproliferation

In the early 1990s the phrase "Russian non-governmental organization in the area of international security, arms control and nonproliferation" sounded like an oxymoron. Russia seemed to inherit from the Soviet Union the strict rule that sensitive matters, such as security, can only be the domain of the state and its institutions, rather than of NGOs. However, liberalization of social life during Boris Yeltsin's era and increased democratization empowered Russians (both legally and practically) to establish independent research institutions, to set up academic media, even in the field of WMD nonproliferation.

These studies began to thrive within the Russian academic community. At present, WMD nonproliferation issues are the focus of attention of a dozen of Russian NGOs. The PIR Center has more than seven years of experience in developing its "*Nonproliferation and Russia*" program, and its *Yaderny Kontrol* journal is the same age. During these years, the journal has become a principal source of information and nonproliferation analysis for Russian experts. Nonproliferation matters are the subject of studies by the Center for Environment, Security and Disarmament of the Moscow Institute of Physics and Technics, the Center for War and Peace Journalism, the Carnegie Moscow Center, the Committee of Scientists for Global Security, the Center for Political and International Studies, the Center for Export Controls, the Movement for Nuclear Safety, the Center for Environmental Policy of Russia, etc. Nonproliferation issues are also examined in the traditional think tanks of the Russian Academy of Sciences, such as the Institute for World

Economy and International Relations (IMEMO), the Institute for U.S. and Canada Studies (ISKRAN), the Institute for Oriental Studies, and the Institute for Far Eastern Studies. There are also many ministerial and inter-agency state institutions, such as the Russian Institute for Strategic Studies (RISI) that study the subject. Thus, by the mid-1990s, a broad nonproliferation community emerged and now comprises many Russian organizations and individual experts.

In the United States there are dozens of institutions and centers dealing with nuclear nonproliferation. The most prominent are the Center for Nonproliferation Studies (CNS) of the Monterey Institute of International Studies and the Carnegie Endowment for International Peace (CEIP), as well as the Center for International Security and Arms Control of the Stanford University, the Belfer Center of the Harvard University, the RAND Corporation, the Center for International Trade and Security at the University of Georgia, the Henry Stimson Center, the Arms Control Association, and many others.

Cooperation with U.S. partners was the key focus of activities of the Russian NGOs at the dawn of this movement in Russia and this is still the case. Meanwhile, Russian institutions are expanding their ties with other countries — the U.K., Germany, Italy, Israel, Norway, France, etc.

One cannot help mentioning the contribution of CNS to nonproliferation training since 1991 and to forming a community of nuclear nonproliferation experts in Russia and the CIS.

At present, many Russian and U.S. NGOs have established long and sustainable cooperation and carry out joint projects, hold seminars and conferences. Such joint projects have been launched by the PIR Center and CNS, by the Center for Export Controls and the Center for International Trade and Security at the University of Georgia, the Center for War and Peace Journalism and the Center for War, Peace and News Media at the New York University, the Committee of Scientists for Global Security and Stanford University, etc. RANSAC comprises representatives of both states. The Carnegie Moscow Center is a representative office of the Carnegie Endowment, but it may well be regarded as a U.S.-Russian joint venture.

Thus, channels for bilateral nonproliferation dialogue at the expert, non-governmental level have been established. This dialogue is not sensitive to changes in official bilateral relations. On the contrary, when these relations deteriorate, when diplomats stop listening to each other or get distorted information, contacts among the NGOs enable the countries to exchange more accurate information, to make calm analysis, to find ways out of stalemates.

Joint activities of the Russian and U.S. NGOs in the area of nuclear nonproliferation resulted in the establishment of the Moscow Forum for Nuclear Nonproliferation. This forum emerged during the Moscow International Nonproliferation Conference held jointly by the PIR Center and the Carnegie Moscow Center in October 2000. The conference brought together more than 200 representatives of 24 states. The opportunity to share ideas was granted not only to experts from North America and Europe, who normally dominate such international forums, but to specialists from Iran, Pakistan, India, Israel, and Cuba.²⁵⁴

The Moscow International Nonproliferation Conference played an important role in shaping an international environment conducive to promoting nonproliferation values. Besides, it was the first time when Russian NGOs were united within one forum. Now that there is a growing trend to establish control of individual rights and freedoms, to create *managed* democracy, it is extremely important for the Russian NGOs dealing with arms control and nonproliferation matters to coordinate their activities. They should jointly resist attempts of some governmental bodies to suppress their activities, to promote public distrust in the third sector.²⁵⁵ Many NGOs working in this area are mature and competent organizations, so we assume that they will be able to protect their independence, freedom of analysis and expression, and opportunities for broad dissemination of information.

²⁵⁴See: "Moskovskaya mezhdunarodnaya konferentsiya po nerasprostraneniyu — novy forum dlya politikov i ekspertov (Moscow International Nonproliferation Conference: A New Forum for Politicians and Experts)". *Yaderny Kontrol*, No. 6, November-December 2000, pp. 4-24. www.pircenter.org/conference/index.htm.

²⁵⁵NGOs are often referred to as the third sector. The two other sectors are government and business.

CHAPTER II. NUCLEAR NONPROLIFERATION AND ARMS CONTROL IN U.S.-RUSSIAN RELATIONS IN THE 1990s

It is known that the problems of horizontal and vertical nonproliferation are regarded in the NPT as interrelated problems and, upon request of the non-nuclear weapon states, this was fixed in Article VI of the treaty. The NPT obliges its States Parties, above all nuclear-weapon states (notably the United States and Russia), to pursue negotiations in good faith on effective measures relating to nuclear arms reduction with the ultimate goal of general and complete disarmament. Nuclear disarmament issues have been a stumbling block at all NPT Review Conferences. The two conferences held most recently (1995 and 2000) were not exceptions.

Nuclear Arms Reduction¹

The most remarkable event in the area of arms control in the 1990s was the signature (1991) and entry into force of the bilateral the *Treaty between the USSR and the U.S. on the Reduction and Limitation of Strategic Offensive Arms* (START I). For the first time in the history of disarmament negotiations, the agreement paved the way for actual reduction in nuclear arms.

The ratification process for START I coincided with the collapse of the Soviet Union and the parties to the treaty had to solve a number of complicated issues relating to the rights of succession. Strategic offensive arms subject to the limitations and reduction were deployed in Russia, Ukraine, Kazakhstan, and Belarus. It took much time for all parties to reach agreement on disputed matters, as we have referred to.

In May 1992, the parties, as we have already mentioned, signed the Lisbon Protocol to START I, which provided for the multilateral character of this treaty and commitments of three FSU nations (except Russia) to eliminate all nuclear weapons on their territory and to join the NPT as non-nuclear weapon states. However, problems remained, especially with regard to Ukraine.

In the end, START I was ratified by Kazakhstan on July 2, 1992, by Russia on November 4, 1992, by Belarus on February 4, 1993, by the United States on October 1, 1993, and by Ukraine on November 18, 1993. The treaty came into effect on December 5, 1994, for the term of 15 years.

¹ Authors are grateful to Alexander Saveliev for his substantial contribution to the preparation of this section.

START I stipulates that by the time the elimination of U.S. and Soviet arms is completed, Russia and the United States will have no more than 1,600 deployed strategic launchers each (ICBMs, SLBMs, and heavy bombers) and no more than 6,000 nuclear warheads on them. There are also sublevels for deployed ICBMs and SLBMs (in total) — 4,900 warheads; for heavy ICBMs — 1,540 warheads; and for mobile ICBMs — 1,100 warheads. The treaty entitles each party to reduce the number of warheads on existing ICBMs and SLBMs to 1,250 warheads, but "the number of warheads attributed to an ICBM or SLBM shall be reduced by no more than four below the number attributed as of the date of signature of this Treaty". If the number of warheads attributed to an ICBM or SLBM of a particular type is reduced by more than two, the reentry vehicle platform of each ICBM or SLBM shall be destroyed and replaced by a new reentry vehicle platform.

The aggregate throw-weight of ICBMs and SLBMs should not exceed 3,600 tons. The treaty also established specific rules for accounting of nuclear munitions of heavy bombers equipped for nuclear armaments other than long-range nuclear ALCMs (with the range of more than 600 km). Each such heavy bomber is counted as one launcher and one warhead. The parties also undertook unilateral commitments to confine the deployment of long-range nuclear ALCMs to 880.

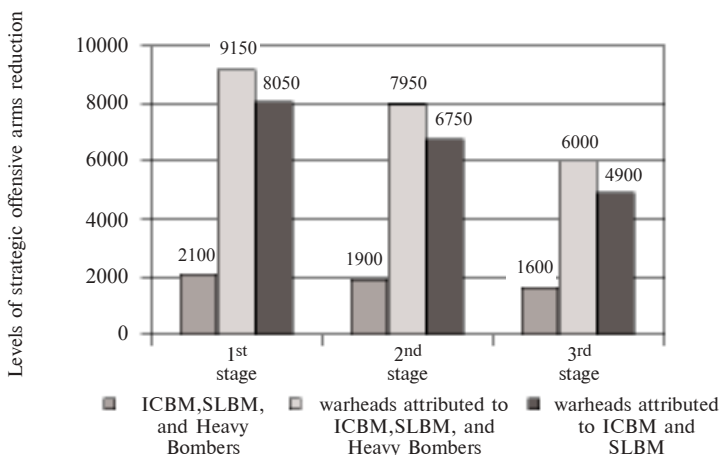
The elimination of strategic offensive arms should be completed within seven years, i.e. by December 5, 2001. Three stages for reduction are envisaged: the first phase should last three years, two others — two years. By December 5, 1997, the parties should have possessed no more than 2,100 deployed strategic launchers with 9,150 warheads, including 8,050 warheads attributed to ICBMs and SLBMs. By December 5, 1999, the parties should have reduced their arsenals to 1,900 launchers with 7,950 warheads, including 6,750 warheads attributed to ICBMs and SLBMs. By December 5, 2001, Moscow and Washington must reach the ceilings of the treaty mentioned above.

Russia has been implementing START I with progressive steps and it could have reached most of the START I levels even in 2000. In any case, by December 5, 2001, START I reductions were to be completed.

The situation was much more complicated, as far as START II was concerned. Russia and the United States signed this treaty in January 1993 to facilitate nuclear disarmament and to ensure more radical reduction in strategic offensive arms — to the level of 3,000-3,500 warheads, including sublevel of 1,700-1,750 warheads attributed to SLBMs. The number of launchers is not limited, but the treaty imposes a ban on MIRVed ICBMs. Unlike START I, START II counts the warheads attributed to heavy bombers in accordance with their real

equipment and enables the parties to reduce the number of warheads on ICBMs and SLBMs (except heavy ICBMs) by removing warheads from the reentry vehicle platform, which is not subject to destruction or replacement. START II has no limitations on the total number of reduced warheads (it may exceed START I level of 1,250), but provides some restrictions for the number of ICBMs of one type, whose warheads shall be reduced (105 ICBMs). 100 of each party's heavy bombers equipped for nuclear armaments other than long-range nuclear ALCMs may be reoriented to a conventional role and will not then be subject to the treaty. In addition, Russia was entitled to convert 90 launchers of heavy ICBMs (out of 204 launchers) to deploy missiles with one reentry vehicle.

Chart 1. Stages and Levels of Strategic Offensive Arms Reduction



Source: Kontrol nad voruzheniyami i voennoy deyatel'nostyu (Arms Control Guide). M., PIR Center, 2001, p. 18.

According to START II, all reduction shall be completed by January 1, 2003. The original text of the treaty (we will speak about the 1997 New York amendments later) provided for two-phase reduction. By December 5, 2001 (seven years after entry into force of START I) the parties should have 3,800-4,250 strategic warheads, including 2,160 warheads attributed to SLBMs, 1,200 warheads of MIRVed ICBMs and 650 warheads attributed to deployed heavy ICBMs. By the end of the second stage, the parties should achieve the objectives of the treaty.

The United States ratified START II in 1996, whereas Russia continued the debate on how well this agreement met Russia's security interests.

Another disputable issue was financial and technical ability to implement START II in compliance with the agreed schedule. As a result, in September 1997, in New York the parties signed a number of documents, including the protocol extending the deadline for fulfillment of START II. The first deadline was moved to December 31, 2004, the second (final) deadline became December 31, 2007. Russia ratified the treaty with these modifications in April 2000.

Thus, although START II is formally ratified, its entry into force seems quite difficult, for in practice, each party has ratified its own variant of the agreement.

As for the United States, Washington's refusal to ratify the modified START II Treaty (i.e. to ratify the extension protocol) is accounted for by the package character of the New York accords, which also comprise demarcation agreements pertaining to strategic and non-strategic missile defense and some other documents that are not acceptable to U.S. legislators. This impedes the second ratification of START II by the U.S. Congress. Moreover, the Clinton administration did not want to risk and did not submit the New York agreements to the Congress, and the Bush administration will, presumably, forget at all about these accords.

However, this does not mean that nuclear disarmament will stop in the near future. The process will be continued, at least, on the part of Russia, and even with accelerated pace. For instance, according to some estimates, by 2002 the Russian SMF should start massive decommissioning of SS-18 and SS-19 (the most powerful missile systems), let alone SS-24, whose decommissioning started in the late 1990s. According to Vladimir Yakovlev, former Commander-in-Chief of the SMF, by late 1999 70% of the service life of Russian ICBMs had expired.

Difficulties for the Navy became worse by the late 1990s, as well. For instance, the Navy has not commissioned any SSBN since 1992. And only one submarine is under construction — SSBN of the *Borei* series. Its construction and commissioning is always delayed, so the most optimistic estimates indicate that *Yury Dolgoruky* (the class vessel of this series) will be commissioned no sooner than 2002, or perhaps even in 2005, or 2008.²

Similar developments are occurring in the Air Force as well. In 1993–1999, Russia did not build any heavy bombers. In 2000, the Kazan plant produced one modern Blackjack aircraft. Experts believe that in several years the number of Russian heavy bombers capable of accomplishing

² *Nezavisimoye Voennoye Obozreniye*, No. 47, December 11–17, 1998, p. 6.

combat missions will decrease to 20-30 aircraft, which will carry no more than 250-300 nuclear warheads.³

Thus, by 2010 Russia may possess no more than 9-10 SSBNs armed with 650-750 warheads and 500 warheads attributed to heavy bombers. As far as ICBMs are concerned, there are different variants of deploying and maintaining the arsenal. If Russia abandons START II restrictions and deploys new MIRVed ICBMs, it may have up to 3,000 warheads. If the treaty is implemented, Moscow may possess only 600 warheads (including 400 warheads attributed to new single-warhead SS-27 Topol-M ICBMs).

By 2010 the Russian SNF may have 1,700-4,000 warheads. About 600-700 of them will be attributed to newly built launchers, such as SS-27 and new SLBMs designed for *Yury Dolgoruky* submarine. Other systems will be decommissioned in the next few years. In other words, Russia will anyhow reduce its arsenal to the levels lower than START II ceilings.

The Russian leadership realizes this gloomy perspective and takes efforts to continue negotiations on strategic offensive arms. START II was supposed to be an intermediary stage before START III and START IV providing for more radical reductions. The implementation of this plan was, nonetheless, impeded by U.S. NMD plans undermining the 1972 ABM Treaty. In addition, since the late 1990s, Washington has seemingly been losing interest in any dialogue with Russia in this sphere. Moreover, President Bush put forward the idea of unilateral reduction of U.S. strategic offensive arms accompanied by deployment of U.S. NMD. The U.S. administration once again raised the issue of the U.S. right to withdraw from the ABM Treaty.

One must admit that in the 1990s, *the problem of missile defense* was the focus of attention of the U.S. and Russian leadership. After six years of unsuccessful talks in Geneva on defense and outer space, where the Soviet Union defended the ABM Treaty in its 1972 version, the parties seemed to find some way out in the early 1990s. These hopes were caused by President Yeltsin's initiatives of January 1992, when the Russian President set forth the idea of a joint U.S.-Russian global system of protection from strategic ballistic missiles. Obviously, this program would have required a fundamental revision of the ABM Treaty and the entire system of mutual deterrence, which determined U.S. and Soviet security policy after World War II.

It turned out later that the Russian leadership, as well as its U.S. counterparts, was not ready for such dramatic change in approach. The initiative failed and

³ *Dogovor SNV-2 i budushcheye strategicheskikh yadernykh sil (START II and the Future of the Strategic Nuclear Forces)*. M., RAU Corporation, 1999, p. 40.

the idea of preserving the ABM Treaty, as the cornerstone of strategic stability, was endorsed by the Russian leadership as an indispensable condition for further deep strategic offensive arms reduction.

The problem became really urgent in the late 1990s, when the Clinton administration began to promote the concept of NMD — limited missile defense to protect the territory of the United States — in violation of the ABM Treaty. The concept raised concerns in Russia, especially among the military and the legislators.

In the course of the START II debate, the issue of preserving the ABM Treaty in its original form was the major condition for the Duma's consent to ratification. The condition of U.S. compliance to the indefinite ABM Treaty (and other arms control agreements) was incorporated in federal law on START II ratification.⁴

Moreover, President Putin, who spoke before the State Duma on the day of the START II ratification (April 14, 2000) declared the list of measures that might be taken by the Russian Federation in response to the abrogation of the ABM Treaty. These steps included Russia's withdrawal from START II and "the entire system of strategic and conventional arms control and limitation agreements".⁵

Thus, in 2000, the Russian leadership finally selected the toughest and the most conservative approach to the future of the ABM Treaty. We presume that the key role in the decision on non-modification was played by the MOD — the strongest opponent of the U.S. NMD plans and any modification of the ABM Treaty.

After START II ratification, the Russian leadership was actively mobilizing support and strengthening its positions. The preservation of the ABM Treaty seemed to be the utmost priority of Russian security policy; it was likely to be more important than further process of nuclear arms reduction and entry into force of START II.

In any case, in the course of U.S.-Russian summits the Kremlin emphasized the problems of strengthening strategic stability and preserving the ABM Treaty and insisted on U.S. ratification of the 1997 New York Agreements to ensure smooth entry into force of START II. The issue of the ABM Treaty was raised at practically every meeting by President Putin with the heads of foreign states. Any support they granted to the ABM Treaty was advertised as a great victory of Russian policy and diplomacy.

⁴ Federal Law "On Ratification of START II". *Rossiyskaya Gazeta*, May 6, 2000.

⁵ Records of the State Duma's plenary session, April 14, 2000.

One has to admit that Vladimir Putin's efforts in this direction yielded certain results. It turned out that not all Western leaders, including U.S. NATO allies, were so eager to back U.S. NMD plans. Moreover, the United States under President Clinton had quite an ambiguous position. On the one hand, the President and the Secretary of State pledged their commitment to the ABM Treaty. On the other hand, they proposed such amendments that would have brought this agreement to naught.

Russia realized that it would be counterproductive to base its policy on mere repudiation of the U.S. approach. So, Moscow laid down an alternative to strategic missile defense. The Kremlin proposed to develop a joint TMD with Western Europe to protect Russia and European nations from ballistic missiles. This idea was first set forth in the course of President Putin's working visit to Italy in June 2000 — on the eve of the Putin-Clinton summit. The Russian President asked Italian Prime Minister Giuliano Amato to become a mediator and to test the ground in other European capitals.

President Putin also suggested that U.S. partners should be involved, but it was clear that this proposal was aimed at exerting more pressure on the United States in order to preserve the *status quo* fixed in the 1972 ABM Treaty and the related protocol of 1974.

We presume that President Putin's initiative was tactically well-thought-out and approved by the MOD and the MFA. Several days later, Defense Minister Igor Sergeyev explained at the meeting of the Russia-NATO Permanent Joint Council in Brussels the Russian vision of the European missile defense system.

Among areas of possible cooperation with NATO, Russia named:

- joint assessment of the character and scale of missile proliferation and possible missile threats;
- joint development of concepts of the pan-European non-strategic missile defense, the procedure for its creation and deployment;
- joint establishment of the pan-European multilateral center for early warning of missile launches;
- joint staff exercises;
- joint research and experiments;
- joint development of non-strategic missile defense systems;
- development and formation of non-strategic missile defense for joint or coordinated activities to protect peacekeepers and civilian population.

Russia declared that it was ready for even closer cooperation in this sphere, but only if the ABM Treaty was preserved.

One has to point out that the Russian diplomacy had to make certain concessions within the framework of this initiative. Namely, it had to meet the position of China — the strongest supporter of the ABM Treaty, which backs Russia's efforts (as Vladimir Putin's visit to Beijing demonstrated in mid-July 2000). Beijing opposes any TMD programs not subject to the restrictions of the ABM Treaty. This is why Russia put forward the idea of joint missile defense for Europe and not for the entire global community (albeit Russia maintained that it was willing to cooperate with practically any state in this area).

As far as strategic aspects of the initiative were concerned, a number of Russian independent analysts called into question the compatibility of the project with the goal of preserving the ABM Treaty.

The very fact of proposing TMD for Europe indicates that Russia recognizes the threat of ballistic missile attack on the part of unpredictable regimes and admits that military-technical means may help to diminish this danger, if not eliminate it. In other words, such initiative backs the U.S. arguments concerning the need to deploy missile defense to ensure protection from third states.

Besides, authors of the Russian initiative did not take into account that the driving force for U.S. NMD deployment is not only the threat of nuclear and missile proliferation, but also the very development of TMD, including existing plans and ideas of deploying such systems in different regions. Development of the protection system for Europe will intensify the campaign for NMD deployment in the United States to protect its territory as well. And the closer Europe is to TMD, the stronger the pressure the U.S. executive and legislative branches will feel from the proponents of NMD.

Thus, by the late 1990s, U.S.-Russian relations, if not confrontational, showed some alarming signs of *cooling off* in the sphere of arms control. If the United States takes a tough position on the ABM Treaty, Russia will let the United States take responsibility for unilateral withdrawal from this agreement.

At the same time, such a turn of events will hardly suit both parties, for aggravation of U.S.-Russian relations will be profitable only for China; Beijing will have serious arguments in favor of strategic nuclear buildup. As far as countermeasures are concerned (mentioned by President Putin in April 2000⁶ and June 2001⁷), they can hardly be carried out, bearing in mind the difficult economic situation in the country. Moreover, one

⁶ Records of the State Duma's plenary session, April 14, 2000.

⁷ Answers by President Putin to the journalists after the Russian-Austrian high-level talks, June 23, 2001.

may presume that in the first decade of the 21st century Russia will reduce the number of its strategic nuclear weapons, regardless of U.S. actions.

This is proved by the fact that, despite the allegedly growing importance of nuclear weapons in maintaining national security (reflected in the National Security Concept and the Military Doctrine), the role of the nuclear factor is diminishing in practice, as far as military production plans are concerned. As for the United States, President Bush points out that Washington will rely more on defensive, rather than offensive weapons. One cannot rule out the possibility that the U.S. administration will undertake unilateral reduction in strategic offensive arms to levels lower than the START II ceilings.

Thus, despite all difficulties and differences, one may expect that in the first decade of the 21st century the process of nuclear disarmament will continue (at least, on the part of Russia and the United States). This process may take the form of unilateral actions of both sides in accordance with their own modernization plans and economic capabilities. If the parties succeed in avoiding confrontation with respect to defensive systems, the prospects for deeper reduction in strategic offensive arms will be even more realistic than before (when the parties followed traditional negotiations and legal-binding agreements).⁸

The architecture of existing arms control agreements contain another significant component — the *INF* Treaty signed by Presidents Gorbachev and Reagan on December 8, 1987. Russia and the United States committed to eliminate all land-based medium-range missiles (1,000-5,500 km), all shorter-range missiles (500-1,000 km), their launchers, auxiliary equipment and sites, regardless of their location.

The INF Treaty prohibited flight tests of the aforementioned missiles, their production and commissioning.

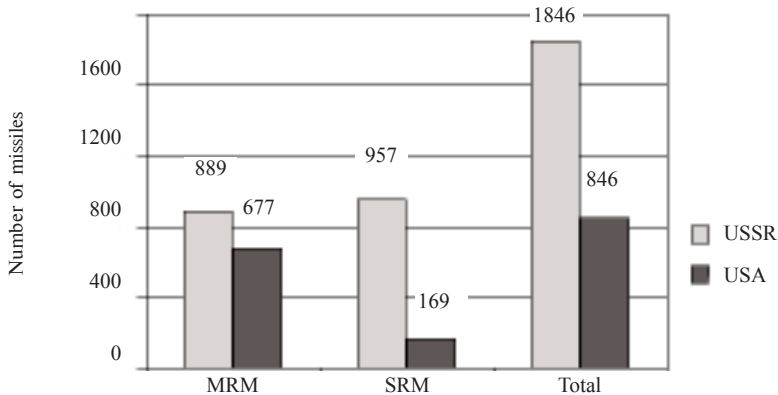
Before the elimination, medium-range and shorter-range missiles were deployed at 31 U.S. sites, including bases in the U.K., West Germany, Italy, Belgium, and the Netherlands. The Soviet Union had 116 sites: 43 in Russia, 66 in other FSU nations, six in DDR, and one in Czechoslovakia.⁹ The missiles subject to elimination were destroyed during the first three years after its entry into force. By June 1, 1991, the United States eliminated 846 missiles and the Soviet Union destroyed 1,846 missiles. On July 1, 1988 the Soviet Union got the right to send its inspectors (groups of up to 10 people) to U.S. sites, and U.S. inspectors visited Soviet sites. In the last 13 years, the parties performed oversight

⁸ *Segodnya*, May 23, 2000.

⁹ *Vremya Novostei*, May 22, 2001.

of former missile bases and non-production of medium-range and short-range missiles. 1,200 mutual inspections involving more than 20,000 specialists took place. On May 21, 2001, the parties signed in Moscow the document on the completion of inspections under the INF Treaty.

Chart 2. The Amount of U.S. and Russian Intermediate-Range Missiles Subject to Elimination



Note: The chart is based on the data presented by Gen. Valery Manilov, Deputy Chief of the General Staff of the Russian Armed Forces at the ceremony concerning the completion of inspections under the INF Treaty. See: *RIA Novosti*, May 21, 2001.

Russia has repeatedly stated at the official level and at the level of some experts¹⁰ that it may withdraw from the INF Treaty in response to U.S. withdrawal or abrogation of the ABM Treaty. However, we believe that Russia is interested in preserving the INF Treaty even if bilateral relations deteriorate.

Unlike strategic offensive arms, *tactical nukes* are not covered under U.S.-Russian arms control agreements. Significant achievements in this area in the 1990s resulted from unilateral initiatives by the parties.

On September 27, 1991, President Bush declared unilateral reduction in tactical nuclear weapons. The U.S. initiative provided for elimination of all land-based TNW, including nuclear warheads attributed to short-range missiles, and nuclear artillery projectiles. TNW were to be removed

¹⁰This was the statement by CIC of the SMF Vladimir Yakovlev of June 21, 2000, before the graduates of the Peter the Great Academy. One of the first non-governmental experts who advocated withdrawal from the INF Treaty in response to NATO expansion and then to U.S. NMD plans was Nikolai Sokov. See Nikolai Sokov, "Takticheskoye yadernoye oruzhieL novye geopoliticheskiye realnosti ili starye oshibki (Tactical Nuclear Weapons: New Geopolitical Reality or Old Mistakes)". *Yaderny Kontrol*, No. 26, February 1997, p. 5.

and consolidated at central locations, including nuclear SLCMs, nukes of surface ships, aircraft carriers, attack submarines and naval aircraft. Some of these U.S. warheads would be eliminated. At the same time, the United States kept air-based nuclear munitions in Europe. The initiative followed the failed attempt of the August coup in the Soviet Union and was caused by growing concerns regarding the efficacy of nuclear weapons control in the USSR. The Bush statement was made to provoke reciprocal measures on the part of the Soviet Union.¹¹

The Soviet Union started withdrawal of tactical nukes to the Russian territory in the late 1980s on the initiative of the military, which were afraid of losing control of nuclear weapons due to the growing independence of the Soviet republics and escalation of inter-ethnic conflicts in some regions of the USSR. By that time, all 15 republics had tactical nuclear weapons on their territory. According to some estimates, 12,320 warheads were deployed on the Russian territory, 2,345 in Ukraine, 1,180 in Belarus, 330 in Kazakhstan, 325 in Lithuania, 185 in Latvia, 125 in Turkmenistan, 105 in Uzbekistan, 90 in Moldova, 320 in Georgia, 270 in Estonia, 200 in Armenia, and 75 warheads each in Tajikistan, Azerbaijan, Kyrgyzstan.¹² Tactical nukes were primarily withdrawn from the most distant regions of the USSR — Central Asia and the Caucasus. By late 1991 tactical nukes had been withdrawn from all republics, except the territories where strategic offensive arms were deployed (Belarus, Kazakhstan, Ukraine). The Soviet Union conducted simultaneous withdrawal from Eastern Europe and completed it by late June 1991.

On October 5, 1991, President Gorbachev set forth the Soviet initiatives on tactical nuclear arms, which were confirmed by President Yeltsin on January 29, 1992 on behalf of Russia. Soviet initiatives were similar to U.S. ones and had only some minor distinctions. The USSR pledged to destroy all nuclear demolition devices and to withdraw nuclear warheads of air defense missiles, which the United States did not possess.

On December 21, 1991, Russia, Belarus, Ukraine and Kazakhstan signed the Agreement on Joint Measures to Control Nuclear Weapons. Article 6 of the document envisaged complete withdrawal of tactical nuclear munitions to the Russian territory by July 1, 1992.¹³

¹¹William Potter, Nikolai Sokov, "Tactical Nuclear Weapons: The Nature of the Problem and Some Recommendations". *Yaderny Kontrol*, No. 4, July-August 2000, p. 31.

¹²Alexander Kononov, "Forgotten Nukes: Tactical Nuclear Weapons." www.uspid.dsi.unimi.it/proceed/cast97/kono.html.

¹³Vitaly Yakovlev, unpublished manuscript (submitted to the PIR Center for publication). June 2001.

In 1997, the NATO-Russia Permanent Joint Council (PJC) emerged as a venue for exchanges of information with respect to TNW reductions. In 1999, in the wake of the NATO bombing of Yugoslavia, contacts in the PJC were severely limited and information exchanges on TNW stopped. U.S.-Russian bilateral contacts did not lead to any understanding on TNW or conclusion of any legal-binding bilateral agreement with sound verification mechanisms. Nowadays, there is no full data on the process of TNW reduction.¹⁴

In his speech at the 2000 NPT Review Conference, Foreign Minister Igor Ivanov emphasized that Russia had adhered to its unilateral initiatives and TNW had been withdrawn from surface ships, multipurpose submarines, and land-based naval aircraft and stored at central locations.¹⁵

Moreover,

- in 1995, Russia eliminated one third of tactical nukes attributed to sea-based launchers and naval aircraft;
- in 1996, half of nuclear warheads for air defense missiles and all gravity bombs were eliminated;
- in 1998, all nuclear mines were destroyed;
- in 2001, Russia plans to complete elimination of all nuclear warheads for de-alerted tactical missiles and nuclear artillery projectiles.¹⁶

Thus, despite the unilateral character of the initiatives, the parties have managed to achieve substantial reduction in tactical nuclear weapons. Presumably, after the elimination of TNW each party will have 2,500-3,000 warheads, whereas in the late 1980s, according to different estimates, the Soviet and U.S. nuclear arsenals comprised 11,000-20,000 and 8,000 warheads respectively.

Meanwhile, the future of TNW is beyond active U.S.-Russian discussions. This issue is pending its inclusion in the agenda of negotiations, but this will hardly happen in the near future.

U.S. Cooperative Threat Reduction Assistance Programs to Russia

In the early 1990s, a new set of nonproliferation tasks for Russia and the USSR emerged.

¹⁴William Potter, Nikolai Sokov, "Tactical Nuclear Weapons: The Nature of the Problem and Some Recommendations". *Yaderny Kontrol*, No. 4, July-August 2000, p. 31.

¹⁵Statement by Minister of Foreign Affairs of the Russian Federation Igor Ivanov at the NPT Review Conference, New York, April 25, 2000.

¹⁶Vitaly Yakovlev, unpublished manuscript (submitted to the PIR Center for publication). June 2001.

Firstly, in the late 1980s, the Soviet military began to withdraw tactical nukes from Eastern Europe and the Soviet republics for security reasons. Secondly, on July 31, 1991, the U.S. and the USSR signed START I providing for large-scale nuclear arms reduction. Thirdly, the collapse of the Soviet Union and denuclearisation of Belarus, Kazakhstan and Ukraine raised the issue of swift transportation of nuclear warheads to Russia.

Under these circumstances and in an aggravated economic and criminal situation in Russia, timely dismantlement of nuclear weapons and safe and secure transportation of nuclear munitions were constantly threatened. Enormous material and human resources were required to solve the problem of disposition of nuclear material released as a result of nuclear arms reductions.

The assistance programs to Russia and other FSU nations became a significant tool for strengthening the nuclear nonproliferation regime.

One of the main areas of joint U.S.-Russian activities is cooperation in dismantlement and disposition of nuclear weapons and delivery systems within the framework of the *Cooperative Threat Reduction Program (CTR)*.

On December 12, 1991, the U.S. Congress passed the Soviet Nuclear Threat Reduction Act sponsored by Senator (D) Sam Nunn and Senator (R) Richard Lugar. The program was aimed at assisting FSU states, above all Russia, in safe and secure storage, transportation, dismantlement and destruction of nuclear, chemical and other WMD and at creating efficient mechanisms to prevent their proliferation. About \$400 million were appropriated for the DOD budget for FY1992.¹⁷

On October 11, 1993, the United States adopted the National Defense Authorization Act, which gave a detailed description of the U.S. programs of assistance. The law provided for funding for U.S. DOD in five major areas:

- dismantlement and elimination of nuclear weapons and other types of WMD and delivery systems;
- prevention of proliferation of nuclear weapons and other types of WMD;
- assistance in preventing the drain of WMD specialists to the Third World countries and terrorist groups;
- support to activities of the FSU states in the area of conversion of defense industries;

¹⁷Soviet Nuclear Threat Reduction Act of 1991. November 27, 1991. www.fas.org/nuke/control/ctr/docs/hr3807.html.

- expansion of military-to-military contacts between the United States and the FSU states.¹⁸

The implementation of the Nunn-Lugar Program is regulated by bilateral agreements between the U.S. and FSU states. The U.S.-Russian Agreement Concerning the Safe and Secure Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation was signed on June 17, 1992 for a seven-year term and extended in 1999 until June 15, 2006.

Russia eliminates its nuclear launchers — ICBMs, SLBMs, and heavy bombers, as well as dismantlement of launching sites for SLBMs and ICBMs — within the CTR framework. At the program's inception, Russia already had dismantlement bases for SLBMs and ICBMs, and therefore needed some modernization and expansion of their capacity. For instance, the dismantlement facility in Surovatikha (Nizhny Novgorod region) received cranes, mills, plasma cutters, tractors, presses for scrap reprocessing, de-fueling and fuel neutralization systems.

Destruction of rocket fuel was a serious problem, since Russia had no industrial capacity for its disposition. According to some experts, the amount of liquid propellant subject to disposition amounted to 153,000 tons. By late 1996, the United States supplied Russia with 125 railcars and 670 supercontainers for transportation of fuel to interim storage facilities. In 1999, two liquid fuel reprocessing plants were built near Krasnoyarsk (by U.S. companies — *Thiokol* and *Allied Signal*).¹⁹

Russian industry was even less ready to dispose of solid rocket fuel. The enhanced environmental and safety standards made old methods of elimination (used during implementation of the INF Treaty) unacceptable. After long hesitation and protests of local authorities Russia decided to build a fuel incineration plant in Votkinsk (Udmurtia). The plant will become operational in 2003.

Similar programs emerged with respect to dismantlement of nuclear-powered submarines. Shipbuilding yards capable of performing this work were not ready to dismantle such a large number of subs. In early 1993, the number of decommissioned nuclear-powered submarines amounted to 90, in March 1995 — 126, in late 1998 — 170²⁰, and in January

¹⁸FY94 National Defense Authorization Act. Public Law 103-160. November 30, 1993. www.fas.org/nuke/control/ctr/docs/hr2401.html.

¹⁹Vladimir Orlov, Nikolai Sokov (eds.), *Yadernoye nerasprostraneniye (Nuclear Nonproliferation Textbook)*. M., PIR Library Series, 2000, p. 388.

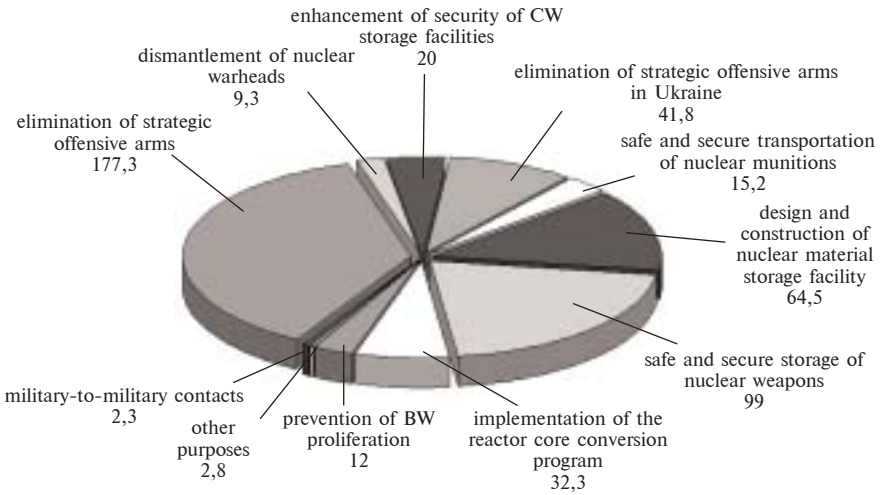
²⁰Ivan Safranchuk (ed.), "CTR Program: How Efficient?" *PIR Study Paper*, No 13, 2000, p. 26.

2001 — 184.²¹ The United States supplied Russia with various equipment for submarine dismantlement within the CTR framework: magnet cranes, cutters, excavators with dismantlement cutters, guillotines, rope cutters, metal scrap reprocessing equipment. This enabled, for instance, *Nerpa* shipbuilding plant to dismantle 10-15 submarines per year.²²

In the early 1990s, the United States also assisted the denuclearization of Belarus, Kazakhstan and Ukraine and the safe and secure transportation of nuclear munitions to Russia. For this purpose, Russia was supplied with 4,520 Kevlar ballistic blankets, 150 supercontainers, railcar conversion kits (for 117 railcars), and five rapid reaction systems. U.S. equipment was used to develop the computer system to monitor movements of nuclear munitions.²³

In 2000, the United States appropriated \$475.5 million to the CTR Program.

Chart 3. CTR Expenditure in FY2000 (\$, mln.)



Note: The chart is based on Public Law No. 106-65, usgovinfo.about.com/library/weekly/aa040900a.htm.

²¹Valery Syomin, International Financial and Technical Assistance to Russia in Strengthening the Nonproliferation Regime. *PIR Arms Control Letters*, September 28, 2001.

²²*Ibid.*, p. 37.

²³Vladimir Orlov, Nikolai Sokov (eds.), *Yadernoye nerasprostraneniye (Nuclear Nonproliferation Textbook)*. M., PIR Library Series , 2000, p. 385.

In 2000, the SMF received \$10.2 million worth of equipment and materiel to eliminate silo launching sites and ICBMs. A substantial amount of assistance in 2000 was provided for rehabilitation activities. 20 items (bulldozers, excavators, etc.) were supplied to the SMF (\$4 million).

Within the framework of the inter-agency agreement between the DOD and the MOD, in 2000 the 12th GUMO received 59 sets of hardware, 38 servers, software, 10 snow-ploughs, 10,000 items to analyze drugs, 80 video kits for the guard, 50 mini-tractors, 200 km of physical protection means, 500 km of cables, meteorological stations, 11 technical assistance vehicles, two polygraphs (lie detectors), 16 electricity generators; 75 railcars were repaired and computer equipment was checked.²⁴

In general, the CTR Program contains more than 30 unique projects. About 14,000 Russian specialists are involved.²⁵ The U.S. DOD received more than \$2.3 billion for CTR Programs in Russia and the CIS (1992-2000),²⁶ but only 40% of these funds were spent. However, Russian participants praise the importance of the program for the maintenance of the nonproliferation regime. According to Yevgeny Maslin, former head of the 12th GUMO,

"Could we then have solved the problem on our own? Perhaps, yes, but it would have required titanic efforts and, given Russia's difficult financial-economic situation, the process of enhancing security wouldn't have been as fast as was necessary, due to the aforesaid circumstances and security challenges. The CTR program has played a remarkably positive role. Nowadays we can admit that the U.S.-Russian cooperation in enhancing storage and transportation security of nuclear warheads encouraged Russia to start solving the problems of nuclear arms proliferation prevention and to reduce the risk of nuclear terrorism."²⁷

To prevent illicit nuclear trafficking in Russia (in a deteriorating situation in terms of crime and ineffective MPC&A systems) in the early 1990s, the parties launched the *MPC&A Program*.

According to U.S. assessments, after the demise of the Soviet Union, Russia possessed more than 600 tons of HEU and weapons-usable plutonium (beside nuclear material in nuclear warheads) on its territory. The United States was concerned about the safety and security

²⁴Vasily Lata, Yevgeny Maslin, Programma SUU i eyo realizatsiya v Rossii (CTR Program and Its Implementation in Russia). March 1, 2001. YADRO Database, Doc. No. 6776.

²⁵Thomas Kuenning, "Programma SUU (CTR Program)". *Yadernoye Rasprostraneniye*, Issue 29-30, April-June 1999, p. 47.

²⁶Cooperative Threat Reduction. www.fas.org/nuke/control/ctr.

²⁷Yevgeny Maslin, "The CTR Program and Russia's National Security Interests". In: Ivan Safranchuk (ed.), "CTR Program: How Efficient?" *PIR Study Paper*, No. 13, 2000, p. 5.

conditions of nuclear material storage. For instance, Director of Intelligence John Deutsch once said that MOD facilities in Russia and in other NIS countries did not have appropriate security mechanisms compatible with international standards in order to ensure safe and secure storage of weapons-usable nuclear material. Besides, he believed that nuclear materials and technologies became more available than ever before after the collapse of the Soviet Union and aggravation of the economic situation in the region.²⁸

Physical protection of nuclear material in the USSR was based on control of personnel and relied less on technical control systems. The collapse of the Soviet Union, an impoverished population and loose state control led to the diminishing effectiveness of this system. Cooperation within the MPC&A Program provides for scientific, technological and material assistance to Russia in developing a modern state MPC&A system and in enhancing such systems at nuclear facilities.

The cooperation started on September 2, 1993, when the parties signed the inter-governmental agreement on cooperation in the area of MPC&A. The funding was provided by the DOD within the CTR framework.

The first two years of implementation yielded modest results, due to a lack of trust between the parties and Minatom's unwillingness to grant access to U.S. DOD specialists to weapons-usable fissile material storage facilities.

In 1994, Russian research institutions and U.S. national laboratories began to establish direct contacts. The first umbrella agreement was concluded by the VNIIEF in Sarov and the Los Alamos National Laboratory. The aim of the lab-to-lab cooperation was to facilitate interaction in preventing proliferation of nuclear weapons. People involved in nuclear arms production knew better than others how dangerous proliferation of nuclear material was. So, the major area of the lab-to-lab activities in 1994-1996 was modernization of MPC&A systems at Russian nuclear facilities. Another field of interaction was joint research in hi-tech civilian production. The project was aimed at mobilizing financial support for Russian nuclear scientists and hence, diminishing the risk of proliferation of nuclear knowledge to threshold states. However, it would be wrong to speak about *profits* only for Russia coming from lab-to-lab cooperation. According to an associate of the Center for Global Security Studies of the Lawrence Livermore National

²⁸See: *Problemy rasprostraneniya. Analiz deyatel'nosti SShA po obespecheniyu bezopasnosti yadernykh i drugikh vysokoopasnykh materialov i tekhnologiy v stranakh byvshego SSSR* (Proliferation Problems. Analysis of the U.S. Activities to Ensure Security of Nuclear and Other Hazardous Materials in the FSU States). Kirov, 1998, p. 107.

Laboratory, joint research enables the United States to develop and study new technologies with 12-times lower costs.²⁹

The MPC&A activities were reinvigorated in September 1995, when the U.S. DOE was charged with implementation of the program. Since 1997, the funding has increased and went directly to the DOE.

After the August 1998 financial crisis in Russia, the program began to focus on the construction of centralized nuclear material storage facilities. The number of nuclear material storage facilities has diminished, larger facilities were built and this better ensured their physical protection. For instance, the number of storage facilities for fresh fuel for nuclear-powered submarines decreased from 20 to two. At NPO *Luch* in Podolsk, the number of HEU facilities was reduced from 30 to five.³⁰

In 1999, the Russian Navy and the DOE agreed to consider the possibility of expanding cooperation in enhancing security and safety of spent nuclear fuel of nuclear-powered submarines.³¹ Nowadays, the storage facilities in the Far East and Far North contain more than 38,000 fuel rods of nuclear submarines, which require effective physical protection.³² According to Russian and U.S. experts involved in the program, the cooperation with the Navy was one of the most productive projects.

Within the framework of the MPC&A Program, the U.S. DOE funds the training of young specialists in this area. Since September 1997, the Moscow Engineering Physics Institute (MEPhI) has been maintaining a master program composed and implemented by leading experts of Minatom, *Gosatomnadzor*, and a number of U.S. national laboratories. The PIR Center lecture course, "*Nuclear Nonproliferation: Legal, Political, and Economic Aspects*" plays an important part in the realization of the program. The U.S. DOE supported the establishment of a similar training center in Obninsk.

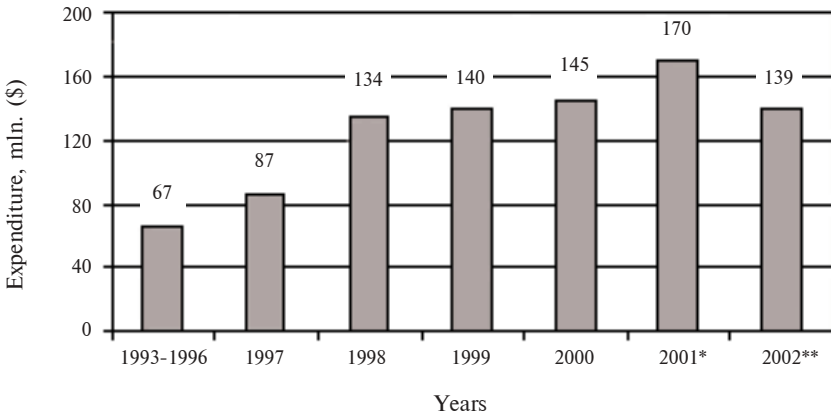
²⁹Transforming the Russian Nuclear Weapons Complex: the Role of Non-Governmental Institutions. Summary of Conference Proceedings and Recommendations for Future Action. Russian-American Nuclear Security Advisory Council, June 2000.

³⁰Matthew Bunn, *The Next Wave: Urgently Needed New Steps To Control Warheads and Fissile Material*. Carnegie Nonproliferation Project & The Harvard Project on Managing the Atom, 2000, p. 33.

³¹Oleg Bukharin, Matthew Bunn, Kenneth Luongo, *Renewing the Partnership. Recommendations for Accelerating Action to Secure Nuclear Material In the Former Soviet Union*. Russian-American Nuclear Security Advisory Council, August 2000, p. 60.

³²James Clay Moltz, "Russian Nuclear Submarine Dismantlement and the Naval Fuel Cycle". *Nonproliferation Review*, Vol. 7, No. 1, Spring 2000, p. 83.

Chart 4. MPC&A Program Expenditures (\$, mln.)



* — funds appropriated by the Congress for the MPC&A Program for FY2001

** — funds requested from the Congress by the Bush administration for FY2002

Note: The chart is based on *The MPC&A Program in Russia*. Newly Independent States databases, cns.miis.edu.

The MPC&A Program covers more than 250 facilities in 40 Russian cities. By February 2001, the parties nearly completed installation of MPC&A systems at 115 facilities containing 192 tons of HEU and plutonium. The program funding amounts to \$750 million (for more information on allocated funds see Chart 4). The U.S. DOE plans to make the integrated MPC&A systems operational at all facilities by 2011. Financial assistance will be provided until 2020 and total expenditure will be about \$2.2 billion.³³ However, the prospects for the program under the new U.S. administration are quite unclear. In 2002, the Bush administration plans to cut expenditure on MPC&A by 20%.³⁴

The MPC&A Program is designated to enhance the first line of defense.

In 1997, the U.S. DOE and the GTK started the implementation of the "*Second Line of Defense*" Program aimed at equipping customs checkpoints with radiation control devices.

³³US General Accounting Office. Nuclear Nonproliferation: Security of Russia's Nuclear Material Improving; Further Enhancements Needed. GAO-01-312, www.gao.gov, February 2001.

³⁴Budget Highlights: Fiscal Year 2002 Budget Request. U.S. Department of Energy.

The first step was signature of the Protocol on Cooperation between the U.S. Department of Energy and the Russian Federation State Customs Committee on June 18, 1998. The major elements of this cooperation are:

- upgrading existing systems and equipment to detect nuclear materials through joint efforts to improve their quality and reliability;
- expanding deployment of detection equipment at border checkpoints and its harmonization within a single network;
- enhancing the capabilities of Russian customs educational institutions to train specialists in the area of detecting and identifying nuclear and nuclear-related dual-use materials and goods through training personnel, elaborating educational programs, and providing necessary equipment;
- enhancing the capabilities of search and identification of nuclear material.³⁵

On August 2, 1998, the system for detection of radioactive material was installed in the international terminal of Sheremetyevo-1 airport. U.S. Secretary of Energy Bill Richardson, who attended the opening ceremony, demonstrated the effectiveness of the equipment by trying to pass through the gates carrying a briefcase with radioactive material. Alarms went off.³⁶

The first joint cooperation encounter between the U.S. DOE and the GTK was considered to be successful and the United States announced their intention to spend \$137 million in 1999-2000 to arm key checkpoints in Russian ports, airports and customs points on Russian borders.³⁷ In FY1999 the program received only \$3 million.³⁸ However, the particularity of the "*Second Line of Defense*" Program is that 70-80% of appropriated funds reach Russia (in comparison with 20-40% of funds appropriated for other U.S.-Russian programs and spent in Russia).³⁹

Despite U.S.-Russian tensions caused by NATO operation in Yugoslavia in March 1999, the "*Second Line of Defense*" Program received U.S. funding on time. In July 1999, the equipment installed at Streletskoye customs checkpoint (Astrakhan) became operational. The customs officers received *Yantar* radiation control systems designated for detection of radioactive material in railcars.⁴⁰ In early October 1999, the parties

³⁵Alexei Gromov, "Cooperation between the GTK and the U.S. DOE under the "Second Line of Defense" Program". In: Ivan Safranchuk (ed.), "CTR Program: How Efficient?" *PIR Study Paper*, No. 13, 2000, p. 43.

³⁶*Izvestiya*, September 3, 1998.

³⁷*Ibid.*

³⁸See the Web site of the Nonproliferation and Disarmament Foundation, www.ndf.org.

³⁹Vladimir Orlov, Nikolai Sokov (eds.), *Yadernoye nerasprostraneniye (Nuclear Nonproliferation Textbook)*. M., PIR Library Series, 2000, p. 382.

⁴⁰www.cry.ru with reference to *IA Volga* (Astrakhan).

completed installation of similar equipment at the customs checkpoint in Olya port (Astrakhan). These devices enable Russian customs officers to control railcars and vehicles.⁴¹

It is noteworthy that the customs authorities are equipped with technical means of radiation control developed and manufactured by Russian enterprises. The Russian systems were developed, in accordance with the GTK technical assignment, and passed numerous tests with U.S. participation. This is why the U.S. agreed that the border should be armed with the Russian equipment, although previously it had planned to use U.S. devices.

Stationary customs systems for detection of fissile and radioactive materials — *Yantar* — are manufactured by *Aspekt* plant from Dubna (Moscow region). *Yantar* is the only system among many European and U.S. devices that has been tested and approved by the Los Alamos National Laboratory and has the appropriate certificate proving its compliance with U.S. standards.

The costs of one railroad (car) control system is \$35-40,000; for foot crossing control — \$14,000. The production and installation is funded by the U.S. Congress via the U.S. DOE as part of the "*Second Line of Defense*" Program.⁴²

In 2000, the parties continued cooperation, despite substantial funding cuts (the amount authorized did not exceed \$1 million).⁴³ In April a control system was installed in the port of Vladivostok, in October three modifications of the system were tested in the port of Rostov. The railroad modification is absolutely unique: it examines the passing train and if radioactive material is detected, the number of the car is transferred to the control panel. The system was tested on the Russian-Ukrainian border.⁴⁴

The appropriated funds were also used to equip 18 customs points serving the legal export and import of nuclear and radioactive material. Terminals are armed with devices capable of identifying the isotope composition of imported and exported items. Hence, it would be impossible to export cargoes different than those declared.

Branches of the Russian Customs Academy were also equipped with the necessary devices for radiation control and computers to facilitate the

⁴¹*RIA Avers*, 1999.

⁴²*Ibid.*

⁴³Scott Parrish, Tamara Robinson, "Efforts to Strengthen Export Controls and Combat Illicit Trafficking and Brain Drain". *Nonproliferation Review*, Vol. 7, No. 1, Spring 2000, p. 119.

⁴⁴*Vremya Novostei*, October 23, 2000.

training of customs officials in organizing and performing customs control over nuclear and radioactive materials.

The decision on equipping this or that checkpoint is taken by the GTK together with U.S. DOE officials — this causes some problems. In the course of selection, the U.S. colleagues suggested equipping the most dangerous sites, in view of the threat from the South (Iran, Iraq, and South Asia) and the Far East (China and North Korea). Russia has its own priorities, but they are not always accepted by the Americans.

As the customs authorities become better equipped, the number of cases of discovered illicit trafficking increases. If in 1995, when the GTK detected only five cases,⁴⁵ in 1998 there were 100 incidents, in the first ten months of 1999 — 150 cases on the southern borders of Russia alone.⁴⁶ The number of incidents relating to illicit export is nearly equal to that of illicit import of nuclear materials.

Bilateral nuclear arms reduction led to another serious problem — *disposition of weapon-grade nuclear material (HEU and plutonium) extracted from dismantled nuclear munitions.*

The scale of this task can be realized if one takes into account the amount of weapons-usable fissile material in the United States and the Soviet Union: in 50 years Moscow has fabricated about 125 tons of plutonium and 1,050 tons of HEU and Washington has accumulated about 100 tons of plutonium and 650 tons of HEU.⁴⁷

In the early 1990s, Russia and the United States began cooperation in the area of disposition of weapon-grade nuclear material. On February 13, 1993, *the parties signed the inter-governmental agreement on the use of excess HEU (the HEU-LEU deal).*

On January 14, 1994, Moscow and Washington signed an executive contract. According to this document, Russia will supply the United States with LEU for 20 years. This uranium is to be blended with 500 tons of HEU. The approximate amount of the contract is about \$12 billion, but the LEU prices can be reviewed annually. The Executive Authority on the Russian part is AO *Techsnabexport* and on the U.S. side, is *USEC*. According to the schedule, in 1995 Russia had to supply six

⁴⁵Scott Parrish, Tamara Robinson, "Efforts to Strengthen Export Controls and Combat Illicit Trafficking and Brain Drain". *Nonproliferation Review*, No. 1, Vol. 7, Spring 2000, p. 119.

⁴⁶*Vremya Novostei*, October 23, 2000.

⁴⁷David Albright, Frans Berkhout, William Walker, *Plutonium and Highly Enriched Uranium 1996. World Inventories, Capabilities and Policies*. NY, Oxford University Press, 1997.

tons of blended HEU, in 1996 — 12 tons, in 1997 — 18 tons, in 1998 — 24 tons, and starting in 1999 — 30 tons of blended HEU per annum.

The United States insisted on separating the price of LEU imported from Russia into the price of natural uranium and the price of enrichment activities. For instance, to obtain one kilo of LEU with 4.5% enrichment, one should use 10 kg of natural uranium and six units of separation work.

According to the Russian technology, uranium with 90% uranium-235 is blended with 1.5% enriched uranium. Thus, blending one kilo of 90% uranium-235 makes 32 kg of LEU.

In the executive contract, the price of one kg of natural uranium was \$28.50 and one unit of separation work cost \$82.10. Thus, the price of one kg of LEU is \$780, of which 37% is the price of natural uranium.⁴⁸

On June 23, 1995, the United States received the first lot of LEU (equivalent of 0.786 tons of HEU). In 1995-1996, Russia received \$431 million — the United States paid for both components (work and natural uranium).

After two years of successful implementation of the HEU-LEU deal, some problems arose. In March 1996, the United States adopted the law on privatization of *USEC*, which changed the terms of the contract. Since 1997, *USEC* began to pay costs of enrichment activities only (two thirds of the price of blended HEU) and the price of natural uranium was compensated for by giving Russia the property rights to an equivalent amount of uranium on U.S. territory. This became possible because the payment mechanisms were not prescribed in detail in the executive contract.

The problem was aggravated by several factors. Firstly, the natural uranium on U.S. territory was labeled "uranium of Russian origin" and its sales were limited by quotas. Secondly, due to the lack of agreement between Russia and the United States in the area of peaceful nuclear energy uses, the unsold natural uranium trailings belonged de jure to the Russian Federation but could not be imported to Russia from the United States. Thirdly, in 1997-1998, the price of natural uranium fell on the world market, the supply exceeded the demand and it was impossible to sell any substantial amount of the natural uranium component of LEU. Finally, another important factor: the implementation of the contract was incompatible with the strict requirements of Russian currency regulation and control — 180 days after the import of goods from Russia,

⁴⁸Victor Mikhailov, "Proekt VOU-NOU i voina na milliardy (HEU-LEU Project and the War for Billions)". *NG-Politekonomia*, March 1998, p. 1.

the payment or the commodity must return to Russia. In this case, it was impossible to comply with these requirements.⁴⁹

Under these circumstances, Minatom had several alternative ways for selling the natural component of the LEU at *USEC* plants:

- independent sales of the material within the limited quotas on the U.S. markets;
- long-term and guaranteed sales of all material (but with significant discount) to foreign mediators and competitors (*Cogema*, *Cameco*, *NUKEM*), which traditionally trade on the global uranium market;
- joint sales with U.S. companies, which would ensure direct access to end-users (U.S. electricity companies).⁵⁰

Another way out was the adoption of an amendment to the 1954 Atomic Energy Act by the U.S. Congress. The act prohibited export of fissile material to countries which did not have a bilateral agreement with the United States on cooperation in peaceful nuclear energy uses.

In April 1997, Russia suspended uranium export to *USEC* and informed the U.S. side that supplies planned for April, May and June would be provided when Russia reached agreement with a third party on natural uranium sales. After long and complicated negotiations in August 1997 with *Cogema* (France), *Cameco* (Canada) and *NUKEM* (Germany), the parties signed a memorandum providing for signature of a long-term ten-year contract. However, the draft of the contract submitted by the international consortium to Russia contained a number of discriminative demands, unacceptable to Minatom and AO *Techsnabexport*. According to Mr. Lebedev, Deputy Director General of *Techsnabexport*, there were 81 points of disagreement. The consortium requested a new governmental resolution enabling Minatom to sell the natural uranium component. In addition, they wanted Minatom to sign the contract (the ministry cannot be involved in commercial activities per Russian legislation). The consortium demanded compensations for transportation of uranium sold to the third parties, auditing of Minatom's contracts with Russian partners, the right to break the contract at any time after six months if world uranium prices did not increase, etc.⁵¹ At the press conference held by Minatom in December 1997, AO *Techsnabexport* and Minatom officially declared their withdrawal from the memorandum.

Minatom finally found a U.S. buyer for the natural uranium — *Pleiades*. The leading posts in the company were occupied by former Secretary of

⁴⁹*Vek*, March 31–April 6, 2000, p. 7.

⁵⁰Victor Ilyukhin. Information for the State Duma deputies concerning the article "Uragate". State Duma of the Russian Federation, April 21, 1998. YADRO Database, Doc. No. 1749.

⁵¹*Finansovye Izvestiya*, January 29, 1998, p. 6.

State James Baker and former U.S. Secretary of Commerce (in the Bush administration) Robert Mosbacher. Russia had hope in their authority and influence in the United States and believed that this would help to increase Russian quotas on the uranium market. The company also agreed to advance payments (\$100-150 million), even before it had found customers.⁵²

Many experts, including Minatom officials, called into question the advisability of involving Pleiades in the implementation of the HEU-LEU deal. The U.S. State Department also opposed the deal. In May 1998, Yevgeny Adamov was appointed the minister and established a commission to examine the deal. According to results of this investigation, Minatom decided to halt cooperation with Pleiades. The company was officially informed of the cessation of further negotiations.

In fall 1998, Russia again suspended the blended HEU supplies to *USEC*. The differences concerning payment for the natural component were so great that during the Yeltsin-Clinton summit (Moscow, September 2, 1998), the Russian President informed Bill Clinton of Russia's intention to withdraw from the HEU-LEU deal.⁵³ The problem was that in November 1996, *Techsnabexport* and *USEC* worked to expedite the implementation of the contract and avoid annual negotiations on price review; to do so, they agreed on the price of supplied uranium and the schedule of supplies for 1997-2001. However, decreasing demand and low prices resulted in a situation in which the U.S. company had to purchase Russian uranium at higher prices. *USEC* suffered from substantial financial difficulties and insisted on review of the agreement.⁵⁴

Active consultations continued until March 1999, when the parties came to a compromise agreement. On March 24, the Ministry of Atomic Energy of the Russian Federation and the U.S. DOE signed an agreement to resolve the dispute concerning payment for the natural component of LEU. In accordance with the agreement, the U.S. DOE bought the natural component supplied in 1997-1998 for \$325 million (the Congress appropriated this money in November 1998). Russia signed a long-term contract with the aforementioned consortium, which pledged to buy Russian natural uranium in the United States beginning in 1999.⁵⁵ The parties approved the new schedule of LEU supplies to the United States: in July 1999, *Techsnabexport* carried out the 1998 LEU supplies (see a detailed schedule below).

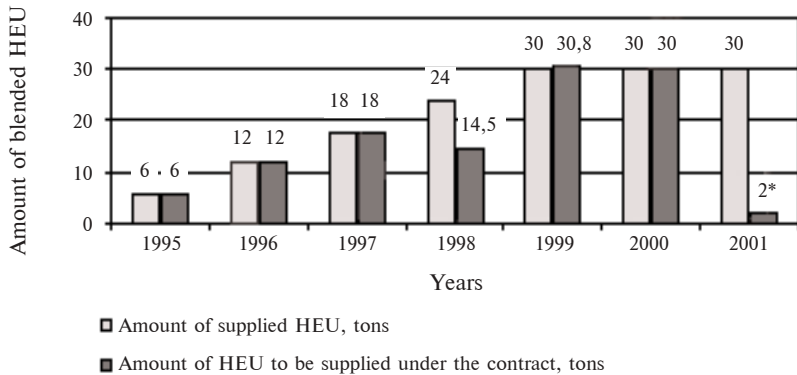
⁵² *Kommersant*, March 12, 1998, p. 1.

⁵³ Thomas Neff, "Privatizing U.S. National Security: The U.S.-Russian HEU Deal at Risk". *Arms Control Today*, No. 6, Vol. 28, August-September 1998, p. 8.

⁵⁴ The corporation turned to the U.S. Government for a subvention, but got a refusal.

⁵⁵ Chronology: U.S.-Russian Megatons to Megawatts Program. www.usec.com.v2001_02/HTML/Megatons_chronology.asp. March 31, 2001.

Chart 5. Schedule of Blended HEU Supplies



* — As of March 1, 2001.

Note: Data from USEC Web site. U.S.-Russian Megatons to Megawatts Program. www.usec.com/v2001_02HTML/Megatons_status.asp.

In mid-May 2000, Russia again suspended uranium export to the United States. Moscow feared that Russian accounts in the United States might be blocked because of claims brought against Russia by the Swiss company *Noga*. The supplies resumed in July after the Clinton directive ensuring unhindered payment for Russian uranium supplies to the United States. In June 2001, President Bush prolonged the term of the directive. He emphasized that it would be important for U.S. national security, as the extracted uranium was used for peaceful commercial purposes.⁵⁶

Thanks to the HEU-LEU deal, the Russian nuclear energy sector earned 1.5 billion rubles to conduct conversion programs in 2000. Besides, 4 billion rubles were invested in atomic science and research. Additionally, the HEU-LEU money enabled the Minatom to dismantle reactor cores of 17 decommissioned nuclear-powered submarines; previously, the budgetary funding had provided for discharging of two-four submarines per year.⁵⁷

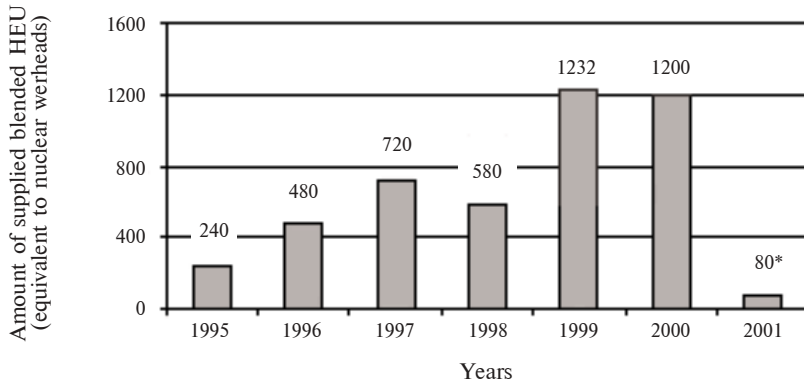
From 1995 until March 31, 2000, three Russian enterprises (the Urals Electrochemical Combine, Yekaterinburg; the Siberian Chemical Combine, Tomsk; and the Mining Chemical Combine, Krasnoyarsk) blended and delivered to *USEC* 113 tons of blended HEU, equivalent to dismantlement of 4,535 nuclear warheads (see below the schedule of

⁵⁶www.nuclear.ru/news_r/1406011.htm, June 14, 2001.

⁵⁷*Rosbusinessconsulting*, January 16, 2001.

blended HEU supplies in the equivalent of dismantled nuclear warheads).⁵⁸

Chart 6. Schedule of Blended HEU Supplies (equivalent to nuclear warheads)



* — As of March 1, 2001.

Note: Data from USEC Web site. U.S.-Russian Megatons to Megawatts Program. www.usec.com/v2001_02HTML/Megatons_status.asp.

The parties highly value the HEU-LEU deal. In September 2000, former Minister of Atomic Energy Yevgeny Adamov argued that the HEU-LEU deal was the most efficient U.S.-Russian program,⁵⁹ and former Minister of Atomic Energy Victor Mikhailov called it the *contract of the century*.⁶⁰

The need for *disposition of weapon-grade plutonium stockpiles* and the successful experience of the HEU-LEU deal facilitated Russian-U.S. cooperation in plutonium disposition in the early 1990s. The parties began to seek optimal technical solutions to disposition of excess plutonium in 1994, when the bilateral working group was set up. Russia also maintained cooperation in this area with France, Germany, and Canada.

⁵⁸Implementation of the U.S.-Russian HEU Purchase Program (Megatons to Megawatts). Submitted for the record by USEC Inc. Hearing on Department of Energy Nonproliferation Programs with Russia. United States Senate, Committee on Foreign Relations. March 28, 2001.

⁵⁹*Nezavisimaya Gazeta*, September 19, 2000.

⁶⁰Victor Mikhailov, "Minatom i mezhdunarodnoye sotrudnichestvo (The Minatom and International Cooperation)". *Yaderny Kontrol*, No.2, March-April 1999, p. 63.

An important step in promoting multilateral efforts in this area was the Moscow Nuclear Safety and Security Summit. The declaration of the summit emphasized the importance of conversion of weapons-usable fissile materials designated as no longer required for defense purposes into spent nuclear fuel or other forms to ensure the irreversibility of nuclear disarmament. The signatories noted their willingness to shape a strategy for disposition of such fissile material, including incineration of MOX fuel in nuclear reactors and vitrification.⁶¹

In 1998, Minatom approved the Concept for Excess Plutonium Management, which provided for the use of its energy potential in nuclear energy sector of the country. Minatom proceeded from the assumption that this weapon-grade plutonium was Russia's national property. The concept was examined by the inter-agency group of the Defense Council and approved by the MOD, *Gosatomnadzor*, the SVR and the FSB.⁶²

On September 2, 1998, Boris Yeltsin and Bill Clinton signed the Joint Statement on Principles for Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes. The parties agreed that Russia and the United States would reprocess 50 tons of plutonium each to avoid its further use in nuclear weapons. At that time, there was no special decision on disposition methods, so the two states pledged to cooperate in this area and use both incineration and immobilization technology (vitrification and agglomeration with highly radioactive waste). President Yeltsin and President Clinton welcomed interaction with other nations, including the G-8, and declared their intention to sign the inter-governmental agreement in 1998.⁶³

After the political declarations of 1998, the issue was handed over to experts and international agreements on technicalities were signed. One of them provided for joint research to compare disposition techniques. The United States insisted on vitrification and further burying. Russia believed it unreasonable to bury plutonium because of its energy value. Minatom was not sure of the reliability of vitrification, for this plutonium could still have been used for nuclear arms production. For instance, First Deputy Minister of Atomic Energy Valentin Ivanov maintained,

⁶¹The Moscow Nuclear Safety and Security Summit. M., 1996, p. 23.

⁶²Implementation of the International Agreements on Disposition of Plutonium Designated as No Longer Required for Defense Purposes and the Problems of Its Management. Press Center of the Russian Government, February 8, 2001.

⁶³Joint Statement on Principles for Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes. Press Release of the Press Service of the President of the Russian Federation. September 2, 1998.

"Although this disposition method (vitrification) is much cheaper, the weapons-usable plutonium is not destroyed. In fact, it may be devitrified and used as a nuclear weapon component."⁶⁴

On June 4, 2000, Presidents Putin and Clinton signed the Joint Statement Concerning Management and Disposition of Weapon-Grade Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation. The document maintained that the parties had completed preparations for signing the bilateral Plutonium Disposition and Management Agreement. The statement emphasized that the U.S. Congress had already appropriated \$200 million for cooperation in this area.⁶⁵

On August 30 and September 1 Prime Minister Kasyanov and Vice President Al Gore signed the PDMA, which stated that the parties agreed:

- to dispose of no less than 34 tons of weapon-grade plutonium; 25 tons of which should be metallic plutonium;
- to use plutonium as fuel for existing and future reactors and thus immobilize its highly radioactive waste, or to resort to any other mutually agreed technique;
- to monitor and conduct inspections of plutonium disposition in Russia and in the United States on a reciprocal and symmetrical basis;
- that the United States would allocate up to \$200 million for activities in Russia aimed at construction of appropriate plants. This amount may be increased further;
- to establish within 18 months a special international fund to finance plutonium disposition;
- that each party would strive to begin operation of plants no later than December 31, 2007.⁶⁶

The U.S. Government chose to eliminate 25.5 tons of plutonium by incineration as MOX fuel and 8.5 tons by vitrification and burial.

Russia plans to incinerate all plutonium in BOR-60 reactors in Dimitrovgrad, BN-600 reactors in Zarechny and in any other reactors

⁶⁴*RIA Novosti*, May 18, 2001.

⁶⁵Joint Statement Concerning Management and Disposition of Weapon-Grade Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation. *Rossiyskaya Gazeta*, June 6, 2000, p. 6.

⁶⁶The Agreement between the Government of the Russian Federation and the Government of the United States of America Concerning Management and Disposition of Weapon-Grade Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation. MFA RF, September 1, 2000.

under written agreement of the parties.⁶⁷ MOX fuel can be used in thermal and fast reactors. As for thermal reactors, the fuel may contain 4-5% of plutonium, and its share may amount to 45% when it comes to fast reactors. Hence, it would be more efficient to use MOX fuel in BN-type reactors.

According to Minatom's estimates, the costs of plutonium disposition will amount to a minimum of \$1.7 billion or to a maximum of \$2.5 billion (for approximate calculations see Table 1).⁶⁸ These calculations do not include compensation for the uranium industry, management costs and the costs of providing for safe operation of Russian reactors, etc. This will make the program even more expensive, and foreign experts recognize this. However, this will still be cheaper than disposition of U.S. plutonium (\$3.5-4 billion).⁶⁹

Table 1. Tentative Evaluation of Costs of the Plutonium Disposition Program, \$ mln.

Expenses	Capital costs	Operational costs
Pilot and demonstration plants	118	44
Plutonium conversion plant at PO <i>Mayak</i>	110	147
MOX fuel fabrication plant at the Mining Chemical Combine or at PO <i>Mayak</i>	432	694
VVER-1000 (4 units at Balakovskaya NPP)	96	26
BN-600 and BOR-60 (Dimitrovgrad)	44	30
Storage of irradiated MOX fuel of BN-600 (Beloyarskaya NPP) at the Mining Chemical Combine	20	88
<i>Gosatomnadzor</i> licensing	0	58
Transportation	33	82
Total costs for implementation of the program (\$1710)	889	821

Source: Vedomosti, April 17, 2001.

⁶⁷The Agreement between the Government of the Russian Federation and the Government of the United States of America Concerning Management and Disposition of Weapon-Grade Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation. MFA RF, September 1, 2000.

⁶⁸*Vedomosti*, April 17, 2001.

⁶⁹*Atom-Pressa*, February 1, 2001, p. 3.

Minatom insists that the Russian contribution to the program (in the form of plutonium) is substantial and at present, the Government has no intentions of investing money in plutonium disposition. Minatom believes that Western nations should make the maximum financial contribution to support the disposition of Russian plutonium. If these funds are provided, only then will Russia commence industrial use of plutonium. According to Valentin Ivanov, "this is the payment of the international community for disarmament".⁷⁰

The United States, the U.K., Japan, and France pledged financial support for the project. According to the U.S.-Russian agreement, Washington will allocate \$200 million. Other G-8 nations may appropriate about \$400 million. However, France stipulates its contribution with the cessation of weapon-grade plutonium production at Russian industrial reactors. The U.K. is ready to allocate 70 million for 25-30 years. Germany agrees to finance vitrification and burying, while Russia has rejected this method of disposition. According to other sources, the German Foreign Ministry does not back the program, fearing conflict with the German *Greens*.⁷¹

Since the total amount of work may cost about \$2 billion, the question is where to find the rest of the money. Besides the G-8, some other countries (Belgium, Sweden, Switzerland) expressed their interest in providing financial support.

If the funds are not allocated by April 2002, Russia may suspend work (in accordance with the PDMA).

There is a cheaper variant, whose implementation will cost about \$1 billion. Russia may produce MOX fuel from weapon-grade plutonium and supply it to Western nuclear power plants which have licenses to use this kind of fuel. Irradiated MOX fuel will then be returned to Russia for safe storage. In this case, Russia will preserve property rights to its plutonium at all stages of disposition. However, this alternative causes serious apprehensions among Western MOX fuel manufacturers: they believe that this will be the replication of the HEU-LEU scenario, when Russia gained control of a large share of the U.S. uranium market.

A more expensive variant of plutonium disposition is to burn it in Russian power reactors. As a gesture of good will, Russia has already started incineration of 50 kg (beside 34 tons) of plutonium in the BN-600 reactor at the Beloyarskaya nuclear power plant.⁷² Minatom is also considering the

⁷⁰ *Kommersant*, March 13, 2001, p. 8.

⁷¹ *Segodnya*, April 3, 2001.

⁷² Report by First Deputy Minister of Atomic Energy Valentin Ivanov at the PIR Research Council meeting. May 18, 2001.

possibility of building fast reactor — BN-800 (by 2010) to incinerate 1.5-2 tons of weapon-grade plutonium per year.⁷³ For example, VVER-1000 may potentially be used to dispose of 270 kg per year.

According to many international (including U.S.) analysts, Europeans involved in negotiations try to achieve the objectives stated in the agreement at a bargain price. The U.S. DOE budget appropriated for the program is also inadequate. This budget may further be reduced, significantly impeding the implementation of the program.⁷⁴

In this connection, recommendations by Laura Holgate, former senior U.S. DOE and U.S. DOD official, seem quite thought-provoking and constructive. She believes that to accelerate the implementation of the agreement, the new U.S. administration should

"[...] Politically commit to this mission, provide adequate funding, twist arms with the G-8 to get real responses, be prepared to go to Congress to support the program, look at creative alternatives, e.g. plutonium purchase".⁷⁵

Minatom officials are skeptical about the success of fund-raising. They assume that the problem (at best) will be solved in March-April 2002, when the 18 months expire.

Despite the project's vague future, Russia continues to carry out the terms of the agreement. On May 11, 2001, the Russian Government approved the bill "*On Ratification of the PDMA*" and submitted it to the State Duma for consideration.

The 1995 NPT Review and Extension Conference

By 1995, when the fate of the NPT was going to be decided at the NPT Review Conference, the international community had achieved a certain level of progress in preventing horizontal and vertical nuclear proliferation. Ukraine, Kazakhstan, Belarus and South Africa became non-nuclear weapon states. The development of nuclear weapons in Iraq was stopped. The nuclear ambitions of North Korea were contained. Other hotbeds of proliferation had not yet emerged in the early 1990s. The nuclear arsenals of the U.S. and the USSR were being reduced in accordance with START I. START II was signed. In Geneva, the world was actively working on the draft of the CTBT. Finally, the number of NPT States Parties amounted to 172 by late March 1995 and on the eve of the Conference this figure continued to increase.

⁷³*Kommersant*, March 13, 2001, p. 8.

⁷⁴Records of the PIR Research Council meeting on plutonium disposition. May 18, 2001.

⁷⁵Report by Laura Holgate at the PIR Research Council meeting. May 18, 2001.

There was no doubt that, in these generally favorable conditions, the Treaty would be preserved. At the same time, some dangerous trends indicated that the extension of the Treaty would not be easy, since the main objective was not only to extend the Treaty but to prolong it for as long as possible.

Indefinite extension of the NPT in May 1995 was an eloquent example of joint efforts of Russia and the United States to strengthen the international nuclear nonproliferation regime. The interests of the two states coincided and their representatives worked together to achieve a common goal and forgot about petty differences (there were lots of these trifles in bilateral relations by that time).

U.S. and Russian diplomats pushed for indefinite extension, as provided for in Article X (2) as one of the variants. This is why the representatives of the nuclear weapon states (NWS), or let us say of the North, who were the major proponents of the longest extension, had to launch an impressive preparatory campaign. Most visible were the statements and sessions in the course of the PrepCom meetings in Geneva. The most significant meetings took place in September 1994 and in January 1995. At the same time, the most important diplomatic activities were those performed in private.

Western and Russian diplomats began to prepare for the Conference in early 1994 and were eager to achieve maximal results: indefinite extension of the treaty with minimal concessions to the Non-Aligned Movement (NAM). The preparation was carried out in Geneva (at the Conference on Disarmament (CD)), in Vienna (at the IAEA Headquarters) and in New York. First, Russia, the U.S. and Great Britain conducted trilateral negotiations and then, all three parties discussed their plan with the French diplomats. China did not take part in these consultations and, as one of the participants put it, pretended to be "a non-nuclear weapon developing state, which has acquired some nuclear weapons by chance."

The diplomats identified the four key and most probably controversial issues: Article IV (the right of non-nuclear weapon states (NNWS) to access peaceful nuclear energy without discrimination); Article VI (the NWS commitment to achieve nuclear disarmament at an early date); security assurances to the non-nuclear-weapon states; the term of extension.

As far as Article IV was concerned, it was not likely to cause serious complications in the course of the Conference. Examination of the lists of goods which exporters refused to sell to the non-nuclear-weapon states, despite their requests, demonstrated that such refusals were isolated instances on the part of Russia and the U.S. The informal

dialogue included the Indonesian representatives, who agreed that actual reproaches concerning discriminative technological exchange could be confined to a minimum; on the contrary, this article was functional thanks to the IAEA's endeavors. If there was discrimination in the exchange of technological achievements pertaining to nuclear energy, it resulted from the high price of these technologies. Hence, it was a matter of financial discrimination; however, it was understood that the NPT did not provide for the free transfer of nuclear technologies for peaceful use in the developing countries.

As for Article VI, Russian and Western diplomats chose offensive tactics with regard to those states which were critical of the way the nuclear-weapon states implemented their commitments. All nuclear-weapon states (except China) agreed to prepare national reports on the implementation of Article VI and disseminate them at the Conference. Following the Russian initiative, the parties negotiated a joint statement on disarmament, which was to be disseminated at the Conference. The document received a positive response from the majority of delegations. Furthermore, the parties conducted individual consultations with delegations of the NAM states to explain how difficult it was (from a technical and financial point of view) to implement nuclear arms reduction in a short period of time.

As far as full-fledged legally binding security assurances were concerned, there was disagreement. In principle, Russia supported the NAM proposal to conclude a Convention on Security Assurances. Great Britain did not oppose the Convention, since this issue had more of a symbolic value than a practical one, and therefore, the nuclear-weapon states could afford to make significant concessions. The U.S. diplomats were not enthusiastic about the idea. France strongly objected to the Convention, saying that it ran counter to its national concept of nuclear deterrence. As a compromise, the parties agreed to back the U.N. Security Council resolution reiterating the commitments on security assurances, above all, the pledge to not use nuclear weapons against the NNWS. The compromise was reached in Autumn 1994 but the actual work on the text of the resolution was delayed and was finished only in early April 1995.⁷⁶ Undoubtedly, the U.N. Security Council resolution tempered the level of criticism at the Conference. Even radical delegations referred to it as an important (albeit intermediary) step to legal-binding security assurances for non-nuclear weapon states.

As for the extension issue, the diplomats of the North decided at their confidential meetings to push for the indefinite extension of the NPT.

⁷⁶See: George Bunn, Roland Timerbaev, "Nuclear Nonproliferation Regime and Security Assurances to the Non-Nuclear Weapon States". *PIR Study Paper*, No. 1, 1996, pp. 6-7.

Meanwhile, the most heated debate concerned the ways to attain this goal. For instance, Russia proposed initially to discuss the problem of extension and to put it to a vote immediately, on the first day of the Conference, before the actual review of the treaty's implementation (the five-year review is an integral part of the Conference). Russia believed that the issue of extension should be solved deliberately by all participants, without arms-twisting and fuss; hence, it ought not to be put at the bottom of the agenda. However, this position was not endorsed, since the U.S. and its allies did not predict that indefinite extension or even long-term extension would be agreed upon easily. They preferred to obtain a clear vision of the positions at the beginning of the Conference and to use this forum to influence the heads of hesitating delegations.

In December 1994, in Geneva, Russia set forth a two-fold initiative. The resolution on the term of the treaty would have been a short document, without preamble (which would have inevitably lead to long debate) and stating only the indefinite extension. Only Great Britain backed the Russian initiative. The U.S. was concerned that the NAM might issue a collective resolution in response and put it to a vote first. Canada was against the proposal, naming the Russian draft a "high quality, high risk" idea. Canada stood for cautious and gradual actions before and during the Conference, to increase step by step the number of states supporting indefinite extension. According to Canadian diplomats, it was necessary to convene expanded meetings for that purpose and to invite as many NAM states as possible. Russia strongly opposed this approach. Firstly, it feared a low turnout at such meetings, which might look like the NWS policy was failing. Secondly, Russia believed that there was a split in the ranks of the NAM and, hence, did not expect a single unified resolution from all the opponents of indefinite extension. Russian diplomats advocated the benefits of lobbying, although they admitted that the U.S. had more capabilities in this area.

The first lobbying attempt took place in Budapest in December 1994 in the course of the OSCE session. The two-line initiative was endorsed for the first time. A small working group organized frank discussions in a narrow circle. The group contained representatives of all nuclear-weapon states (except China), Germany, the Netherlands, Canada, and Japan (the latter played the most constructive role). It became clear that 62 states were sure to back the two-line initiative and 10-12 countries would eventually support the resolution but would adopt a wait-and-see policy. Some problems emerged with the positions of Australia, Canada, and Sweden. They agreed with the indefinite extension but insisted on deleting the words concerning unconditional extension, since it was necessary to seek compromise and to link the indefinite extension to a number of strict conditions binding the nuclear-weapon states to accelerate the process of disarmament. Russia, the U.S., France and the

U.K. took a final decision on the two-line initiative only in early April. They believed that it would be logical for Canada to put forward this motion, as the chairman of the informal Geneva working group and as the state most capable of finding common language with the NAM.

Moreover, the diplomats from Russia, the U.S. and Canada attached importance to the intentions of the South African leadership to set forth its own initiative at the Conference. The participants of the Geneva working group were informed about the South African proposals and encouraged them, taking into account the firm resolution of this country to back indefinite extension. To assure South Africa of their intention, Russian Foreign Minister Andrei Kozyrev and U.S. Secretary of State Warren Christopher sent letters to South African Foreign Minister Alfred Nzo on the eve of the Conference.

In January 1995, the most probable candidate to preside over the Conference, Ambassador Jayantha Dhanapala (Sri Lanka), visited Moscow. In the course of his meeting with the Russian foreign minister he expressed the opinion that the most favorable outcome of the Conference would be to take the decision without voting. He proposed his wording for the resolution: "As a majority exists among States Parties to the Treaty for its indefinite extension, the Treaty shall continue in force indefinitely without a vote." Russian diplomats appreciated this formula, calling it elegant but doubting at that time that the Conference would be able to avoid voting.

The diplomatic efforts on the threshold of the Conference included persuasion and harsh pressure. Russia had a modest ability to exert pressure and, as previously agreed, it began propagandistic work covering the FSU states and Iran. In both cases, the result was generally positive.

Meanwhile, the Russian delegation succeeded in coordinating the activities of the FSU states in the course of the Conference. For instance, until the last days of the Conference, the Ukrainian delegation was not ready to sign the final resolution on extension of the NPT. Kiev demanded that some provisions concerning security assurances be included in the succinct text of the resolution. If these demands were accepted, other states would have immediately begun to propose new amendments. The Russian delegation worked closely with the Ukrainian diplomats and finally succeeded. Russia had also to exert some pressure on the Moldavian and Azerbaijani delegations at different stages of the Conference. However, the two states did not have any particular interests at the Conference and their uncompromising policy did not last long.

Throughout the conference, the Russian delegation was in close contact with the Iranian representatives. When President Clinton announced in

New York that sanctions against Iran would be tightened, the leadership of the Russian delegation had to make an extra effort in order to prevent the Iranian delegation from taking steps with uncontrollable consequences. According to one of the participants,

"The decision on sanctions deteriorated the situation [...] At first, Iran did not react, then its tone became more defiant [...] and the Russian delegation had to take some measures to mitigate Iranian concerns".

As for the U.S., its activities were impressive and Washington exerted substantial pressure on such states as Mexico and Egypt, sent ambassadors at large to the majority of allied and friendly countries and counted every new vote for the resolution.

As a result of intensive diplomatic endeavors, the nuclear-weapon states managed to overcome the skepticism about the possibility of indefinite extension.

On the eve of the Conference, the Russian Security Council met in Moscow to discuss this issue and to present the White Book "*The NPT. Problems of Extension*". Russian officials agreed that Russia should strive to achieve indefinite extension of the NPT, and to regard the option of 25-year rolling periods with conferences in between, as an alternative.⁷⁷

According to Valery Manilov, then Deputy Secretary of the RF Security Council, the meeting decided,

"[...] If it is not possible to achieve indefinite extension, there will be a danger that [...] a group of states will oppose this. If these positions clash — either indefinite or nothing — we cannot agree to this. Responsible approach will be to prevent proliferation [...] on any fundamental principles. This is why it will be possible to offer 25-year extension with the possibility of further extension [...]."⁷⁸

However, in the first days of the Conference, Russia was able to compare forecasts with reality and concluded that the Conference should be able to mobilize a majority to support indefinite and unconditional extension. In the second week of the debate, when the Russian diplomats had obtained sufficient information concerning the approaches of different groups to the problem of extension, the Russian Foreign Minister stated that it was the Russian Federation's firm position that the treaty must be extended indefinitely and unconditionally and it would be a historic mistake to lose this opportunity.⁷⁹

⁷⁷See: Records of the press conference by Yevgeny Primakov, Director of the SVR, and presentation of the "NPT. Problems of Extension" report. March 23, 1995, pp. 4-5.

⁷⁸Interview of Valery Manilov by Vladimir Orlov, April 1995.

⁷⁹NPT/CONF.1995/32 (Part III), pp. 131-132.

In the course of the Conference, Russia and the United States acted in coordination and took concerted efforts with respect to all items of the agenda, above all, with respect to nuclear disarmament issues. The Russian delegation rejected any criticism of nuclear-weapon states for slow nuclear arms reduction and emphasized that Washington and Moscow had a common approach to Article VI:

"Russia is committed to achieve complete elimination of nuclear weapons in the future. Together with other nuclear-weapon states we made the statement of April 6, 1995 at the Conference on Disarmament and solemnly confirmed our commitment to pursue negotiations in good faith on effective measures relating to nuclear disarmament, which remains to be our ultimate goal [...]. We came to this Conference not only with the statements on our intentions, but also with specific deeds, which make us conclude that nuclear arms race is over and is reversed."⁸⁰

The commitment to joint endeavors to achieve the final goal of the Conference — indefinite extension of the NPT — was not shaken even at the final stage of the event, when its success became dependent on the solution of the issue of Israel raised by Iran and some Arab states.

The Israeli refusal to accede to the NPT and explicit neglect of all invitations to join the treaty became one of the topical problems at the Conference. While the states with a value-driven motivation against the indefinite extension (Indonesia, Mexico, Zimbabwe, Tanzania, and Kenya) had a wide field for maneuver and compromise with the developed countries (the compromise might have included the strengthening of the review mechanism, a clear understanding of the nonproliferation principles, etc.), the Arab states pursued a specific goal and based their moves only on national and group interests.

The aim of this policy was to make the U.S. exert pressure on Israel to halt its military nuclear program and to ensure the international verification (through the IAEA) of this program's termination. The final objective was to make an exchange: Israel would eliminate its nuclear weapons, while Syria, Libya and some other states destroyed their chemical weapons stockpiles and ceased the development of biological weapons. The strategic result would be the establishment of a WMD-free zone in the Middle East. Naturally, the Arab states used the Conference as a forum to express their views on the matter. Besides, the Conference was the best place for diplomatic bargaining with the U.S., since the Arab states were free to take any measures, including the threat of withdrawal from the NPT and of splitting the Conference. Egypt tried to consolidate the interests of the Arab states at the Conference and to lead the process.

⁸⁰Report by Grigory Berdennikov at the First Main Committee of the Conference. NPT/CONF.1995/32 (part III), p. 229.

Even towards the end of the Conference, there was still no success in reaching an agreement with Egypt on abandoning its narrow position. A possible compromise included the adoption of the resolution on the Middle East in addition to the final documents of the Conference. The resolution would have been ambiguous, but the mere fact of its adoption could have appeased Egypt and its followers. On May 9, the Arab states (Egypt, Algeria, Bahrain, Iraq, Jordan, Kuwait, Libya, Mauritania, Morocco, Qatar, Saudi Arabia, Sudan, Tunisia, and Yemen) laid down a draft resolution recommending that the Conference express its deep concern at the continued existence in the Middle East of unsafeguarded Israeli nuclear facilities; to call upon Israel to accede without delay to the treaty and to place all its nuclear activities under full Agency safeguards; to call upon "all States in the Middle East to take practical steps towards the establishment of a verifiable zone free of weapons of mass destruction, nuclear, chemical and biological, and their delivery systems, pending the establishment of such a zone, and to refrain from taking any measures that may hinder the realization of these objectives"; and finally, "to invite the five nuclear-weapon states to consider, as a matter of priority, and as an interim measure, granting security assurances to the states in the region parties to the NPT".⁸¹

It is obvious from the above quote that this draft of the text would not be acceptable. It is impossible to imagine that the U.S. would support it, primarily because of its direct reference to Israel.

The Russian delegation believed that the draft should be considered and negotiated as an exchange: the states of the Middle East and Iran would gain a milder version of the resolution to be adopted by consensus; and in exchange they would have joined the consensus on indefinite extension.

The approval of the final decisions was one day away, and there was much work to do to rewrite the resolution on the Middle East. The U.S., Great Britain and Russia as depositaries of the treaty agreed to become co-sponsors of the resolution. As a result of hard work outside the conference room, the text underwent significant changes. There was no direct reference to Israel and it did not mention the issue of security assurances. Finally, Egypt and other Arab states accepted the terms of the deal and not only because of the U.S. pressure. The majority of Arab states realized in the course of the Conference that the only alternative to this not fully balanced exchange would have been the direct split of the Conference. Hence, the solution of the problem of Israeli nuclear arsenal elimination would have been postponed indefinitely, while the image of Israel as a source of instability would have given way to criticism against the Arab states, and accusations about their impatience and extremist steps.

⁸¹NPT/CONF.1995/L.7.

Finally, the adoption of the resolution co-sponsored by the U.S., Russia, and the U.K., enabled the Arab states to insist on the full implementation of its letter and spirit. The *walk-out* option would annul this possibility.

Nonetheless, it would be wrong to say that the transformation of the resolution and emergence of new co-sponsors went smoothly. On the contrary, it was the most difficult stage of the Conference. According to the authors of this book (two of them attended the Conference), the U.S. was not ready to make any concessions. The diplomatic struggle almost led to a serious crisis at the end of the Conference, while the implicit resentment of Iran and Syria delayed the adoption of the final documents for two hours and kept more than 170 States Parties, which gathered in the hall of the U.N. General Assembly on May 11, in suspense.

The three NPT depositaries — the U.K., Russia, and the United States — also sponsored three other decisions of the Conference: "*Strengthening the Review Process for the Treaty*", "*Principles and Objectives for Nuclear Nonproliferation and Disarmament*", "*Extension of the Treaty on the Non-Proliferation of Nuclear Weapons*". Thanks to mutual understanding between these three states, the mediation of Canada, and the diplomatic skills of Jayantha Dhanapala, the documents were approved without a vote and the NPT was extended for an indefinite term.

Indefinite extension of the NPT was stipulated by two other decisions, which provided mechanisms for more intense review of compliance in between the conferences (convened every five years) and for tougher nonproliferation objectives, such as

- universal adherence to the treaty, which is characterized as "an urgent priority";
- efforts to ensure nonproliferation of nuclear weapons and nuclear explosive device without detriment to peaceful nuclear energy uses;
- the completion, no later than 1996, of the negotiations on the CTBT;
- the immediate commencement and the early conclusion of negotiations on the convention banning the production of fissile material for nuclear weapons;
- promotion of the establishment of nuclear-weapon-free zones (NWFZ), in particular in the Middle East and facilitation to the establishment of WMD-free zones;
- further measures to strengthen security assurances against the use or threat of use of nuclear weapons;
- compliance with IAEA safeguards to ensure implementation of commitments under Article III (1) and to prevent diversion of nuclear energy from peaceful to military purposes;
- fissile material converted for peaceful nuclear energy uses should be placed under IAEA safeguards within the framework of voluntary safeguards agreements concluded with nuclear-weapon states;

- encouraging peaceful uses of nuclear energy without discrimination and in accordance with Articles I, II and III;
- to promote transparency in nuclear export controls.⁸²

The outcome of the Conference was a clear triumph for the nuclear-weapon states. They succeeded in attaining their maximum objectives: a decision on indefinite extension without concessions infringing upon their national interests. Nuclear-weapon states managed to avoid any extra commitments on urgent issues discussed at the Conference. The resolution on indefinite extension is a legal-binding document, but the other three decisions are mainly political declarations and recommendations stating the terms of NNWS consent to indefinite extension.

The outcome of the Conference met Russia's interests. Moscow managed to fix its nuclear-weapon status (forever or until general and complete disarmament) and hence, to keep its place in the exclusive club of five officially recognized nuclear haves.

Obviously, this result would not have been achieved without the high level of coordination between Russian and U.S. diplomats. As Sergei Kislyak, Deputy Head of the Russian delegation, mentioned in his interview with one of the authors,

"We achieved a high level of honest and good interaction. I mean cooperation among those who wanted indefinite extension of the NPT and cooperation with other countries. The Conference was marked with high degree of cooperation."⁸³

Gennady Evstafiev, member of the Russian delegation, emphasized,

"This conference can be regarded as a certain referendum with respect to U.S.-Russian disarmament activities. The referendum yielded sound results, efforts of the recent years [...] were approved by the international community. [...] The United States played an important part in the adoption of the final decision on indefinite extension — it used all its power, all its influence in different regions of the world [...]. The cooperation between Russia and the United States, as far as the major goal was concerned, was very good."⁸⁴

"There are no differences here, our interests coincide," said another member of the Russian delegation. It is notable that these words were said when President Clinton (at the height of the NPT Conference) announced a new tough policy towards Iran and the United States (on

⁸²Decisions of the 1995 NPT Review and Extension Conference. Decision No. 2 "Principles and Objectives for Nuclear Nonproliferation and Disarmament". NPT/CONF.1995/32 (Part 1).

⁸³Interview by Sergei Kislyak with Vladimir Orlov, New York, May 11, 1995.

⁸⁴Interview by Gennady Evstafiev with Vladimir Orlov, New York, May 12, 1995.

another diplomatic front, not in New York) demanded that Russia abandon the Bushehr deal. In informal talks, U.S. diplomats hinted that they knew about the protocol of intentions providing for gas centrifuge equipment supplies and tried to convince their Russian counterparts to stop military-technical cooperation with Iran.

CTBT

The Comprehensive Test Ban Treaty was one of the major achievements, as far as implementation of Article VI of the NPT was concerned. The treaty was negotiated at the Geneva Conference on Disarmament in 1994-1996 and was open for signature on September 24, 1996, in accordance with the decision of the U.N. General Assembly.

The parties to the treaty committed themselves to the following (Article I):

"1. Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control.

2. Each State Party undertakes, furthermore, to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosion."⁸⁵

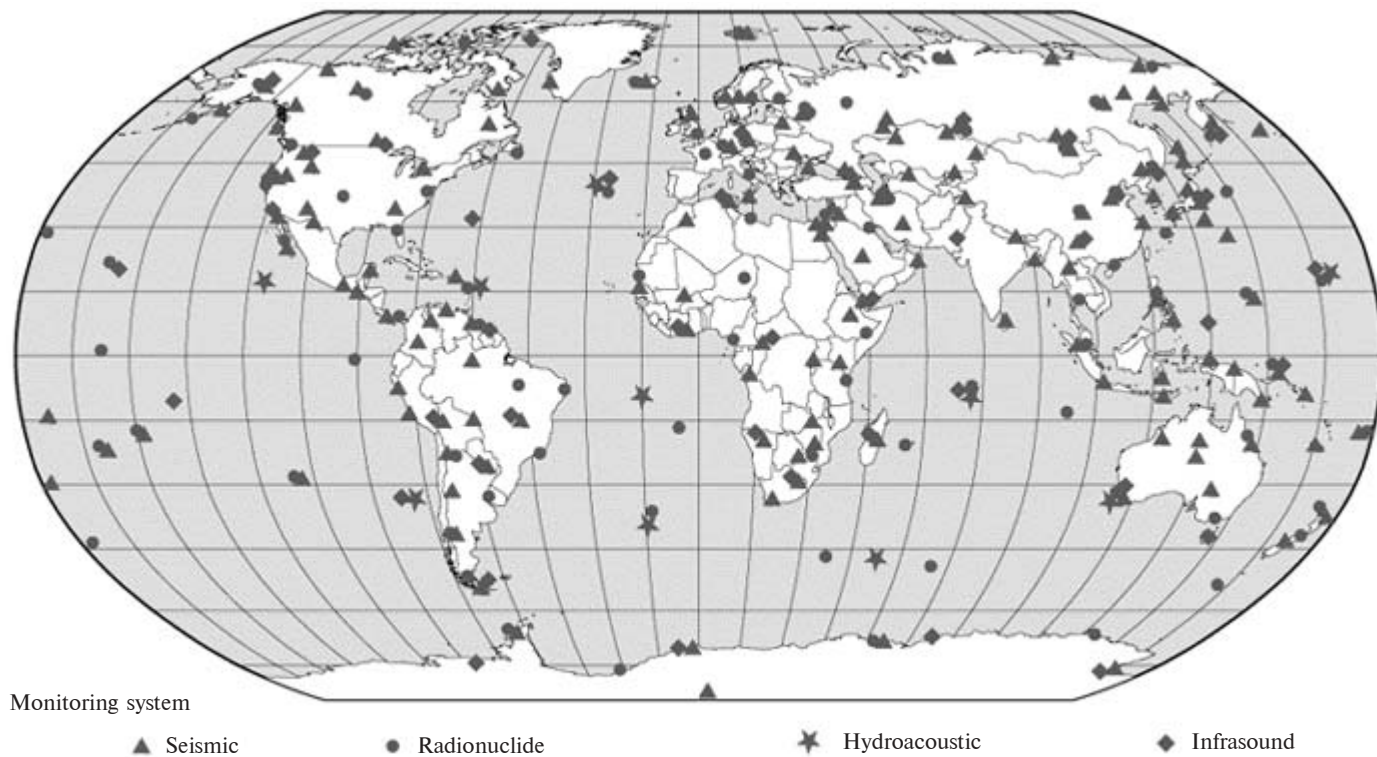
The verification procedures consist of four elements: the International Monitoring System, consultations and information exchange, on-site inspections and confidence-building measures.

337 facilities located worldwide will conduct monitoring, including seismological (170 facilities), hydroacoustic (11), infrasound (60) and radionuclide (80) monitoring. They will be supported by 16 certified laboratories. The facilities will be deployed in 90 states — partly built anew, partly constructed on the premises of existing facilities. The seismological sensors will have to distinguish nuclear explosions from earthquakes.

The stations are to transmit monitoring data to the International Data Center established to analyze and process this information. The data will be available to all States Parties to the treaty; and these countries may also analyze this information. It is extremely important, for it enables the member states not to rely entirely on the international organization, but to be able to formulate their own opinions.

⁸⁵The text of the treaty was published by the Preparatory Commission for the CTBTO. Vienna, May 1999, pp. 2-3. See also: *Kontrol nad vooruzheniyami i voennoy deyatel'nostyu (Arms Control Guide)*. M., PIR Center, 2001, pp. 84-95.

Chart 7. Nuclear Test Ban Treaty Global Monitoring System



Source: Coalition to Reduce Nuclear Dangers; US Department of Defense.

If any doubts or differences occur, the treaty provides for a mechanism of consultations and clarification. If it is impossible to resolve the dispute, on-site inspection may be sent to the suspicious location. There is a strict procedure for such inspections, which rules out the opportunity for arbitrary claims with respect to any state.

The request for inspection is limited by the treaty's provisions to the collection of additional information on the alleged nuclear explosion. The inspection should not be aimed at obtaining additional information on the activities of the facilities. The request is evaluated by the Director General of the CTBTO and, if approved, the state subject to inspection may provide extra information. If this information is not enough to eliminate concerns of the applicant, the Executive Council of the CTBTO decides whether the inspection should take place.

Confidence-building measures are mostly of general character, albeit States Parties may agree to submit data on large nuclear explosions (exceeding 300 tons of TNT-equivalent blasting material) and to invite on-site inspections to monitor these explosions.

The CTBT provides for the establishment of a special organization — CTBTO — with headquarters in Vienna. The organization must ensure compliance, including verification measures. The CTBTO comprises the Conference of the States Parties, the Executive Council, and the Technical Secretariat. The latter includes the International Data Center and is headed by the Director-General elected by the Conference.

The Executive Council of the CTBTO consists of representatives of 51 states. To ensure the fair distribution of seats, special regional quotas are envisaged: seven seats for Eastern Europe, 10 for Africa, nine for Latin America and the Caribbean, seven for the Middle East and South Asia, 10 for North America and Western Europe, eight for Southeast Asia, the Pacific and the Far East. At least one third of the seats allocated to each geographical region shall be filled by States Parties in the region designated on the basis of the nuclear capabilities relevant to the Treaty as determined by international data as well as all or any of the following indicative criteria in the order of priority determined by each region: number of monitoring facilities of the International Monitoring System; expertise and experience in monitoring technology; and contribution to the annual budget of the organization. The remaining seats are filled by elections on rotation. In practice, this means that nuclear-weapon states, including Russia, will always have a seat in the Executive Council, which plays the key role in the implementation of the treaty.

Until the treaty's entry into force, the CTBTO consists of two bodies: the Preparatory Commission and the Provisional Technical Secretariat

established in 1997. Their main objective is to set up the monitoring system and develop procedures for on-site inspections.

The CTBT is of unlimited duration. A State Party may withdraw only in case of extraordinary events, which the State Party regards as jeopardizing its supreme interests. It should give appropriate notice six months in advance.

The procedure for the CTBT's entry into force is quite complicated. When the treaty was negotiated, the parties decided that it would become effective only after accession of all states potentially capable of conducting nuclear tests. The parties were even ready to endure a lengthy period between signature and entry into force. Otherwise, there was a risk that some countries could develop and modernize their weapons, whereas States Parties to the treaty would be denied such an opportunity. The list of countries was made on the basis of IAEA data concerning the availability of NPPs and research reactors. The list contains 44 states named in Annex 2 and Article XIV, which have basic capability to develop indigenous nuclear programs. Among others, the list includes India, Pakistan and Israel, which are not parties to the NPT and possess nuclear weapons.

By now the treaty has been signed by 161 states and ratified by 84 states. Notably, among non-signatories are three countries of the G-44 (India, Pakistan, and North Korea). The other 41 nations have signed the treaty. 31 of G-44 states ratified the CTBT, including Russia, the U.K., and France.

In fall 1999, the Clinton administration attempted to promote CTBT ratification, but the U.S. Senate rejected the treaty. China has not ratified the treaty either.

Vladimir Putin (at that time, President-elect) agreed with the arguments of the MFA and other agencies and facilitated prompt ratification of the CTBT, despite the vague prospects for its ratification in the United States and for its entry into force.

The official statement of the MFA on the occasion of the CTBT ratification by the State Duma calls this event,

"[a]n extremely important first step [...] in the interests of Russian security [...] and international stability."⁸⁶

⁸⁶Statement of the Ministry of Foreign Affairs of the Russian Federation on the occasion of the ratification of the CTBT by the State Duma of the Russian Federation. *www.mid.ru*. April 21, 2000.

The State Duma ratified the CTBT on April 21, 2000 (280 for and 74 against, 3 abstained).⁸⁷ This was an overwhelming success for the proponents of the treaty in Russia, since some military urged deputies to delay the ratification in order to ensure the safety of nuclear munitions and to leave open the option to modernize Russia's nuclear arsenal. It appears that the MFA had prepared the ratification as a gift to the NPT Review Conference, which opened several days later in New York.

Besides, this was meant as an additional evidence that Russia was more committed to the Principles and Objectives for Nuclear Nonproliferation and Disarmament than the United States. President Clinton, who actively supported the idea of ratification, commended the decision of the State Duma. The White House spokesman called it a significant step and hoped that the Senate would follow the example of many other nations and ratify this important treaty.⁸⁸

The upper chamber of the Russian parliament — the Federation Council — ratified the treaty on May 17, 2000, and the President signed the law on ratification on May 27. The instrument of ratification was deposited with the U.N. Secretary General on June 30, 2000.

The formal pretext for the U.S. Senate's decision was an ineffective verification system, which would not enable the United States to be sure that other nations did not conduct tests. The new U.S. administration is not going to seek ratification. U.S. nuclear laboratories are reportedly developing new types of nuclear charges.

The safety and reliability of nuclear munitions can be assured without tests — by conducting sub-critical experiments and simulating them (without using fissile material). The countries which have advanced capabilities for simulating and conducting sub-critical experiments and possess data on previously conducted tests, would be in a more advantageous position than others.

When the procedure of entry into force was approved, the parties realized that this process would be delayed. This is why the body of the treaty (Article XIV (2)) contains a provision that

"If this Treaty has not entered into force three years after the date of the anniversary of its opening for signature, the Depositary shall convene a Conference of the States that have already deposited their instruments of ratification upon the request of a majority of those States."

⁸⁷Information channel of the State Duma of the Russian Federation, April 21, 2000. www.akdi.ru/gd/PLEN_Z/2000/21-04_d.htm.

⁸⁸Philipp Bleek, "Russian Duma Approves Test Ban Treaty". *Arms Control Today*, Vol. 30, No. 4, May 2000, p. 43.

The Conference is to consider and decide by consensus what measures may be undertaken to accelerate the ratification process in order to facilitate the early entry into force of the treaty.

The first Conference was convened in October 1999 in Vienna. It brought together representatives of 92 states, including non-ratifiers and four non-signatories. The Conference did not become a significant event. On the contrary, the analysts noted that the participants were relatively passive and took the inevitability of delay for granted. They also believed that the result of the ratification process in the United States would be positive (the Senate rejected the CTBT after the Conference).

The Final Document of the Conference set forth a number of diplomatic measures to accelerate the early entry into force (intense consultations with non-ratifiers) and urged NGOs to promote the CTBT. The Preparatory Commission was instructed to continue the efforts aimed at demonstrating the efficiency of verification procedures (a response to the U.S. Senate's doubts). The document stressed that unilateral moratoriums (all nuclear-weapon states adhere to them) could not substitute for the legally binding agreement.

The discussion at the Conference indicated that the international situation in the late 1990s was less conducive for disarmament than in the mid-1990s, when the treaty had been signed. For instance, a representative of China referred to the nuclear tests in India and Pakistan and NATO bombings in Yugoslavia and pointed out that his country would consider the treaty in the context of the international environment and would begin ratification when it was practically possible.⁸⁹ This statement implied that a delay in ratification was possible and this process would depend not on the treaty, but on the general security context.

The situation has not changed since the first Conference. Three more states out of 44 ratified the treaty, but major nations — the United States, China, India, Pakistan, and Israel — have not yet acceded to the CTBT. In November 2001, the second EIF Conference was held in New York, but it did not achieve any breakthroughs either. The U.S. boycotted the Conference.

⁸⁹ Amb. Sha Zukang, Head of the Delegation of the People's Republic of China. Statement at the Conference on Facilitating the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty, October 7, 1999.

The 2000 NPT Review Conference

The 1995 NPT Review and Extension Conference in New York marked the high point of U.S.-Russian strategic cooperation in nonproliferation in the last decade.

Further events, such as the Moscow Nuclear Safety and Security Summit in April 1996, were of less importance. The signature of the CTBT in 1996 was a significant step, but today's assessment implies that the treaty is at a stalemate.

In 1995, members of the Russian and U.S. delegations at the NPT Review and Extension Conference argued that they had done their part, and the Conference on Disarmament in Geneva could now flourish. In fact, the CD succeeded in negotiating the CTBT (albeit the Indian position undermined the consensus). However, after that the CD came to a dead-end and could not solve any major issue, such as the FMCT or prevention of arms race in outer space.

The stalemate of nonproliferation and disarmament reflected the changes in the U.S.-Russian strategic relationship and in U.S.-Chinese relations. A *cold peace* emerged after NATO expansion (1996-1997), the Kosovo crisis and NATO's aggression in Yugoslavia (1999). Deterioration of U.S.-Russian bilateral relations coincided with a certain complacency on the part of both states with respect to the international nonproliferation regime (especially after the 1995 success in New York).

Another dangerous trend of the late 1990s was the attempt of some states to shift the focus from nonproliferation to export controls. Export control issues are quite important and play a key part in tightening the regime, but they should not substitute for nuclear nonproliferation.

There were many expectations concerning the first PrepCom meeting after the 1995 Conference. The meeting was convened in spring 1997 "to consider principles, objectives and ways in order to promote the full implementation of the Treaty, as well as its universality [...]".⁹⁰ In other words, the functions of the PrepCom became much more political, rather than administrative. The outcome of the 1997 meeting was modest and slightly successful, but it did not meet expectations.

The second meeting of the PrepCom in 1998 was a complete failure: no background paper was adopted on substantive issues. Recommendations for the 2000 NPT Review Conference, which were partly discussed in

⁹⁰Decisions of the 1995 NPT Review and Extension Conference. Decision No. 1 "Strengthening the Review Process for the Treaty".

1997, faced strong resistance both by the nuclear-weapon states and the non-nuclear-weapon states. The United States opposed two documents — on disarmament and on the Middle East, sponsored by Egypt, Canada and South Africa, which together with Iran and Mexico were the most active non-nuclear-weapon states at the PrepCom meeting.

The Indian nuclear tests conducted on the day after the 1998 meeting of the PrepCom were a slap in the face of NPT States Parties. The Indian and Pakistani nuclear tests in May 1998 demonstrated the consequences of complacency and the lack of a specific program of action to ensure universality of the treaty.

The Indian nuclear tests of May 11, 1998 were, presumably, a surprise for Russia. At the same time, the Russian leadership, in general, was in the know concerning developments in India and its intentions to conduct a series of tests in response to the growing Chinese influence in Southeast and South Asia. Moscow's attempts at diplomatic influence fell flat and Russia's opportunities to exert pressure on the Vajpay Government were few and far between. Under these circumstances, Moscow preferred to step aside and watch the on-going confrontation between India and Pakistan and between India and China.

Russia's officially declared position immediately after the tests was a preference for resolving the conflict with diplomatic means without any sanctions. Thus, Russia was not going to impose any restrictions on conventional arms supplies to India. President Yeltsin said that India let Russia down with its nuclear test, but presumed that Russia could make New Delhi change its position after his visit to India.⁹¹

In this connection, it would be useful to remember the curious wording of Igor Sergeyev's statement pertaining to the Indian tests. India was not mentioned in this statement at all:

"Our country takes a principled position on nonproliferation of WMD and delivery systems. It is evidently aimed at full compliance with international commitments in this area. Moreover, Russia, like other states, realizes how dangerous the consequences of violation of the nonproliferation regime are, especially if it is a matter of countries situated in immediate proximity to Russian borders. [...] Russia pursues the policy of preventing proliferation of WMD and their delivery systems regardless of any specific state: this policy is based on Russia's security interests, for the leak of military technologies, WMD and their delivery systems may eventually undermine our defense.

As far as cooperation in other areas is concerned, we realize the responsibility for implementing the international treaties and agreements signed by Russia in the area

⁹¹ *Rossiyskaya Gazeta*, May 13, 1998, p. 7.

of nonproliferation of WMD and their delivery systems, as well as within the framework of international export control regimes, but we see no obstacles for development of traditional military-technical cooperation with foreign states, including conventional weapons, and intend to continue this cooperation in accordance with existing agreements."⁹²

The N-5 and G-8 denounced⁹³ the nuclear tests by India and Pakistan, but there was no U.S.-Russian tandem in this sphere. On the contrary, it seemed that the parties were willing to keep silent and to avoid voicing their reaction (different in tone but similar in result, or, more precisely, in the absence of any result). Today, it seems strange that in May 1998 the United States and Russia did not speak about South Asia, but instead discussed the qualitative characteristics of alloyed steel detained on the border of Azerbaijan and Iran. The steel was allegedly of Russian origin and was allegedly sent to Iran to support its missile program.

The third PrepCom meeting was convened in May 1999 during NATO bombings in Yugoslavia. The global situation deteriorated and affected the discussion at the PrepCom meeting — the nuclear-weapon states still attached much importance to their nuclear arsenals. China was quite active at this meeting and ensured that the issue of bombings in Yugoslavia was discussed in conjunction with arms control matters. Russia endorsed this approach. As debate on Article VI was under way, new topics emerged, such as U.S. attempts to modify the ABM Treaty (objections of Russia), the role of TNW (Finland, Switzerland, and Nigeria expressed their concerns). Unlike at the two previous meetings, this time the nuclear-weapon states failed to adopt the joint report on the course of disarmament in the N-5, since China refused to join other nuclear-weapon states and submit information on development of its nuclear forces. The meeting was on the verge of failure several times, but efforts of states such as Ireland and New Zealand, helped to avoid a complete fiasco.⁹⁴

Among the modest achievements of the third PrepCom meeting was a more flexible U.S. position on involvement of Israel in the NPT regime.

But for the first time, U.S. and Russian positions differed greatly in the course of discussion on the future of the NPT regime.

From 24 April through 20 May, 2000, the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons held a conference to review the

⁹²Statement by the Minister of Defense of the Russian Federation on the Issue of Nonproliferation of WMD and Their Delivery Systems. *Krasnaya Zvezda*, May 12, 1998, p. 1.

⁹³One should note that the Russian text of the statement spoke about "regret" concerning the Indian nuclear tests.

⁹⁴Johnson Rebecca, "Divisions and Doubts at the Third NPT PrepCom". *Arms Control Today*, No.3, Vol. 29, April/May 1999, pp. 11-16.

implementation of the Treaty in New York. 157 States Parties (out of 187) participated in the conference. Of the four States non-Party (Cuba, India, Israel and Pakistan), only Cuba sent its observer.

Despite dire predictions, the conference, after a rather acrimonious debate on some issues (above all, on Article VI), adopted a Final Document by consensus which contains both a backward-looking review of how the Treaty was operating and a forward-looking perspective of what could and should be done for the further strengthening of the international nuclear nonproliferation regime and promotion of nuclear disarmament. Thus, the conference was able to adopt a final document for the first time in 15 years. The two preceding conferences (in 1990 and 1995) could not agree on final documents because of fundamental differences between the States Parties, in particular on the status of compliance by the nuclear-weapon states with the provisions of Article VI.

The result of the review conference could be considered a significant success and an impulse to implementing further collective actions by States Parties with a view to maintaining and strengthening the nonproliferation regime. This is of special importance in the face of the many unfavorable developments over the last few years in the area of arms control and nuclear nonproliferation.

Unlike the previous conference, the 2000 forum did not need to solve the problem of the treaty's survival and fate. In 1995, the NPT was extended for an indefinite term. Thus, participants of the conference had no need to discuss the "to be or not to be" of the treaty, but could afford to focus on ways to enhance the NPT's effectiveness, taking into account the 1995 decision on "*Principles and Objectives of Nuclear Nonproliferation and Disarmament*".

And if the key issue at the 1995 NPT Review and Extension Conference was the problem of extension, this conference concentrated on ways and pace of nuclear disarmament, i.e. the course of implementation of Article VI by all State Parties, and by nuclear powers, in particular. Nuclear disarmament was discussed more than any other matter, including the sensitive and substantive issues of universality and compliance with Article II (the commitment of non-nuclear weapon states not to create nuclear explosive devices).

It is noteworthy that in comparison with the previous conference, the Arab states exerted less pressure concerning Israel's accession to the NPT, although the 1995 decisions on the Middle East failed to be fulfilled. Obviously, this question was urgent and public, and lobby debate on it was quite heated. Nonetheless, nuclear disarmament problems dominated the conference, due to a wide range of states which raised the issue of compliance with Article VI.

The problem of non-compliance with the treaty (Iraq and North Korea) was also the focus of attention at the conference. The U.S. was the most active in this area. We will discuss this matter below, since the Iraq issue nearly derailed the adoption of the Final Document, after all its disarmament provisions had already been agreed upon.

On the eve of the conference, one of the key issues for the experts was the position of nuclear weapon states: whether they would unite and forget about serious differences entrenched in U.S.-Russian and U.S.-Chinese relations, above all due to the U.S. intention to deploy a national missile defense system? The authors of this book also tried to answer this question.⁹⁵

Several days before the conference we argued that the ABM-NMD debate may make Russian governmental experts consider whether Russia should join the N-5 alliance or take its own position, following China's example. China's special position on a number of issues — from ABM-NMD to FMCT — called into question the viability of such a coalition and could have transformed the N-5 into the N-4. Besides, many parties to the NPT would have found this position beneficial. It is evident that not only China, but even a number of NATO states share the Russian policy on missile defense matters.

However, our conclusion was the opposite: naturally, the temptation to enter the NPT Review Conference an angel, detached from the U.S. was nearly irresistible, but the Russian diplomats should have demonstrated self-control and defied this temptation. The refusal to participate in concerted N-5 efforts would have turned the tactical gain into a strategic loss, since the entire essence of the NPT would have been undermined, which eventually ran counter to long-term Russian interests.⁹⁶

It is important that Moscow finally decided not to undermine the regime. But it is even more important that a similar decision was taken in Beijing on the eve of the conference. As a result, the N-5 formed a united front at the conference as usual, what was a real surprise for some experts and delegations.

Russia attended the conference with several *trump cards*, such as START II and CTBT ratification. Since the first day of the conference, Russia's position was flexible and active. It was briefly formulated in President Putin's address to the conference:

"Russia is committed to its obligations in the area of nuclear disarmament, intends to follow them in the conditions of strategic stability and within the framework of

⁹⁵See: *Nezavisimaya Gazeta*, April 20, 2000, p. 4; *Moscow Times*, April 19, 2000, p. 9.

⁹⁶*Ibid.*

the disarmament agreements signed in the recent decades as a basis for further strategic offensive arms reduction and limitation."⁹⁷

Let us emphasize the phrase "strategic stability", since it was the leitmotif of statements of the Russian delegation and sometimes it seemed that they overused this ambiguous term, whose meaning was not clear to some participants at the conference. In some cases, representatives of the NAM (Mexico, in particular) maintained that this term was not acceptable for the final document since there was a risk that under the pretext of strategic stability the conference may rehabilitate a return to confrontation and, perhaps, even to a new arms race.

In his address at the opening of the conference, Russian Foreign Minister Igor Ivanov dealt a blow to the U.S., for he stated a detailed and straightforward Russian position on the ABM-NMD issues, maintaining that.

"Compliance with the ABM Treaty in its present form without any modifications" was "a prerequisite for further negotiations on nuclear disarmament in accordance with Article VI of the NPT" [*italics added by the authors — Auth.*].⁹⁸

The Russian minister specified only one state in such a negative context—it was not Iraq or North Korea, but the United States with its intention to deploy an NMD system. Igor Ivanov also concluded:

"Danger lies in attempts to undermine the existing system of strategic stability, attempts to build one's national security in detriment to the interests of other states and moreover, to assume the right to use force in violation of the fundamental principles of the U.N. Charter and international law. This, in fact, is a direct invitation to a new arms race on the planet."⁹⁹

It seemed that after such a beginning, the ABM-NMD issues would be the focus of attention at the conference. It also seemed that Russian criticism of the U.S. position on missile defense would be supported, taking into account the attitude of some European delegations (France, Switzerland, Ireland), Canada and China.

However, this did not happen. According to a member of Russian delegation, the U.S. felt a little insulted by the Russian statement, since "the NMD problem is extremely sensitive" for Washington. At the same time, by the time of Minister Ivanov's statement, both parties knew that they would not wash their dirty linen in public. There was private

⁹⁷Statement by the Russian Foreign Minister Igor Ivanov at the NPT Review Conference, NY, April 25, 2000.

⁹⁸Ibid.

⁹⁹Ibid.

agreement that the NPT Review Conference was not the forum for solving bilateral problems (and the U.S. and Russia confer that the ABM issue belongs to this category). Moreover, this matter was not to be seriously discussed even within the N-5. Thus, the speech of the Russian minister was another statement of the Russian position and demonstration of its resolve. Meanwhile, Moscow took no diplomatic efforts to continue the offensive, since such an attack was not planned. The Russian position disappointed a number of delegations, especially the Western NGOs, which had expected that Russian pressure would have made the U.S. change its plans concerning NMD deployment.

As a result, NMD issues were left at the periphery of the debate. According to Rebecca Johnson, Director of the Acronym Institute, in one of the newsletters disseminated during the conference,

"The lack of debate over missile defense at the NPT Conference is all the more worrying. The signal going back to Washington is that despite the rhetoric of concern about missile defense, China and Russia can be bought off, and no one else has the political will to brave U.S. wrath by pursuing the issue in the context of the nuclear nonproliferation regime."¹⁰⁰

During the conference, the N-5 preferred solidarity to public clashes just like five years ago.

An important positive contribution to the work of the conference was made by the agreed statement by the delegations of the N-5 (France, China, Russia, U.K. and the U.S.) presented to the conference on May 1. The statement, *inter alia*, welcomed the ratification of the CTBT by the Russian Federation; declared that "none of our nuclear weapons are targeted at any state." It also said that

"Ratification of START II by the Russian Federation is an important step in the efforts to reduce strategic offensive weapons and is welcome. Completion of ratification of START II by the United States remains a priority. We look forward to the conclusion of START III as soon as possible while preserving and strengthening the Anti-Ballistic Missile Treaty as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons, in accordance with its provisions".¹⁰¹

The combination of words (preserving and strengthening) reflected the true sense of the debate: the U.S. recognized the need to preserve the ABM Treaty, whereas China and Russia approved its strengthening — a vague term, which might mean modification, as well as slight changes,

¹⁰⁰Rebecca Johnson, "Sixth NPT Review Conference". Briefing # 13, May 14, 2000, p. 2.

¹⁰¹NPT/Conf.2000/21, 2000, May 1, pp. 3, 4.

and which was intended to postpone the discussion until after the conference.

The N-5 statement also underlined the importance of the Additional Protocol on safeguards which was signed by all nuclear-weapon states, and supported the promotion of transparency in nuclear-related export controls.

In the final document the nuclear weapon states pledged an

"Unequivocal undertaking... to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all states are committed under Article VI".¹⁰²

However, suggestions by some non-aligned countries to set a timetable for nuclear disarmament were not accepted. The NPT Parties underscored the necessity of achieving the early entry into force of the CTBT and prompt negotiations on a fissile material production ban, presently deadlocked in the CD. While supporting the full implementation of START II, recently ratified by the Russian Duma, the parties urged the United States and Russia to conclude START III. Raising concerns that the nuclear powers had not been taking their disarmament obligations seriously enough and that progress in this area had stalled, the non-nuclear powers identified several important steps which must be pursued over the next five years in addition to the bilateral strategic arms reductions currently underway. According to the program of action contained in the agreement on next steps, the nuclear powers have promised:

- further unilateral efforts to reduce their nuclear arsenals — since 1991, Russia, the United States, Britain, and France have taken important steps in unilateral nuclear disarmament, cutting tactical and strategic nuclear systems. Unilateral efforts can be very important when bilateral or multilateral negotiations are stalled, and act as a useful complement to existing disarmament agreements;
- provide more information on the nuclear capabilities and the implementation of disarmament agreements — Britain, Russia and the United States have already moved towards greater transparency, but France and particularly China have not wanted to reveal nuclear-related information, the first step towards accountability and effective verification;
- to reduce their non-strategic nuclear weapons — Russia continues to possess tactical nuclear weapons in large numbers, and the United States retains them in its arsenals, including from 150 to 200 tactical

¹⁰²The Final Document of the 2000 NPT Review Conference, Article VI and paragraphs 8 and 12 of the Preamble. NPT/CONF.2000/28 (Part I).

bombs still based outside its territory in the seven NATO countries in Europe;

- concrete measures to further reduce the operational status of nuclear weapon systems — the non-aligned and the New Agenda Coalition members had been pressing for nuclear weapons to be taken off alert, de-activated and for warheads to be separated from their delivery vehicles. In their statement of May 1, as noted above, the five nuclear powers for the first time stated that none of their nuclear weapons remain targeted. They have now promised to go further;
- a diminishing role for nuclear weapons in security policies — a concern raised over and over again by the non-nuclear countries during this conference has been the fear that NATO nuclear-weapon states and Russia retain policies of deterrence based on the potential first use of nuclear weapons and an extended role linking the use of nuclear weapons to the threat or use of biological or chemical weapons by other countries, both of which are banned;
- involvement by all five nuclear powers "as soon as appropriate" in nuclear reduction and disarmament negotiations — at present Britain, China and France are on the sidelines waiting for the United States and Russia to make much deeper cuts in the numbers of their nuclear weapons before they get involved in strategic arms reduction and elimination.¹⁰³

Furthermore, the program of next steps for nuclear disarmament called for a moratorium on nuclear testing pending entry into force of the CTBT, and emphasized the "principle of irreversibility" in nuclear arms control. This is important because of the current tendency among some of the nuclear states to recycle the plutonium, highly enriched uranium or other components from dismantled nuclear weapons so that they can be used again to make new or refurbished nuclear warheads.

This outcome was achieved thanks to Russian flexibility. The last week of the conference began in an atmosphere of growing pessimism. Many participants believed that the forum would reach a deadlock concerning Article VI. While the NAC states were undertaking intense offensives, the nuclear-weapon states organized an all-round defense. Russia, which attended the conference with ratified START II and CTBT and with the proposal to reduce U.S.-Russian strategic nuclear arsenals to 1,500 warheads each, suddenly found itself in the role of scapegoat for the stalemate on disarmament. Moscow was criticized for its new military doctrine, for constant references to strategic stability, for huge and non-transparent sub-strategic nuclear stockpiles. The issue of tactical nuclear weapons was suddenly raised by a broad range of states, totaling more

¹⁰³Vladimir Orlov, Roland Timerbaev, "The 2000 NPT Review Conference: Implementation Check — OK, What's Next?". *Yaderny Kontrol*, No. 4, July-August 2000, p. 8.

than 30 delegations. An outsider might have thought Russia was the main state to blame for impeding the preparation of the Final Document.

However, two days before the end of the conference Russia suddenly agreed to the whole set of disarmament measures worked out by the NAC. This increased the enthusiasm of the participants, who started to believe again in the successful conclusion of the conference. *China* was the next to strike a deal.

China finally accepted the text on transparency that had been holding up agreement on the next steps for nuclear disarmament (under paragraph 4 (c) of the 1995 Principles and Objectives adopted in 1995), and the Conference's negotiations on disarmament issues began to fall into place.

China's agreement and the final compromises from the NAC on the disarmament review paved the way for the disarmament sections to be agreed upon by the wider conference. At the same time, it is worth mentioning that after approval of the Final Document, China immediately dissociated itself from its provisions. Beijing did not spoil the NWS consensus or the general consensus at the conference, but the Chinese delegate, whose speech followed the adoption of the Final Document, said that transparency issues were too significant and sensitive for China and it could not be bound by the Final Document. Besides, China condemned the Final Document for inadequately addressing the global security situation. China started with criticizing the NMD system, which could destroy the ABM Treaty, and denounced interference into the internal affairs of other states, nuclear umbrella policy, and nuclear sharing. Finally, it became clear that China had not changed its position on linking the FMCT negotiations with the establishment of a body to discuss prevention of an arms race in outer space at the Conference on Disarmament, arguing that prevention of militarization of outer space was a higher priority than the FMCT talks.

As we have indicated above, the problems of universality were not a priority at the conference. The Final Document called on India and Pakistan to join the NPT as non-nuclear weapon states, to sign the CTBT, to join the FMCT talks and to strengthen national export controls.

It is noteworthy that during the conference in New York, New Delhi made an official statement saying that India was ready to comply with all requirements of nonproliferation policy as a nuclear-weapon state. India was criticized and was not criticized at the same time. Many experts pointed out that some influential States Parties were realistic, and regarded India as a non-recognized nuclear club member and only pretended to demand India's accession to the NPT as a non-nuclear weapon state. One could not help noticing French and Russian

willingness to do India a favor in order to boost nuclear cooperation with New Delhi.

The Final Document mentioned Israel six times as a State non-Party to the NPT and called for its immediate accession. The document also called on Israel to put its nuclear activity under IAEA safeguards. Israel was even named (once) as the only country in the Middle East that had not joined the treaty. The very fact of mentioning Israel is considered to be a significant U.S. concession. At the same time, the U.S. tried to make this concession be a bargaining chip in the Iraq issue as we will prove below.

One of the key U.S. requirements for the Final Document was condemnation of the two non-compliant states — North Korea and Iraq.

As far as the *DPRK* is concerned, the Final Document stated that the conference was concerned about the fact that, despite being a State Party to the NPT, North Korea did not provide the IAEA with opportunities to verify the credibility of its initial statement on the availability of nuclear material. Hence, the Agency was not able to make any conclusions about the non-use of nuclear material for defense purposes.¹⁰⁴ This provision did not face any resistance, since the North Korean delegation did not attend the conference.

Meanwhile, the debate on the wording of the Document concerning *Iraq* nearly derailed the conference.

In the concluding hours of the conference, the disagreement between the United States and Iraq became intense, as the participants of the conference realized that it could have a success on its hands. The U.S.-Iraq stand-off concerned the language of a few paragraphs in the draft paragraphs on regional issues. Because of the refusal of the Americans to meet the Iraqis face to face, Ambassador Christopher Westdal of Canada had been asked by Conference President Baali (Algeria) to continue his negotiations by shuttling from room to room, conveying messages and texts between the representatives of Iraq and the U.S.

On Saturday night, some delegations, including Russia, expected the conference would fail and sent appropriate messages to their governments.

Many states realized the need for criticizing Iraqi non-compliance under U.N. Security Council Resolution 687 but at the same time, they could

¹⁰⁴The Final Document of the 2000 NPT Review Conference, Article III and paragraphs 4 and 5 of the Preamble, especially in conjunction with Article VI and paragraphs 6 and 7 of the Preamble. NPT/CONF.2000/28 (Part I).

not but admit that from the legal point of view, the U.S. position was quite vulnerable. Russia and China, for example, backed Iraq. Russian diplomats rejected demands to call Moscow and ask Igor Ivanov to influence his Iraqi counterpart. France took a similar position.

As Friday (May 19) was *extended* into Saturday (May 20), the United States delegation became concerned about rumors that they might have been planning for a failed conference all along, and may never have intended the earlier agreements on disarmament to stick; having been surprised by the Russian and Chinese constructiveness on disarmament, the United States was now looking to Iraq to provide the scapegoat for wrecking the conference. There was also concern at the way in which the United States was using Iraqi non-compliance as a counterweight to Egypt's argument that Israel must be named as a non-adherent to the Treaty. Both were important, but the linkage made by the United States was not widely supported. In the end, following high level intervention from the U.S. State Department, the United States agreed to a form of wording that Iraq was also prepared to accept, noting the recent IAEA inspections and recognizing that since the

"Cessation of IAEA inspections in Iraq on 16 December 1998", the IAEA "has not been in a position to provide any assurance of Iraq's compliance under U.N. Security Council Resolution 687".¹⁰⁵

However, Security Council Resolution 1284 of December 17, 1999 on the establishment of UNMOVIC (which was not accepted by Iraq) was not mentioned in the text to the relief of Iraqis.

As a result of this breakthrough, the final document was adopted by consensus. It amalgamated the reports of the three Main Committees and two subsidiary bodies, and included the President's draft on "improving the effectiveness of the strengthened review process for the NPT". Despite being more than 24 hours later than scheduled following several sessions that extended deep into the night, there was relief that the NPT Review Conference, the first since the Treaty was indefinitely extended in 1995, ended so well.

By agreeing on the Final Document, the Review conference demonstrated that the world community was deeply interested in the continued maintenance of the nuclear nonproliferation regime as one of the cornerstones of international stability. The predictions of various analysts that the conference would fail to reach agreement on a final declaration and that some parties to the NPT may withdraw from the treaty turned out to be entirely pessimistic. The overall atmosphere at the

¹⁰⁵Ibid.

conference, according to many observers, was basically constructive, though, as expected, there were serious differences between participants on many issues.

According to a member of the Russian delegation,

"The conference should be regarded as a success, since the Final Document was adopted unexpectedly to many observers. This document is balanced and meets the interests of all State Parties to the NPT. Nuclear-weapon states should understand that they will have to carry out some difficult work, for the conference opened a new dimension in the debate on the future of nuclear weapons. And this new dimension cannot be ignored."¹⁰⁶

The 2000 Review Conference's achievement is all the more remarkable for taking place at a time of impasse in the disarmament field and deep political divisions between some of the nuclear powers, especially over the U.S. plans to deploy the NMD and, thus, to undermine the ABM Treaty.

And it could hardly go unnoticed that after the adoption of the Final Document the head of the Iraqi delegation approached the deputy head of the Russian delegation and thanked him for his support. Russian diplomats also exchanged warm thanks with Chinese counterparts — but there was no indication of a similar cordial exchange of gratitude with the U.S. delegation. The joint work was done, but during the past five years the parties drifted apart and considered each other to be interim partners in a tactical game. As far as strategic issues were concerned, Russia and the United States had a long list of differences by that time, from positions on Iran and UNMOVIC to strategic stability and missile defense matters.

Nuclear-Weapon-Free Zones

The problem of implementation of Article VI of the NPT is closely connected with compliance with Article VII pertaining to regional treaties on the establishment of nuclear-weapon-free zones. The article was included in the treaty by request of the non-nuclear weapon states.

More than 30 years after the signature of the Tlatelolco Treaty (which established the first NWFZ in Latin America and the Caribbean), the number of states covered by such zones has significantly increased and exceeds 100 nations. Practically the entire landmass of the southern hemisphere is free of nuclear weapons. The process of NWFZ

¹⁰⁶Report by Boris Kvok, Deputy Head of the Russian Delegation at the 2000 NPT Review Conference, at the PIR Research Council meeting, June 2, 2000.

establishment in the northern hemisphere is under way. For instance, nowadays work is being done to create a NWFZ in Central Asia. After the meeting of two Korean leaders in 1999 there is a chance of denuclearization of the Korean peninsula, in accordance with the 1992 declaration. The establishment of a WMD-free zone in the Middle East would ease tension in this region. A NWFZ in Central and Eastern Europe would reflect the reality and would help get rid of some shared concerns.

Russia officially supports the establishment of NWFZs in different parts of the world:

"We regard this as a substantial contribution to the development and consolidation of the nuclear nonproliferation regime [...]. By establishing the nuclear-weapon-free zone, the states parties make a practical contribution to the strengthening of regional and international security, enhance the level of mutual confidence and concord."¹⁰⁷

Russia is a member of the majority of international agreements pertaining to the establishment of such zones.

Russia, as the Soviet successor, joined Protocol 1 to the *Tlatelolco Treaty*¹⁰⁸ and Protocols 1 and 2 to the *Rarotonga Treaty* (establishing the NWFZ in the South Pacific).

Russia welcomed the signature of the *Treaty of Pelindaba* of April 11, 1996, which established the NWFZ in Africa. Russia considered this treaty to be a significant contribution to the strengthening of strategic stability and nonproliferation.¹⁰⁹ On November 5, 1996, Russia signed Protocols 1 and 2 to the treaty. At the same time, Russia has to take into account that a U.S. military base continues to be deployed on the island of Diego Garcia in the British Indian Ocean Territory. It is noteworthy that the U.K. and the United States excluded this base from the zone covered by the treaty. When they signed Protocol 3, they made a reservation that this territory in the Indian Ocean would not be covered by the provisions of the Treaty of Pelindaba.¹¹⁰

¹⁰⁷Statement by Minister of Foreign Affairs of the Russian Federation Igor Ivanov at the NPT Review Conference, New York, April 27, 2000. *Yaderny Kontrol*, No. 5, September-October 2000, p. 43.

¹⁰⁸For full entry into force of the Tlatelolco Treaty it should be ratified by Cuba, which signed the treaty in 1995, but has not yet ratified it.

¹⁰⁹The Treaty of Pelindaba was signed by 50 out of 53 African states, but was ratified only by 11 nations. For its entry into force, the treaty needs 27 ratifying states.

¹¹⁰Alexander Kalyadin, "Nerasprostraneniye: rol Rossii v stabilizatsii rezhima DNYAO (Nonproliferation: Russia's Role in Stabilization of the NPT Regime). In: Alexei Arbatov (ed.), *Razoruzheniye i bezopasnost (Disarmament and Security)*, 1997-1998. M., Nauka, 1997, p.125-126.

On December 15, 1995, seven ASEAN nations and Vietnam, Laos and Cambodia¹¹¹ signed the *Bangkok Treaty* establishing the NWFZ in South-East Asia. Russia, as an official partner of the ASEAN, endorsed the decision to create the NWFZ and pledged its intention to continue cooperation in improving the protocol to the treaty. The latter should contain realistic geographical limits, taking into account the interests of all nuclear-weapon states (including the principle of freedom of navigation, etc.). Russia has not yet signed the protocol (as well as the United States, France, and the U.K.) for the following reasons: Articles 1.a and 2.1 of the treaty expand the zone to EEZ of the States Parties (200 miles off the shore). This runs counter to international norms concerning the freedom of navigation. Nuclear-weapon states, including Russia, and the ASEAN nations hold consultations on a reinstatement of normal standards (coverage of territorial waters, i.e. 12 miles). The ASEAN nations agreed to make amendments to the protocol in October 1996, but the consultations continue and this is a difficult process. If such amendment is accepted, Russia and other nuclear-weapon states would sign the protocol.¹¹²

An important step to the nuclear-weapon-free world would be the establishment of the NWFZ in Central Asia, which would help to block proliferation of nuclear weapons. At present, there are no nuclear weapons in the region, but there is certain potential for their development (it is not a matter of complete fuel cycle).¹¹³ Some part of the territory of Central Asia (above all, in Kazakhstan and Kyrgyzstan) suffered from the Soviet nuclear tests in Semipalatinsk and there are some concerns pertaining to the Chinese test range in Lop Nor. So, antinuclear sentiments are quite strong in Central Asia. It is extremely important, taking into account geostrategic position of the region: it lies between Russia, China, Pakistan, and Iran. As a result, Uzbekistan set forth the idea of NWFZ and this initiative was further promoted by Kyrgyzstan¹¹⁴ at the 1995 NPT Review and Extension Conference. However, Russia did not back the idea at that time.

¹¹¹Vietnam, Laos, and Cambodia later joined the ASEAN.

¹¹²Ildar Akhtamzyan, "Zony, svobodnye ot yadernogo oruzhiya (Nuclear-Weapon-Free Zones)". In: *Yadernoye nerasprostraneniye (Nuclear Nonproliferation Textbook)*, p. 158.

¹¹³See: Valentin Zakharov, Andrei Sviridov, Ildar Akchurin, "Sostoyaniye yadernogo oruzheynogo kompleksa v stranakh blizhnego zarubezhya (The State of Nuclear Weapons Complex in Near Abroad)". *Yaderny Kontrol*, No. 13, January 1996, pp. 15-23.

¹¹⁴The background paper disseminated by the Kyrgyz delegation at the Conference noted that the NWFZ in Central Asia would contribute to peace, stability and security in the region, for the region laid between two powerful nuclear-weapon states. Kyrgyzstan hoped that the establishment of the NWFZ would induce them to reduce nuclear arsenals and to mitigate their policy of nuclear deterrence. In the south, the region borders two proliferation-sensitive zones (Iran, India, and Pakistan).

In the last six years, Russia has somehow changed its position with respect to NWFZ. For instance, in 1996 Igor Ivanov, then Deputy Foreign Minister, maintained, "Russia's principal position is to create as many nuclear-weapon-free zones as possible",¹¹⁵ while Sergei Medvedev, then Press Secretary of the President, confirmed that "Russia's official course is to establish nuclear-weapon-free zones everywhere where nuclear weapons are not deployed".¹¹⁶

After the Tashkent Conference of September 1997, where significant progress on NWFZ in Central Asia had been achieved, the Russian Foreign Ministry concluded that the process became irreversible and should not be ignored anymore. Besides, this process was smoothly incorporated into the structure of relations of political rivalry among the countries of the region. Before the Tashkent Conference, Moscow agreed in principle to the establishment of the NWFZ in Central Asia. This position was voiced in Tashkent by Igor Ivanov, then First Deputy Foreign Minister.

Russia's official position is as follows: the NWFZ in Central Asia should be established to strengthen regional security on the basis of international practice. Russia supports an open zone. At the first stage, it should cover five states — Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan, and Tajikistan. However, in the long run, other states should also have a chance to join the zone. Russia suggests no specific mechanism of accession, implying that this should be a consensus mechanism. The newly adopted states should have the same rights as the founders.

Russia emphasizes that only states of the region should enjoy the right to join the treaty. To specify this position, Russia speaks about adjacent states. The use of this term makes it impossible to define the region of Central Asia. At the same time, Russian experts admit that this term — adjacent states — has many shortcomings. They point out that this notion cannot be expanded to "neighbors of neighbors". Russian officials maintain that if any state joins the treaty, other countries adjacent to this new member will not automatically be entitled to accede to the zone (if they do not have a common border with any founding state). Thus, only Iran and Afghanistan may have the right to join the NWFZ in the future.¹¹⁷

As far as the transit of nuclear weapons and nuclear materials is concerned, Russia would like to have no restrictions on such transit and each party should have the right to decide for herself.

¹¹⁵Press conference at the MFA Press Center, April 19, 1996. *Federal News Service*, April 19, 1996.

¹¹⁶Interview of Sergei Medvedev by Vladimir Orlov, April 1996.

¹¹⁷Ivan Safranchuk, "The Russian Position on the Creation of a Nuclear-Weapon-Free Zone in Central Asia". *Yaderny Kontrol*, No. 4, September-October 1999, p. 43.

Many Russian analysts are concerned about the fact that the process involves many external powers, above all the United States. Moscow realizes the underlying motives for such involvement (financial support for preparatory activities):

"One should not preclude that the United States may try to use the process of the establishment of NWFZ, if the super-large role of external powers is provided in the draft of the treaty, as a tool for exerting political pressure on Russia and China, especially with respect to transparency of their nuclear programs and military activities in the border regions."¹¹⁸

During the discussions, the parties considered the following issue. Some maintained that until the status of the Caspian Sea was determined in line with international legal standards, it should not be covered by the treaty on the creation of the NWFZ in Central Asia. This is impossible for the time being because in formal terms the borders of the countries washed by the Caspian Sea run along the sea's edge.

Russian representatives believe that the text of the treaty must contain the following provision: "The treaty must not damage the rights and obligations of the member states under other effective international treaties and agreements." They mean the Collective Security Treaty (or the Tashkent Treaty).

It has to be pointed out that Russia insists on following established international practice in the creation of nuclear-free zones. At the same time Russian experts have suggested that the creation of a NWFZ in Central Asia is a unique process in a number of ways. Several distinguishing features can be identified. For example, the presence around and close to the zone of two *de jure* nuclear powers (Russia and China) and, close to the region, of three *de facto* nuclear countries (Israel, India, and Pakistan), and of Iran, a threshold country. Another distinctive feature is that the nuclear-free zone in Central Asia can be used to promote practical and fairly important political, military-political and geopolitical interests. Hence, the legal framework underlying such a zone will have to be created anew.¹¹⁹

Some analysts expected the treaty to be signed before the 2000 NPT Review Conference. However, the parties failed to come to an agreement. The Final Document of the Conference noted the significant progress achieved by five Central Asian states on the negotiations of such a treaty.¹²⁰ However, one has to admit that in the recent months the talks

¹¹⁸Ivan Safranchuk, "The Russian Position on the Creation of a Nuclear-Weapon-Free Zone in Central Asia". *Yaderny Kontrol*, No. 4, September-October 1999, p. 45.

¹¹⁹*Ibid.*, p. 40.

¹²⁰The Final Document of the 2000 NPT Review Conference. NPT/CONF.2000/28 (Part I).

have stalled.¹²¹ One of the potential participants (Turkmenistan) avoids any participation in the appropriate activities.

The problem of the establishment of NWFZ in Central and Eastern Europe can hardly be resolved, given the current political situation. However, the idea itself is quite timely.

Belarus first set forth the initiative of creating a nuclear-weapon-free space in Central and Eastern Europe in 1990. It later reiterated its proposal (now as a sovereign state) in 1995 at the NPT Review and Extension Conference.¹²² According to Volodymyr Chumak, a Ukrainian expert,

"Every large political initiative may get a positive response only if it is linked to the current political situation, i.e. it should emerge when the world is ripe for this idea. And the concept of creating a nuclear-weapon-free zone in Europe is not an exception."¹²³

In fact, examples of previous anti-nuclear regional initiatives include the 1957 Rapatsky plan, the 1958 Tito plan, and the 1963 Kekkonen plan, but these proposals did not gain any practical momentum in Europe.

Russia paid attention to the Belarusian initiative in 1996, when the problem of imminent NATO enlargement emerged. NATO was going to admit Poland, the Czech Republic, and Hungary, which, theoretically, could deploy U.S. nuclear weapons on their territories.

On the eve of the 1996 Moscow Nuclear Safety and Security Summit, the Russian delegation mentioned in its background papers,

"Unfortunately, there is [...] quite a dangerous trend, when some Eastern European States Parties to the NPT seemingly do not comprehend the letter and the spirit of this important international document and express their willingness to deploy on their territory nuclear weapons of other nations. In our opinion, to implement the decisions of the New York Conference [...] it is advisable [...] to intensify the

¹²¹Scott Parrish, "Prospects for Central Asian Nuclear-Weapon-Free Zone." *Nonproliferation Review*, No. 1, Vol. 8, Spring 2001, pp. 145-146.

¹²²At the NPT Review and Extension Conference Vladimir Senyko, Belarusian Foreign Minister, pointed out the importance of NWFZs and recalled that his country "mentioned the possibility of establishing such a zone in Central Europe in 1990. Today, after Ukrainian's decision on its non-nuclear status, one may speak about the opportunity [...] to realize this concept. We, however, are slightly concerned about the possible risk that more and more places in Europe may be used to deploy nuclear weapons if NATO expands". NPT\CONF.1995\32 (Part III), p. 24-25.

¹²³Volodymyr Chumak, "Budet li Evropa bezyadernoy zonoj (Will Europe Be Free of Nuclear Weapons?)" *Yaderny Kontrol*, No. 18-19, 1996, p. 27.

actions to prevent proliferation of nuclear weapons in Eastern Europe. Besides, at present, it would be reasonable to focus joint efforts on promoting the establishment of regional nuclear-weapon-free zones and WMD-free zones. Indeed, the Conference demonstrated high interest of the international community in establishing such zones. Most promising initiatives in this respect would be to create zones in the Middle East, Africa, and in the long run, in Central Europe".¹²⁴

On August 26, 1996, President Yeltsin sent a letter to President Lukashenko and expressed Russia's official support for the Belarusian initiative on a nuclear-weapon-free space in Central and Eastern Europe.¹²⁵

The Belarusian initiative was promoted by Minsk, as a serious foreign policy objective¹²⁶, but it did not have any specifications. Many things were not clear: geographical parameters of the future zone, procedures for negotiating the agreement, which model of NWFZ should be used, etc. This lack of specifics diminished the effect of the Belarusian proposal.¹²⁷ It is understood that the effect was even more diminished by the European attitude towards the Belarusian leader. Finally, even Ukraine abandoned the idea, although at first, positions of Kiyv and Minsk were quite similar.¹²⁸

Among all potential parties to the would-be NWFZ, only Croatia and Slovenia expressed their interest in the idea. Poland and the Czech Republic unequivocally opposed the initiative.

None of the NATO states responded positively to the concept, albeit President Chirac and Malcolm Rifkind, British Foreign Minister, showed some interest, which made Belarus conclude that these states had a

¹²⁴Nuclear Safety and Security. Nonproliferation of Nuclear Weapons. Moscow Nuclear Safety and Security Summit. Materials of the Russian delegation, pp. 40-41.

¹²⁵*Nezavisimaya Gazeta*, September 19, 1996, p. 3.

¹²⁶*Izvestiya*, August 30, 1996, p. 2

¹²⁷On possible geographical parameters of the NWFZ in Central and Eastern Europe, see: Ian Pravitz, "Zona, svobodnaya ot yadernogo oruzhiya ot Chernogo do Baltiiskogo morei (NWFZ from the Black Sea to the Baltic Sea)". *Yaderny Kontrol*, No. 23, November 1996, pp. 19-21.

¹²⁸At the NPT Review and Extension Conference, Anatoly Zlenko, who headed the Ukrainian delegation, generally endorsed the Belarusian initiative; this enabled some analysts to speak about a joint initiative of two states. The official Ukrainian policy was voiced by President Leonid Kuchma during his meeting with President of the National Council of Austria Heinz Fischer, "Ukraine stands for nuclear-weapon-free territory of Central and Eastern Europe." President Kuchma argued that this principle should be fixed in appropriate international documents (Interfax-Ukraine, May 29, 1996). Ukrainian Foreign Minister Gennady Udoenko maintained that "Ukraine would never agree to the possibility of nuclear arms deployment on the territory of new NATO members." According to the minister, the agreement on a NWFZ would become a significant element of stability in Europe (*Interfax*, June 22, 1996).

generally positive attitude to the initiative.¹²⁹ However, this conclusion was wrong. Chancellor Kohl directly opposed the idea of a NWFZ in Central and Eastern Europe.¹³⁰

In July 1996, James Collins, U.S. ambassador-at-large to the CIS (who later became U.S. ambassador to Russia), stated that the NATO leadership decided not to deploy nuclear weapons on the territory of Eastern Europe and found it unreasonable to deploy nuclear missiles on the territory of new would-be members and saw no need for this. The ambassador noted that the U.S. Government would take into account the appeal of the deputies of the Supreme Soviet of Belarus, who had set forth the initiative of non-deployment of foreign military bases on the territory of Eastern European countries.¹³¹

Western response to the Belarusian initiative was finally formulated only in December 1996. U.S. Secretary of State Warren Christopher maintained on December 10, 1996 (it was also mentioned by U.S. Secretary of Defense William Perry on December 4, 1996 and reiterated in the statement of the NATO Council of December 10, 1996) that NATO did not intend (at the political, but not legal level) to deploy nuclear weapons in times of peace on the territory of new member states.¹³² Thus, the Belarusian initiative was neither rejected nor accepted.

It is noteworthy that by endorsing the Alexander Lukashenko initiative without ensuring Kiyv's positive response, Moscow played a losing game. This was proven at the 2000 NPT Review Conference, when the forum ignored persistent Belarusian proposals to incorporate into the Final Document any mentioning of its initiative on a nuclear-weapon-free space in Central and Eastern Europe. Minsk argued that it was not going to open debate on this issue, but to demonstrate its vision of the movement toward nuclear-weapon-free world.¹³³ So, this time the policy of Belarus was quite modest, but nonetheless, it received a negative response from some states, such as Poland. Belarus appealed to all parties concerned "to commence a broad dialogue on this initiative, which may become a starting point for creation of a nuclear-weapon-free and secure world" was blocked.

¹²⁹Ian Pravitz, "Zona, svobodnaya ot yadernogo oruzhiya ot Chernogo do Baltiiskogo moray (NWFZ from the Black Sea to the Baltic Sea)". *Yaderny Kontrol*, No. 23, November 1996, pp. 19-21.

¹³⁰Vladimir Orlov, "Yaderny sammit v Moskve: podvodya itogi (Nuclear Summit in Moscow: Summing up the Results)". *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 7.

¹³¹*Interfax*, July 18, 1996.

¹³²*Reuters*, December 10, 1996.

¹³³See: Nuclear-Weapon-Free Zones. Working paper submitted by Belarus.

Unfortunately, this proposal, which completely complied with the spirit of the NPT, was rejected by Central and Eastern European nations and the NPT Review Conference disregarded this initiative (it could have, at least, stated the existence of such a proposal).

At the final stage of the Conference, Belarus might have struggled for including the initiative in the Final Document in this or that form, but Minsk preferred not to do this in order not undermine the consensus.

The authors believe that gradual establishment of the NWFZ in Central and Eastern Europe would have helped to ease tension in Europe and in international relations, and to eradicate some mutual concerns. This step would meet international norms of NWFZ establishment and would contribute to the strengthening of the nuclear nonproliferation regime. The NWFZ in Central and Eastern Europe would not contradict the current military-political reality in Europe, would not infringe anybody's interests, would not make anybody step back, or reduce, or eliminate anything. The NWFZ in Central and Eastern Europe emerged *de facto* after the demise of the Warsaw Pact and the collapse of the Soviet Union (when nuclear weapons were withdrawn from Ukraine and Belarus). So, the zone could be established *de jure*. However, it is obvious that the establishment of a NWFZ is impossible without desire of the potential parties to the zone. This is why the initiative may be discussed by the expert community, but it is not on the agenda of any inter-state negotiations.

Another step to promote the spirit of the NPT would be to conclude an agreement on non-deployment of nuclear weapons beyond the national territories of nuclear-weapon states. At the same time, each NWS can do so unilaterally and voluntarily. Russia's position is that its contribution to the consolidation of NWFZs in the world is non-deployment of nukes beyond the Russian territory. Russia urges other nuclear-weapon states to follow this example.¹³⁴

This proposal was first set forth by President Yeltsin at the Moscow Nuclear Safety and Security Summit,

"Russia undertook energetic efforts to concentrate swiftly all Soviet nuclear weapons on the Russian territory. I believe it is our common interest to ensure that nuclear weapons of all nuclear-weapon states are consolidated within their national territories."¹³⁵

¹³⁴Statement by Minister of Foreign Affairs of the Russian Federation Igor Ivanov at the NPT Review Conference, New York, April 27, 2000. *Yaderny Kontrol*, No. 5, September-October 2000, p. 43.

¹³⁵Speech by President Boris Yeltsin at the Moscow Nuclear Safety and Security Summit, April 20, 1996.

Looking at the text of the NPT, one will not see any requirement concerning deployment of nuclear weapons within or beyond national territories. At the same time, the experience of the nuclear age demonstrates that every time nukes were deployed beyond national territory (the USSR in Cuba or in Poland, Hungary, and Czechoslovakia; the United States in Turkey, Italy, Belgium, and Germany, etc.), international tensions were present.

Deployment of nukes beyond national territory is not a violation of the NPT, but it runs counter to the spirit of the treaty. How can one speak about non-nuclear status of the countries whose territory is used for deployment of foreign nuclear weapons, even if such countries have no control of these nukes? This is why many nations go further and establish NWFZ to prevent not only possession of nuclear arms, but also their deployment and transit.

The aforementioned (Chapter 1) *Ukrainian precedent* has clearly indicated that simple presence of nuclear weapons of one state on the territory of the other (even without right to access them) creates a certain temptation to obtain rights to these weapons.

Today, U.S. nuclear weapons are deployed beyond its territory. To diminish proliferation risks, it would be useful to withdraw U.S. nukes from Western Europe.

Among NATO member states, only Canada endorsed Russia's proposal. Among nuclear-weapon states, only China set forth a similar initiative. France noted that this idea was not completely unacceptable to Paris.

The Final Document does not contain the Russian-Chinese demand for not deploying nuclear weapons beyond national territory¹³⁶ (this issue was not actively discussed at the conference). The U.S. told its N-5 counterparts in the informal talks that this was not a matter for discussion.

¹³⁶See: Working paper submitted by China. NPT/Conf.2000/MC.I/WP.2, May 1, 2000, p. 2.

CHAPTER III. U.S.-RUSSIAN RELATIONS IN NONPROLIFERATION AND DISARMAMENT: PROSPECTS FOR DIALOGUE AND COOPERATION

Interrelationship between Nonproliferation and Disarmament

In the 1990s, U.S.-Russian relations in the area of nuclear nonproliferation and arms control were developing unevenly. In the early 1990s, the two powers maintained an active and fruitful cooperation, which resulted in a number of substantial achievements. Among them were the 1991 Presidential Initiatives to withdraw tactical nuclear weapons to centralized storage locations, joint efforts to ensure non-nuclear status of Ukraine, Belarus and Kazakhstan and their accession to the NPT, indefinite extension of the NPT at the 1995 NPT Conference, conclusion of the START I and START II Treaties and of the CTBT, and launching of the Cooperative Threat Reduction (Nunn-Lugar) Program. Russia and the U.S. managed to secure concerted efforts at the early stage of Iraq's disarmament when its clandestine nuclear program was discovered.

However, as the nuclear powers moved to the edge of the new millennium, their interaction began to skid. The State Duma delayed the ratification of START II for many years, and the ratification law eventually contained several pre-conditions for Russia's compliance with the Treaty. The United States Congress ratified START II earlier, but ignored the 1997 additions to the treaty and does not intend to ratify them. Hence, the treaty is *poised in mid-air* and there seems to be no way out of this uncertainty. The Senate refused to ratify the CTBT in 1999. Many important problems emerged with respect to the maintenance of the international nonproliferation regime, especially in connection with its regional aspects (e.g. nuclear activities of Iran and some other states).

The most controversial issue was the U.S. decision to deploy the NMD system, which called into question further progress in nuclear arms reductions, due to objections of Russia and China. The opponents of the NMD believe that the system will undermine strategic stability and the entire process of arms control.

NMD plans led to the stagnation of the multilateral disarmament process, in which the two nuclear powers have always played the leading part. The dialogue at the Conference on Disarmament (CD) in Geneva has been stalled for five years and the parties cannot come to an agreement even to commence negotiations on some urgent arms control matters, such as the FMCT, despite the 1993 unanimous decision of the UN General Assembly to this effect.

In spite of those negative trends, U.S.-Russian relations in the area of nonproliferation and arms control have a sound basis for being maintained at a normal level and even for further constructive development. There are a number of factors contributing to this process.

The most important among them is the end of the Cold War. The parties no longer regard each other as enemies and have even proclaimed partnership. The START I Treaty has been successfully implemented under mutual verification. Russia and the United States continue dismantlement of nuclear munitions. In 2000, the two countries demonstrated political wisdom and overcame their differences in order to ensure the adoption of the Final Document at the NPT Review Conference. The implementation of the CTR Program is under way, though there are certain shortcomings in its practical execution. The program is essential to enhance MPC&A in the former Soviet Union and, therefore, to promote nuclear threat reduction and to prevent WMD proliferation. In 1999, the CTR Program was extended for another seven years until June 2006. The HEU-LEU deal is being carried out. The agreement envisages selling of 500 tons of downblended highly enriched uranium from the Russian military stockpiles to the United States. In 2000, the parties signed agreements on the disposition of U.S. and Russian weapon-grade plutonium and on the establishment of the Joint Center for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches in Moscow. This list of success stories could be continued.

The parties should not only continue the bilateral dialogue and cooperation, but should substantially intensify this interaction. Moreover, despite certain difficulties there are serious prospects for achieving further progress of the two powers and of the international community in the area of nuclear nonproliferation and disarmament.

New administrations have come to power in the two states. They are less dependent on the legacy of the past and tend to review approaches towards principal military and political issues facing the two powers and the world at large in the new century. Hopefully, the leaders will take decisions enabling them to solve many problems that have emerged in recent years. The recent summit in Texas has confirmed that positive trend.

The 2000 NPT Review Conference and the UN Millennium Summit have clearly demonstrated that the world is entering a new phase in nuclear nonproliferation, when nonproliferation and disarmament issues become closely interconnected. Specific aspects of nonproliferation, such as export controls, physical protection of nuclear materials, upgrading of IAEA safeguards, will still exist and require optimal solutions, but the

core of nonproliferation — universality of the regime and the prevention of emergence of new nuclear-weapon states among the NPT State Parties (we can hardly rule out this opportunity) — cannot be achieved without persistent progress in nuclear disarmament. And it is logical that the principal decision of the 1995 NPT Review and Extension Conference is called "Principles and Objectives for Nuclear Nonproliferation *and Disarmament*"¹ and the 2000 Final Document emphasizes repeatedly the correlation between nonproliferation and arms control.

Role of Nuclear Weapons and Relevance of Nuclear Deterrence in the Modern International System

One can hardly deny that since the late 1980s and early 1990s, the role of nuclear weapons has been diminishing, even though during these years there were some apprehensions over the emergence of new nuclear-weapon states (Ukraine, Iraq, North Korea) and in 1998 India and Pakistan conducted a series of nuclear tests to demonstrate the existence of their nuclear potential. Many developments in the nuclear sphere throughout this period, which we have mentioned above, indicate that nuclear weapons are steadily losing their significance, albeit complete nuclear disarmament is still a faraway goal.

Nonetheless, many military experts and political analysts (normally referred to as traditionalists or realists) contend that nuclear weapons are still useful, and, hence, preserve their prestige and legitimacy which justifies their existence for the future. This reliance on nuclear weapons which is reflected in modern military doctrines of nuclear-weapon states originates from the nuclear *catechism* professed and promoted for decades by fanatic adherents of nuclear arms, who believed in their sacred mission.

These views have been canonized and cannot be easily ignored. It is difficult to get rid of this indoctrination for those who survived the Cold War confrontation and were brought up with slogans in favor of nuclear weapons. The United States developed nuclear weapons thanks to the initiative and active participation of a large group of European scientists, who defected from the persecution of the Nazis and convinced Washington that Adolf Hitler could be the first to obtain the secret weapon. There was no doubt either about the Soviet nuclear buildup, since this shield was developed to confront the U.S. nuclear monopoly and to protect industrial facilities and large residential areas from U.S. nuclear strikes at a time when such a threat was quite realistic. Fears of Western Europe about a possible invasion by the Warsaw Treaty conventional forces, whose superiority in arms and numerical strength

¹ Emphasis added.

forced NATO to possess large arsenals of nuclear weapons (whether such concerns were justified or ill-grounded) were also understandable.

But one has to admit that the unrestrained nuclear arms race, development of successive generations of needless nuclear weapons only fuelled the confrontation between the two blocs and placed enormous financial burden on the shoulders of the civilian population. And finally, one party went broke and failed to continue to carry this burden.

The arms race resulted in the emergence of huge military bureaucracies and large military-industrial complexes with their exorbitant demands, and led to growing enmity, fanaticism, false patriotism, demonization and misperception of mutual intentions. Can it be considered rational that, in accordance with the U.S. Single Integrated Operational Plan (SIOP), not so long ago (in 1989) more than 12,500 nuclear warheads were targeted at the USSR? For instance, Kiyv alone was a target for about 40 warheads!²

Now that more than a decade has passed since the end of the Cold War, the consequences of this multi-year total psychosis can still be felt. The Cold War drama is still alive in the minds of many people, including those who decide the fate of war and peace, develop military and strategic doctrines and are responsible for maintaining international peace and security.

We believe that the lessons of the Cold War have not yet been completely realized and taken into full account. There has been no serious assessment of possible implications of the nuclear war that could have been waged at that time and cannot be absolutely ruled out nowadays, when tremendous nuclear arsenals and traditional nuclear thinking still exist. And it would be irresponsible to charge future historians and military analysts with this task that we are facing now. It would be unreasonable and inexcusable to leave for the future generations the present threat of accidental nuclear war and other dangers related to the existence of nuclear weapons. Solutions are needed and should be found today and they are of relevance both to present-day nuclear *haves* and to those who may want to join the nuclear club in the future.

The most widespread (but not widely accepted) explanation for the existence of nuclear arsenals and constant desire to modernize nuclear weapons is their perceived deterrence capability, i.e. their ability to deter the potential adversary against challenging the national security of a given state.

² Janne E. Nolan, "Preparing for the Nuclear Posture Review". *Arms Control Today*, Vol. 30, No. 9, November 2000, p. 10. One can hardly doubt that Soviet generals envisaged the same scale of launch-on-attack strikes against the territory of the United States and its military allies.

Nonetheless, many experts have always called into question the adequacy of nuclear deterrence for maintaining international stability and security of individual states, although some political scholars and the military remain ardent proponents of deterrence.³

But even if we imagine for a moment that during the Cold War nuclear deterrence was understandable, due to the East-West military-political and ideological confrontation and the necessity of military preparedness for the worst-case scenario, what are the rational reasons for deterrence after the end of the Cold War?

Even in the most difficult moments of the Cold War responsible politicians never dared, whatever the criticality of the situation, to use nuclear weapons. U.S. political scientist Timothy Botti wrote in his study *"Ace in the Hole"*:

"[S]ince the late 1960s nuclear war between the U.S. and Soviet Union (now Russia) has become pointless because much of the world would be destroyed in the first hours of such a conflict. The majority opinion of politicians, historians and other observers continues to insist that any use of nuclear weapons is wrong".⁴

He wrote further:

"The single most persuasive argument against using nuclear weapons is the danger that by employing them the U.S. will encourage other nuclear weapons to make similar decisions in the future".⁵

According to another competent expert, Gen. Lee Butler, who was Commander-in-Chief of the U.S. Strategic Command in the early 1990s, after the Cold War he sees

³ Among recent works that were published after the Cold War, we can note an article by Colin Gray, Professor at the University of Hull (U.K.), "To Confuse Ourselves: Nuclear Fallacies" in the collection of articles — John Baylis and Robert O'Neill (eds.), *Alternative Nuclear Futures. The Role of Nuclear Weapons in the Post-Cold War World*. Oxford University Press, 2000, pp. 4-30. Colin Gray argues, without giving any convincing evidence, that "the nuclear era is with us forever"; "nuclear non-proliferation, anti-proliferation, and counter-proliferation ultimately will not work"; "deterrence is wonderful, if achievable"; our objective is "how to live prudently in a nuclear era that we cannot annul". Some Russian experts also support the idea of nuclear deterrence. For instance, a scientist of the VNIIEF (Sarov) Sergei Brezkun wrote that "for Russia, preservation of its nuclear deterrence might is the guarantee for its historical future" and Russia "can have the only approach to this problem — multilateral strengthening of ideological and material basis of nuclear deterrence" (*Nezavisimoye Voennoye Obozreniye*, No. 41, 2000).

⁴ Timothy J. Botti, *Ace in the Hole. Why the United States Did not Use Nuclear Weapons in the Cold War, 1945 to 1965*. Westport, Connecticut, and London, Greenwood Press, 1996, pp. 250-51.

⁵ Ibid.

"[d]eterrence in a very different light. Appropriated from the lexicon of conventional warfare, this simple prescription for adequate military preparedness became in a nuclear age a formula for unmitigated catastrophe. It was premised on a litany of unwarranted assumptions, unprovable assertions, and logical contradictions. It suspended rational thinking about the ultimate aim of national security: to ensure the survival of the nation".⁶

And he raises the question:

"How is it that we subscribed to a strategy of an enemy from whom we were deeply alienated and largely isolated? How could we pretend to understand the motivations and intentions of the Soviet leadership absent any substantive personal association? Why did we imagine a nation that had survived successive invasions and mind-numbing losses would accede to a strategy premised on fear of nuclear war? Deterrence in the cold war setting was fatally flawed at the most fundamental level of human psychology [...] Little wonder that intentions and motives were consistently misread. Little wonder that deterrence was the first victim of a deepening crisis, leaving the antagonists to grope fearfully in a fog of mutual misperceptions. While we clung to the notion that nuclear war could be reliably deterred, Soviet leaders derived from their historical experience the conviction that such a war might be thrust upon them and, if so, must not be lost. Driven by that fear, they took Herculean measures to fight and survive no matter the odds or the costs. Deterrence was a dialogue of the blind with the deaf".⁷

In fact, despite attempts at deterrence, aided by the availability and demonstration of military force, non-nuclear warfare led to the defeat of one party, which, however, could quickly restore and could even thrive, but the situation is different in the nuclear age, when any error is irremediable. Humanity has many times been at the edge of lethal drama — let us remember the ominous Cuban Missile Crisis — and no one can preclude such situations in the future.

Robert McNamara, U.S. Secretary of Defense during the Cuban Missile Crisis, wrote in 2000:

"1. The experience of the Cuban Missile Crisis in 1962 — and, in particular, what has been learnt about it recently⁸ — makes clear that so long as we and other great

⁶ Lee Butler, "Risks of Cold-War Thinking in a New Era". In: *Alternative Nuclear Futures*, p. 187.

⁷ Ibid.

⁸ Robert McNamara had in mind new facts revealed at five meetings of participants of the 1962 developments, which were held in 1987-1992. Those meetings demonstrated that both parties were ill-informed about each other's intentions, made mistakes and arrived at wrong conclusions concerning each other's actions. Robert McNamara points out that during the crisis the United States did not know that the USSR possessed 162 nuclear warheads in Cuba, including 90 tactical nukes. At the most critical moment of the crisis (October 26, 1962) the warheads were moved from storage to positions near delivery systems, since Moscow expected U.S. invasion of Cuba.

powers possess large inventories of nuclear weapons, we will face the risk of their use and the destruction of our nation.

2. That risk is no longer — if it ever was — justifiable on military grounds.

3. In recent years, there has been a dramatic change in the thinking of leading Western security experts — both military and civilian — regarding the military utility of nuclear weapons. More and more of them, although certainly not yet a majority, are expressing views similar to those I have stated."⁹

Lawrence Freedman, Professor at King's College, London, who supports the concept of nuclear deterrence, has recently stated that during the Cold War deterrence

"[s]eemed to work. Exactly how it worked was often difficult to explain, and historians can point to some terrifying moments when catastrophe was just around the corner. But World War III did not happen [...]"

One conclusion that might be drawn from the Cold War experience is that deterrence worked because it was not asked to do too much. The East-West conflict became institutionalized and relatively stable over time [...] The act of deterrence may be no more than a hint here and a quiet word there, sufficient indication that the possibility of the offending act has been noted and preparations are being made [...]"

But there was a growing weariness surrounding even this attenuated form of nuclear deterrence, reflecting moral unease about such dependence upon threats of mass destruction and the nagging fear that something could go terribly wrong, even in the absence of active belligerence by either superpower."¹⁰

Freedman believes that after the Cold War "deterrence is marginal, tangential, or speculative",¹¹ but still cannot be ignored.

The concept of deterrence had a negative impact on the structure of armed forces, on directions of military research and industrial development, let alone enormous spending on military science and huge stockpiles of missile and nuclear weapons. It is common knowledge that militarization of science and industry in the Soviet Union (as well as in other nuclear-weapon states) reached an unprecedented scale. At the same time, the nuclear arms race, whose domination determined the priorities of military development, ruled out the possibility of creating weapons required for a compact and mobile conventional army. The

⁹ Robert McNamara, "War in the Twenty-First Century". In: *Alternative Nuclear Futures*, pp. 175-177.

¹⁰ Lawrence Freedman, "Does Deterrence Have a Future?" *Arms Control Today*, Vol. 30, No. 8, October 2000, pp. 3-8.

¹¹ Ibid.

latter should be equipped with high-precision and other advanced weapons to meet present and future security challenges facing Russia.

The competition in producing new generations of nuclear weapons fuelled animosity, whose consequences Russia and the United States feel even today. The most harmful result of this total *mania* was a distorted perception of each other's intentions, which affected the mentality of military-political elite and broader public. This demonization impeded and seems to continue to impair the search for mutual accommodation and movement towards nuclear threat reduction and nuclear disarmament.

It appears to be an axiom that at any time during the Cold War or in the post-Cold War period nuclear deterrence cannot by its nature play the role of efficient deterrent in case of accidental or unauthorized launch of a ballistic or a cruise missile armed with a nuclear warhead.¹²

It is obvious that the very concept of nuclear deterrence depends to a large extent on the characteristics of the early warning system. In other words, the core of nuclear deterrence — the possibility of a launch-on-attack strike — requires high, or even absolute reliability in identifying the fact of attack and the aggressor. The price of missing the missile strike, or air attack, or of giving false warning is extremely high. If the launch-on-attack strike involves ICBMs, SLBMs and strategic Air Force units, information about the attack and the aggressor should be totally accurate.

The most difficult task in this respect would be to identify the nationality of sea-launched and air-based ballistic and cruise missiles. The more states possess such capabilities, the more complicated this mission will be, since such weapons can be launched from neutral waters or airspace over a foreign territory. Hence, the very basics of deterrence are undermined, for it is impossible to define the targets for a launch-on-attack strike. Moreover, in theory, one cannot rule out the possibility of provocations on the part of a third nation, which may result in an armed conflict between two other states.¹³

¹²See, for example, Bruno Tertrais, Assistant to the Director of Strategic Affairs, French Defense Ministry (Ivan Safranchuk (ed.), "U.S. NMD: Implications for Strategic Stability and Arms Control". *PIR Study Paper*, No. 15, September 2000, p. 9).

¹³The aforementioned analysis was made by Yevgeny Sirotinin, Yuri Podgornykh and Sergei Bachevsky — experts of the military institution of the Air Defense Forces in Tver, Russia. They concluded that the proliferation of SLBMs and long-range cruise missiles undermines deterrence based on mutual assured destruction. And if the parties fail to curb such proliferation, the only way to preserve deterrence is to develop a joint system of missile and air defense (Ivan Safranchuk (ed.), "U.S. NMD: Implications for Strategic Stability and Arms Control". *PIR Study Paper*, No. 15, September 2000, pp. 68-69).

The outbreak of violence on the Indian-Pakistani border — a long-protracted conflict for Jammu and Kashmir — clearly demonstrated the dangers of nuclear deterrence and its inability to maintain peace and security. The hostilities took place in the spring of 1999, i.e. after the 1998 nuclear tests by India and Pakistan. Although the draft nuclear doctrine based on minimal deterrent appeared in India when this bloody conflict had abated (in August 1999), both parties engaged in large-scale military operations had nuclear arsenals "behind their backs". According to Indian experts Praful Bidwai and Achin Vanaik, during five weeks of hostilities in the Kargil sector, the casualties amounted to approximately 1,500 people (Indian sources name 1,300, while Pakistan insists on 1,750) and the parties exchanged direct or indirect nuclear threats 13 times (!).¹⁴

A Pakistani expert, Prof., Dr. Pervez Hoodbhoy, Department of Physics at the Quaid-I-Azam University, made a similar assessment:

"And finally I come to what our nuclear hawks used to say. They used to say that its the end of war, that nuclear weapons have made both sides so totally secure that there will be no war. One year ago that was proved to be utterly and totally false. In fact you might note this as perhaps the first event in history when nuclear weapons actually initiated a war and made possible the war although they also helped in limiting it. And I refer to the Kargil invasion, to the Kargil war. Behind that was the Pakistani belief that they need to liberate Kashmir and the only way to do that is to bleed India. Now, they would like to bleed India, but they don't want a war with India because of the relative conventional military imbalance. However, with the presence of a nuclear shield it is then possible to engage in covert operations and therefore Pakistan launched a war on the sly exacting great casualties among the Indians, losing ultimately diplomatically, but it is probably a military victory, although it is hard to say.

Yet, this is such a clear indication that nuclear weapons can actually aggravate the situation, can actually cause wars. And this flies completely in the face of conventional deterrence theory."¹⁵

Thus, nuclear weapons did not help to contain the protracted conflict, but on the contrary, increased the possibility of war between India and Pakistan. During his visit to South Asia in 2000, President Clinton stated that the Indian sub-continent was the most dangerous place in the world.¹⁶ Achin Vanaik, whom we cited above, wrote in October 2000 that "relations between the two neighbors are today at perhaps their lowest ebb in post-

¹⁴Praful Bidwai, Achin Vanaik, *New Nukes. India, Pakistan and Global Nuclear Disarmament*. New York, Interlink Books, 2000, pp. xi-xii.

¹⁵Report by Dr. Hoodbhoy at the Moscow International Nonproliferation Conference held by the PIR Center and the Moscow Carnegie Center, October 7, 2000. (www.pircenter.org/Russia/conference).

¹⁶*PPNN Newsbrief*, No. 52, 3rd Quarter 2000, p. 22.

independence history".¹⁷ Another Indian expert P.R. Chari, Director of the Institute of Peace and Conflict Studies, also believes that Indian-Pakistani relations were exacerbated after the nuclear tests.¹⁸ Who could dare to say that during the next phase of the Kashmir conflict either party will be strong enough to avoid a dangerous step with irremediable consequences?

Furthermore, nuclear nonproliferation has become a victim of theory and practice of nuclear deterrence. In the process of negotiating and promoting the universalization of the NPT, the United States and the Soviet Union continued a nuclear arms race. As a result, the treaty, in fact, has some inherent seeds of discord between NWS and NNWS. Genuine nuclear nonproliferation cannot be based on incompatible principles — some State Parties built up and will continue to preserve for indefinite time their nuclear arsenals (even though they are gradually being reduced) allegedly for the sake of deterrence, whereas other nations have to abide by the 1995 NPT Review and Extension Conference decision for indefinite extension of the treaty. It would be hypocritical to speak about universality without abandoning the concept of nuclear deterrence and without taking resolute measures to eliminate nuclear weapons. The calls for universality voiced at the 1995 and 2000 Review Conferences if not combined with the abandonment of deterrence have no use not only for the nations not covered by the NPT (India, Pakistan, Israel), but, under certain consequences, even for developed State Parties, whose industrial capabilities may enable them to create nuclear weapons in the event they take a decision to that effect (Japan, Germany, South Korea, North Korea, Iran, and, perhaps, some other countries).

According to a U.S. analyst Johnathan Schell,

"These real alternatives are, on the one hand, the unrestricted proliferation of nuclear weapons [...] and, on the other, the abolition of nuclear weapons by international agreement. The current American policy is to try to stop proliferation while simultaneously continuing to hold on to its own nuclear arsenal indefinitely. But these objectives are contradictory. The policy based on them is the equivalent — in the context of the nuclear dilemma as it exists at the opening of the twenty-first century — of appeasement in the 1930s and the surreptitious escalation and Vietnamization in the late 1960s and early 1970s. To govern is to choose. The current policy is a way of avoiding choice — a policy without traction in the world as it really is. Meanwhile, as in the earlier dilemmas, both the danger and the cost of dealing with it mount. For in the absence of a decision, events are drifting toward one of the real possible outcomes, namely, uncontrolled proliferation. In politics as in physics, entropy is a recipe for anarchy."

¹⁷Achin Vanaik, "Failing the Test: International Mismanagement of the South Asia Nuclear Crisis". *Disarmament Diplomacy*, No. 51, October 2000, p. 8.

¹⁸P.R. Chari, "India's Nuclear Doctrine: Confused Ambitions". *Nonproliferation Review*, Vol. 7, No. 3, Fall-Winter 2000, p. 127.

And he continued:

"The clear lesson of history is that nuclear arsenals breed nuclear arsenals."¹⁹

Another mistake related to nuclear deterrence is popular with the military and other strategists, who assume that deterrence serves to contain the use of other WMD, i.e. chemical and biological weapons. This idea has repeatedly been declared by senior U.S. military. The Russian military doctrine approved by President Putin on April 21, 2000, also maintains that

"The Russian Federation keeps the right to use nuclear weapons first in response to the use of nuclear weapons or other *WMD* [emphasis added — **Auth.**] against Russia and/or its allies."²⁰

Many experts in Russia and the U.S. call into question the deterrence capability of nuclear weapons against the use of CW or BW. The role of chemical and biological agents in modern *war* seems quite dubious, due to unpredictability of their effects. The Committee on International Security and Arms Control of the U.S. National Academy of Sciences concluded that

"[T]he effects of both CW and BW are much less predictable and much more subject to countermeasures than are the effects of nuclear weapons [...]. Thus, chemical and biological weapons have limited value as weapons of war because of their relatively unpredictable effects and because of the potential for defenses against them."²¹

Many specialists in Russia share this opinion. Some Russian military experts believe that the Soviet/Russian military leadership has never regarded biological weapons as serious combat means.²² That is why, in their view, in the midst of the Cold War (in 1972) the two superpowers could so easily agree to sign the convention on the prohibition of biological weapons, even without any verification mechanism.²³

¹⁹Johnathan Schell, "The Folly of Arms Control". *Foreign Affairs*, September/October 2000, pp. 23-24 and 32.

²⁰The Military Doctrine of the Russian Federation. *Rossiiskaya Gazeta*, April 25, 2000

²¹The Future of U.S. Nuclear Weapons Policy. Committee on International Security and Arms Control, National Academy of Sciences, Washington D.C., National Academy Press, 1997, p. 54.

²²This opinion was raised at the seminar on nuclear policy held by the Carnegie Moscow Center on November 15, 2000.

²³The Soviet Union conducted BW-related activities before and after the signature of the convention, although it is known that, according to Article I of the BWC, each party "undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes." The same was done by the U.S.

Thus, it makes no sense to pretend that nuclear weapons can deter against the use of other WMD. The poisonous chemical and biological agents certainly may be resorted to by terrorists, as it happened in the Tokyo subway in 1995 and in the U.S. in 2001, but it would be absurd to believe that nukes can deter against terrorists, who use such agents.

The conclusion we can draw from the above arguments is that nuclear arms become more and more a virtual and psychological weapon. One can hardly disagree with traditionalist Thomas Graham from the U.S. State Department who argues that

"[t]he role of nuclear weapons in the arsenal of power tools has dramatically changed. Albeit possession of such weapons continues to attribute prestige, large arsenals are hardly valuable and can only help to deter against other large arsenals or large-scale conventional attacks."²⁴

Naturally, we cannot go back into the past and disinvent nuclear weapons. But this does not preclude us from banning or eliminating the nukes under strict international verification. CW and BW, whose production is much easier, also "cannot be disinvented", but mankind has managed to prohibit them, in accordance with appropriate international conventions. Why not apply this experience to nuclear weapons?

As far as Russian national interests are concerned, we have to bear in mind that the Russian economy in the foreseeable future will not survive nuclear competition with the United States. According to many analysts, the Russian nuclear arsenal will be reduced one way or another and at a relatively high pace. Hence, any movement towards a nuclear-free world will facilitate leveling of military might of both parties and will help to maintain comparative equality of their potential.

And, finally, there is yet another no less important factor undermining the very concept of nuclear deterrence. More and more experts are inclined to believe that in the 21st century nuclear weapons will not be able to ensure the settlement of all political and military problems, hence a new concept of non-nuclear deterrence, which will be based on a material foundation of high-precision and smart weapons. For instance Russian anti-warship missiles Ruby can operate in groups, exchange in-flight information, take attack position without the participation of an operator, and choose from among targets those that have higher priorities. The smart weapons would be able to fulfill functions that were earlier available only to operators. Non-nuclear deterrence may be strategic, theater or local in character.²⁵

²⁴ *Nezavisimaya Gazeta*, No. 49, March 21, 2001.

²⁵ *Nezavisimoye Voennoye Obozreniye*, No. 28, July 23, 1999 and No. 19, June 1, 2001.

Nuclear-Free World: Why It is Needed

In response to exhortations for putting an end to mutual nuclear deterrence, some experts may argue that, in conformity with recent agreements among nuclear-weapon states, their ballistic missiles are no longer targeted at each other or at any other state.²⁶ What else is needed to ensure security? The nukes are not targeted, it is true, but even non-specialists see a merely symbolic meaning to this step. Command and control systems of strategic nuclear forces are designed in a manner that enable the parties to convey appropriate target data to each warhead within a few seconds after the decision on nuclear strike has been taken.

Experts that were brought up with the Cold War mentality realize that mutual nuclear deterrence implies that strategic nuclear forces are always maintained ready for fulfilling an order for their use. This situation is an additional factor strengthening mutual nuclear deterrence. When a potential enemy knows about the inevitability of a retaliatory nuclear strike, he has to keep his nuclear temptations in check. These scenarios, that make the core of strategic nuclear forces, may bewilder a normal person. But, unfortunately, there can be no rational scenarios for irrational actions.

The whole logic of nuclear deterrence, including mutually assured destruction, depended on the folly of the Cold War politicians. Nowadays, it makes no sense to recall who was the first to start. Soviet/Russian military historians may name among the authors of these crazy scenarios Gen. Leslie Groves, Director of the Manhattan Project, Gen. Curtis LeMay, U.S. Air Force Commander in the 1950s, former Secretary of State John Foster Dulles and even President Eisenhower. U.S. historians would rather accuse Stalin and his maniacal accomplices from the Politburo, or Soviet generals of that time. The arms race can be described as a chain reaction of distrust and fear of mutual destruction. Once started, this chain reaction continues to collect the *tributes* of its victims — nuclear-weapon states and other nations.

Preservation of mutual nuclear deterrence between Russia and the United States is more than just an anachronism of the Cold War. It hides realistic threats, whose explicit emergence is much more real than petty mythological challenges allegedly forcing the United States to develop NMD.

The very possession of nuclear arms encourages nuclear deterrence. Even potential readiness of a state to acquire nuclear weapons, especially if specific technological capability is in place, can be used to justify nuclear

²⁶Letter dated 1 May 2000 from the representatives of P-5 to the 2000 NPT Review Conference (Doc. NPT/CONF.2000/21. The document was published in: *Yaderny Control*, No. 5, September-October 2000, p. 46.

deterrence. The wider the range of activities enabling the party to demonstrate the threat of use of nuclear weapons, the more opportunities it has to pursue political goals and the more efficient nuclear deterrence is. It is not that important to know how to push the button in time, but it is quite significant to gain as many political dividends as possible from demonstrating the willingness to push it. But how well does such a situation contribute to global stability, international peace and security? The delusion of the Cold War does not allow us to give a positive answer to this question.

Many scholars are sure that, at present, the greatest challenge to global peace is accidental or unauthorized launch of nuclear weapons²⁷ and nuclear deterrence can offer no adequate response to this threat. There is a need for more radical and prompt measures to neutralize this danger.

One of the most important factors compelling mankind to seek practical approaches towards elimination of nuclear arsenals is the threat of technological accidents inherent to nuclear weapons, as well as to other man-made devices. But in this case, it is a matter of the most threatening device ever made. Although humanity has not witnessed any cases of unauthorized or accidental nuclear explosion after a series of authorized launches and nuclear tests, nonetheless, the world has witnessed many incidents related to nuclear weapons that might have had dramatic consequences. The military departments of nuclear-weapon states do not inform the public very often or in a timely manner about accidents and emergencies involving nuclear weapons.

For instance, after many years of silence, the U.S. DOD has finally admitted that before 1968, 33 accidents related to nuclear weapons occurred.²⁸ Some of them were widely covered in the press: crash of B-52 strategic bombers with nuclear arms on board near Palomares, Spain, in January 1966, when four A-bombs fell and, fortunately, were found afterwards; air crash of a B-52 armed with nukes near Thule, Greenland, in January 1968. In July 1956, a B-47 bomber fell on the nuclear weapons storage facility at the British airbase Lakenheath, Suffolk, where three nuclear warheads were stored. By miracle, the conventional explosive of the nuclear detonator did not blow up. The United States concealed this fact until 1979.²⁹ According to the press, by 1995, the U.S. lost 11 nuclear munitions as a result of accidents and emergencies.³⁰ An A-bomb dropped out of a British bomber in May 1959 in Cambridgeshire, but the public

²⁷Experts of the Carnegie Endowment for International Peace share this opinion (An Agenda for Renewal U.S.-Russian Relations. — A Report by the Russian and Eurasian Program of the Carnegie Endowment for International Peace, Washington D.C., 2000, p. 12).

²⁸Fred Roberts, *60 Years of Nuclear History. Britain's Hidden Agenda*. Charlbury, Oxfordshire, Jon Carpenter Publishing, 1999, p. 57.

²⁹Ibid.

³⁰*Bulletin of the Atomic Scientists*, Vol. 51, No. 6, November/December 1995, p. 45.

learned about this accident only in 1996.³¹ And when will the public be aware of similar accidents that may have taken place later? We have no data at all about France and China.

As for the Soviet Union, the unclassified documents available since the early 1990s indicate that, as a result of emergencies and accidents with nuclear-powered submarines in the 1960s-1980s, 52 nuclear warheads rest on the seabed. 50 of them are onboard the submarine sunk in 1986 near Cuba at the depth of 5,600 m and two are in *Komsomolets* submarine in the Norwegian Sea at the depth of 1,700 m (the vessel sank in 1989). All in all, seven nuclear-powered submarines sank — five Russian, including *Kursk*, and two American.

The collapse of a NWS (the USSR) with its potentially dangerous consequences that the world survived in 1992-1994, is not necessarily a unique example. One cannot be sure that other NWS — either officially recognized or self-declared — will not undergo the same hardships.

Separatist trends are slowly growing in Great Britain. Scotland has recently elected its own parliament, and it is no secret that U.K. sea-launched nukes are based in Scottish ports. This causes apprehension on the part of some experts- Executive Director of the Acronym Institute Rebecca Johnson cited this fact at the Moscow International Nonproliferation Conference in October 2000. In multi-ethnic and multi-religious China such centrifugal trends have occurred many times, whereas Chinese nuclear and missile sites are situated in many provinces of this country.³² The situation in Pakistan, which is now under military rule, cannot be called stable and safe. In the early 1970s, Pakistan already split into two nations. Who can guarantee that this will not happen again and that the Pakistani nuclear weapons will not end up in the hands of the *Taliban*? The Middle East is a war-torn region with highly intense terrorist activities, Israel and the Palestinians have so far failed to settle their conflict, but Israeli nuclear facilities are in the immediate vicinity of the militant forces that may attempt to seize them.

And the Russian Federation is yet to institute itself as a stable federative state. During Boris Yeltsin's Administration, many regional leaders managed to concentrate enormous powers in detriment to federal authority. Meanwhile, nuclear facilities are scattered throughout the Russian territory.³³ When President Putin came to power in 2000, he

³¹Fred Roberts, op. cit., p. 58.

³²Rodney W. Jones, Mark G. McDonough, with Toby F. Dalton and Gregory D. Koblenz, *Tracking Nuclear Proliferation. A Guide in Maps and Charts*. Washington D.C., Carnegie Endowment for International Peace, 1998, pp. 61-67.

³³One can recall the notorious statement by Gen. Alexander Lebed, Governor of Krasnoyarsky krai, who threatened in 1998 to seize control of strategic nuclear facilities situated in this region.

began to restore the so-called *vertical line of power*, but these attempts cause explicit and implicit resistance of many regional elites. For a number of years, for instance, there has been confrontation between the federal center and the leadership of Primorsky krai. And no one knows what the outcome of this *tug of war* will be.

Unless nuclear weapons are eliminated, an inevitable threat of nuclear terrorism, illicit trafficking in nuclear material and nuclear smuggling will always exist. If in the early nuclear age development of nuclear weapons required the efforts of an entire state and expensive large-scale programs, nowadays (and in the future, thanks to scientific and technological progress and the spread of nuclear technologies) this process becomes more affordable not only for relatively poor states, but even for sub-national groups.

Under these circumstances, tactical nukes pose the most serious threat. Some kinds of tactical nuclear weapons are so small that can be carried by one or two soldiers and, hence, run the risk of being stolen. Besides, some obsolete types of tactical nuclear weapons do not have modern permissive action links designated to exclude the possibility of unauthorized launches.³⁴

The end of the Cold War led to diminished control by the superpowers over regional conflicts. As a result, state and non-state actors, including criminal and terrorist groups engaged in such conflicts, have more temptations to gain extra military-political levers. Robert O'Neill, Professor at Oxford University and former Director of the International Institute for Strategic Studies, once said that "formerly they (nuclear weapons) were the weapons of the top dogs: now they are becoming weapons of the underdogs".³⁵ He wrote:

"The arsenals of all of the nuclear powers have a new attractiveness as targets for penetration, theft, or bribery in a way in which they were not during the Cold War [...]. In today's more anarchical situation, inquisitive eyes are much more likely to be turned towards the weapons stocks of all the other nuclear powers than during the Cold War. The more arsenals there are the easier it will be for a determined group or individual to penetrate one of them. The attempts to penetrate can come from many directions and be that much more difficult to counter or frustrate."³⁶

The Moscow Nuclear Safety and Security Summit in 1996 noted that illicit trafficking in nuclear material contributes to the threat of global

³⁴See Harald Muller, Annette Schaper, "Definitions, Types, Missions, Risks and Options for Control". In: *Tactical Nuclear Weapons. Options for Control*. United Nations Institute for Disarmament Research, UNIDIR/2000/20, p. 39.

³⁵Robert O'Neill, "Weapons of the Underdog". In: *Alternative Nuclear Futures*, p. 191.

³⁶*Ibid.*, p. 198.

proliferation. The problem of nuclear terrorism is urgent for all nuclear-weapon states, but some experts are of the view that the United States is the most at risk because

"[i]t has the highest international profile, it is easiest to blame for whatever seems wrong in the lives of aggrieved people".³⁷

The events of September 11, 2001, have shown it with tragic clarity. Thus, the sooner nations of the world move to a nuclear weapon-free status, the sooner they will eradicate the problem of nuclear terrorism.

A World without Nuclear Weapons: What Could It Look Like?

During the Cold War the world had a nuclear-based international system, which relied on the principle of mutually assured destruction of two superpowers. As we tried to show above, this world was quite fragile. But despite this, one has to admit that it could maintain some stability on the planet. Obviously, it could have led to some errors and tragic consequences (as during the Cuban Missile Crisis). Nowadays, it is clear that this nuclear order (however imperfect it was) no longer exists.

There is only one nuclear superpower left — the United States. Russia preserves its missile and nuclear arsenal that fully ensures its security. But more nuclear players emerged in the world and their number has recently increased. We cannot rule out the possibility of emerging new nuclear actors, including some NPT State Parties (e.g., Japan, Germany, Canada, which may manufacture nuclear weapons if an appropriate political decision is taken).

An international system based on nuclear weapons will remain until these weapons are dismantled and eliminated, but this world order cannot rely on mutual nuclear deterrence anymore. It is also evident (at least, at present) that this global system can hardly be a fair and all-inclusive system of collective security that would take into account the interests of the entire international community, as provided for in the UN Charter. The world will have to go a long way to ensure the triumph of the UN principles of maintaining international peace and security.

The new nuclear (or, rather, non-nuclear) world order of the future can be based on the elimination of nuclear weapons for moral and pragmatic reasons. Presumably, this process will be as long and as difficult as the process of establishing the Cold War nuclear order (it took around a quarter-century after the invention of nuclear weapons until the

³⁷Robert O'Neill, "Weapons of the Underdog". In: *Alternative Nuclear Futures*, p. 203.

emergence of approximate U.S.-Soviet nuclear parity and conclusion of the 1972 ABM Treaty), or, perhaps, longer.

In any case, mankind will not start from a clean slate. Some cornerstones of a nuclear-free world already exist — a series of bilateral and multilateral agreements on arms control and disarmament (SALT Treaties, START Treaties, ABM Treaty, INF Treaty, NPT, CTBT, etc.). Construction of a *nuclear-weapon-free* edifice continues on an everyday basis (U.S.-Russian agreements on downblending HEU for use in nuclear power plants and on plutonium disposition, the Additional Protocol on IAEA safeguards, U.S.-Russian agreement to establish the JDEC, etc.).

Moreover, there are efficient international mechanisms — the United Nations, the IAEA, and the CTBTO. Taking into account these developments, one can speak about the existence of a rather sound institutional basis for movement towards a nuclear-weapon-free world order.

It would be useful, however, to make an important reservation, or, more precisely, to state one condition. Any nuclear-free world with all its regulations should meet a significant requirement — it should provide for an assured and permanent universal regime of nuclear nonproliferation that can be verified by the international community. Nuclear materials in this or that form will always exist, as well as knowledge and technologies to resume production of nuclear weapons and other nuclear explosive devices. Hence, nuclear nonproliferation will remain of constant concern to mankind. Perhaps, one day scientists will manage to generate nuclear power without the risk of nuclear proliferation and dangers to the environment. This historic task was mentioned in the address of President Vladimir Putin at the UN Millennium Summit in September 2000. But even in this case, a solid international nonproliferation regime should not cease to exist, since it will have to continue to close forever any loopholes preventing the reemergence of any nuclear threat.

Fred Roberts, whom we quoted above, wrote in 1999 that

"[i]f we ever abolish nuclear weapons we, according to today's knowledge, should be prepared to abandon the use of nuclear energy as a source of electricity production."³⁸

We propose that this opinion on the abilities of nuclear science is too pessimistic. There is no doubt that a nuclear-weapon-free world will not mean the world free of peaceful nuclear energy uses. Science will find ways to use atomic power without proliferation risks.

³⁸Fred Roberts, op. cit., p. 177.

Since the beginning of the nuclear era and even before the first atomic explosion in July 1945, humanity has been discussing the idea of a nuclear-weapon-free world. In 1943-1944, leading physicists proposed to establish international control of atomic energy to prevent an arms race and to secure the subsequent elimination of nuclear weapons. This concept was put forward for the first time, articulated and promoted by Niels Bohr, one of the greatest physicists of the 20th century. On July 3, 1944, in his memorandum to President Roosevelt he expressed his deep concern about the prospects for post-war differences among states on the nuclear issue and about the potential threats of the coming nuclear age. Bohr warned that interim superiority resulting from successful development of an A-bomb might be overshadowed by an eternal threat to human society. Hence, he argued that the matter of establishing international control over the use of nuclear materials required urgent attention. Bohr suggested that allied members of the anti-Hitler coalition, including the Soviet Union, be informed of the U.S. atomic project, in order to avoid a future arms race and to found the basis of post-war cooperation. Bohr emphasized that only an *open world* would create an appropriate environment for such international control.³⁹

The idea of international control was further developed in the Acheson-Lilienthal plan envisaging the establishment of the international Atomic Development Authority (ADA) as one of the subsidiary bodies of the United Nations, whose function would be:

In the field of raw materials — to bring under the Agency's complete control world supplies of uranium and thorium. Wherever these materials were found in useful quantities the international agency must own them or control them under effective leasing arrangements. All the actual mining operations for uranium and thorium would be conducted by the Authority.

Production Plants — the second major function of the Authority would be the construction and operation of useful types of atomic reactors and separation plants, like those at Hanford and Oak Ridge.

Research Activities — the Authority itself would have to engage in a wide variety of research activities. For example, one of the important activities that the Authority would have to carry out is research in atomic explosives. The study of atomic explosives may yield byproducts useful in peaceful activities. The Authority must not discourage but rather must give vigorous encouragement to research on national or private levels.

Licensing Activities — the uranium and thorium which the Authority would mine and the fissionable materials which would be produced

³⁹Niels Bohr's ideas were published in 1950, see Niels Bohr, "For an Open World". *Bulletin of the Atomic Scientists*, July 1950.

would remain the property of the Authority. By such ownership the Authority could determine the conditions under which these dangerous materials might be licensed for use.

Inspection activities would take a proper and essential place in the activities of the Authority in order to prevent diversion or evasion. Nuclear energy development and control of nuclear energy uses should be inseparable functions.

Referral to the UN, in particular, to the Security Council could take place by decision of the Authority. Some United Nations military guard may be desirable to protect nuclear facilities.

The report emphasized that though "today the United States has a monopoly in atomic weapons", "this monopoly could not be permanent". "International control implies an acceptance from the outset of the fact that our monopoly can not last." The Letter of Transmittal noted the importance of taking "basic decisions of high policy".

"One of these decisions will be for what period of time the United States will continue the manufacture of bombs. The plan does not require that the United States shall discontinue such manufacture either upon the proposal of the plan or upon the inauguration of the international agency. At some stage in the development of the plan this is required."⁴⁰

Acheson believed that complete implementation of the plan would take five to six years.⁴¹

However, afterwards President Truman's appointee to the UN Atomic Energy Commission financier Bernard Baruch convinced the President to make two dramatic amendments in the Acheson-Lilienthal plan. Firstly, the activities of the international authority would not be not subject to the right of veto in the UN Security Council. Secondly, the proposed Authority would have the powers to take coercive measures against possible violators, thus acting in circumvention of the Security Council, which, under the Charter, is the only authority possessing such powers.

These changes determined the fate of the Baruch Plan, which was not supported in the United Nations, notably by the Soviet Union and, as

⁴⁰A Report on the International Control of Atomic Energy, Department of State Publication 2498, Washington D.C., March 16, 1946, pp. ix, 52-53.

⁴¹Richard G. Hewlett, Oscar E. Anderson, Jr. *A History of the United States Atomic Energy Commission. The New World. 1939-1946.* University Park, Pennsylvania, The Pennsylvania State University Press, 1962, p. 548.

we learned later, by the United Kingdom.⁴² In response to the Baruch Plan, the USSR submitted to the UN Commission a draft convention on the prohibition and elimination within a three-month period of all stockpiles of existing and non-completed atomic weapons. As far as international control was concerned, Moscow made its proposals in June 1947, but they did not affect the nuclear research which the Soviet Union was actively pursuing at that time. The USSR agreed to conclude the convention on international control, but insisted on adoption of the aforementioned convention first.

It is obvious that the Soviet proposals, as well as U.S. initiatives, were not, to say the least, realistic. As a result, the world was drawn into an exhausting and dangerous nuclear arms race. On August 29, 1949, the Soviet Union conducted its first nuclear test. Three years later — in October 1952 — Great Britain carried out a nuclear explosion on the Monte-Bello Islands (belonging to Australia) in the Indian Ocean.

Nevertheless, it would be wrong to believe that discussions on international control that were under way in the 1940s yielded no results. The very idea of international control (although in a very limited form) was embodied in the International Atomic Energy Agency set up in the 1950s. These concepts were also reflected in the global regime of nuclear nonproliferation, which contains a wide network of international mechanisms and national verification measures. One can also find some elements of international control in the verification procedures provided for in the bilateral and multilateral arms control agreements concluded in the last 10-15 years.

Among the effective international control mechanisms, one should note the 1965 IAEA safeguards for *individual* nuclear facilities (INFCIRC/66/Rev.2), the 1971 safeguards system for *all* nuclear activities of NNWS Party to the NPT (INFCIRC/153), the Additional Protocol to safeguards agreements of 1997 (INFCIRC/540), verification procedures of the INF and START I Treaties. The International Monitoring System and procedures for on-site inspections are being developed for the CTBT. Work on a model agreement on international verification of weapon-origin fissile material released from U.S. and Russian nuclear arsenals is approaching its conclusion (the so-called Trilateral Initiative by the U.S., Russia, and the IAEA). Such a model agreement could be used to verify surplus weapon-origin materials of other nuclear-weapon states, as well.

⁴²Fred Roberts wrote in 1999 that Americans believed that Britain did not pay the attention and did not attach the importance to the UN Atomic Energy Commission that it deserved. The very idea of international inspection of nuclear facilities was frightening for the heads of staff (Fred Roberts, op. cit., p. 34).

After the end of the Cold War, the world witnessed a rising interest in the concept of a comprehensive international control of atomic energy. Publications, reports by independent international commissions, statements by former military and diplomats, scientists and politicians have multiplied. Among the most detailed and competent statements, research papers and studies on international control and nuclear disarmament, are the following (in chronological order):

- *A Nuclear-Weapon-Free World. Desirable? Feasible?* Pugwash Monograph, Ed. by Joseph Rotblat, Jack Steinberger and Bhalchandra Udgaonkar. Executive Editor Frank Blackaby. Boulder-San Francisco-Oxford, Westview Press, 1993, 280 pp.
- Roger D. Speed, *The International Control of Nuclear Weapons*. Center for International Security and Arms Control. Stanford University, June 1994, 59 pp.
- Report of the Canberra Commission on the Elimination of Nuclear Weapons. Canberra. Australia, National Capital Printers, August 1996, 120 pp.
- Statement on Nuclear Weapons by International Generals and Admirals. *Arms Control Today*, November/December 1996, pp. 14-15 and 18.⁴³
- *The Future of U.S. Nuclear Weapons Policy*. Committee on International Security and Arms Control. National Academy of Sciences. Wash. D.C., National Academy Press, 1997, 110 pp.
- *Nuclear Weapons. The Road to Zero*. A Pugwash Monograph. Ed. by Joseph Rotblat. Executive Editor Frank Blackaby. Boulder-Oxford, Westview Press, 1998, 331 pp.
- Annette Schaper and Katja Frank. A Nuclear Weapon Free World — Can It be Verified? Peace Research Institute Frankfurt. *PRIF Reports*, No. 53. November 1999, 76 pp.
- Facing Nuclear Dangers: An Action Plan for the 21st Century. The Report of the Tokyo Forum for Nuclear Non-Proliferation and Disarmament. Japan Institute of International Affairs and Hiroshima Peace Institute, Tokyo, 1999, 68 pp.
- David Martin et Michel Rocard. La menace des armes nucleaires ne dois pas etre eternelle. *Politique Etrangere*, No. 1, Printemps 2000, pp. 213-223.
- Johnathan Schell. The Folly of Arms Control. *Foreign Affairs*. September/October 2000, pp. 22-46.
- *Global Elimination of Nuclear Weapons*. Martin B. Kalinowski (ed.). Baden-Baden, NOMOS Verlagsgesellschaft, 2000, 278 pp.
- *Nuclear Disarmament. Obstacles to Banishing the Bomb*. Josef Goldblat. (ed.) L. and N.Y. I.B. Tauris & Co Ltd Publishers, 2000, 269 pp.

⁴³18 retired Russian generals and admirals signed this statement, among whom were Alexander Lebed and Boris Gromov (nowadays, Governors of Krasnoyarsky krai and of the Moscow region, respectively).

Let us now turn to the question posed in the sub-title of this paper: what a nuclear-weapon-free world could look like? We must point out again, as we did above and will show below, that a sound basis was made for achieving this goal. Many of the proposals mentioned below will be of a presumed nature, but we assume that it would be important, at least, to try to draw a general picture of a nuclear-free world. This would be useful in order to identify some practical steps that could lead in this direction.

Taking into account the development of peaceful and military nuclear uses that has occurred since the first plans of international control of the 1940s, one should bear in mind that the world will have to deal today with a sophisticated and widely spread nuclear infrastructure, which covers dozens of states. The list of nations conducting significant nuclear activities, maintained by the IAEA, contains 71 countries.⁴⁴

In 1946, when the Baruch Plan was laid down before the UNAEC, the U.S. was the only nuclear-weapon state and possessed only a few bombs, but in 2000, according to *Bulletin of the Atomic Scientists*, the five officially declared nuclear-weapon states possessed 31,500 warheads.⁴⁵ In 1946, there was not a single nuclear power plant, and the U.S. had just a handful of reactors for weapon-grade plutonium fabrication and a few uranium enrichment plants. Nowadays, there are 438 operational power reactors, let alone other nuclear facilities — uranium enrichment plants, nuclear fuel fabrication plants, spent fuel reprocessing facilities, waste storage facilities, research reactors, etc.

Under these circumstances, one can presume that the one-component plan of international control with a single authority that was discussed by the UN Atomic Energy Commission in the 1940s can hardly be applied to modern and future conditions. Nowadays, it is a matter of establishing a multi-element mechanism to ensure verifiable nuclear disarmament and a nuclear-weapon-free world. However, this structure should be under the exclusive surveillance and guidance of a single body — the UN Security Council, as the body entrusted with "primary responsibility for the maintenance of international peace and security". This could be some sort of specialized organ of the Security Council. Such a mechanism or set of control measures could comprise the following elements:

1. 182 NNWS Party to the NPT would chiefly comply with the existing system of the IAEA safeguards, which is embodied in INFCIRC/153 and

⁴⁴IAEA Annual Report 2000, GC(45)/4, p. 149.

⁴⁵*Bulletin of the Atomic Scientists*, Vol. 56, No. 3, March-April 2000. According to these estimates, during the more than 55 years of the nuclear era, 128,060 nuclear munitions have been produced: 70,000 in the USA; 55,000 in the USSR/Russia; 1,260 in France; 1,200 in Great Britain, and 600 in China.

has an over 30-year-long experience of basically successful implementation. The 1997 Additional Protocol (INFCIRC/540), enabling the Agency to control non-declared nuclear activities as well, should become an integral and *mandatory* part of verification measures in these nations. But still, all of this might be insufficient to secure reliable control in a nuclear-free world. It would be useful to negotiate additional measures to rule out the possibility of diverting stockpiles of *civilian plutonium*, which can be used to develop nuclear weapons. Perhaps, it would be advisable to provide for armed UN personnel under the mandate of the Security Council at such storage sites.

2. Eight officially declared or self-declared nuclear-weapon states (Russia, the United States, Great Britain, France, China, as well as India, Pakistan and Israel) should place *all* their civilian nuclear activities under the same IAEA safeguards, as described above. This rule must relate to any nuclear plant, including dual-purpose research reactors.

3. These eight states should place under international control involving the IAEA their weapon-origin nuclear material released as a result of nuclear arms reduction under a model agreement on verification which is now being developed under the Trilateral Initiative (Russia, the United States, and the IAEA). Such an agreement should comply with Article I of the NPT and should envisage the so-called *information barriers* designed to allow the inspectors to derive sufficient information for the verification to be credible and independent and to ensure irreversibility of disarmament, while preventing access to classified information.

4. Nuclear disarmament in these eight states should go step by step, in accordance with bilateral and multilateral legally binding agreements. In compliance with the decisions of the UN and the CD (which has approved a negotiating mandate for an appropriate *ad hoc* committee), the first international agreement could be the FMCT. For an initial phase of nuclear disarmament, it might be useful to resort to *unilateral commitments* as well, combined with transparency arrangements.

Afterwards, the international community should negotiate a multilateral treaty on the elimination and dismantlement of all nuclear warheads, including tactical nukes, and their delivery systems, providing for an opportunity to convert ballistic missiles for the peaceful exploration of outer space. Some experience exists in verifying the elimination of launchers (INF Treaty, START I), but dismantlement of warheads will require greater transparency and more intrusive verification. This is why a step-by-step approach would inevitably be needed.

The final stage should include the establishment of strict international control, involving armed UN personnel, at storage and dismantlement

sites. As far as storage facilities for weapon-grade fissile material are concerned, the control should be long enough to ensure an appropriate disposition of such materials, so that they may not pose any threat of nuclear proliferation.

5. Special verification procedures should cover nuclear research centers and laboratories engaged in design and maintenance of nuclear weapons (such as VNIIEF, VNIITF, NIIA in Russia, national laboratories in Los Alamos, Livermore, Sandia, corresponding nuclear research centers in France, China, India, Pakistan, and Israel). Appropriate control should be established to oversee activities of research centers involved in the development of launchers and delivery systems.

6. The CTBT should enter into force. Thus, the 44 states mentioned in Annex 2 to the treaty should ratify it, including the United States, China, India, Pakistan, Israel, North Korea, and others.⁴⁶

The parties should shut down under international control the existing test sites (in Nevada, Novaya Zemlya, Lop Nor, Pokhran, and Chagai). They can use the experience of closing the testing site in Semipalatinsk, Kazakhstan, and the French test site in the Pacific. Sub-critical nuclear experiments allowed by the CTBT should also be banned by the time of the complete elimination of nuclear weapons.

7. When significant progress in nuclear disarmament is achieved, the UN Security Council should set up under its aegis a special commission or some other authority to verify the implementation of nuclear disarmament agreements. Under the Council decision, the commission would have broad powers, including the right to have armed UN personnel in order to ensure the security of nuclear materials that could be used to resume the manufacture of nuclear weapons and other nuclear explosive devices, as well as to secure the irreversibility of disarmament. We have accumulated experience in establishing such commissions, quite promising in the initial stages, while not very successful overall (UNSCOM and UNMOVIC).

To ensure the effective accomplishment of the Security Council's mission, as the supreme international authority for control over nuclear disarmament and its irreversibility, the Council should increase its political weight. Its effectiveness will mostly depend on concerted efforts of its permanent members, above all the U.S., Russia and China, for it is evident that, without such cooperation, there can be no nuclear disarmament.

⁴⁶In November 2001, only 31 out of 44 states have ratified the CTBT. Among them are Russia, Great Britain, and France.

As far as representation in the Council is concerned, the issue of expanding its membership has long been discussed. It is advisable to increase the number of its permanent members. We believe that the Security Council should include as new permanent members Germany, Japan, India, one representative of Africa (in rotation — Egypt, Nigeria, and South Africa), and one representative of Latin America (in rotation — Mexico, Argentina, and Brazil). The number of elected members should also grow from 10 to 15. Thus, the Security Council would comprise 25 seats and would more adequately reflect the overall UN membership amounting today to 189 states.

8. As nuclear arsenals are reduced during the global movement towards a nuclear-free world, the nuclear factor may assume growing significance as a method of resolving by military means conflicts and contradictions among nations. Hence, it would, perhaps, be reasonable to consider developing a global system of missile defense against single or unauthorized launches of strategic and tactical missiles. Such a global missile defense should also be deployed under the auspices of the Security Council.

NWS could start the process of moving to a nuclear-weapon-free world by making a joint or parallel statements on their intention to abandon nuclear deterrence and on their firm commitment to the complete elimination of nuclear weapons not as some distant or ultimate goal, but as an objective to be practically implemented. For that purpose, the N-5 could hold a special summit to which representatives of India, Pakistan, Israel and some other states (such as Germany and Japan) be invited. The UN Secretary-General and the IAEA Director-General could attend this meeting as observers.

Elimination of Nuclear Weapons: How to Start?

The international system at present is in transition. The Cold War with its comparative nuclear balance between the United States and the Soviet Union is over. The nuclear world order, which was more or less stable in the past and shaped the model of the bilateral dialogue and arms control agreements on strategic, intermediate-range and tactical nuclear weapons, is ceding positions to a new phase in arms reductions that can hardly be defined so far. It is even more difficult to suggest at this time any long-term paradigm for further progress in arms control and disarmament.

This is why even though one can and should speak about long-term objectives and try to predict them, under the current circumstances and in practical terms, it is mostly a matter of provisional, pragmatic arrangements and understandings, which can then be transformed into legally binding and lasting agreements to eliminate nuclear weapons from

the face of the earth, and maintain nonproliferation on a permanent and universal foundation.

It is obvious that the new geo-strategic situation requires *internationalization* of disarmament, and participation in this process by *all* declared nuclear-weapon states (the U.K., China and France have *never* taken part in this process in violation of Article VI of the NPT) and by states with advanced nuclear capabilities, such as India, Pakistan, and Israel. The experience of recent years indicates that without involving *all* these states, there will be no serious or productive movement towards the universality of nonproliferation and disarmament. It would be useful to consider possible steps to engage the states which may still have nuclear ambitions in the process of forming a nuclear-weapon-free world.

Before we discuss practical measures and agreements among the eight above mentioned nations, it should be emphasized that there are still opportunities for continuing the traditional U.S.-Russian bilateral arms control dialogue. The parties have not yet exhausted the agenda and should move forward. This bilateral process should remain the *main highway* of disarmament and it would create favorable conditions for the success of an *internationalized* approach. One can hardly expect reciprocal steps by nuclear-weapon states, in particular by China, if Russia and the U.S. fail to substantially reduce their nuclear arsenals. The search for new solutions meeting the demands of the current transitional stage could go hand in hand with bilateral talks. There should be no pause in the U.S.-Russian strategic dialogue.

As far as strategic arms negotiations are concerned (START and missile defense), much will depend on U.S. plans for NMD deployment and the future of the ABM Treaty. It is a good omen that the U.S. and Russia reaffirmed during several meetings of the two presidents in 2001 that offensive and defensive weapons are interrelated as was codified in SALT I over 30 years ago and in subsequent agreements on strategic arms limitations and reductions. By December 5, 2001, the two states, under START I Treaty, are to have no more than 6,000 strategic weapons (in fact, Russia has less — about 5,800 long-range warheads).

At the 12-14 November 2001 Summit President Bush announced that the U.S. will reduce operationally deployed strategic nuclear warheads to a level between 1,700 and 2,200 over the next decade. And President Putin reaffirmed his earlier statement about drastic downsizing of Russian strategic arms and declared that they will be reduced at least threefold. This is a welcome development. The two presidents, though, did not reach any concrete agreements and decided to continue the bilateral dialogue on the basis of the announced drastic reductions of offensive arms with a view to formalizing them.

Russia would like to have a legally binding and verifiable agreement, while the U.S., according to Bush's national security advisor Condoleezza Rice, wants "to talk with the Russians on certain levels of codification". She added that "[w]e have said both of us we are prepared to make this verifiable in some form". She also said that much remained to be worked out in terms of what happens to the nuclear warheads once they are removed from their missiles, both in the United States and in Russia.⁴⁷

As to the ABM Treaty, no agreement was reached at the November Summit. Both sides agreed to continue the dialogue on defensive issues. This time the Bush administration, however, did not declare their intention to unilaterally withdraw from the treaty, which may indicate that some mutually acceptable arrangement is still possible.

Many arms control experts and politicians have begun to believe that *traditional disarmament* (through U.S.-Russian bilateral and CD's multilateral negotiations) has exhausted its potential, at least, at the current stage. The world has been witnessing a stalemate in nuclear disarmament for several years already.

Arguments supporting this include: the impossibility of START II entry into force (albeit the State Duma ratified it in full, but after a long delay, while the U.S. has been unwilling to ratify the 1997 New York agreements complementing the treaty), U.S. refusal to ratify the CTBT, five years of impasse at the Conference on Disarmament concerning the FMCT, reluctance in establishing new NWFZ, and problems with the already established zones entering into force, etc.

Under these circumstances, in order to overcome the deadlock, the idea of *unilateral* nuclear arms reductions (by mutual example or in accordance with preliminary *gentlemen's agreement*) has been gaining ground. It is known that such unilateral steps occurred in the past and the practice was quite fruitful and led to prompt results. One may recall the nuclear test moratorium declared by the Soviet Union, the United States and the United Kingdom in 1958 and observed until 1961; the statements by President Johnson, Chairman Khrushchev and Prime Minister Douglas Home of April 20-21, 1964, concerning reducing the production of weapons-usable fissile materials; and the September-October 1991 unilateral Presidential Initiatives by President Bush and President Gorbachev with respect to tactical nuclear weapons.

It must be emphasized that these unilateral measures did not replace the arms control negotiations. On the contrary, they complemented each other. Moreover, unilateral steps promoted commencement, development

⁴⁷ *Associated Press*, November 15, 2001.

and successful ending of these talks. The 1958-1961 moratorium enabled the parties to start the trilateral talks on a test ban, which after long discussions resulted in the 1963 Moscow Limited Test Ban Treaty. The 1964 statements on reducing the fabrication of fissile materials for military purposes led to the cessation of production of weapons-usable materials (by the U.K., U.S., Russia, and France) by the end of the 1990s, and contributed to the adoption of the 1993 UN General Assembly resolution on commencing FMCT negotiations within the CD framework. The talks have not yet started (although there is agreement on the negotiating mandate of the ad hoc committee of the CD), due to objections of China supported by Russia, which, in principle, have nothing to do with the substance of the FMCT. And the 1991 unilateral initiatives on tactical nuclear weapons helped to reach the U.S.-Russian-Ukrainian accord on the non-nuclear status of Ukraine and its accession to the NPT. They also facilitated U.S.-Russian talks on strategic offensive arms that led to START II and many other useful and practical measures on nuclear threat reductions, including the CTR Program.

U.S. nonproliferation and arms control expert, Rose Gottemoeller, wrote on December 7, 2000, in the *Washington Post* that unilateral action is "a proven method for accelerating stalled arms control policies" and therefore "the answer is not to abandon unilateral action". She recognizes that "uncertain military results are the weak link in any arms control policy that is wholly dependent on unilateral measures", and believes that the "United States needs to consider ways to strengthen unilateral measures".

Independent experts have long been analyzing such an approach. The major argument in favor of unilateral arms control steps is that, at present, the parties enjoy a more favorable environment for less formal agreements (taking into account the positive experience of the 1991 Bush-Gorbachev initiatives). We believe that *unilateral* reductions with all their shortcomings in comparison with traditional negotiations (which enable the parties to reach *legally binding* and *verifiable* agreements) may yield some substantial pragmatic results. And it would be unreasonable, especially under the current circumstances, to forswear this option. For Russia, which is suffering economic hardships, this model may be quite attractive, since Moscow will have to follow the way of *unilateral* reductions with respect to certain weapons, regardless of the degree of progress achieved in relations with the United States and other powers.

This policy pattern has become even more desirable now that Russia has to carry out a complicated and large-scale military reform and provide for dramatic reorganization of its armed forces. These developments may lead to significant reductions in the strategic nuclear arsenal in order to strengthen and modernize general-purpose forces to meet present national security demands.

Unilateral but coordinated efforts in the area of arms control may facilitate engagement of other powers in the process of disarmament, including nations that have traditionally avoided participation in negotiations (despite their NPT commitments) and countries with obvious nuclear capabilities that are not covered by international nonproliferation and arms control regimes. We would like to emphasize once again that the success of efforts to strengthen and to ensure the universality of nuclear nonproliferation and disarmament will depend on the *internationalization* of this process, although bilateral steps will also be beneficial.

At the initial stage, it would be reasonable to attempt to reach some kind of understanding among eight nations (Russia, the United States, China, France, the U.K., as well as India, Pakistan, and Israel) on their commitments to nuclear arms limitation and reduction, as well as to other measures to reduce nuclear threat and promote nuclear nonproliferation. Such an approach could provide for the following unilateral commitments of these countries. Let us attempt to visualize a possible set of commitments for each state (the suggested figures are just indicative, since it is a matter of unilateral obligations).

The *United States* would pledge to cut down its strategic offensive arms to the level of 1,700–2,200 warheads, as announced by President Bush in November 2001, and to join the CTBT.

The *Russian Federation* would downsize its strategic offensive arsenal to the same or lower level, as declared by President Putin.

The *United Kingdom* would reduce its offensive nuclear arms to 150 warheads.⁴⁸

France would cut down its offensive warheads to 350–400 units.⁴⁹

China would commit itself to a 300–350-warhead nuclear arsenal⁵⁰ and join the CTBT.

⁴⁸The indicative figures for Great Britain, France and China are based on the data contributed by Robert Norris and William Arkin in *Bulletin of the Atomic Scientists*, Vol. 56, No. 3, March–April 2000. According to this source, the U.K. possessed 185 nuclear warheads in 2000.

⁴⁹According to the same source, France had 450 nuclear warheads in 2000.

⁵⁰China, according to Robert Norris and William Arkin, had 400 warheads in 2000. The implementation of the proposed framework for unilateral reductions may be impeded by China's position, since Beijing may oppose any nuclear transparency (as at the 2000 NPT Review Conference, when the Chinese delegation made a number of reservations after the adoption of the Final Document, which included the transparency of nuclear arsenals).

India would not weaponize or deploy nuclear weapons and would join the CTBT.⁵¹

Pakistan would not weaponize or deploy nuclear weapons and would join the CTBT.⁵²

Israel would not weaponize or deploy nuclear weapons and would join the CTBT.

These eight nations would also pledge not to produce fissile materials for nuclear weapons and would promote commencement without any delay and completion at the earliest possible date of negotiations on the FMCT, de-linking them from other items of the CD's agenda and its program of work. In addition, India, Pakistan and Israel would commit to internationally recognized nuclear nonproliferation principles and guidelines for nuclear and sensitive transfers, as well as pledge to join the NSG and the MTCR in the future, i.e. to become part of the international nonproliferation regimes. At this time, it would be useful to consider the setting up of an association status for them with the NSG.

We believe that the aforementioned set of unilateral commitments by India, Pakistan and Israel does not signify the legalization of the nuclear status of these countries, although the very fact of their participation in suggested joint or parallel measures along with nuclear-weapon states could be interpreted as indirect legalization. But to be realistic, this process is inevitable and, hence, it would be important to take the above measures in order to pre-empt deployment of Indian and Pakistani nuclear arsenals. As far as Israel is concerned, these commitments, in our view, would not contradict its proclaimed policy that Israel will not be the first state to introduce nuclear weapons in the Middle East.

It would be advisable if nuclear-weapon states indicate timeframes for the implementation of their unilateral reductions.

Moreover, we would suggest that not only Russia and the U.S. should agree to appropriate verification but that transparency and confidence-

⁵¹According to Achin Vanaik, an independent Indian expert, India has not yet deployed a system of nuclear weapons, as many predicted in the first months after the nuclear tests. India fears the international implications of such deployment and does not possess an adequate system of command and control. (Achin Vanaik, op. cit.). It is also quite characteristic that the 1999 draft of the Indian nuclear doctrine has not officially been approved. According to another expert, P.R. Chari, Indian nuclear explosives are in the physical possession of the nuclear establishment and the armed forces "deeply resent this arrangement". (P.R. Chari, op. cit., p. 131).

⁵²The official position of Pakistan is that Islamabad will not be the first to openly deploy nuclear weapons, but will immediately do so after their deployment by India.

building measures will be carried out by the other states, although it would be unrealistic to believe that some of them, including China, would assume such obligations. However, the parties may declare that transparency issues would be further considered in the process of consultations and agreement on them could be reached at the next stage of nuclear reductions.

Rose Gottemoeller's article in the *Washington Post* of December 7, 2000, quoted above, mentions the idea of establishing common principles for unilateral reductions. For instance, nuclear warheads may be stored away from deployment sites. Albeit such steps can hardly be verified, this approach would signify a commitment to an important common principle. Another option could be to approve some confidence-building measures, e.g. reciprocal visits to submarines and surface ships carrying nuclear weapons, in order to monitor (or at least observe) unilateral reductions. The parties may make appropriate notifications. The primary goal is to begin reduction unilaterally and, afterwards, to expand and deepen monitoring measures up to full-fledged verification.

Unilateral measures are not the optimal scenario for a number of reasons. They normally affect quantitative characteristics of nuclear arsenals, whereas such significant matters, as qualitative restrictions and *upload potentials*, are left aside. Besides, tactical nuclear weapons will also be left beyond the scope of unilateral reductions.

The most important thing is to commence the process of nuclear reductions and to involve all states with significant nuclear capabilities. It is no secret that in the 21st century Russia may also be concerned about possible modernization of the Chinese nuclear arsenal, which may provoke a dramatic response on the part of Japan and other states of the region. It is difficult to predict the future of the Korean nuclear program (of the two separate states or of a unified nation if this process eventually takes place).

The approach towards internationalization of disarmament suggested above, if successful, could promote further progress in arms control and, presumably, a return to traditional negotiations resulting in legally binding treaties that would bring mankind closer to a nuclear-weapon-free world.

The next step in the development of the nuclear arms control process would be a joint discussion of military doctrines and nuclear concepts, in order to eventually renounce nuclear deterrence and commit to the no-first use of nuclear weapons (perhaps, again in the form of unilateral obligations).

In our view, one should not attach too much importance to no-first use statements⁵³ and their real role, but the political significance of such declarations is unquestionable, for they improve the general climate in relations between NWS and NNWS and may facilitate further negotiations on nuclear disarmament.

Some Practical Steps to Strengthen International Nuclear Nonproliferation Regime

In parallel with the process of nuclear reductions and even regardless of the pace of arms control and nuclear arms reductions, the international community should intensify efforts to strengthen the international nuclear nonproliferation regime.

The U.S.-Soviet/Russian dialogue in this area has lasted for decades and, without this active and fruitful cooperation since the mid-1960s and until the present, we would not have had the NPT, the NSG, the Zangger Committee, or other agreements comprising the core of the present-day nonproliferation regime. Even in the most difficult times of the Cold War, when the parties suspended talks on many issues, nonproliferation was nearly the only international problem discussed at regular top-level bilateral consultations. The two superpowers have always regarded these matters as a priority. This was reaffirmed during the recent U.S.-Russian Summit in Washington and Crawford, Texas.

U.S.-Russian relations in the area of nuclear nonproliferation by and large developed more or less smoothly in the last decade. The parties managed to find common approaches, although some mutual complaints and accusations emerged now and then, especially as far as regional issues were concerned, and continue to reappear from time to time.

It is obvious that if both parties demonstrated more understanding of mutual interests and concerns, and if they pursued not an occasional but a *regular* and *top-level* dialogue, Russia and the United States could have avoided many (though, perhaps, not all) problems and misunderstandings in bilateral relations. And it is pointless to repeat that nuclear

⁵³According to Maj.-Gen. (ret.) Vladimir Belous, when Leonid Brezhnev declared the Soviet commitment to no-first use in 1982, many politicians in the West did not trust him, regarding the statement as propagandistic and, perhaps, they were right. The same author wrote that "according to some sources, the Chinese military de facto stick to a different (first use) principle and find it possible to use nuclear weapons, even first, depending on military-political developments" (Vladimir Belous, "Kontseptsiya primeneniya yadernogo oruzhiya pervym v svete novoy voennoy doktriny Rossii (The Concept of the First Use of Nuclear Weapons in the Light of the New Russian Military Doctrine)". *Yadernaya Bezopasnost*, July-August 2000, p. 5).

nonproliferation has always been and will be one of the greatest challenges to the national security of Moscow and Washington, as well as to global security, especially now when the world is facing a growing threat of international terrorism. Therefore, there is a need for regular contacts and long-term cooperation to create a sound basis for the intensive development of the dialogue.

Sometimes it is argued that if the U.S. deploys an NMD system (especially if this system is *robust* enough), Washington may express less interest in nonproliferation. In our opinion, this will hardly be the case. Development and deployment of such missile defenses will take several decades (if it is technologically possible at all), and, besides, it will not protect U.S. troops deployed abroad or NATO allies of Washington. This is why such a scenario cannot be seriously considered, and the activities of the U.S. administration indicate undying interest in tightening the nuclear nonproliferation regime.

Besides, even if the United States develops strong missile defenses and follows the path of *neo-unilateralism*, some developed nations, including those who live care-free under the cover of the U.S. nuclear umbrella, may change their attitude towards the advisability of preserving a non-nuclear status and could reconsider their present options.

We would now like to suggest the following measures aimed at strengthening the international nuclear nonproliferation regime:

- As we have mentioned above, the most important thing for nonproliferation is continuing progress in arms control and disarmament and efforts to gradually *bridge the gap* between nuclear *haves* and *have-nots*. The two powers should take into account this important aspect of nonproliferation in the course of their continuing dialogue, for one may expect stronger pressure on the part of the New Agenda Coalition (NAC) and other NNWS Party to the NPT in the future.
- It is necessary to commence at the earliest possible date preparations for the next NPT Review Conference, which will take place in 2005. This process should involve other nuclear-weapon states, which should take the lead in establishing contacts with the NAC to ensure constructive work at the Conference.
- Particular attention in the bilateral dialogue should be drawn to the nonproliferation issues which divide the parties most, i.e., regional issues, above all the problem of *Iran*. There is a deep misunderstanding concerning the strategy of developing relations with this large nation. Iran plays an important part in the region and its role will likely grow

in the future. Russia tries to encourage moderate and constructive policies by Teheran to promote the normalization of Iran's relations with neighboring states, since this region lies close to Russia's southern borders and to the frontiers of its allies. Therefore, Russia's objective should be to support those trends in Iranian policy that contribute to Teheran's transformation into a stable factor in this volatile region known for terrorism, drug trafficking and religious and ethnic fanaticism. Russia has vast economic interests in Iran, including a legitimate interest in developing military-technical cooperation.

Unfortunately, the United States (both legislature and the executive branch) does not share these concerns or interests of Russia, due to the different geographical position of the two states and America's own geopolitical and economic interests.

As far as nonproliferation is concerned, at present Russia fully complies with all its international commitments. Some Russian agencies and organizations attempted to transfer proliferation-sensitive equipment and technologies to Iran in the early 1990s. These steps were caused by ignorance, lack of political insight, or a rush for profits. However, the Russian leadership eventually established order in this sphere, partly thanks to U.S.-Russian contacts at different levels.

In November 2000, Russian Vice Prime Minister Ilya Klebanov, who is in charge of military-technical cooperation, confirmed that with respect to Iran such supplies could take place only if they "do not run counter to Russia's international commitments in the area of WMD nonproliferation."⁵⁴ Nonetheless, the differences on this issue remain, so the parties should conduct top-level consultations on this matter.

Another state of concern is *North Korea*. There is still some apprehension about the nuclear and missile programs of North Korea and there has been no decisive turn for the better. The 1991 inter-Korean agreement on denuclearization of the peninsula, which entered into force in 1992, provides for such far-reaching measures as abandonment of uranium enrichment and reprocessing of spent fuel, as well as mutual inspections. But the agreement is yet to be implemented. Another point of concern is North Korea's refusal to let the IAEA apply *comprehensive* safeguards. It is not clear how much plutonium North Korea has separated and stockpiled. One should also bear in mind that the deadline for supplies of the key nuclear equipment for light-water power reactors to be built in accordance with the 1994 Agreed Framework is approaching, and the IAEA Director-General declared that it would take several years on the part

⁵⁴*Nezavisimoye Voennoye Obozreniye*, No. 45, December 1, 2000.

of the Agency to organize proper safeguards. This is why more active and concerted endeavors of the two powers are needed to ensure Pyongyang's full and real involvement in the nuclear nonproliferation regime. Unfortunately, the new Republican administration practically suspended all contacts with the North Korean Government in 2001.

As for *Iraq*, some contacts take place within the UN framework and through diplomatic channels, but we believe that U.S.-Russian dialogue should be intensified, so that the UNMOVIC may finally start to perform its functions in full, i.e. to verify Iraq's disarmament in accordance with the UN Security Council resolutions. Obviously, it would be important to provide for normal standards of living for the population of Iraq. Any enforcement actions contradicting international law, such as U.S.-British air strikes against some facilities on the territory of Iraq, cannot be allowed.

Our considerations concerning *India* and *Pakistan* have been discussed in the previous section of this chapter. It would be a big mistake if the window of opportunity is missed and Russia, the United States and other nations fail to convince both countries to avoid deployment of their nuclear weapons.

- The Cooperative Threat Reduction Program is by and large developing smoothly, although its practical implementation is characterized by certain shortcomings and miscalculations on both sides. However, the program has gained momentum in recent years, the partners have learned to understand each other better, and the program was sustained throughout the Kosovo crisis⁵⁵ and other difficulties. The CTR Program meets the security interests of the two parties and changes in the executive or legislature should not affect its implementation.

However, there is still much to be done. During the next several years the Russian Strategic Missile Forces are planning to deactivate about 8,000 warheads, destroy more than 1,000 ICBMs, and eliminate 495 ICBMs silos. Similarly, the Russian Navy is planning to eliminate 420 SLBM launchers and 674 SLBMs. U.S. assistance will be instrumental in facilitating the elimination of these systems. One of the considerable problems facing Russia is the dismantlement and disposal of multi-purpose nuclear submarines. 146 Russian submarines have been retired but only 53 have been partially dismantled. Most of these submarines are in a very deteriorated condition, and represent huge ticking time bombs for the environment and public safety. A

⁵⁵Yevgeny Maslin, "The CTR Program and Russia's National Security Interests". In: Ivan Safranchuk (ed.), "CTR Program: How Efficient?". *PIR Study Paper*, No. 13, 2000, p. 8.

large-scale fissile material storage facility under existing plans is to become operational in 2002 in Ozersk (Chelyabinskaya oblast) at *Mayak*, but this deadline will hardly be met.

The U.S. approach towards the CTR Program is sometimes quite contradictory and impedes its efficient implementation. Russia also suffers from bad organization and coordination that depends mostly on the pace of economic reforms. At the same time, the parties are doing their best to eliminate barriers to foreign assistance. One example is the adoption of a new federal law on foreign aid in 1999. The more mutual understanding and openness the parties express towards the objectives of the CTR Program and its implementation, the more fruitful their cooperation in the area of nonproliferation will be.

In the course of further implementation of the CTR Program it would be important to ensure that more of the appropriated funds be expended in Russia. Nowadays, according to the U.S. General Accounting Office, 57% of funds authorized to the DOE are spent in the United States.⁵⁶

The parties should carefully analyze the conclusions of the Baker-Cutler report prepared at the request of the U.S. DOE in January 2001, which recommended additional measures for cooperative threat reduction after the demise of the Soviet Union. The report recommends the appropriation of \$30 billion for that purpose for the next eight to ten years. Generally speaking, now that the U.S. is under a new administration it would be reasonable to conduct a joint review of the CTR Program to secure its optimization. Unfortunately, the Bush administration proposed deep cuts in funding for the CTR Program.⁵⁷

- The United States and Russia should continue to carry out the HEU-LEU deal providing for the sale of 500 tons of highly enriched uranium to the United States after its blending down into low-enriched uranium. Within the framework of this deal, Russia has reached a HEU conversion rate of 30 tons per year and this pace should continue.

Appropriate measures should be taken to secure timely implementation of the 2000 Plutonium Disposition and Management Agreement. According to the document, the parties shall construct conversion plants and start disposition in 2007 (no less than 2 tons of

⁵⁶*Arms Control Today*, Vol. 31, No. 1, January/February 2001, p. 9.

⁵⁷The Bush Administration's planned FY 2002 budget is the first in a decade that makes significant cuts in major U.S.-Russian nuclear security programs: for U.S. DOE — by 8.4% (from \$874 million to \$801 million). As far as the DOD is concerned, the cuts will amount to \$40 million, or about 10% lower than in FY2001.

plutonium a year). Unfortunately, it is quite difficult to raise funds for the implementation of the PDMA.

- Russia and the United States should continue to strengthen IAEA safeguards. At present, the most urgent task is to promote the early adoption of the Additional Protocol (INFCIRC/540) by as many states performing nuclear activities as possible. It is also necessary to encourage the signature of safeguards agreements with non-nuclear weapon NPT State Parties that have so far failed to do so. The parties should contribute to the international project under IAEA aegis to ensure development of innovative proliferation-resistant nuclear technologies (INPRO).
- International and national mechanisms to control the transfer of nuclear materials, equipment, and technologies should be tightened. It is useful to involve all actual or potential nuclear exporters in the NSG, including China. It is necessary to ensure full compliance with the full-scope safeguards principle as an indispensable condition for nuclear supplies, without any exception. If there is common opinion among all NSG members concerning the need to amend this principle, such a decision can be taken only in accordance with Article 16 of the Guidelines for Nuclear Transfers providing for unanimous consent of all parties. Russia should observe the NSG regulations and should not circumvent these rules, as happened with respect to low-enriched uranium supplies for the TAPS (India).

The NSG and the Zangger Committee should continue to work at upgrading the Guidelines for Nuclear Transfers and the Trigger List (INFCIRC/254/Rev.5/Part 1), as well as the list for dual-use technologies, nuclear-related software, equipment and materials (INFCIRC/254/Rev.4/Part 2). The parties should encourage the greater transparency of the NSG and Zangger Committee's activities in order to promote cooperation and dialogue between nuclear exporters and importers. Assistance should be provided to those nuclear suppliers who have yet failed to pass appropriate legislation that complies with international nuclear export control norms. It would be extremely desirable to involve China in the NSG, as well as to find some form of NSG association for countries with advanced nuclear activities, such as India, Pakistan and Israel.

- Within the Trilateral Initiative, Russia, the United States and the IAEA should complete as soon as possible negotiations on a model agreement on verification of surplus weapon-grade nuclear materials to ensure the irreversibility of this process. Other nuclear-weapon states and nations with substantial nuclear capabilities should apply this agreement to their own nuclear materials released from weapons programs.

- Russia and the United States should encourage all nuclear-weapon states and nations with substantial nuclear capabilities (China, India, Pakistan, and Israel) to cease the production of fissile materials for nuclear weapons and other nuclear explosive devices.
- Russia and the United States should undertake joint measures to promote accession to the Convention on the Physical Protection of Nuclear Material and the Convention on Nuclear Safety. Experts should continue to consider under the IAEA aegis legal and technical issues pertaining to possible amendments to the Convention on Physical Protection, in order to enhance its effectiveness.
- National MPC&A systems should be upgraded and established where they do not yet exist, in particular in the Russian Federation.
- International and national efforts to prevent illicit trafficking in nuclear material should be encouraged to avoid nuclear terrorism and smuggling.
- Taking into account the great importance of the CTBT for nuclear nonproliferation, the Russian Government should take steps to promote prompt ratification of this treaty by all of the 44 states that have not done so, since the CTBT's entry into force depends on this group of states. Russia should put forward an initiative to establish a group of special emissaries, including executive officials and lawmakers from Russia, France, Great Britain, Japan, Germany and some other states, which would promote the accession to the treaty by the United States, China, India, Pakistan, Israel. This issue should also be raised in bilateral contacts between U.S. and Russian legislators.
- Endeavors to negotiate or enforce the agreements on the establishment of NWFZ in Latin America, Africa, Southeast Asia should be intensified. Currently, the creation of NWFZs in Central Asia, Central and Eastern Europe, the Middle East, and South Asia are under consideration as well as the implementation of the declaration on denuclearization of Korea.

In conclusion, we would like to express the view that Russia must enhance coordination between agencies and ministries dealing with the nonproliferation of nuclear weapons, other WMD and their delivery systems, including such matters as relations with the U.S. and other nations, cooperation with the IAEA and other international organizations and mechanisms, regional aspects of nonproliferation, implementation of the CTR Program, etc. On January 29, 2001, President Putin issued a decree establishing the Commission on Export Controls of the Russian Federation chaired by Vice Prime Minister Ilya Klebanov. However, this document relates to export controls only and, despite all its significance,

does not embrace the entire strategy and practical policies of Russia in the area of WMD nonproliferation.

The experience of the last decade and the growing number of international actors, as well as the deepening of Russian integration into the world economy, require better coordination and formulation of a *coherent and well coordinated national policy* in the area of nuclear nonproliferation. As interaction among federal agencies is enhanced, President Putin will face the task of setting up an effective authority to provide for coordination in the area of WMD nonproliferation.⁵⁸ This body can be formed within the President's Office, the Security Council or it may be a special federal inter-agency organ with the appropriate powers. Time will show which form will be optimal, but the decision should be taken without much delay.

The Federal Assembly of the Russian Federation, notably the State Duma and its International Affairs and Defense Committees should oversee the nonproliferation policies of the executive branch, hold parliamentary hearings and consider these issues, as appropriate. It would be useful to invite U.S. legislators and other officials, as well as independent experts, to such hearings. Russian lawmakers should also take part in similar hearings in the U.S. Congress.

Finally, it is extremely important to strengthen and expand cooperation and interaction among non-governmental organizations and research centers in Russia and the United States dealing with nuclear nonproliferation and arms control. In the last ten years, a significant step forward was made in Russia, in terms of establishing independent research institutions. However, the impact of Russian and U.S. NGOs on the formulation of governmental policies in both countries is not as effective as one would wish. Therefore, it is desirable to intensify these efforts in order to secure adequate influence of NGOs on governmental policies. It would be advisable to enhance joint educational activities in order to encourage public awareness of nonproliferation and arms control issues, to provide better education for legislators and executives, and to promote nonproliferation and arms control values.

⁵⁸It is noteworthy that in the United States as well, many specialists advocate improved coordination of U.S. nonproliferation policy. For instance, in the report of the former Chairman of the Joint Chiefs of Staff Gen. John M. Shalikashvili of January 5, 2001 to the U.S. President on the advisability of the CTBT's ratification he pointed out the need for establishing the post of Deputy National Security Advisor for Nonproliferation, who would have powers and resources to coordinate and control U.S. nonproliferation policy (*Arms Control Today*, Vol. 31, No. 1, January/February 2001, p. 28).

CHRONOLOGY OF EVENTS IN THE AREA OF NUCLEAR NONPROLIFERATION AND ARMS CONTROL (1990-2001)

1990

June 1 — the Protocol to the Treaty between the USSR and the U.S. on Underground Nuclear Explosions for Peaceful Purposes was signed in Washington.

June 1 — the Protocol to the Treaty between the USSR and the U.S. on the Limitation of Underground Nuclear Weapon Tests was signed in Washington.

June 12 — the Russian Soviet Federative Socialist Republic (RSFSR) declared state sovereignty.

September 12 — the "2+4" Treaty on unification of Germany was signed (entered into force on March 15, 1991).

October 9 — the Supreme Soviet of the USSR ratified the Treaty between the USSR and the U.S. on Underground Nuclear Explosions for Peaceful Purposes and its protocol; and the Treaty between the USSR and the U.S. on the Limitation of Underground Nuclear Weapon Tests and its protocol.

October 24 — the last nuclear test was conducted in the USSR (at the Novaya Zemlya Test Range).

1991

January 18 — Glavkosmos and the Indian Space Research Organization signed a contract providing for Russian supplies of cryogen engines to India.

March 17 — the referendum on the preservation of the Soviet Union and establishment of the post of President of the RSFSR was held.

April 3 — the U.N. Security Council passed Resolution 687 on Iraq.

June 12 — Boris Yeltsin was elected President of the RSFSR.

July 1 — the Protocol on the Denouncement of the Treaty on Friendship, Cooperation and Mutual Assistance done at Warsaw on May 14, 1955, and the Protocol on Its Extension done at Warsaw on April 26, 1985, — were signed in Prague.

July 10 — the Republic of South Africa joined the NPT.

July 31 — the Treaty between the USSR and the U.S. on the Reduction and Limitation of Strategic Offensive Arms (START I) was signed in Moscow (entered into force on December 5, 1994).

August 19-21 — an attempted coup took place in the Soviet Union.

August 29 — the Semipalatinsk Nuclear Test Range was shut down by President Nazarbayev of Kazakhstan.

September 27 — President Bush announced a unilateral initiative on tactical nuclear weapons.

October 5 — President Gorbachev announced a unilateral initiative on tactical nuclear weapons.

October 22 — the USSR declared one-year unilateral moratorium on nuclear tests.

November 26 — the U.K. conducted its last nuclear test (with U.S. assistance).

December 8 — Russia, Ukraine and Belarus signed the Agreement on the Establishment of the Commonwealth of Independent States.

December 12 — the U.S. Congress passed the Soviet Nuclear Threat Reduction Act.

December 21 — 11 states of the former Soviet Union signed in Almaty the Protocol to the Agreement on the Establishment of the CIS (Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine established the CIS on the equal basis).

December 21 — Russia, Belarus, Ukraine and Kazakhstan signed the Agreement on the Joint Measures to Control Nuclear Weapons.

December 25 — President Gorbachev resigned. The Soviet Union ceased to exist.

December 30 — the State Parties to the CIS signed the Agreement on the Strategic Forces in Minsk.

1992

January 20 — the two Koreas signed the joint declaration on denuclearization of the Korean peninsula.

January 27 — President Yeltsin sent a letter to Boutros Boutros Ghali, U.N. Secretary General.

January 28 — Presidential Decree on the Establishment of the Ministry of Atomic Energy of the Russian Federation.

January 29 — President Yeltsin's proposals on tactical nuclear weapons.

January 31 — President Yeltsin submitted to the U.N. Security Council Russian initiatives on arms reduction, arms control, and confidence-building measures.

January 31 — the U.N. Security Council passed the statement on disarmament, arms control and nonproliferation.

February 1 — the Camp David Declaration was issued by President Bush and President Yeltsin on new U.S.-Russian relationship.

March 6 — the United States imposed sanctions on Glavkosmos for cooperation with the Indian Space Research Organization.

March 9 — China acceded to the NPT.

March 24 — the Open Skies Treaty was signed in Helsinki.

March 27 — the Presidential Decree "On Control of Export of Nuclear Materials, Equipment and Technologies from the Russian Federation" was issued (Russia adopted the principle of full-scope safeguards).

April 3 — the NSG approved in Warsaw the policy of full-scope safeguards as a condition of nuclear supplies.

April 11 — the Presidential Decree "On Measures to Develop the System of Export Controls in Russia" was issued.

April 11 — the Russian Federation and Ukraine signed the Agreement on the Procedures of Transportation of Nuclear Munitions from the Territory of Ukraine to Central Bases of the Russian Federation for Dismantlement and Elimination.

May 5 — the tactical nuclear weapons were retransferred from Ukraine.

May 15 — the CIS states signed the Collective Security Treaty (Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan).

May 23 — Belarus, Kazakhstan, Russia, Ukraine and the U.S. signed the Protocol to the Treaty between the USSR and the U.S. on the Reduction and Limitation of Strategic Offensive Arms (the Lisbon Protocol).

May 26 — Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan and Ukraine signed in Moscow the Agreement on the Basic Principles of Cooperation in Peaceful Nuclear Energy Uses.

June 15 — Yegor Gaydar was appointed Acting Prime Minister of the Russian Federation.

June 16 — the U.S.-Russian Joint Statement on bilateral relations was signed.

June 17 — a Charter of American-Russian Partnership and Friendship was signed.

June 17 — The Agreement between the U.S. and the Russian Federation Concerning the Safe Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation was signed.

June 17 — a Joint U.S.-Russian Statement on a Global Protection System was signed.

June 17 — U.S.-Russian framework agreement on the further strategic offensive arms reduction was decided upon.

June 26 — Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan and Ukraine signed in Minsk the Agreement on the Coordination of Activities in the Area of Export Control of Raw Materials, Materials, Equipment, Technologies and Services that Can Be Used to Develop Weapons of Mass Destruction and Missile Delivery Systems.

June 26 — Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan and Ukraine signed in Minsk the Agreement on the Basic Principles of Cooperation in Peaceful Nuclear Energy Uses.

July 2 — the Parliament of Kazakhstan ratified START I.

July 6 — the CIS states adopted a decision to join the NPT (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine).

August 3 — France acceded to the NPT.

August 17 — Russia and Iran signed the Agreement on the Peaceful Nuclear Energy Uses.

September 23 — the last nuclear test was conducted by the United States.

October 9 — the CIS states adopted a decision to join the ABM Treaty.

October 19 — the Presidential Decree "On Extension of the Moratorium on Nuclear Tests" (the moratorium was extended until July 1, 1993) was issued.

December 14 — the Supreme Soviet of the Russian Federation approved the appointment of Prime Minister Victor Chernomyrdin.

December 21 — the Governmental Resolution "On the Procedure of Export and Import of Nuclear Materials, Technologies, Equipment, Plants, Special Non-Nuclear Materials, Radioactive Sources of Ionizing Radiation, and Isotopes" was adopted (the resolution became invalid on May 19, 1996).

1993

January 1 — the NSG regime of export controls for dual-use items entered into force.

January 3 — the Treaty between the Russian Federation and the U.S. on the Further Reduction and Limitation of Strategic Offensive Arms (START II) was signed in Moscow (the treaty has not entered into force).

January 3 — Memorandum of Understanding on Warhead Attribution and Heavy Bomber Data Relating to the Treaty between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms was signed.

January 3 — the Protocol on Procedures Governing Elimination of Heavy ICBMs and on Procedures Governing Conversion of Silo Launchers of Heavy ICBMs Relating to the Treaty between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms was signed.

January 3 — the Protocol on Exhibition and Inspections of Heavy Bombers Relating to the Treaty between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms was signed.

January 20 — William Jefferson Clinton was inaugurated as the 42nd President of the United States.

January 27 — the Governmental Resolution "On Approving the Regulations Concerning the Procedure of Export from the Russian Federation of Equipment, Materials and Technologies Used in the Development of Missile Weapons" was adopted.

February 4 — the Supreme Soviet of Belarus ratified START I.

February 9 — Armenia, Belarus, Kazakhstan, Russia, Tajikistan, Uzbekistan and Ukraine signed in Moscow the Agreement on Cooperation in Control of Export of Raw Materials, Equipment, Technologies and Services Used for Production of Weapons of Mass Destruction.

February 18 — the Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons (the HEU-LEU deal) was signed.

March 12 — North Korea officially notified the U.N. Security Council of its withdrawal from the NPT.

April 4 — Presidents Yeltsin and Clinton adopted the Vancouver Declaration on cooperation between Russia and the United States.

May 10-14 — the first Preparatory Committee (PrepCom) meeting of the 1995 NPT Review and Extension Conference was held in New York.

May 23 — the Protocol to the Treaty between the USSR and the U.S. on the Reduction and Limitation of Strategic Offensive Arms was signed.

July 22 — Belarus joined the NPT as a non-nuclear weapon state.

September 1 — the Memorandum of Understanding between the Government of the United States and the Government of the Russian Federation Relating to Openness and Other Additional Measures in Connection with the Agreement Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons was signed.

September 2 — the Memorandum of Understanding between the U.S. Government and the Russian Government on Export of Missile Equipment and Technology was signed.

September 3 — Russian Prime Minister Victor Chernomyrdin and Ukrainian President Leonid Kuchma signed three protocols: on

guarantees of oversight of missile launchers, on disposition of nuclear charges and on basic principles of nuclear warheads disposition.

September 21 — October 4 — the confrontation between the President and the Supreme Soviet led to dissolution of the parliament.

October 11 — the Governmental Resolution "On Verifying the Compliance with Commitments to Use Imported and Exported Dual-Purpose Items and Services for Declared Purposes" was adopted.

October 11 — the U.S. Congress passed the Cooperative Threat Reduction Act.

November 18 — the Parliament of Ukraine ratified START I.

December 12 — elections to the State Duma were held.

December 16 — Joint U.S.-Russian principles on safety of nuclear reactors were approved.

December 16 — U.S.-Russian inter-governmental agreement on operational safety, measures to reduce risk and norms of nuclear safety with respect to civilian nuclear plants in Russia was signed.

1994

January 11 — the Partnership for Peace Program was approved at the NATO Summit in Brussels.

January 14 — the Trilateral Statement by Presidents of Russia, the United States, and Ukraine was issued.

January 14 — Russia and the United States signed the Moscow Declaration on mutual detargeting (effective May 30, 1994) in the course of the Yeltsin-Clinton summit.

January 14 — the Joint Statement on nonproliferation of WMD and their delivery systems was adopted in Moscow.

January 14 — the Joint Statement on export controls and policy relating to the transfer of conventional arms and dual-use technologies was signed in Moscow.

January 14 — the Memorandum of Intentions between the Russian and the U.S. Governments on cooperation in the area of nuclear control was approved in Moscow.

January 17-21 — the second PrepCom meeting of the 1995 NPT Review and Extension Conference was held in New York.

February 14 — Kazakhstan joined the NPT as a non-nuclear-weapon state.

February 15 — Russia and the U.K. took the decision on mutual detargeting (effective May 30, 1994).

March 28 — the Agreement between the Russian Federation and the Republic of Kazakhstan on Strategic Nuclear Forces Temporarily Deployed on the Territory of the Republic of Kazakhstan was signed.

May 10 — the Agreement between the Government of the Russian Federation and the Government of Ukraine on the Implementation of the Trilateral Agreement between the Presidents of Russia, the United States of America, and Ukraine of January 14, 1994 was signed.

May 30 — Russia and the United States agreed on mutual de-targeting of strategic missiles.

June 13 — North Korea announced the withdrawal from the IAEA.

June 23 — Russia and the United States signed the Plutonium Production Reactor Agreement.

August 10 — 300 grams of weapon-grade plutonium arrived on a flight from Moscow to Munich and were seized.

September 12-16 — the third PrepCom meeting of the 1995 NPT Review and Extension Conference was held in Geneva.

September 20 — the Convention on Nuclear Safety was signed (entered into force for Russia on October 24, 1996).

September 28 — the Joint Clinton-Yeltsin Statement on strategic stability was signed in Washington.

October 21 — the United States and North Korea signed the Agreed Framework.

November 16 — the Parliament of Ukraine ratified the NPT with a reservation requiring security assurances of the nuclear-weapon states.

December 5 — the Memorandum on Security Assurances in Connection with Ukraine's (the Republic of Belarus'; the Republic of Kazakhstan's) Accession to the NPT was adopted.

December 5 — Ukraine joined the NPT as a non-nuclear weapon state.

December 16 — the U.S. and Russian Governments signed the agreement on exchange of technical information pertaining to safety and security of nuclear munitions.

1995

January 8 — Minister of Atomic Energy Victor Mikhailov and Vice President of Iran Reza Amrollahi (President of the Atomic Energy Organization of Iran) signed the contract on completing the construction of the first unit of the Bushehr nuclear power plant and signed the protocol of negotiations (the protocol provided for the possibility of supplying Tehran with a centrifuge plant for uranium enrichment).

January 23-27 — the fourth PrepCom meeting of the 1995 NPT Review and Extension Conference was held in New York.

April 11 — the U.N. Security Council passed Resolution 984 on security assurances to non-nuclear weapon states.

April 17 — May 12 — the NPT Review and Extension Conference was held in New York.

May 10 — the Joint Clinton-Yeltsin Statement on strategic and tactical missile defenses was issued.

May 10 — the Joint Statement on Russia's participation in developing the new international export control regime was issued.

May 10 — the Joint Statement on the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was issued.

May 10 — the Joint Statement on transparency and irreversibility of nuclear arms reduction process was issued.

May 11 — the NPT Review and Extension Conference adopted the decision on indefinite extension of the treaty.

June 30 — the Gore-Chernomyrdin memorandum was signed (Russia pledged not to sign new agreements on military-technical cooperation with Iran).

July 24 — the Governmental Resolution "On Accession of the Russian Federation to the International Missile Technology Control Regime" was adopted.

October 23 — the Russian Government approved the Federal Program, "Management, Disposition and Dumping of Radioactive Waste and Spent Nuclear Materials in 1996-2005".

November 21 — President Yeltsin signed the law, "On Nuclear Energy Uses".

December 15 — the Treaty on the Southeast Asian Nuclear-Weapon-Free Zone (the Bangkok Treaty) was signed (entered into force on March 27, 1997, without a protocol for nuclear-weapon states).

December 17 — elections to the State Duma were held.

1996

January 9 — Yevgeny Primakov was appointed Minister of Foreign Affairs.

January 27 — the last nuclear test was conducted by France.

January 30 — the Joint U.S.-Russian statement on the guidelines for cooperation in the area of MPC&A.

February 14 — the Presidential Decree "On Approving the List of Nuclear Materials, Equipment, Special Non-Nuclear Materials and Related Technologies Subject to Export Controls" was issued.

April 9 — the Investigation Department of the Federal Security Service (FSB) started criminal proceedings on illicit export of equipment (gyros to Iraq) used for development of WMD missile delivery systems.

April 11 — the African Nuclear-Weapon-Free Zone Treaty (the Treaty of Pelindaba) was signed (the treaty has not entered into force).

April 19-20 — the Moscow Nuclear Safety and Security Summit brought together G-7 states and Russia.

April 20 — the Declaration of the Moscow Nuclear Safety and Security Summit was adopted.

April 21 — the Joint Statement of the United States and Russia concerning the HEU-LEU deal was issued.

May 8 — the Governmental Resolution "On Approving the Regulations on Procedure Concerning Control of Export from the Russian Federation of Dual-Use Equipment, Materials and Related Technologies Used for Nuclear Purposes and Subject to Export Controls" was adopted.

May 8 — the Governmental Resolution "On Approving the Regulations on Procedure of Export and Import of Nuclear Materials, Equipment, Special Non-Nuclear Materials and Related Technologies" was adopted.

May 8 — Russia joined the Convention on Civil Liability for Nuclear Damage (it has not been ratified by Russia).

June 1 — the nuclear weapons were withdrawn from Ukraine to Russia.

June 27 — the G-7 and Russia signed the Lyon Declaration on Terrorism.

July 3 — Boris Yeltsin was elected President of the Russian Federation for the second term.

July 29 — the last nuclear test was conducted by China.

August 16 — the Presidential Decree "On Control of Export from the Russian Federation of Equipment, Materials and Technologies Used for the Development of Missile Weapons" was issued.

August 26 — the Presidential Decree "On Control of Export of Dual-Use Items and Technologies from the Russian Federation" was issued.

September 24 — the CTBT was opened for signature in New York.

November 5 — a Presidential decree was issued on the transfer of presidential powers and the nuclear button to Victor Chernomyrdin during the President's heart surgery.

November 23 — the nuclear warheads were removed from Belarus to Russia.

1997

January 20 — Bill Clinton was inaugurated as President of the United States for the second term.

March 7 — the Governmental Resolution "On Approving the Rules of Physical Protection of Nuclear Materials, Nuclear Plants and Storage Facilities for Nuclear Materials" was adopted.

March 21 — the Joint U.S.-Russian statement on the program of further nuclear reductions was issued.

March 21 — the Joint U.S.-Russian statement concerning the ABM Treaty was issued.

April 7-18 — the first PrepCom meeting of the 2000 NPT Review Conference was held in New York.

May 15 — the IAEA Board of Governors approved "Program 93+2" providing for stricter verification of compliance and stronger safeguards (Additional Protocol).

May 27 — the Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation was adopted.

September 23 — the U.S.-Russian inter-governmental agreement on cooperation with respect to plutonium fabrication reactors was adopted.

September 24 — the Joint U.S.-Russian statement concerning the ways to enhance oversight of reactor core conversion activities was issued.

September 26 — the Agreement on Confidence-Building Measures Related to Systems to Counter Ballistic Missiles Other than Strategic Ballistic Missiles was signed.

September 26 — the First Agreed Statement Relating to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems of May 26, 1972 was issued.

September 26 — the Second Agreed Statement Relating to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems of May 26, 1972 was issued.

September 26 — the Memorandum of Understanding Relating to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems of May 26, 1972 was issued.

September 26 — President Yeltsin delivered an address to the participants of the 41st session of the IAEA General Conference concerning gradual withdrawal of 500 tons of HEU and up to 50 tons of plutonium released in the process of nuclear disarmament from nuclear weapon programs.

November 7 — the Governmental Resolution "On Control of the Export to Iraq of Dual-Use Items and Technologies and Other Means Subject to the International Mechanism of Permanent Monitoring and Verification" was adopted.

1998

January 22 — the Governmental Resolution "On Tightening Control of Export of Dual-Use Items and Services Related to Weapons of Mass Destruction and Their Missile Delivery Systems" was adopted.

January 24 — the Governmental Resolution "On Acceptance by the Russian Federation of the Guidelines for Plutonium Management" was adopted.

March 23 — Sergei Kiriyenko was appointed Acting Prime Minister of the Russian Federation (the State Duma approved the appointment on April 24, 1998).

April 27 — May 8 — the second PrepCom meeting of the 2000 NPT Review Conference was held in Geneva.

May 11 and 13 — India conducted a series of nuclear tests.

May 17 — the G-8 Statement on the Indian nuclear tests was adopted in Birmingham.

May 28 and 30 — Pakistan conducted a series of nuclear tests.

June 4 — the Foreign Ministers of China, France, Russia, the U.K. and the U.S. approved in Geneva the communique on Indian-Pakistani nuclear tests.

June 6 — the U.N. Security Council passed Resolution 1172 concerning the Indian-Pakistani nuclear tests.

July 24 — U.S.-Russian inter-governmental agreement on scientific and technological cooperation in surplus plutonium management was signed.

July 30 — the United States imposed sanctions on seven Russian organizations suspected of cooperation with Iran in the area of missile technology (On January 12, 1999, three Russian universities fell victim to U.S. sanctions for alleged nuclear and missile cooperation with Iran).

September 2 — the Joint Statement by Presidents of the U.S. and Russia on Common Security Challenges at the Threshold of the XXI century was issued.

September 2 — the Joint Statement of the Presidents of the United States of America and the Russian Federation on the Exchange of Information on Missile Launches and Early Warning was issued.

September 2 — the Joint Statement by Presidents of the U.S. and Russia on Principles for Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes was issued.

September 11 — the State Duma approved Yevgeny Primakov's appointment as Prime Minister.

September 11 — Igor Ivanov was appointed Minister of Foreign Affairs of the Russian Federation.

1999

March 12 — Poland, Hungary and the Czech Republic joined NATO.

March 24 — NATO operation (air strikes) against Yugoslavia began.

April 24 — NATO approved the new Strategic Concept.

May 10-21 — the third PrepCom meeting of the 2000 NPT Review Conference was held in New York.

May 12 — Sergei Stepashin was appointed Acting Prime Minister of the Russian Federation (approved by the State Duma on May 19, 1999).

June 15-16 — the Protocol to the Agreement between the U.S. and the Russian Federation Concerning the Safe Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation was signed.

June 20 — the Joint Statement between the United States and the Russian Federation Concerning Strategic Offensive and Defensive Arms and Further Strengthening of Stability was issued.

July 18 — the Law "On Export Controls" entered into force in Russia.

August 9 — Vladimir Putin was appointed Acting Prime Minister of the Russian Federation (approved by the State Duma on August 16).

October 2 — U.S.-Russian inter-governmental agreement on cooperation in MPC&A was signed.

December 19 — elections to the State Duma were held.

December 31 — Boris Yeltsin transferred control of the nuclear button to his successor Acting President Vladimir Putin.

2000

January 10 — the National Security Concept of the Russian Federation was approved.

February 22 — the Russian Government approved the Federal Program "Nuclear and Radiological Safety in Russia in 2000-2006".

February 29 — the Presidential Decree "On Amendments to the List of Dual-Use Items and Technologies Whose Export Is Controlled under Presidential Decree No. 1268 of August 26, 1996" was issued.

March 22 — Russia signed the Additional Protocol to the IAEA Safeguards Agreement (it has not been ratified by Russia).

April 14 — the State Duma ratified START II.

April 21 — the Military Doctrine of the Russian Federation was approved.

April 21 — the State Duma ratified the CTBT.

April 24 — May 20 — the Sixth NPT Review Conference was held in New York.

May 7 — President Putin was inaugurated (he was elected on March 26, 2000).

June 4 — the Joint Statement by the Presidents of the United States of America and the Russian Federation on Principles of Strategic Stability was issued.

June 4 — the Joint Statement by the Presidents of the United States of America and the Russian Federation Concerning Management and Disposition of Weapon-Grade Plutonium Designated as no Longer Required for Defense Purposes and Related Cooperation was issued.

June 4 — the Memorandum of Agreement between the United States of America and the Russian Federation on the Establishment of a Joint Center for the Exchange of Data from Early Warning Systems and Notifications of Missile Launches was signed.

July 10 — the Foreign Policy Concept of the Russian Federation was approved.

July 19-20 — President Putin visited North Korea.

July 21 — the Joint Clinton-Putin Statement on cooperation in the area of strategic stability was approved at the G-8 Okinawa summit (Japan).

September 1 — Russia and the United States signed the Plutonium Disposition and Management Agreement and approved the joint statement on non-fabrication of weapon-grade plutonium.

September 6 — the Joint U.S.-Russian statement on cooperation in strategic stability was signed in New York.

September 6 — President Putin put forward the nonproliferation initiative at the U.N. Millennium Summit.

October 3-5 — President Putin visited India (the parties signed the Memorandum of Understanding and Cooperation in the Peaceful Nuclear Energy Uses).

November 13 — President Putin made the statement on further joint or parallel measures on nuclear arms reduction by Russia and the United States.

December 15 — the Russian Government approved the Statute on Export and Import of Nuclear Materials, Equipment, Special Non-Nuclear Materials, and Related Technologies.

2001

January 20 — George W. Bush, Jr. was inaugurated as President of the United States.

January 29 — President Putin approved the Statute of the Commission on Export Controls of the Russian Federation.

March 12 — Russia and Iran signed the Treaty on the Principles of Mutual Relations and Cooperation, as a result of President Khatami's visit to Moscow.

April 18 — the State Duma ratified the Open Skies Treaty.

May 1 — President Bush's gave a speech on NMD at the National Defense University.

May 21 — the Statement on the completion of inspections under the INF Treaty was signed in Moscow.

June 16 — the U.S.-Russian summit took place in Ljubljana (Slovenia).

July 20-22 — the G-8 summit was held in Genoa.

September 11 — terrorist attacks on the territory of the United States.

October 21 — the Bush-Putin meeting at the Shanghai summit of the Asia-Pacific Economic Cooperation Forum.

November 13-15 — the Bush-Putin summit in Crawford, Texas.

November 13 — the Joint Statement by President Vladimir Putin of Russia and President George Bush of the USA on a New Relationship Between Russia and the USA was issued in Washington.

December 13 — President George Bush announced the U.S. withdrawal from the 1972 ABM Treaty.

LEADERS OF THE RUSSIAN FEDERATION AND THE UNITED STATES ON NONPROLIFERATION CHALLENGES AND STRATEGIC DIALOGUE

Our countries are embarked on a new relationship for the 21st century [...]. The United States and Russia have overcome the legacy of the Cold War. Neither country regards the other as an enemy or threat. Aware of our responsibility to contribute to international security, we are determined to work together, and with other nations and international organizations, including the United Nations, to promote security, economic well-being, and a peaceful, prosperous, free world.

*Joint Statement by President George W. Bush And President Vladimir V. Putin on a New Relationship Between the United States and Russia,
November 13, 2001*

We affirm our determination to meet the threats to peace in the 21st century. Among these threats are terrorism, the new horror of which was vividly demonstrated by the evil crimes of September 11, proliferation of weapons of mass destruction, militant nationalism, ethnic and religious intolerance, and regional instability. These threats endanger the security of both countries and the world at large. Dealing with these challenges calls for the creation of a new strategic framework to ensure the mutual security of Russia and the USA, and the world community as a whole.

*Joint Statement by President Vladimir V. Putin of Russia and President George W. Bush of the USA on a New Relationship Between Russia and the USA,
November 13, 2001*

We are now speaking about the struggle with terrorism. But there are also other challenges today which are no less dangerous and they have already been mentioned here. One such problem is the proliferation of weapons of mass annihilation, and I think that it is not less important and not less dangerous a problem, but may be even more. It is no coincidence that we have repeatedly linked these two topics here.

*Meeting of RF President Vladimir Putin with Chief Correspondents of the Moscow Bureaus of the Leading US Mass Media,
November 10, 2001*

We should realize that nonproliferation is one of the most urgent current challenges, one of the most important contemporary problems. Probably, it is the most important one. And, increasing level of trust in each other, we should establish cooperation [in this area] similar to what we have in some other areas like fighting drug trafficking where our experts work closely and very efficiently with each other. I am confident that we will be able to achieve the same level of efficiency in preventing proliferation.

*Russian President Vladimir Putin Interview to US Television Company ABC,
November 7, 2001*

Now that the world has been confronted with new threats one cannot allow a legal vacuum to be formed in the sphere of strategic stability. One should not undermine the regimes of non-proliferation of mass destruction weapons.

I believe that the present level of bilateral relations between the Russian Federation and the US should not only be preserved but should be used for working out a new framework of strategic relations as soon as possible.

*A Statement Made by Russian President Vladimir Putin on December 13, 2001, Regarding
the Decision of the Administration of the United States of America to Withdraw from the
Anti-Ballistic Missile Treaty of 1972*

I had also said before that, in our opinion, a unilateral withdrawal from this treaty [NMD] would be a mistake. But I also said should that happen we'd have no intention of whipping up any anti-American hysteria. Nor do we think this step can lead to the creation of any new threats to Russia's security — for several reasons.

*Vladimir Putin,
Financial Times Interview, December 17, 2001; the Kremlin, Moscow,
December 13, 2001*

ACRONYMS

A-bomb — atomic bomb
ABM — anti-ballistic missile
ADA — Atomic Development Authority
AEOI — Atomic Energy Organization of Iran
ALCM — air-launched cruise missile
AO — joint stock company
ASEAN — Association of South East Asian Nations
BW — biological weapons
BWC — Biological Weapons Convention
CD — Conference on Disarmament
CEC — Commission on Export Controls
CEIP — Carnegie Endowment for International Peace
CFE — Conventional Armed Forces in Europe
CIA — Central Intelligence Agency
CIC — Commander-in-Chief
CIS — Commonwealth of Independent States
CIRUS — Canadian-Indian Reactor Uranium System
CNS — Center for Nonproliferation Studies
CPSU — Communist Party of the Soviet Union
CSCE — Conference on Security and Cooperation in Europe
CTBT — Comprehensive Test Ban Treaty
CTBTO — Comprehensive Test Ban Treaty Organization
CTR — Cooperative Threat Reduction
CW — chemical weapons
D — Democrat
DDR — German Democratic Republic
DOD — U.S. Department of Defense
DOE — U.S. Department of Energy
DPRK — Democratic People's Republic of Korea
EEZ — exclusive economic zone
ENDC — Eighteen-Nation Disarmament Committee
FMCT — Fissile Material Cut-Off Treaty
FSB — Federal Security Service of Russia
FSU — Former Soviet Union
FY — fiscal year
G — group
GTK — State Customs Committee of the Russian Federation
GUMO — Main Directorate of the Russian Defense Ministry
HEU — highly-enriched uranium
IAEA — International Atomic Energy Agency
ICBM — intercontinental ballistic missile
IISS — International Institute for Strategic Studies
ISRO — Indian Space and Research Organization
IMEMO — Institute for World Economy and International Relations

INF — intermediate-range nuclear forces
 INFCIRC — information circular
 ISKRAN — Institute for U.S. and Canada Studies, Russian Academy of Sciences
 ISRO — Indian Space Research Organization
 ITAR-TASS — Russian Information Agency
 JDEC — Joint Data Exchange Center
 KEDO — Korean Energy Development Organization
 KGB — Committee for State Security of the USSR
 LEU — low-enriched uranium
 MEPHI — Moscow Engineering Physics Institute
 MFA — Ministry of Foreign Affairs of the Russian Federation
 MGIMO — Moscow State Institute of International Relations
 Minatom — Ministry of Atomic Energy of Russia
 MIRV — multiple independently targetable re-entry vehicle
 MIT — Massachusetts Institute of Technology
 MOD — Ministry of Defense of the Russian Federation
 MOX — mixed oxide fuel
 MPC&A — material protection, accounting and control
 MPhTI — Moscow Institute of Physics and Techniques
 MTCR — Missile Technology Control Regime
 MW — megawatt
 N-5 — five nuclear-weapon states
 NAC — New Agenda Coalition
 NAM — Non-Aligned Movement
 NATO — North Atlantic Treaty Organization
 NDU — National Defense University
 NGO — non-governmental organization
 NII — research institution
 NIIA — Research Institute of Automatics (Russia)
 NIKIET — Research and Design Institute of Power Engineering (Russia)
 NIS — newly independent states
 NMD — national missile defense
 NNWS — non-nuclear weapon state
 NPO — scientific industrial association
 NPP — nuclear power plant
 NPT — Nuclear Non-Proliferation Treaty
 NSG — Nuclear Suppliers Group
 NWFZ — nuclear-weapon-free zone
 NWS — nuclear-weapon state
 OPCW — Organization for the Prohibition of Chemical Weapons
 ORT — Russian Public Television
 OSCE — Organization for Security and Cooperation in Europe
 P-5 — permanent members of the U.N. Security Council
 PDMA — Plutonium Disposition and Management Agreement
 PO — industrial association

PPNN — Programme for Promoting Nuclear Non-Proliferation
 PrepCom — Preparatory Committee
 R — Republican
 RANSAC — Russian-American Nuclear Security Advisory Council
 RF — Russian Federation
 RISI — Russian Institute for Strategic Studies
 RSFSR — Russian Soviet Federative Socialist Republic
 SALT — Strategic Arms Limitation Treaty
 SIOP — Single Integrated Operational Plan
 SLBM — submarine-launched ballistic missile
 SLCM — submarine-launched cruise missile
 SMF — Strategic Missile Forces of Russia
 SNF — strategic nuclear forces
 SSBN — ballistic missile submarine, nuclear-powered
 START — Strategic Arms Reduction Treaty
 SVR — Russian Foreign Intelligence Service
 TAPS — Tarapur Atomic Power Station
 TMD — theater missile defense
 TNW — tactical nuclear weapons
 U.K. — United Kingdom
 U.N. — United Nations
 UNAEC — United Nations Atomic Energy Commission
 UNIDIR — United Nations Institute for Disarmament Research
 UNMOVIC — United Nations Monitoring, Verification and Inspection
 Commission
 UNSCOM — United Nations Special Commission on Iraq
 U.S. — United States
 USSR — Union of Soviet Socialist Republics
 VNIIEF — All-Russian Research Institute of Experimental Physics
 VNIITF — All-Russian Research Institute of Technical Physics
 WMD — weapons of mass destruction

ABOUT THE AUTHORS

Dr. Vladimir A. **Orlov** is the founding Director of the Moscow-based PIR Center for Policy Studies (PIR Center). In addition to carrying out his overall responsibilities as the head of the Center, Dr. Orlov directs the Center's "*Nuclear Nonproliferation & Russia*" program, is the Editor-in-Chief of *Yaderny Kontrol* (Nuclear Control), and is the Consultant of the U.N. Study Group for Nonproliferation and Disarmament Education. Dr. Orlov is a leading expert on nuclear nonproliferation and arms control, nuclear terrorism and prevention of unauthorized access to nuclear material. He has a vast experience in the areas of political science and journalism.

Orlov graduated in 1990 from the Moscow State Institute for International Relations (MGIMO) under the Foreign Ministry of the USSR. In 1997, he defended his dissertation in political science at MGIMO as well. His thesis was "*The 1995 NPT Review and Extension Conference and the Prospects of International Nuclear Nonproliferation Regime in the late 1990s*". He worked as an analyst, department head, Vice President and Board Member of the Moscow News Media Company. In 1994 and 2001, at the invitation of the Center for Nonproliferation Studies (Monterey, CA), he was a Senior Research Associate of the CNS.

Orlov participated in the 1995 and 2000 NPT Review Conferences. He is a member of the Russian Pugwash Committee. He has also edited several books and written chapters for several books on nonproliferation published in the West and in Russia, including *Dismantling the Cold War* (1997), *Dangerous Weapons, Desperate States* (1999), *Exportny kontrol v Rossii: politika i praktika* (Export Controls in Russia: Policy and Practice) (2000), *Kontrol nad vooruzheniyami i voennoy deyatel'nostyu* (Arms Control Guide) (2001). One of his recent and the internationally renowned works is the *Yadernoye nerasprostraneniye* (Nuclear Nonproliferation Textbook) published by the PIR Center. Orlov writes for *The Bulletin of the Atomic Scientists*, *Nezavisimoye Voyennoye Obozreniye* (Independent Military Review), *The Nonproliferation Review*, *Pro et Contra*, *Vremya Novostei*, *Moscow News*, *Disarmament Diplomacy*, *Yaderny Kontrol*, etc.

Amb. (ret.) Roland **Timerbaev** is a world-renowned expert in the area of nuclear nonproliferation and arms control, and one of the founding fathers of the NPT Treaty. In 1992-1995, he was a Visiting Professor at the Monterey Institute of International Studies, and from 1994-1997 was President of the PIR Center. At present, he is Senior Advisor to the PIR Center and Chair of the PIR Executive Council.

After graduating from the Moscow State Institute of International Relations (MGIMO) in 1949, he worked in the Ministry of Foreign Affairs of the USSR/Russia, which he left in 1992. In 1988-1992, he headed the USSR/Russian Mission to International Organizations in Vienna. He is a Doctor of History (thesis: "*Verification of Arms Control and Disarmament*", 1982). Amb. Timerbaev participated in negotiating the NPT and many arms control agreements, including the NPT, IAEA safeguards, the Threshold Test Ban Treaty, the PNE Treaty, the establishment of the NSG. He took part in all NPT Review Conferences. He is a member of the Russian Pugwash Committee.

Prof. Timerbaev has a great number of publications on nuclear nonproliferation. Among his recent works are *Rossiia i yadernoye nerasprostraneniye. 1945-1968* (Russia and Nuclear Nonproliferation. 1945-1968), M., 1999; *The Nuclear Suppliers Group: Why and How It Was Created* (1974-1978), M., 2000; and is one of the authors of *Yadernoye nerasprostraneniye* (Nuclear Nonproliferation Textbook), M., 2000.

Anton **Khlopkov** is a PIR Junior Research Associate, and a graduate of the Moscow Engineering Physics Institute (MEPhI). His master paper dealt with "*The Russian-Iranian Nuclear Energy Cooperation and Nonproliferation: Technical and Legal Aspects*". His research interests include regional aspects of WMD nonproliferation. He is the author of of publications in Russian and in English in *Russian Security*, *Yaderny Kontrol Digest*, *Nezavisimoye Voennoye Obozreniye*.

PIR CENTER FOR POLICY STUDIES

The PIR Center is a nonprofit, independent, Moscow-based research and public education organization which was founded in April 1994. The PIR Center's activities include research, publishing, information and consulting services, and education in accordance with the Russian legislation.

The center is currently focused on international security, arms control (mostly nuclear weapons), and nonproliferation issues that are directly related to Russia's internal situation, its national interests, security and role in the international community.

The first project of the Center was the publication of *Yaderny Kontrol Journal*, whose pilot issue came out in November 1994. By June 2001, the PIR Center has published the 57th issue of *Yaderny Kontrol Journal*, which continues to be the *visiting card* of the Center. Since 1994, the PIR Center publishes the Security Issues Newsletter, and in May 2001 the 100th issue came out. In June 2001, the PIR Center published the pilot issue of its new product — *Missiles and Outer Space Newsletter*. Today, the Center comprises 25 employees and more than 60 contributors, engaged in 20 short-term and long-term projects.

As Russia's leading non-governmental research institution in the area of nonproliferation, the PIR Center involves in its activities major Russian and foreign experts, maintains close and everyday contacts with the executive and legislative branches. The target audience of the Center's academic and technical journals and reports includes Russian policy makers, legislators in the Federal Assembly, and experts, as well as the decision-making communities of other countries in the CIS. Therefore most of the study papers and reports are in Russian.

PIR research associates participated in the 1995 and 2000 NPT Review Conferences as representatives of the non-governmental organization. In 1999-2000, the PIR Center conducted a unique sociological poll — "*Russians on Nuclear Weapons and Nuclear Threats*". In September 2000, the PIR Center published the first comprehensive textbook on nuclear nonproliferation. On October 5-7, 2000, the PIR Center and the Carnegie Moscow Center co-hosted the Moscow International Nonproliferation Conference, which brought together 205 delegates from 24 states, including Israel, India, Iran, and Cuba.

The PIR Center has a dynamically developing Web site (www.pircenter.org) containing most of its publications. The PIR Arms Control Library is a vast collection of books, journals, newspapers and documents, including files on specific research topics. The Center has

developed YADRO (Nuclear Russia) Database, which comprises materials on nuclear issues, above all (but not limited to) nuclear arms, nuclear policy, nuclear safety and security, nuclear materials and their physical protection, accounting and control, spent nuclear fuel, nuclear export, export controls, unauthorized access to nuclear materials, nuclear terrorism, nuclear technologies, and dual-use technologies.

The PIR Center pays special attention to educational and training programs. PIR's contribution has been recognized internationally when PIR Center Director Vladimir Orlov (one of the authors of this book) was appointed U.N. Consultant on Disarmament and Nonproliferation Education and Training.

PIR LIBRARY SERIES

The following monographs and collections of articles have been published in the series:

- *Russians on Nuclear Weapons and Nuclear Challenges* — an analytical report examining an all-Russian public opinion poll. Moscow, PIR Center, February 2000.
- *Export Controls in Russia: Policy and Practice*. Ed. by Vladimir Orlov and Dmitry Evstafiev. Moscow, PIR Center, April 2000.
- *The Nuclear Suppliers Group: Why and How it Was Created (1974-78)*. Roland Timerbaev. Moscow, PIR Center, 2000.
- *Nuclear Nonproliferation Handbook*. Ed. by Vladimir Orlov and Nikolai Sokov. Volume I. Moscow, PIR Center, 2000.
- *Arms Control Guide*. Moscow, PIR Center, April 2001.
- *Information Challenges to National and International Security*. Ed. by Alexander Fedorov and Vitaly Tsygichko. Moscow, PIR Center, August 2001.

THE DIGEST OF THE RUSSIAN NONPROLIFERATION JOURNAL YADERNY KONTROL (NUCLEAR CONTROL)

The *Digest of the Russian Nonproliferation Journal Yaderny Kontrol (Nuclear Control)* has been published in English four times a year by the PIR Center since 1996. It contains selected analytical articles from *Yaderny Kontrol* — a journal published in Russian six times a year. Both the Russian journal and its English digest are both devoted to international security, arms control, and nonproliferation.

The digest, with a circulation of 800 copies, is disseminated among decision makers and experts in 34 countries, including among others the United States, the United Kingdom, Germany, France, Italy, China, Japan, India, Pakistan, Israel, Egypt, Mexico, and Brazil. It is also read by the heads of diplomatic missions, political counselors, and military attachés of all the major embassies in Moscow.

For those experts in international security who work on Russian foreign and defense policy but do not read Russian, *Yaderny Kontrol Digest* has become the key, and in most cases, the only source of independent and reliable information and professional analysis. There are no comparable publications in Russia and the CIS. It has become Russia's most authoritative periodic publication on issues of international security and arms control. It publishes exclusive materials, interviews with leading Russian politicians and specialists, and analytical articles by the most prominent experts.

Yaderny Kontrol Digest covers, among others, topics such as nuclear weapons, nuclear strategies, and defense policies; proliferation threats; export controls; nuclear security; chemical weapons; biological weapons; missiles and missile technologies; dual-use technologies; and conventional arms and high-precision weapons.

For more information about the digest and subscriptions please contact Assistant Director Vladimir Siluyanov by phone at (7-095) 234-05-25, or send him an e-mail at siluyanov@pircenter.org, or see PIR Center website: www.pircenter.org.

RUSSIAN SECURITY

Executive Intelligence Review

Russian Security an Executive Intelligence Review, or *Voprosy Bezopasnosti*, has been published in Russian and in English by the PIR Center since 1994, twice a month (24 issues a year). Pre-screened subscriptions are distributed in Moscow by courier (1-hour delivery service managed by PIR), and outside the Moscow area by e-mail.

The newsletter provides commentary & forecasting on:

- National & International Security Issues
- Domestic Politics, *Kremlinology*
- Russia's Foreign Policy and Diplomacy
- Defense, Nuclear Planning & Nuclear Security, Arms Trade, Armed Forces, Armed Conflicts
- Finance and Economic Security

Content of the issues published in 2001:

- Private Property and the Nuclear Sector: Interests of the State and the Businesses Coincide
- New US-Russian Relationship: Putin's Visit to the United States and New Political Reality
- Russia and the States of Concern: Military-Technical Cooperation
- Terrorist Acts in the US and Dilemmas for Russian Leaders
- Developments on the Korean Peninsula and Russia's Interests
- Russian-Syrian Cooperation and the Prospects for Nuclear Energy Development in Syria
- Russia in the Post-Soviet Environment: New Approaches or Back to the Past?
- The SMF Reform and Russian Security
- The Chechen War: Results of the Winter Campaign
- Russia-Iran: New Start of Military-Technical Cooperation

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NUCLEAR RUSSIA TODAY

Nuclear Russia Today is a unique electronic Russian language newsletter containing digest of the Russian press and other media, as well as various official documents. Main areas covered in newsletter are nuclear arms control and disarmament, nuclear policy, nuclear safety and security, nuclear materials and their physical protection, accounting and control, nuclear fuel cycle, spent nuclear fuel, nuclear export, export controls, unauthorized access to nuclear materials, nuclear terrorism, nuclear technologies, and dual-use technologies.

List of sources includes numerous central Russian media (newspapers, magazines and journals, news agencies and electronic media), press services of governmental agencies, official documents, as well as a number of regional media, including newspapers of limited circulation from Minatom nuclear cities. PIR Center's activity is also widely covered in *Nuclear Russia Today* newsletter.

With *Nuclear Russia Today*, subscribers (policy and research centers, government and legislative bodies, international organizations, and the media) receive up to date information on a wide range of *nuclear-related* issues with a strong emphasis on Russia.

The newsletter has the following sections:

- **Information** — news about the aforementioned topics;
- **Documents** — official information and documents;
- **Own Sources** — information obtained by PIR staff from our own sources;
- **Opinion** — views of leading Russian and foreign experts on key problems analyzed in the newsletter.

The newsletter comes out twice a week in Russian and is disseminated by e-mail and located at PIR Center's web site.

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