International Security
Nonproliferation
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DIGEST OF THE RUSSIAN JOURNAL

YADERNY KONTROL

(NUCLEAR CONTROL)

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Hot Topic

BILL ON THE START II RATIFICATION IS NOT THE REMEDY FOR ALL THE PROBLEMS

by Andrei Gordiyenko,
***Trialogue* Center**

Ratification of START II by the Russian parliament is still possible. It may happen at the spring session of the State Duma. The draft bill on ratification, which was supposed to be submitted for the Chamber's consideration in late December 1998, got the consent of four committees responsible for the ratification process. Moreover, it meets the demands of all major political forces in the Duma and was approved by the Russian President. Therefore, if the ratification process resumes, the aforesaid bill will be introduced for debate.

The bill worked out in the Committee on International Affairs and the Defense Committee is a compromise document. The main objective during its development was to highlight all the problems of the treaty widely pointed to by its critics, but in a context that would not rule out the possibility of ratification. This determined the structure of the bill:

- ascertaining ratification (Art. 1);
- conditions of implementation, i.e. extraordinary events giving the right to withdraw from the treaty (Art. 2, 3, 4);
- other conditions of its fulfillment;
- statement of authority and responsibilities of the President, the Government and the Parliament in the course of carrying out the treaty (Art. 7, 8);
- conditions for exchange of instruments of ratification (Art. 9).

Extraordinary events giving the Russian Federation the right to withdraw from the treaty are listed in Article 2 and contain principal critical remarks on the actions of the United States and NATO. These actions, in the view of the treaty's opponents, may diminish the possibility of its ratification and implementation. They include:

- breach of the START II Treaty on the part of the United States of America (paragraph 1);
- the United States of America's withdrawal from the ABM Treaty or its infringement (paragraph 2); agreements on ABM systems signed in New York in September 1997 are not mentioned but are meant in the phrase about '*respective agreements*';
- deployment by the United States of America or any other state whatsoever of armaments preventing normal functioning of the Russian missile early warning system of missile (paragraph 5);
- deployment of nuclear weapons on the territory of new NATO member states (paragraph 4); this provision is largely toned down, although its meaning is quite clear: 'making and implementation by the United States of America, or any other state whatsoever, or alliances, and the North Atlantic Treaty Organization among them, of decisions in the field of military development which threaten national security of the Russian Federation, including deployment of nuclear weapons on the territory of the states having joined NATO after the date of the START II Treaty signature'.

To avoid an outright anti-American and anti-NATO character in Article 2, words like '*any other state whatsoever*' and two additional provisions stating the circumstances that would allow Russia to withdraw from the treaty were included:

- build-up of strategic offensive arms by states that are not parties to the START II Treaty;
- 'extraordinary events of economic or technical origin which make it impossible for the Russian Federation to fulfil its obligations under the START II

Treaty or jeopardize environmental security of the Russian Federation'.

According to Article 3, in case of extraordinary events giving the Russian Federation the right to withdraw from the Treaty, the President should eliminate the aforesaid threats, neutralize their consequences (paragraph 1a) or provide for immediate consultations with the Parliament (paragraph 1b). The Parliament can address the President with a proposal to begin consultations (paragraph 2).

Another condition of START II implementation is the conclusion of START III. The importance of this issue is emphasized through creating a separate Article 4 in the bill. Along with general arrangements, like 'preservation and further enhancement of strategic stability at the lowest possible levels of strategic offensive arms of the Russian Federation and the United States of America', the Article includes some specific clauses such as:

- 'exclude the possibility of fast increase in the number of nuclear warheads attributed to all types of launchers' (paragraph 3);
- 'provide for equal rights and opportunities for the Parties in the process of elimination and disposal of nuclear warheads' (paragraph 4);
- 'provide for accounting of all types and systems of strategic arms' (paragraph 6).

If the Parties do not sign START III, the President should hold consultations with the Parliament. 'The President of the Russian Federation provides for consultations with the Chambers of the Federal Assembly of the Russian Federation and, taking into account the results of these consultations, makes decisions relating to the START II Treaty, including introduction of motions under Section V of the Federal Law "*On International Treaties of the Russian Federation*".' This section deals with suspension of implementation or withdrawal from international treaties.

There were proposals for a stricter wording of the Article that provides for Russian reaction on the extraordinary events giving the right to withdraw from the treaty. For instance, Chairman of the Committee on Geopolitics Alexei Mitrofanov (LDPR - *Zhirinovsky* Party) insisted on the following version of the aforesaid paragraph, '*The Russian Federation shall be free to not observe the provisions of START II if…*'. First, he sent this motion to the Committee on International Affairs, which did not take it into consideration, and then it was forwarded to Duma Speaker Gennady Seleznyov.

Other conditions of implementation are mentioned in Articles 5 and 6. One of them refers to the United States, i.e. US compliance with the provisions of START I (Art. 5, paragraph 3). Another is connected with START III arrangements, although it is not said directly: 'equal rights and opportunities for the Parties of the START II Treaty in carrying out inspections and other verification procedures; preservation and improvement of national technical means of verification by the Russian Federation in order to observe the United States of America's fulfillment of the START I and II Treaties and the ABM Treaty' (Art. 5, paragraph 7). Other circumstances deal with the competence of Russian authorities:

- preservation of Russian strategic nuclear forces might (Art. 5, paragraph 1);
- appropriate financing of the Russian strategic nuclear forces (Art. 5, paragraph 2);
- reduction of the strategic offensive arms of the Russian Federation provided for in the START II Treaty, taking into account their period of operation (Art. 5, paragraph 4);
- maintenance of Russian strategic nuclear forces combat readiness, irrespective of any development of a strategic situation (Art. 5, paragraph 5);
- providing for safe use, storage, elimination and disposal of strategic offensive arms (Art. 5, paragraph 6).

Article 6 requires that the President should approve the *Federal Program of Development of the Strategic Nuclear Forces* of the Russian Federation and present it to the Chambers of the Federal Assembly no later than two

months after entry into force of the ratified law. At the same time, no later than three months after entry into force of this law, the Government should work out and submit to the President the *Special Federal Program of Elimination and Disposal of Weapons and Materiel of Strategic Nuclear Forces*, 'providing for use of reduced components and infrastructure in the interests of national economic development'.

Rights and duties of the President, the Government and the Parliament in the course of implementation of the treaty are stated in Articles 7 and 8. They reflect the developed practice and in a way repeat the provisions of other laws regulating activities of the above-mentioned bodies and Russian foreign policy in general.

According to paragraph 2 of Article 7, the Russian Government is in charge of carrying out routine work of START II implementation. However, it's the President who makes 'decisions on the terms and procedures of decommissioning and deactivation of strategic offensive arms provided for in the START II Treaty'.

In compliance with Article 9 of the bill, exchange of instruments of ratification (i.e. treaty's entry into force) should be done upon completion of ratification of the START II Treaty by the United States of America, including protocol relating to it and the ABM agreements of September 26, 1997, done in New York.

The bill on ratification leaves unsolved the problem of financing START II implementation. It is doubtful that Russia will be able to provide the financial means for fulfilling the treaty. In this connection, it was suggested that the bill include the following article: 'The Russian Federation shall follow the commitments under the START II Treaty dependent on Russian financial capabilities. Partial fulfillment of the obligations provided for in the START II Treaty which is caused by the lack of such financial means, given that it has objective character and is determined by a general state of the Russian economy and the amount of foreign assistance, shall not be regarded by the United States as a violation of START II provisions on the part of the Russian Federation.' The bill's authors did not consider this proposal.

The Committee on International Affairs in its explanatory note to the bill argues that it '*doesn't envisage any additional costs*'. To support that they refer to a Government Letter signed by First Vice-Prime Minister Yury Maslyukov. However, this letter doesn't draw the same unambiguous conclusion. Yury Maslyukov maintains that '*we will not have to eliminate prematurely or accelerate the destruction of our nuclear weapons*'. He bases this on the fact that 'the scheduled cuts in the strategic offensive arms provided for in START II coincide with the natural process of reduction of the Russian strategic nuclear forces'. Therefore, it says nothing about costs and mentions only the terms and schedule of reduction. It may be understood as the absence of additional costs. Nevertheless, in the paragraph below the First Vice-Prime Minister states, 'Financial means required to implement the START II Treaty itself will be a small addition to the expenditures on maintenance of the strategic nuclear forces and disposal of decommissioned nuclear weapons.' Thus, the bill provides for some additional spending and can be passed without appropriate basing of these expenditures worked out by the Russian Government without resulting in a violation of national legislation.

The principal conclusion we can draw after analyzing the bill is that its main objective is to *pass the ball* to the US side. During the drafting of the document, attention was focused on drawing a bill, which could be passed by the State Duma and at the same time, be accepted by the United States. The bill takes into consideration all major claims and objections by START II opponents. However, they are stated in a way that will allow for ratification and implementation of the treaty. At the same time, there are some *hurdles* -- above all, the financial problem of ratification -- which in the future may result in delaying fulfillment of the treaty.

Appendix

FEDERAL BILL ON RATIFICATION OF THE TREATY BETWEEN THE RUSSIAN FEDERATION AND THE UNITED STATES OF AMERICA ON FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS

Article 1
To ratify the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993, hereinafter referred to as the START II Treaty, including its integral parts:

Memorandum of Understanding on Warhead Attribution and Heavy Bombers Data Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

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 Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

Protocol on Exhibition and Inspections of Heavy Bombers Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, done at Moscow on January 3, 1993;

Protocol Relating to the Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms of January 3, 1993, done at New York on September 26, 1997.

Article 2
Extraordinary events, giving the Russian Federation the right to withdraw from the Treaty, in exercising its national sovereignty and in compliance with Article VI of the START II Treaty, shall be:

1) breach of the START II Treaty on the part of the United States of America, which jeopardizes national security of the Russian Federation;

2) the United States of America's withdrawal from the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Limitation of Anti-Ballistic Missile Systems, done at Moscow on May 26, 1972, hereinafter referred to as the ABM Treaty, or its infringement of the aforesaid Treaty and respective agreements;

3) build-up of strategic offensive arms of the states that are not parties to the START II Treaty in the way that poses a threat to national security of the Russian Federation;

4) making and implementation by the United States of America, or any other state whatsoever, or alliances, and North Atlantic Treaty Organization among them, of decisions in the field of military development, which threaten national security of the Russian Federation, including deployment of nuclear weapons on the territory of the states, having joined NATO after the date of the START II Treaty signature;

5) deployment by the United States of America or any other state whatsoever of the armaments, preventing normal functioning of the Russian system of early warning of missile attack;

6) extraordinary events of economic or technical origin, which make it impossible for the Russian Federation to fulfil its obligations under the START II Treaty or jeopardize environmental security of the Russian Federation.

Article 3
1. In case of extraordinary events, provided for in Article 1 of this Federal Law, or in any

other extraordinary situation whatsoever, jeopardizing supreme interests of the Russian Federation, the President of the Russian Federation shall:

a) take political, diplomatic and other measures in order to eliminate the aforesaid threats or neutralize their consequences;
b) provide for immediate consultations with the Chambers of the Federal Assembly of the Russian Federation and, taking into account the results of these consultations, make decisions relating to the START II Treaty, including introduction of motions under the Federal Law "*On International Treaties of the Russian Federation*".

2. The Chambers of the Federal Assembly of the Russian Federation, if they consider events to be of extraordinary character and subject to immediate action under Article VI of the START II Treaty, shall address the President of the Russian Federation with a proposal to begin consultations, advise him or undertake any other steps, provided for in the Federal Law "*On International Treaties of the Russian Federation*".

Article 4
The President of the Russian Federation provides for consultations with the Chambers of the Federal Assembly of the Russian Federation and, taking into account the results of these consultations, makes decisions relating to the START II Treaty, including introduction of motions under Section V of the Federal Law "*On International Treaties of the Russian Federation*", if no later than December 31, 2003 the Parties conclude a new Treaty Between the Russian Federation and the United States of America on Further Reduction and Limitation of Strategic Offensive Arms, which shall:

1) envisage preservation and further enhancement of strategic stability at the lowest possible levels of strategic offensive arms of the Russian Federation and the United States of America;

2) enable the Russian Federation to apply multifarious approaches to the development of its strategic nuclear forces, including their organization and structure, necessary to maintain national security of the Russian Federation with regard for existing economic situation;

3) exclude the possibility of fast increase in the number of nuclear warheads attributed to all types of launchers;

4) provide for equal rights and opportunities for the Parties in the process of elimination and disposal of nuclear warheads;

5) secure optimal economic use of the existing infrastructure of the strategic nuclear forces of the Russian Federation, essential costs' reduction for the implementation of the programs of elimination and disposal of strategic offensive arms, and broadening of the Russian capabilities to use the reduced components of the aforesaid arms and their infrastructure in the interests of national economic development.

6) provide for accounting of all types and systems of strategic arms.

Article 5
The obligations under the START II Treaty are fulfilled on the basis of:

1) preservation of the Russian strategic nuclear forces' might at the level, providing for the maintenance of national security of the Russian Federation;

2) appropriate financing of the strategic nuclear forces of the Russian Federation and of the works on safe elimination and disposal of strategic offensive arms;

3) the United States of America's compliance with the provisions of the Treaty Between the Union of Soviet Socialist Republics and the United States of America on the Reduction and Limitation of Strategic Offensive Arms, done at Moscow on July 31, 1991, hereinafter referred to as the START I Treaty;

4) reduction of the strategic offensive arms of the Russian Federation, provided for in the START II Treaty, taking into account their period of operation;

5) maintenance of combat readiness of the Russian strategic nuclear forces, irrespective of any development of strategic situation, preservation of laboratory and experimental base and production capabilities;

6) providing for safe use, storage, elimination and disposal of strategic offensive arms;

7) equal rights and opportunities for the Parties of the START II Treaty in carrying out inspections and other verification procedures; preservation and improvement of the national technical means of verification of the Russian Federation in order to observe the United States of America's fulfillment of the START I and the START II Treaties, and the ABM Treaty.

Article 6
The Russian Federation fulfils its obligations, provided for in the START II Treaty, in compliance with this Federal Law and other legal documents of the Russian Federation, regulating measures and procedures relating to the implementation of the START II Treaty.

Financing of the strategic nuclear forces of the Russian Federation as well as of production, use, elimination and disposal of nuclear weapons is carried out in compliance with the federal legislation.

The President of the Russian Federation shall approve the *Federal Program of Development of the Strategic Nuclear Forces* of the Russian Federation and present it to the Chambers of the Federal Assembly no later than two months after entry into force of this Federal Law.

No later than three months after entry into force of this Federal Law, the Government of the Russian Federation shall work out and present to the President of the Russian Federation *the Special Federal Program of Elimination and Disposal of Weapons and Materiel of Strategic Nuclear Forces*, subject to his approval and providing for use of reduced components and infrastructure in the interests of national economic development.

Article 7
In the process of implementing the START II Treaty:

1. The President of the Russian Federation shall:

a) determine the principal directions of the state policy in the field of development of the Russian strategic nuclear forces and nuclear disarmament; define procedures and deadlines for the activities in fulfilling the START II Treaty which imply preservation of the Russian strategic nuclear forces' potential and maintenance of their combat readiness at the level, providing for guaranteed deterrence from aggression against the Russian Federation or its allies;
b) take decisions on the terms and procedures of decommissioning and deactivation of strategic offensive arms, provided for in the START II Treaty, and on commissioning of the new models of strategic offensive arms;
c) formulate the Russian concept of further international negotiations in the field of strategic offensive arms and anti-missile defense, hold consultations and parley with the heads of other states desiring to enhance strategic stability and maintain national security of the Russian Federation.

2. The Government of the Russian Federation shall:

a) provide for stable and primary financing of the Russian strategic nuclear forces, of the works on safe elimination and disposal of strategic offensive arms, and of activities in carrying out the obligations under the START I and START II Treaties, in compliance with the federal legislation and special federal programs;
b) ensure preservation and development of the laboratory and experimental base and production capabilities, required to maintain the nuclear might and combat readiness of the strategic nuclear forces of the Russian Federation;
c) present to the Chambers of the Federal Assembly of the Russian Federation a regular report on the state of the Russian strategic nuclear forces and on the course of implementation of the START I and START II

Treaties, and the ABM Treaty, as provided for in the Article 8 of this Federal Law;
d) present to the Chambers of the Federal Assembly of the Russian Federation data, provided for in the Memorandum of Understanding on Warhead Attribution and Heavy Bombers Data Relating to the START II Treaty;
e) secure effective use of national technical means of verification under the START I and START II Treaties, and the ABM Treaty, the technical improvement of the aforesaid means and fulfillment of verification procedures, provided for in the above-mentioned treaties.
f) take measures to ensure safe use, storage, elimination and disposal of strategic offensive arms, nuclear warheads and rocket fuel, and to exclude the unauthorized access to nuclear warheads;
g) take measures to use optimal economic methods and means of elimination and disposal of strategic offensive arms;
h) implement, on the instructions of the President of the Russian Federation, foreign policy decisions in the field of reduction and limitation of strategic offensive arms and nonproliferation of nuclear weapons;
i) invite the representatives of the Chambers of the Federal Assembly of the Russian Federation to participate, if they so request, in discussing the course of negotiations in the field of strategic offensive arms and anti-missile defense.

3. The Chambers of the Federal Assembly of the Russian Federation shall:

a) in considering the annual Federal Bill "On the Federal Budget", participate in taking decisions on the amount of allocations for the purposes of scientific research and experiments in the field of strategic offensive arms, of their purchase, of the development, repairs and modernization of major bases for the Russian strategic nuclear forces and their managing, as well as of the works on safe elimination and disposal of strategic offensive arms and activities to implement the START I and the START II Treaties;
b) take part in elaborating federal laws and special federal programs, pass federal laws, required to maintain strategic nuclear forces of the Russian Federation at the level, providing for national security of the Russian Federation, and to carry out the activities in the field of reduction of nuclear arms;
c) consider the annual report of the Government of the Russian Federation on the state of strategic nuclear forces of the Russian Federation and the course of implementation of the START I and the START II Treaties, and the ABM Treaty, and make decisions as appropriate;
d) charge, as it deems necessary, the Board of Auditors of the Russian Federation with the mission to audit the spending of the financial means allocated for the implementation of the START I and the START II Treaties;
e) if necessary, take measures, provided for in the Section V of the Federal Law "*On International Treaties of the Russian Federation*".

Article 8
After entry into force of the START II Treaty and no later than October 1, per annum, the Government of the Russian Federation sends to the Chambers of the Federal Assembly of the Russian Federation the report on the state of strategic nuclear forces of the Russian Federation and on the course of implementation of the START I and the START II Treaties, and the ABM Treaty, which shall include the following information:

1) the changes in the organization and structure of strategic nuclear forces of the Russian Federation, financial provisions and the results of the completed works on maintaining their potential and combat readiness;

2) the fulfillment on the part of the Russian Federation and the United States of America of the obligations, provided for in the START I and the START II Treaties, and the ABM Treaty;

3) the course of elimination and disposal of decommissioned strategic offensive arms of the Russian Federation, the state of financing of activities under the START I and the START II Treaties, including the use of foreign aid;

4) environmental conditions in the locations of storage, elimination and disposal of

strategic offensive arms, above all nuclear warheads and rocket fuel;

5) the course of negotiations on elaborating new agreements in the field of reduction and limitation of strategic offensive arms and in the field of anti-missile defense;

6) state of development of the projects in the field of strategic offensive arms and anti-missile defense, situation in the field of nonproliferation of nuclear weapons and missile technology in the United States of America and any other state or alliance whatsoever.

Article 9
The exchange of instruments of ratification of the START II Treaty by the Russian Federation shall be done upon completion by the United States of America the procedure of ratification of the START II Treaty, including Protocol Relating to the START II Treaty of September 26, 1997, done at New York, Memorandum of Understanding Relating to the ABM Treaty of September 26, 1997, done at New York, First Agreed Statement Relating to the ABM Treaty of September 26, 1997, done at New York, Second Agreed Statement Relating to the ABM Treaty of September 26, 1997, done at New York, Agreement on Confidence-Building Measures Related to Systems to Counter Ballistic Missiles Other Than Strategic Ballistic Missiles of September 26, 1997, done in New York.

Article 10
This Federal Law shall enter into force from the date of its official publication.

President of the Russian Federation

PIR Center News

Winter 1998/1999

1998, December 14. Within the Educational Program on Arms Control and Nonproliferation for Deputies and Staff Members of the Russian State Duma PIR Center held a Conference, entitled "*Comprehensive Test Ban Treaty (CTBT): Problems of Ratification and Enforcement in the Changing Environment*".

Representatives of the State Duma, Security Council, Foreign Ministry, Ministry of Defense, various organizations and mass media as well as representatives of Embassies of India, Pakistan, France, USA and Britain took part in the event. Dr. Vladimir Orlov, PIR Center Director, started the Conference with an opening address. Sergei Reshetnikov, a Representative of the Department for Security and Disarmament of the Foreign Ministry of Russia addressed the audience with a report "*Role of the Russian Federation in Adoption and Promotion of CTBT: Prospects of its Ratification and Implementation*". Mr. Reshetnikov covered main provisions of the CTBT and described the situation with ratification of the Treaty in the world. He underlined the primary goal of the present period in approaching the CTBT adoption, which was the creation of verification mechanism. He stressed that Russia welcomed intention of India and Pakistan to join the CTBT.

Yevgeny Maslin, who was the Head of the 12th Main Department of the Defense Ministry of Russia in 1993-97, gave a speech on the CTBT and nuclear safety. Mr. Maslin was one of the most experienced specialists on nuclear safety in Russia. He said that the CTBT is not equal to different nuclear states since while the USSR initiated one moratorium after another, other states conducted nuclear tests and gained much knowledge and experience. As a result Russian missed a lot of time. Mr. Maslin also stated that it was an unwise decision to ban peaceful nuclear explosions, which could be very helpful to the world economy provided that they were conducted under strict international control.

Representatives of foreign embassies namely Nirupama Rao (India), Abdul Wahab (Pakistan), Pierre Filatoff (France), Scott Hatch (USA), Michael Davenport (Great Britain) presented positions of their countries on the subject under discussion.

* * *

1998, December 15. PIR Center Research Council held its regular meeting on South Asia security issues. Ambassador of Pakistan in Moscow Mansoor Alam took part in the meeting. He was accompanied by the Embassy Councillor Abdul Wahab. Mr. Ambassador explained position of Pakistan in the sphere of national security. He shared with the audience his concerns over the situation in the region. Mr. Alam gave his assessment of Pakistani-Indian relations and underlined the peaceful initiatives, put forward by his country for the last decades.

His address was followed by a broad discussion. Members of the PIR Center Research Council Amb. Roland Timerbaev, Alexander Kalyadin, Vladimir Novikov and Pavel Podvig as well as PIR Center representatives Dr. Vladimir Orlov and Vadim Kozyulin took part in it. The discussion touched upon the issue of export control system in Pakistan, ways of transformation of the nonproliferation regime after the nuclear tests in India and possibility of military cooperation between Pakistan and Russian.

Summary

Yaderny Kontrol (Nuclear Control) Journal of the PIR Center for Policy Studies Volume 42, No. 6, November-December, 1998

The *Editorial* entitled "*Dictatorial Regimes Seeking to Possess Weapons of Mass Destruction Must Not Go Unpunished*" says 'there is a belief that the carrot and the stick should necessarily alternate in the policy of pressure on countries, violating the international regime of nonproliferation. It may be so but it all depends on the proportion. With regard to some regimes, the *carrot* policy exhausts itself at a certain point. This is particularly true of Iraq, and may as well be true of North Korea. It seems that the Americans, who did not want a real war to break out on the Korean peninsula, have only whet Pyongyang's appetite with their *carrot* in the form of a program to build light-water reactors, encouraging North Korea to demand hundreds of millions just for the chance to get a look at its secret facilities.'

'We believe that there can be no fundamental disagreement among both the *nuclear five* and the G8 over the approach toward dictatorial regimes, seeking to possess weapons of mass destruction. It is as important for Russia as it is for the United States to make sure that such attempts are effectively stopped in one way or another without any detriment to international stability.'

In a polemic article entitled "*Towards Strategic Stability Through a Balance of Force and Transparency*" a former atomic energy minister and an academician of the Russian Academy of Science, Victor Mikhailov, claims that 'it is important to preserve the bipolar nuclear-political world. Two countries - Russia and the USA - should enter the 21st century through a balance of stability based on transparency and control. This balance will be determined only by the nuclear missile and space potential. While joining the G-8, it is important not to exchange the balance of stability for economic handouts. If we all want peace, we

must maintain a sufficient nuclear potential while making it fully transparent to the international community irrespective of whether we are partners, strategic partners or friends. If we want peace, we must be strong and open. But for the Russia of today strength comes only from its nuclear weapon potential, which must be completely transparent and open.'

In an article entitled "*On the Modernization of Fuel Ships and Ground Storage Facilities of the Russian Navy*", Rear Admiral Yurasov says that 'based on an assessment of vulnerability, it has been recommended first of all to review response options in order to use committed, well-equipped and trained personnel capable of neutralizing the actions of a potential enemy. Ground storage facilities are being modernized and the master plan for production facilities envisages additional improvements to delay a trespasser longer, ensure more effective access control, and to further improve the detection process and material control and accountability. Project designers for ground storage facilities and for navy ships share information among themselves about improvements and the results of their work, which explains why navy projects are implemented so quickly.'

In the article "*Some Aspects of Israeli Policy on Non-Proliferation: Notes from a Conference*" *Yaderny Kontrol* Editor-in-Chief Dr. Vladimir Orlov gives a detailed account of a discussion with Israeli officials and independent experts on such problems as non-proliferation, export control and the situation with weapons of mass destruction in the Middle East. The author draws attention to Israeli assessments of Russian-Iranian contacts, concerning rocket technology issues.

The issue also includes a commentary by Deputy Head of the Russian mission to international organizations in Vienna, Alexander Yakovenko, on the Y2K computer problem related to nuclear security, official documents issued by the Russian government, and information on the START II ratification process, changes in the Ministry of Atomic Energy, situation in the North Fleet, export control issues, and others.

Yaderny Kontrol (Nuclear Control) Journal of the PIR Center for Policy Studies Volume 43, No. 1, January–February, 1999

The *Editorial*, titled "*Reorganization of the Global Export Control System: with or without Russia?*", states, 'One of the most essential problems, which has come on the forefront of world nonproliferation agenda in recent years, is the necessity to develop a new global system of export control.

The acuteness of this problem is quite understandable: the multi-polar system of international relations start to be shaped in economic field but initially and most vividly it expresses itself in the military sphere. And, obviously, access to military technologies becomes one of the most alarming issues of a new multi-polar world order. In fact, we are facing now a difficult challenge: we have to decide what to do next. We can either improve the existing system of limitations, which is based on the principles, elaborated in the Cold War period, or we can take the most advanced national principles and systems and after the period of adaptation to global realities offer them to the international community.

However, the most fruitful way would be to come to a world consensus on the export control issues through broad and intensive discussions on the problems, arising in the field. The lack of the aforesaid consensus on the UN inspections in Iraq has already led to rather negative consequences. Nevertheless, bearing in mind the significance of the inspections in Iraq, we can say that they just serve as another example of international nonproliferation policy, aimed against proliferation of the weapons of mass destruction. Shaping of the global export control system is a matter of relations with dozens of states and the system should be flexible enough to exist for a long period of time. It is not difficult to imagine what consequences for the world community will have incorrect perception of export limitations, especially if they are treated as non-legitimate by a group of developing

countries. We can't count on the safety of international trade, which has far more than two or three *gates* for the outflow of technologies and you'll never be able to close all the *gates* with *sentries*.

What would be the Russian policy on the matter? As it was demonstrated by the recent crisis with Anglo-American missile attacks against Iraq, Russia is not able to make its Western partners change their mind through dialogue or political statements. It is even less probable that Russian position on these issues will be taken into account, due to its former merits or in order to support democracy. Export control in the long run is a matter of economic and military-technological domination in the XXI century and none is going to share the benefits with potential rivals, or let's say competitors.

So, any dialogue with the West or the East should be based on effective national (political and bureaucratic) system of export control. Russian governmental institutions should be released from administrative *clinch* in solving these problems. Top management of our industries should get rid of its geopolitical *infantilism*, while seeking for and selecting foreign partners. Its high time we worked out and presented to the world community new proposals on restructuring the international system of control over proliferation of weapons of mass destruction and critical technologies.'

Oleg Dyachenko in his article "*Legal Regulation of Export of Conventional Arms and Materiel in the Russian Federation*" studies in detail the Russian legislation in the field of conventional arms export, compares it with the US legal arrangements, lays down proposals on strengthening export control system of the Russian Federation. The following topic is covered in the *Documents* section, which includes the Presidential Decree "*On the Issues of Military-Technical Cooperation of the Russian Federation with Foreign States*", Statute of the Presidential Commission on the issues of military-technical cooperation of the Russian Federation with foreign states, and the results of the meeting in the framework of the Wassenaar Agreements on control over export of conventional arms, goods and dual-use technologies, which was held in Vienna on December 3, 1998.

I*nformation* section covers such matters as the START II ratification process (we publish the bill on ratification), Russian reaction on the military operation against Iraq, the establishment of the unified Command of Strategic Nuclear Forces, and export control issues.

Analysis

THE RUSSIAN POSITION ON THE CREATION OF A NUCLEAR WEAPONS-FREE ZONE IN CENTRAL ASIA[1]

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Translation into English. Abridged version

The question of creating the NWFZ CA can hardly be described as a Russian foreign policy priority. But it is the subject of serious discussion at the departmental (inter-departmental) level -- the Foreign Affairs Ministry, the Defense Ministry and the External Intelligence Service -- its significance deriving mainly from the fact that such a zone would be created on a territory which, officially and actually, falls within the zone of Russia's political and military-political interests under the Tashkent Treaty on Collective Security of the CIS Countries.

Problems of security in Central Asia. For a certain period after the disintegration of the Soviet Union the geopolitical role of Central Asia remained unclear. But the main security problems in the region and trends of their evolution became apparent by the mid-1990s.

The geo-political and geo-economic importance of Central Asia and the attention the great powers pay to that space tend to grow for the following reasons:

- development of the region's energy resources (oil in Kazakhstan and gas in Turkmenistan),

- development of the energy resources of the Caspian Sea, and

- different options of moving commodities on the Asia (Central Asia, Middle East, China, Japan) - Caucasus- Europe route.

However, large-scale implementation of these projects is held back by the problems of security in Central Asia which are of a pronounced internal character and mainly come from radical religious movements (in the first place Wahhabism). As a number of experts have noted, 'Wahhabism has emerged as the ideological foundation of the Afghan International which creates a theoretical possibility that the center of Middle East Wahhabite activities can move out of Afghanistan.'[2]. It has to be noted that Central Asia provides fertile soil for the spread of their ideas. The traditional mobilization mechanisms there have been disrupted because the leadership of the republics there is overly secular and, on the other hand, because there is a significant popular protest potential. In the Islamic East growing adherence to religion and nationalist sentiments have traditionally provided the main form for the expression of discontent.

Modern Wahhabism tends to combine both these trends. For example, in the Fergana Valley (Uzbekistan) Wahhabist Islamism is developing under the cover of Uzbek nationalism. Similar development can be expected in neighboring Kirghizia, in the Uzbek enclave in the Osh Valley.

Being aware of such development and reluctant to depart from the established secular form of government the leaders of Central Asian republics seek to attract external forces as far as possible hoping, following the example of some Middle East countries, that significant injections of investments and political support will help them to contain, in the short term, the spread of religious and nationalist extremism, and in the long term, to modernize society. Thus, the main foreign policy interest is the search of an ally or allies capable of investing in the economies of these countries.

Obviously, one cannot seriously rely on Russia which in its present state is incapable of offering either resources or a model for development. Therefore, these countries look to the West, especially the US At the same time there is a clear awareness that the United States, as it did in the Persian Gulf, intends to follow the strategy of strongholds from which to project power both to protect energy resources and routes of their transportation to the world oceans and to protect the political regimes on whose territories these resources

are extracted. Such strongholds are to be created not only in geographically convenient locations (indeed that factor becomes less important due to the tactical and technical characteristics of modern weapons), but in the more stable and influential countries of the region.

That provides an incentive for the Central Asian regimes to stabilize the internal situation in their republics (using harsh methods and thus fueling discontent and promoting the development of extremist religious-nationalist trends; yet they persist in this approach because they look to the short-term perspective hoping that in the longer term external allies will help them) and to compete for geo-political leadership in the region. At present all the republics in the region are involved in that struggle the two main rivals being Kazakhstan and Uzbekistan.

Russia takes a positive view of the struggle for leadership. It is felt that these republics will be unable to meet their strategic challenges without the Russian Federation because Russia dominates the infrastructure of the former USSR which enables it to preserve levers of pressure and coercion. Of late, however, the optimism has waned. Especially so after the Baku meeting on the problems of new transportation routes from Asia to Europe and, as a short-term project, of transportation of Turkmenian gas and early Caspian oil (via an alternative northern route) without the use of the Russian gas and oil pumping capacity.

In this scheme of things, Russia forfeits the chance not only of becoming a strategic partner of Central Asian countries with the exception of Tajikistan (indeed, it lost this chance after the breakup of the USSR), but even the chance of preserving the role of a standby partner to whom the countries of the region draw closer from time to time out of tactical considerations. That trend is reflected in the falling role of Russia in the CIS. In the Commonwealth, the Russian Federation used to play the part of the elder brother, but now even that role is challenged. One can imagine that the reason is that Russia has tried to follow a policy of equidistance and has not been taking any sides.

Even so, the fact that the main contradictions and interested parties are emerging and the fact that they have got rid of Russia's tutelage does not remove the main security concerns in the region and the continued struggle for regional dominance. Rather the reverse is the case. The fact that Russia has been excluded as an active player has prompted the search for new areas of contest and sharpened the struggle in existing areas as manifested in the issue of NWFZ CA.

Background. The creation of the NWFZ CA was first proposed by President Karimov of Uzbekistan at the 48th session of the UN General Assembly in 1993. The President of Uzbekistan elaborated this theme a year later at the Lisbon OSCE summit effectively stating that the creation of a nuclear-free zone in Central Asia was Uzbekistan's foreign policy priority. The initiative met with a lukewarm reaction among other regional leaders.

Shortly afterwards, in April-May 1995, the conference to review and extend the NPT was held. In the course of that conference one could note that the regional leaders vied with each other in promoting the initiative. For example, the Uzbekistan Ambassador Fatish Teshabayev thus spelled out his country's position on April 21, 1995: '... Indefinite extension of the NPT is one of the most reliable means of addressing the global task of a secure world. The decision to back indefinite extension of NPT is a logical result of the policy of Uzbekistan in the field of nuclear disarmament. [...] The delegation of the Republic of Uzbekistan would like to stress the need to strengthen the nonproliferation regime by creating nuclear-free zones. After proclaiming its independence the Republic of Uzbekistan has launched an appeal to declare the whole of Central Asia to be a nuclear-free zone. This call was made by President Islam Karimov in his address to the 48th session of the UN General Assembly.'[3].

Soon afterward Kyrgyzstan issued a statement on the same subject. On May 1, 1995 it circulated a working document proposing the creation of a NWFZ CA. The two most important of its three provisions ran as follows: '1. ... Kirghizia believes that NWFZ CA will contribute to peace, stability and

security in the region. 2. The region is on the border between two powerful nuclear states. We express the hope that the creation of a NWFZ will cause them to scale down their nuclear arsenals and soften their nuclear deterrence policies. In the south the region borders on two zones sensitive in terms of nuclear proliferation (Iran, India, Pakistan).'[4].

The Conference did not specifically look at the question of nuclear-free zones, but its resolution, "*The Principles and Goals of Nuclear Nonproliferation and Disarmament*," contained a section devoted to nuclear-weapon-free zones whose three provisions expressed support for the creation of such zones.

During the following year none of the parties concerned did much to promote the NWFZ CA issue. In February 1997 the Alma Ata Declaration was adopted at the meeting of the heads of Central Asian states. In it, for the first time ever, all the five countries of the region jointly spoke in favor of creating such a zone. In April of the same year the delegation of Uzbekistan said it would hold an international conference on NWFZ CA at the first session of the preparatory committee of the 2000 conference of the participants of the Nuclear Nonproliferation Treaty to review its implementation. Consultations on the preparation of the NWFZ CA conference were held in May-June and the conference itself took place in Tashkent in September 1997. As a result, the foreign ministers of five Central Asian states signed a joint statement. The next meeting of experts was held in Bishkek in July 1998.

Thus, several phases in the history of the issue of NWFZ CA can be identified. The first was before the NPT review conference. The second was after the Conference and before the adoption of the Alma Ata Declaration and the third was between the Declaration and the Bishkek meeting.

The evolution of the Russian position does not exactly coincide with these phases. Initially, in the opinion of a number of experts, Russia barely noticed President Karimov's initiative believing that it had no future and in general was not serious. After the NPT review conference it became clear that the question of NWFZ CA would not go from the regional agenda by itself: the countries of the region had become interested in it in their struggle for regional leadership (true, Kazakhstan preferred to use its partner, Kirghizia, as the vehicle of its policy). Russian diplomats argued with their CIS partners and in effect tried to talk them out of promoting the initiative. Kazakhstan came under particularly strong pressure.

For example, in the course of the NPT review conference, a Russian diplomat said privately, 'We object to Kazakhstan taking part in the Central Asian nuclear-free zone.'[5]. Not the least of the reasons was that the fate of the *Baikonur* launching site was being decided.

The question of nuclear-free zones again arose at the Moscow Nuclear Security Conference a year later. But the conversation mainly focused on the West. For example, the then deputy Foreign Minister Igor Ivanov said: '... The fundamental Russian position is in favor of the creation of the largest possible number of nuclear-free zones [...] (and) Russia would welcome the creation of a nuclear-free zone in Central and Eastern Europe.' And the President's press spokesman said during the Moscow summit: '... The official Russian line is the creation of nuclear-free zones wherever nuclear weapons are located at present.' The director of the Russian Foreign Ministry's Security and Disarmament Department, Sergei Kislyak, was more specific: '... Considering, in particular, the possible expansion of NATO to the East the idea (creating a nuclear weapons-free zone in Central and Eastern Europe) is becoming ever more relevant and it is increasingly the subject of discussion among diplomats.'[6].

On the day the summit's Declaration was signed it was reported that the signatories to that document '*spoke in favor of expanding nuclear-free zones*'[7]. Actually the language used was more guarded: '... We deem it to be of primary importance to continue building up joint international efforts to contribute to a higher level of security in the whole world. [...] Efforts have already been made in the countries of Central and Eastern Europe, the Commonwealth of Independent States and the Baltic countries to raise the level of nuclear

security, often through multilateral and bilateral programs. We give due to these important efforts called upon to enhance the safety of nuclear reactors and the security culture while noting the need to achieve further substantial progress. We reaffirm our commitment to full-scale cooperation towards the achievement of that goal.'[8]. After that the official Russian position on NWFZ CA remained unchanged for over a year.

After the Tashkent conference of September 1997 the Russian Foreign Ministry came to the conclusion that the idea had gained such a momentum that the process had become essentially irreversible and it could no longer be dismissed as an insignificant factor. All the more so since it turned out to fit in very well with the structure of political rivalry between the countries of the region.

On the eve of the Tashkent conference the fundamental stand was determined of rendering political support to NWFZ CA. That position was presented in Tashkent by First Deputy Foreign Minister Igor Ivanov [9].

As the Bishkek working meeting of experts approached the statements of the First Deputy Foreign Minister of Russia, which sufficed for the Tashkent conference proved to be insufficiently concrete because the work to create the zone had advanced and the five countries of the region which are the founders of the zone sought to make the dialogue as concrete as possible, including the drafting of the text of the treaty.

In Russia, interagency work is well underway (spearheaded by the Foreign Ministry as the agency which coordinates foreign policy) to identify and coordinate official Russian views on concrete aspects of NWFZ CA. So far only the political aspects have been studied. Some key problems, in accordance with the established decision-making mechanisms in Russia, can only be considered at the government level, and the issues are not likely to reach that level any time soon.

The official Russian position is basically as follows: a nuclear-weapon-free zone in Central Asia should be created in the interests of strengthening security in the region and on the basis of existing international practices in the creation of nuclear-free zones.

Concrete issues

Membership. Russia favors the creation of an open zone. Initially, it would include five states -- Kazakhstan, Uzbekistan, Kirghizia, Turkmenistan, and Tajikistan. But in future other states should have an opportunity to join. No accession mechanism has been proposed. But a high-ranking Russian diplomat told this writer that it should be a consensus mechanism. The newly admitted countries should possess the same rights as the states -- founders of the zone.

It is emphasized that only the states of the region should have the right to accede to the treaty creating a nuclear-weapon-free zone. To express this position Russia uses the term "contiguous states".[10] This term is used because it is impossible to precisely define the concept of "the region of Central Asia", or rather, because it lends itself to different interpretations. At the same time Russian experts are aware of and admit the shortcomings of the term "contiguous states". They therefore stress that it should not be automatically stretched to mean the "neighbors of neighbors". Russian representatives make the reservation that if a state joins the zone the formula "contiguous states" does not mean that subsequently the zone can be joined by countries which border on the new member, but do not have a common border with any of the founder states. In the future, therefore, only Iran, Afghanistan, China and Russia itself will have the formal right to join the NWFZ CA. At the same time the reservation is made that the prospect of China acceding to the zone is unrealistic. Russian representatives are unable to comment on the prospects and probability, as well as approximate time frame, of the accession of Afghanistan and Iran. And one gets the impression that it is not a matter of confidentiality or lack of information, but simply of lack of a vision of the prospects of one of the two countries mentioned joining the zone.

As for Russia, the official representatives even refuse to discuss the issue: the accession of Russia to the treaty in any capacity other than that of a nuclear power signing a protocol on

negative safeguards to the parties to the agreement is impossible. Russian diplomats fully reject proposals to the effect that part of the Russian territory adjacent to the NWFZ CA may in one way or another become the subject of an agreement that would impose any limitations on them. At the same time some experts in Russia have voiced fears that '*demands for full transparency of Russian military installations in the region may be put forward*'.[11].

Effective zone of the treaty. Russia comes out for participation in the NWFZ CA only of the states of the region which corresponds to the international practice of creating nuclear-free zones. Our specialists put forward yet another requirement to the effective zone of the treaty, namely, it should be a single space, without gaps. This provision appears to be necessary, among other things, in order to strengthen the "contiguous states" formula, that is, to confirm it by introducing essentially the same, but differently worded provision.

Terms in the treaty. Until recently specialists have applied two terms with respect to the NWFZ CA: nuclear weapons and nuclear devices. Both terms are used in existing treaties on nuclear-free zones. Russian specialists did not consider it to be a matter of principle and were prepared to agree to the use of either, or both of these terms in the treaty. By now official usage of the term with regard to the NWFZ CA has become established, and only the term "nuclear device" is used.

Transit of nuclear weapons and nuclear materials. Russia takes a soft position on the issue and would like the treaty to contain a provision eliminating restrictions on transit, with the signatories to be given free choice on the issue. This was the practice in the case of most existing nuclear-free zones.

Nuclear tests. Russia wants all nuclear tests (including peaceful ones) to be banned on the territory covered by the zone of the treaty. The issue must be unambiguously regulated by the provisions of the treaty.

Organization. Russian officials believe that the issue must be decided by the participants in the zone themselves. Informally, Russian diplomats admit that it is too soon yet to discuss the parameters of the Organization which must be set up under the treaty for the purpose of its implementation. Experts stress the need to pay special attention to the bureaucratic institutions of managing the zone; so far, this position has not been adopted at the official level.

Negative safeguards. Russia is prepared to offer negative safeguards to the members of the NWFZ CA. The range of safeguards is not yet being discussed. But it is a fundamental position that they will be related to the safeguards of other nuclear powers and to the military doctrine.

Dispute-resolution mechanism in the NWFZ CA. Russian officials believe that disputes should be resolved by the five members of the zone within a format of their choosing, and if they fail to reach a settlement, the dispute should be taken to the UN.

Financing of the NWFZ CA. The members of the zone will be unable to fully finance its creation and will seek international financial support. Experts have issued stern warnings to the effect that the states -- direct members of the agreement on the creation of the zone do not possess sufficient financial resources or the requisite infrastructure to ensure the functioning of the zone. That means in practice that they agree to external forces which provide sponsorship being able, in principle, to determine the political orientation of the zone [12].

There is still no final vision of what institutional forms of support will be chosen: through international financial institutions, nuclear powers, the UN, the G-8, individual donor countries or some other form. There is, however, a sense that if, for example, the G-8 is chosen this may create problems of status for Russia if it refuses to contribute to financing the zone.

But at this point in time Russia does not have a position on the issue. This is because of the nature of the decision-making mechanism. The Financial issues (additional international financial commitments) can be resolved only at government level. For the time being, the issue

should not be taken up at that level, according to the Russian side.

Participation of external forces in the creation of the zone. Many Russian specialists are worried that external forces are active in the creation of the zone. The US is mentioned ahead of others. All the more so since Moscow admits the objective implications of interference based on financial sponsorship: 'It cannot be ruled out that the US may try to take advantage of the process of the creation of the zone with a built-in excessive role of external forces as an instrument to bring political pressure on Russia and China, especially on the issue of transparency of their nuclear programs and military activities in the border regions.'[13].

Preparation of the text of the treaty. The text of the draft treaty submitted at the Bishkek meeting of experts on a tentative basis was presented to Russia. Russia had many bones to pick with it. It was pleased that the conference did not discuss the draft, contrary to the wishes of the five CA states. The Russian representatives were not prepared to discuss the actual text. Moreover, the Russian side did not intend to initiate the inclusion in the draft of any new provisions.

A new draft was presented to the Geneva meeting of experts. In the opinion of Russian representatives it was an improvement on the previous one. It was in fact prepared by specialists from the UN Secretariat. The Russian side agreed to discuss the draft. A Russian Foreign Ministry representative is actively engaged in discussing concrete provisions of the treaty.

The NWFZ CA and the Caspian problem. Russia's position is that until the status of the Caspian Sea is determined in line with international legal standards, it should not be covered by the treaty on the creation of the NWFZ CA. 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 edge. That is, the zone ends on the sea edge. Russian diplomats agree that if all the interested parties reach an agreement on dividing up the surface of the sea the national waters of the Central Asian states will be covered by the NWFZ CA.

NWFZ CA and its commitments with respect to the CIS members. 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.' [14].

Tashkent Collective Security Treaty. Russia comes out for full compliance with the Tashkent Treaty. But under the Tashkent Collective Security Treaty its members are entitled to all types of military and political safeguards, including nuclear safeguards. That is why it is practically impossible to combine the obligations of members of the NWFZ CA and the Tashkent Treaty, something the Russian side is working on. However, the Russian side has failed to resolve that contradiction at the official level while recognizing it unofficially.

The Tashkent Treaty is linked to the NWFZ CA in yet another area. Russia believes that one area of active consultations in the course of creating the NWFZ CA must be dialogue on the problem within the framework of the Tashkent Treaty, which means within the CIS. The argument advanced is that if several NATO states decided to create a nuclear-free zone the question would be discussed first and foremost within NATO.

The Customs Union of Russia, Byelorussia, Kazakhstan and Kyrgyzstan. The creation of the zone will most probably presuppose the creation of a special customs, border and sanitary regime on its external boundaries. This runs counter to the agreement on the creation of the Customs Union.

The use of Russian troops to guard the external borders of the CIS. Unofficially, fears have been expressed in Russia that 'one of the requirements of the external members of the agreement will be renunciation by the immediate members of the zone of the use of Russian border troops to protect their borders' [15].

So far, no direct calls have been made for a revision of the Tashkent Treaty, the treaty on

the creation of the Customs Union and agreements on the deployment of Russian borderguards on the external borders of the CIS. Such calls may never be made, but the members of the zone may assume obligations incompatible with the obligations under the above-mentioned treaties and agreements. In strictly formal terms, the provision on compliance with former obligations on which Russia will insist neutralizes these contradictions. But one cannot rule out that the obligations will be sabotaged on the quiet. The Russian side apparently has not yet worked out tougher language against that eventuality.

Environmental aspect of the creation of the NWFZ CA. Russia's response to the broad discussion of environmental issues in the process of the creation of the NWFZ CA and the wish to sign a separate protocol to the treaty on environmental matters has been to state the following position: a '*reasonable balance between the main goal of the treaty and other tasks*' should be observed[16]. Russia believes that the treaty is about the zone and not about ecology. In that sense, the Geneva draft of the Treaty suits the Russian representatives.

Participation of contiguous states in the creation of the NWFZ CA. It has already been said that Russia deems it necessary to leave the door to the zone open for "contiguous states." At the same time Russia is against any other participation of the countries in the region in the creation of the zone. Russia is unequivocally against the suggestions of having yet another protocol in which the zone would be recognized by the countries in the region -- Iran, Afghanistan as well as major countries situated close to the zone -- Pakistan and India. The main argument in the latter case is that it may be used by them as a back door to enter the nuclear club. In the former case the argument boils down to this, that it is not common practice in the creation of such zones. At present the question of signing an additional protocol is not on the agenda, which is in line with the official Russian position.

At the same time Russian experts have suggested that 'the real political legitimacy of the zone would depend on the recognition of the zone and its terms not only by the official nuclear states and all the states neighboring on the territory of the zone, but also by those countries which should be regarded as critical in terms of nonproliferation, in the first place, India and Pakistan.' The legitimacy of the zone, the experts believe, would be greatly undermined if the 'fact of the creation of the zone is not recognized by at least one of the states bordering on the countries of the zone.' [17].

This view was expressed at an early stage in the development of the Russian position and it is no longer relevant today. The same experts who expressed that position pointed out that the question arises as to whether Pakistan, India or Israel should recognize the zone in the capacity of nuclear or non-nuclear states. It may happen that the negotiations on the recognition of the zone will be used to legitimize the unofficial nuclear potentials of the threshold countries. The view that prevailed in the course of the inter-agency discussions was that closing the back door for the acquisition of an official nuclear status by de facto nuclear states or threshold countries was more important than maximizing the legitimacy of the zone.

Coming into force of the treaty on the creation of the zone. Russia believes that it can only come into force after:

- its ratification by all the parties to the treaty,

- the ratification by nuclear powers of the protocol containing negative safeguards for the members of the zone.

The NWTZ CA and the balance of forces in the region. Russian experts are aware that the issue of the creation of the zone is used by the states in the region as an instrument and an arena of political struggle for influence in the region and of attracting the attention of the world community[18]. The rivalry involves the two biggest countries in Central Asia -- Kazakhstan and Uzbekistan: 'The development of the situation over the suggestion by President N. Nazarbayev of Kazakhstan on the creation of a nuclear-free zone in Central Asia shows that the idea has become an element in the struggle for leadership in the region. In fact, the point at

issue is whether the international community will recognize the zone as interpreted by N. Nazarbayev or I. Karimov and who will ensure the broadest participation in the agreement of countries outside the region. It is significant that conferences on the problem were held almost simultaneously in Alma-Ata and Tashkent in September 1997.' [19].

Russian specialists are mindful of the impact of external forces. The thinking behind it is as follows. The US seeks to penetrate Central Asia. Initially, an influence and power vacuum needs to be created there by ousting Russia from the region politically, militarily and geopolitically. The rivalry between Kazakhstan and Uzbekistan contributes to that goal. Russian experts believe that the US inclines to support Uzbekistan which is less open to Russian influence and is economically more independent. That would lead to real geopolitical pluralism in Central Asia. The following seems to be a typical expression of this point of view: 'A nuclear-weapon-free zone in Central Asia may in principle be used as an element to ensure the system of geopolitical pluralism the USA is forming in order to contain Russia and limit its influence in the post-Soviet space because the economic autonomy of the region from the rest of the former USSR will lead to Uzbekistan's industrial and trade hegemony. From that point of view Russia would be interested to see its active participation in the formation of the zone complemented by the predominant role of Kazakhstan (and not Uzbekistan).'[20].

Evolution of the process of formation of the NWFZ CA. Russia is not inclined to speed up the process of the creation of the zone. The conventional wisdom is that in terms of Russia's interests it is necessary to make the formation of the zone a prolonged and controllable process. If the zone is created expeditiously, this would minimize the political role of Russia. Russia confined itself to working out a position only on a small range of mainly political issues. At the official level the expectation is that the zone will take at least two years to create. And this is seen as the best-case scenario.

Other issues. Russia insists that the provisions of the treaty should not impose additional obligations on the countries which are not members of the treaty. That includes also the signatories of the protocol (or protocols) to the treaty. This means that the text of the treaty signed by five countries -- Kazakhstan, Uzbekistan, Kirghizia, Turkmenistan and Tajikistan -- must contain provisions pertaining only to these countries.

Officially, Russia seems not to notice hints at Russia's guilt or debts related to the nuclear activities of the USSR on the territories of some would-be signatories of the treaty. But privately Russian representatives argue as follows. The USSR included, among other republics, Kazakhstan, Uzbekistan, Turkmenistan, Kirghizia and Tajikistan. The activities pursued at the *Semipalatinsk* test range cannot be ascribed solely to Russia and therefore Russia does not bear the sole responsibility for it.

Features of the Russian position.
It has to be pointed out that Russia insists on following established international practice in the creation of nuclear-free zones. The implications of that in concrete terms can be seen from the analysis of the Russian position on concrete issues.

At the same time Russian experts have suggested that the creation of NWFZ CA 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). Plus 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. Particular attention should be paid to the detail and the formal-legal features of the implementation of such an agreement.

Perspective of the Russian position.
The Russian position was being developed laboriously and by now all the political aspects of the NWFZ CA have been worked out. Technical details are consciously ignored

because this is thought to be the business of the founding states themselves.

In the future the Russian position will be elaborated because some issues have been put on hold, and on the other hand, modified as far as the existing and new propositions are concerned. The latter is all the more probable because on a number of issues the current official Russian position diverges from that of the experts. [21] Instances of divergences are indicated in the analysis of concrete issues of the creation of NWFZ CA.

One has to bear in mind that the oft-repeated Russian support for the creation of nuclear-free zones is declarative to a considerable degree. Russia, in geopolitical terms, is not particularly interested in extending the practice of creating non-nuclear zones. Unlike the US, Russia is not interested in further qualitative and geographical downgrading of the role of nuclear weapons of which nuclear-free zones are an effective and absolute instrument.

Russia's interest in enhancing the role of nuclear weapons as a safeguard of its national security is reflected in military-strategic documents Russia has been adopting: the *Basic Principles of the Military Doctrine*, the *Concept of Military Security*, the *Concept of Building up of the Military Until 2015* and, probably, the new draft of the Military Doctrine which is now in the works. Nobody challenges the view that the nuclear weapon must become and is becoming the basis of the country's defense capability. Therefore, the views on nuclear weapons and the creation of nuclear-weapon-free zones contradict each other. There are two ways of resolving that contradiction: 1) changing the views on nuclear weapons, 2) changing the attitude to nuclear-weapon-free zones. In our opinion, Russia is inclined to follow the second option. But the Russian authorities are not prepared to declare it openly which presupposes that Russian policy will contain a massive declarative segment with regard to the creation of nuclear-free zones in general and of NWFZ CA in particular.

List of abbreviations

1. NFZ - nuclear-free zone (herein the term "nuclear-free zone" is used as a synonym of the term "nuclear-weapon-free zone").
2. NPT - treaty on the non-proliferation of nuclear weapons.
3. NWFZ CA - nuclear-weapon-free zone in Central Asia.
4. CIS - Commonwealth of Independent States.
5. CA - Central Asia.

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[1] It is not the author's purport to present the official Russian position. His task is to set forth the views of Russian, both government and independent, experts on various aspects of the problem. So, the words "Russian position" should not be construed to mean "the official Russian position," unless expressly stated to be an official viewpoint. It has to be borne in mind that even in such cases the author presents not the official Russian position as such, but his vision of the official Russian position.

[2] The focus of conflict in Central Asia is shifting towards the juncture between the Fergana and Osh valleys. *Voprosy Bezopasnosti*, Vol. 33, No. 33, p. 9.

[3] V. Orlov, How the Treaty on the Nonproliferation of Nuclear Weapons Was Extended. *Yaderny Kontrol*, No. 7, July 1995, p. 21.

[4] Ibid., p. 22.

[5] V. Orlov. Candidate of Political Science dissertation. Prospects of the nuclear weapons nonproliferation regime in the second part of 1990s and the Conference to Extend the Treaty on the Nonproliferation of Nuclear Weapons. Footnote 196, p. 154.

[6] Quoted from The Nuclear Summit in Moscow, Summing Up. *Yaderny Kontrol*, No. 18-19, June-July 1996, p. 8.

[7] Interfax, April 20, 1996.

[8] Moscow Summit Declaration, April 20, 1996 in *Moscow Nuclear Security Summit*. Moscow, 1996, p. 18.

[9] He has been appointed the Foreign Minister of Russia in Yevgeny Primakov's cabinet.

[10] The high-ranking Russian diplomat spoke on condition of anonymity.

[11] From a conversation with an expert of the analytical center on the structure of executive government in Russia, on condition of anonymity.

[12] Conversation with an expert of a center for the study of the structure of executive government in Russia, on condition of anonymity.

[13] Ibid.

[14] Conversation with a high-ranking Russian diplomat, on condition of anonymity.

[15] Conversation with an expert an analytical center for the study of the structure of executive government in Russia, on condition of anonymity.

[16] Conversation with high-ranking Russian diplomat, on condition of anonymity.
[17] Conversation with an expert of the analytical center for the study of the structure of executive government in Russia, on condition of anonymity.
[18] Russian official representatives, while recognizing on the whole the existence of an element of rivalry between the countries of the region, nevertheless, insist that it exerts no impact on the process of the creation of the NWFZ CA.
[19] Dariya Kairgeldina, a representative of the Kazakhstan Foreign Ministry in the working group for the holding of the Tashkent conference said: 'The Tashkent conference is called upon to resolve an issue that is concrete and relevant to all the countries of the region. The conference on nuclear non-proliferation scheduled to be held in Almaty in September bears out the relevance of the theme of the Tashkent conference. I would like to stress that the two fora will not duplicate each other. The Almaty meeting will concentrate on the issues that are relevant to Kazakhstan, namely, eliminating the aftermath of the radioactive contamination of the territories neighboring on the Semipalatinsk test range and conversion of the corresponding infrastructure to civilian uses.' (Press release of the international conference "*Central Asia: Nuclear Weapons Free Zone*"). Russia inclines to perceive such statements as designed to obscure the actual rivalry between Kazakhstan and Uzbekistan in the creation of the NWFZ CA.
[20] Conversation with an expert of the analytical center for the study of the structure of executive government in Russia, on condition of anonymity.
[21] A small number of experts deal with this theme in Russia. Therefore, their position does not provide a public background which, because of the varied opinions, does not influence decision-making in any substantial way. Rather, it is perceived and is actively used and exerts a strong influence on the official viewpoint.

Analysis

PROBLEMS OF MISSILE PROLIFERATION IN ASIA

by Pyotr Litavrin, Ph.D. (History)

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The problem of preventing the proliferation of missile weapons is one of the most critical in world politics. The United States seems to show the most concern and to be the most active power in this process. The recent campaign in connection with the Iranian missile threat is only one of the fresh examples of US anxiety with missile proliferation. The other is its regular appeal to Russia, China and other countries capable of producing missile weapons to exclude the possibility of relevant technology transfer to Iran.

Meanwhile, there are very slight chances of using such weapons against US territory. As for Iran and Iraq, they are very far from the United States, as well as from manufacturing intercontinental missiles. However, presumably, the above-mentioned states less jeopardize American interests in the post-Cold War era. As the well-known US researcher B. Aaron states, the real struggle develops not around large intercontinental systems - control over their technologies is simpler - but around short- and medium-range systems, for which proliferation is more difficult to contain[1].

The US proliferation concerns about short- and medium-range missiles are caused mainly by the fact that Iran, Iraq, Libya and North Korea already possess such weapons, though to a different extent. The further increase in range and accuracy of these missiles, combined with capabilities to produce weapons of mass destruction may pose a threat to oil supplies of the Middle East, Israel (the major US ally in the region) and to American troops deployed in the area. Other countries, including Washington's

European allies (except Great Britain), the majority of Arab countries and the CIS states, are less conscious of the menace of missile attack from Baghdad or Teheran. However, it's they who should worry more, due to their geographical proximity to the aforementioned Asian powers. That cannot be regarded as a lack of foresight. There is a danger, but its less sensitive perception reflects the understanding that existing or would-be missiles will be aimed chiefly against the United States or Israel. The same relates to Libya and North Korea, whose plans do not arouse fear in their neighbors. The problem of missile weapons of other countries, even India, is not that urgent.

Therefore, the very factor of specific missile threat bears the stamp of political and ideological confrontation between the United States and four *pariahs of world community*. However, it doesn't mean that the menace of missile proliferation does not exist or is that small. This danger is quite real in the regions, engulfed by current and potential conflicts, above all in Asia and Middle East. There are many unstable or unpredictable states here. Moreover, the CIS countries, including Russia, could suffer from the missiles of such neighbors. So, what's the present state of missile proliferation in Asia?

Iran purchased SCUD-B missiles from Libya and North Korea during its war with Iraq and used them in combat operations. Later on it acquired CSS-8 missiles and corresponding technology from China. Iran also possesses Chinese-made anti-ship cruise missiles.

At present, Iran finds itself in a certain (although relative and decreasing) isolation from major Western powers, which refuse to supply it with arms and technologies. That's why it tries to intensify the development of its own missile programs. These efforts mostly affect the manufacture of solid- and liquid-propellant missiles, using foreign assemblies and technologies. In this connection Russia is still blamed for allegations of supplying Teheran with such technologies, although Russian-Iranian military-technical cooperation doesn't imply any assistance in the missile sphere. In our opinion, Russia strictly abides to its commitments under the MTCR regime. In July 1998 Teheran tested a new medium-range missile with a range of approximately 1,000-1,500 km. It is called Shahab-3 and was presumably constructed and designed on the basis of North Korean No-dong-1.

Before the Gulf War, Iraq had the most developed missile potential in the Middle East. Having purchased the considerable number of Soviet SCUDs, Iraqis were making attempts to upgrade them and reach the range of more than 300 km (as had been provided for initially in technical characteristics), which led to the loss in accuracy. Al Hussein (based on SCUD) had the range of 600 km. Iraq also strove for creating its own intermediate-range missile (Badr-2000) and that with the range, exceeding 2,000 km.

The implementation of the UN program on eliminating Iraq's missile potential resulted in the liquidation of most of Baghdad's missiles. However, according to UN Security Council Resolution N 697, Iraq has the right to possess missiles with the range, not exceeding 150 km. Iraq also has the small quantity of Chinese-made anti-ship cruise missiles[2]. The acquired experience enables Iraq to resume the manufacture of missiles under certain conditions. That may happen after the removal of sanctions and in the lack of international control over respective production capabilities.

Saudi Arabia has a small number of Chinese CSSs, while Syria has SCUDs. Nevertheless, both states have no developed independent basis for missile production, unlike Israel, which has the sophisticated facilities for that purpose.

Its well-known missile systems are Jericho-1 and Jericho-2 with the range of 800 and 1,500 km respectively. The United States helps Israel in developing Arrow interceptor missiles. In 1995, Washington financed 3/4 of the expenditures, planning the program to be accomplished by the end of the century with a consequent start of the stage-2 implementation.

The India-Pakistan rivalry in South Asia has a dramatic impact on the problem of missile

proliferation in Asia, especially after both countries have tested nuclear weapons. India has the most advanced missile program among developing countries. Prithvi missiles, with a range between 150 and 250 km, depending on the payload, are the most developed systems. It has also tested two-staged Agni missile, which can reach the range of 2,000 km. India is simultaneously developing its space program, the productive capacity of which can be used in both civilian and military carriers.

After Russia's withdrawal from the cryogen engines' deal, New Delhi, as it is known, has continued to acquire technologies and components for its ballistic missiles' program. According to some sources of information, India has completed the creation of a rather perfect liquid-propellant rocket engine. At the same time, India is reported to develop the production of cruise missiles, including anti-ship ones, and Sagarica underwater-launched missile system.

Pakistan has lesser capabilities in the field of missile production. Its Hatf-1 tactical missile can hardly reach the range of 100 km and is not very accurate. In its production and research Islamabad relies on Chinese assistance since some years ago the later transferred to Pakistan its M-11 missile and the technology for its manufacture. Reportedly, the development of mobile missile with the range of 300 km is under way. Both states face the problem of making an accurate guidance system and safe, reliable engines.

In March 1998, Pakistan successfully tested Ghauri medium-range missile (about 1,500 km) and, therefore, made a step to catch up with India in developing missile weapons. In practice it is fraught with the danger of further arms race in the region. In this connection, the Russian Ministry of Foreign Affairs maintained, 'We cannot ignore the problem of missile proliferation in South Asia. Moreover, it's a matter of our great concern since the region is close to the southern borders of the CIS and is traditionally important to Russia. We regard the fact of missile tests as deserving regret, taking into account its negative consequences for efforts aimed at stabilizing situation in this dangerously explosive region.' Let us note that the United States for its part expressed its concern and regret about the successful tests of the missile.

It is necessary to point out that the developments in South Asia follow the confrontation scenario. Indian and Pakistani nuclear tests make the knot of contradictions even tighter.

As for the Far East, the indisputable leader in missile weapons' production is China, which for quite a long time now has possessed an intercontinental missile arsenal. At present, it is developing new models of ICBMs with a range between 8-10,000 km (DF-31 and DF-41) that should replace Chinese obsolete ICBMs[3]. At the same time, China is reportedly trying to improve the existing cruise missiles and to create new ones, capable of hitting the target at the range of 10-12,000 km. As was mentioned in the SIPRI annual bulletin, the Chinese goal is to enhance the missiles' accuracy and firepower[4].

Until recently, Beijing has been one of the major missile and missile technology suppliers to the developing countries, especially to Pakistan and Saudi Arabia. In 1993 the United States imposed sanctions on China for the transfer of respective technology to Islamabad. However, lately China has started to be more restrained in this field. Although it hasn't acceded to the MTCR, it agrees to observe the limitations, provided for by this regime.

The other country capable of producing SCUDs and having a well-developed technological basis is North Korea. To some estimates, Pyongyang disposes of several hundreds of SCUDs and serves as their active supplier[5]. At the same time, it has completed the works on No-dong missile, which has a range of 1,000 km, and is now attempting to create a new Taepo-dong-1 and Taepo-dong-2, with a range between 1,000 and 4,000 km.

Following the growth of missile potential of its northern neighbor, South Korea is interested in developing its own missile program. It's typical of Seoul to combine

sufficient financial means and advanced scientific and technical potential with rather weak national research capacity in the missile area. In this connection, Seoul counts on cooperation with other countries, above all, with the United States, which is naturally rather cautious. To prove its responsible approach to the matter, South Korea has applied for MTCR membership.

Other Asian countries, like Thailand, Indonesia, Singapore, also conduct research in the field of space and missile technologies. It mostly concerns the launch of satellites into orbit with the help of foreign carriers, manufactured in China, France or the United States. As it is known, only Malaysia intends to create its own carrier.

Some SCUDs must have been left in Afghanistan after the firing of Kabul in 1994 and in Yemen. However, these arsenals can't be compared to the stockpiles and capabilities of other aforesaid countries.

Meanwhile, about 10 years ago, the Western (and mostly US) concerns over international missile proliferation were no less than now. In 1987 the Missile Technology Control Regime was set up. Its current membership is four times as much as a decade ago. We have to admit that the situation with missile proliferation in the world (and in Asia in particular) has not become critical, as some analysts predicted. If at the beginning of the 1990s there were voices, saying that the MTCR endeavors to limit the flow of technologies for missile development and production wouldn't change much[6], now it is hard to deny that the MTCR has accomplished its mission. It has managed to slow down missile proliferation in the world and in Asia as well.

It is necessary to emphasize that the region - from the Middle East to North Korea - is the zone of the greatest risk of missile weapons' proliferation and the area of its most probable use. It results from the large number of protracted conflicts (even more than in Africa and Latin America) and the prevalence of missiles with a range exceeding 300 km.

While South Africa, Argentina and Brazil have already begun to be more prudent in developing their missile programs (for instance, the refusal to continue the *Condor* project) and have joined or are planning to join the MTCR, Asian countries illustrate another trend. China, India, North Korea, Iran, Iraq and Syria will presumably go on in their attempts to create and to acquire missile technologies. Furthermore, Kuwait, the United Arab Emirates, Saudi Arabia, which are financially well-off, more and more often resort to missiles as the means to contain possible aggression.

For the last 10 years Iran, Iraq, North Korea, Pakistan and even India were unable to solve some technical problems, such as the development of an accurate guidance system. Laser-ring gyroscopes, warheads' protection technologies still get their *longing looks*. The rocket engine technology, including solid-propellant engines, is less difficult to develop than before, but it is still the stumbling block for creating safe and highly effective systems. The accuracy of ballistic missiles of developing countries leaves much to be desired.

This proves that the MTCR succeeds in fulfilling another mission. It not only impedes the missile proliferation but also hampers the process of missile weapons' improvement. We can say that now the efficient use of its military and political potential is possible only in combination with the weapons of mass destruction. The insufficient accuracy and safety of the above-mentioned missiles make it difficult to utilize them as delivery means for conventional warheads. In this connection for such countries as Iran, Iraq, North Korea and Syria, missile weapons, especially *domestically produced* or upgraded imported models, are the means to exert pressure and intimidate adversaries. That was proved during missile war between Iran and Iraq as well as during the Gulf War.

However, the threat of the proliferation of missiles and missile technology isn't becoming less real, even for Russia. Missile attacks against major cities and populated areas or against such facilities as nuclear power stations, dams, plants may have

disastrous effect, inflict irreparable damage to environment, let alone heavy human casualties. It is topical for a number of Asian states, taking into account high density of population and seismic activity. As a result, the damage may be even worse than that of combat operations aimed at destruction of enemy's military personnel.

The lack of missile warning and missile defense systems and steady communications in the majority of Asian countries increases the risk and aggravates the consequences of missile attacks. They can be resorted to not only because of regional conflict escalation when the loser may dare to take a desperate step. There is a great possibility of accidental launch based on faulty decision-making, weak control and unreliability of materiel.

Finally, we can't exclude the menace of nuclear and missile terrorism, with regard to political instability and spread of extremism in some Asian states.

Certain achievements of the MTCR and some limitations introduced by a number of countries on supplies of destabilizing weapons, including missiles, to certain regions and countries (Iran and North Korea, in particular) may have opposite effect. It may make the latter diverge from reproducing of imported missiles (like the *SCUD* series or the Chinese M-11) and start the manufacture of their own military equipment. It is applicable to Iran, which is in isolation and is limited in purchase of conventional arms. Naturally, *indigenous* items of those countries will be of worse quality and reliability.

In recent years, more and more attention of politicians and analysts has been drawn to the problem of proliferation of surface-to-surface and air-to-surface cruise missiles with the range of 300 km and more. The development of a global satellite navigation system (GPS) allows the creation of a highly accurate guidance system for cruise missiles. The accomplishment of this task is less difficult than producing a similar guidance system for ballistic missiles. It facilitates the warheads' protection and enables them to withstand ultra high temperatures. Finally, the latest progress in the field of high technologies, the use of *Stealth* technology in particular, makes it possible to create cruise missiles with lowered information characteristics. The low effective area of dispersion of such missiles impedes their detection and destruction by the means of missile defense. Taking into account the application of that technology, there emerges the danger of the use of missiles with the range, not exceeding 300 km, which are at the disposal of many developing countries. In fact the problem of range is no longer important since it is rather difficult to track and detect it for many short-range cruise missiles, attributed to all types of launchers, and it is practically impossible to ban their supplies. The production of cruise missiles with lowered information characteristics poses new problems for the struggle against missile proliferation.

The situation is aggravated by the fact that the market in cruise missiles is rather capacious and perspective, which makes the deals on supplies quite profitable. That's why we agree with the opinion of the well-known Russian expert Gennady Khromov that the problem of nonproliferation of cruise missiles should be treated in the same way as that of ballistic missiles nonproliferation[7].

Thus, despite the MTCR success in slowing down the proliferation of missiles and missile technology in developing countries, including Asia, the problem remains and it can't be solved solely with bans and limitations. As long as the political arena is overcrowded with irresponsible states, disposing of considerable financial resources, the risk of acquiring and use of such weapons will be left.

Many states, which possess missile weapons, may move forward in increasing their range and the output of production. It is difficult to assume that a producer of tactical systems may independently start the manufacture of ICBMs in two or three years. But we should bear in mind that the expertise in producing missiles with a range of less than 150 km, gives the opportunity to develop skills and technologies to overcome the range of 300-500 km. And this is a serious threat.

When we speak about the prospects of missile proliferation in Asia, it is necessary to remember that the current level of industrial development doesn't enable the majority of countries of the region to produce complicated technical equipment on their own. And without this equipment it is impossible to manufacture missile systems. We presume that the countries, which are closer than others to that threshold, are India, South Korea, and Taiwan. However, from the point of experience we can name other set of states: Iran, Iraq, and North Korea. Israel keeps aloof since it doesn't fall under restrictions imposed by the United States on other countries. Meanwhile, Israel is not only capable of producing its own medium-range missiles but completes the production of Arrow interceptor missiles and by 2000 will have rather effective missile defense system - the only one in the Middle East. It is known that Israel in case of emergency or threat of attack may employ missile weapons.

Hence, we can conclude that the United States and the West in general (although to a lesser degree) reduces the problem of proliferation to preventing the reinforcement of missile might of dangerous and hostile states. As for Russia and the CIS countries, this problem is treated in a wider scope, though less critically. It is not important for us in practical terms where from the missile will come to Stavropolsky krai because of accidental or false launch.

It's necessary to emphasize that without managing political conflicts in Asia and reducing tensions all efforts of the missile technology suppliers to control the export of these weapons either bilaterally or in the MTCR framework will be insufficient. The conclusion of regional conventions on limitation of destabilizing weapons' and technologies' supplies (following the example of Latin America) may play a positive role in the process. The better solution of the above-mentioned problem is the establishment of regional security systems. These arrangements should involve not only exporters but also present or potential importers who should refuse to acquire this type of weapons.

The members of such security systems and accords could get the most-favored-nation status in trade and scientific-technical cooperation. They would be rendered help in getting access to space carriers for satellite launching and to the space observation data.

However, in order to limit the number of newly missile powers it is absolutely important to prevent access to the missiles themselves and to missile technologies.
To block the channels for the drain of critical technologies, we should continue to enlarge and complete at the MTCR and national level the list of materials, equipment and technologies, critical not only for the development of individual models of missiles but for their mass production. To meet this demand on January 22, 1998, the Government of the Russian Federation issued the Resolution No. 57 "*On the Improvement of Controls over the Export of Dual-Use Goods and Services Related to Weapons of Mass Destruction and Missile Delivery Vehicles*". The key role in this matter is played by rigid control over deals on supplying aviation and rocket engines, fuel, checkout equipment, and guidance systems.

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[1] *Arms and Technology Transfers*, UN, New York-Geneva, 1995, p. 14.
[2] *Proliferation: Threat and Response*, Office of the Secretary of Defense, Washington, April 1996, p. 24.
[3] *Jane's Defence Weekly*, January 21, 1998, p. 13.
[4] *SIPRI*, 1996, p. 438.
[5] *Proliferation: Threat and Response*, p. 8.
[6] See: *Yaderny Kontrol*, April 1996, pp. 38-39
[7] *Yaderny Kontrol*, No. 1, 1998, p. 42

Interview

STANISLAV PETROV: 'WE'LL FULFIL OUR COMMITMENTS TO THE INTERNATIONAL COMMUNITY'

Translation into English. Abridged version

In conformity with the provisions of the CWC, Russia must begin the destruction of its lethal arsenals on November 5, 1999 and by 2007 eliminate 40,000 tons, or 100%, of its chemical weapons. These munitions are stored at seven specialized Russian Ministry of Defense facilities situated in six regions: in Udmurtia (Kambarka and Kizner), in Saratovskaya, Kurganskaya, Penzenskaya, Bryanskaya and Kirovskaya oblast. Even though the process of eliminating chemical weapons is regulated by the Special Federal Program, the time for initiating destruction is still unclear. Why? Colonel-General Stanislav Petrov, chief of the Ministry of Defense's Radiological, Chemical and Biological Defense Forces, covers these issues in an interview given to Yaderny Kontrol Journal special correspondent Dmitry Litovkin.

***YADERNY KONTROL*: After the ratification of the CWC, Russia pledged to fulfil certain obligations before the international community. However, the main problem is inability to keep pace with the schedule of chemical weapons destruction provided for in the CWC. What has been done to carry out the commitments under this agreement?**

STANISLAV PETROV: Since the adoption of the Special Federal Program on elimination of chemical weapons, the Ministry of Defense and my Department of Radiological, Chemical and Biological Defense Forces has done a lot to prepare for CWC implementation. First of all, we obtained the consent of regional and local authorities in those areas where chemical weapons are stored to set up facilities for their destruction. We have already come to an agreement and determined the sites for these facilities in Saratovskaya, Kirovskaya, Kurganskaya, Penzenskaya oblast, and Udmurtia (Kambarka and Kizner).

Planning organizations of the Ministry are working out, or have already worked out, the technical and economic feasibility for construction of the sites. In the Bryanskaya oblast an investment feasibility study for the chemical weapons disposal facility was developed at the insistence of the local administration. Documents on the technical and economic feasibility of the facilities in Gorny (Saratovskaya oblast) and Shchuchye (Kurganskaya oblast) are currently before the oversight authorities and government experts for consideration. All documents concerning the technical and economic feasibility for all facilities, except that in Pochep (Bryanskaya oblast), must be ready by December 1999.

The entire program of chemical weapons destruction in Russia will cost 32.7 billion rubles (in 1998 costs). However, as a result of the country's economic difficulties and the strict budgetary policy pursued by the Russian Government, the program is under-financed and implementation has been delayed by four years. There is an obvious trend towards even longer delays, as is graphically illustrated by the figures showing the receipt of budget allocations to the Defense Ministry's accounts.

In 1996 of 533.9 million rubles requested, we were planning on 144.1 million, but received only 6.86 million rubles, or 1.3% of the necessary funds. In 1997 it was 3,520.8 million, 145 million and 73.3 million respectfully - or only 2.2%. In 1998 these figures rose to 4,083.2 million, 320.1 million and 158.9 million - or 3.9%. For 1999 we've requested 6.8 billion rubles. How much the Ministry of Defense will actually receive is still unknown.

Obviously, untimely and incomplete financing has already led to the collapse of our relationship with sub-contractors. Moreover, it has undermined confidence in the program and in its direct state performer, i.e. the Ministry of Defense, by those building the destruction facilities and the locals living in those regions of chemical weapons storage and elimination. At present, the debt to organizations involved in the chemical weapons destruction program for work

already completed exceeds 100 million rubles.

Q.: Upon signing the Convention we argued that Russia wouldn't be able to solve the problem of chemical weapons elimination without international assistance. How would this aid be distributed and spent?

A.: The Ministry of Defense, in cooperation with the Ministry of Foreign Affairs, is constantly seeking extra-budgetary sources of financial assistance required to implement the program. This is one of the main goals in reducing the financial burden being born by the state and an important method for accomplishing the principal strategic mission of chemical weapons destruction.

In May 1998 in The Hague, thanks to the kind assistance of the Dutch Government, we held a meeting of potential donor countries that could help Russia in destroying its stockpiles of chemical weapons. About 30 states participated in the forum, and we came to an understanding that Russia's fulfillment of its commitments provided for in the CWC would meet the interests of all countries. Besides the United States and Germany, which play an active part in rendering help to Russia, there are some other countries willing to grant the money - Finland, Sweden, Italy, Netherlands, France, Norway, and Great Britain in particular. In this connection we hope that in early 1999 there will be another conference held in Moscow that will focus on the specific directions of cooperation and the amount of funds allocated. Work in this area is under way.

We are developing plans and technical documentation in cooperation with American and German companies. We hope that this comprehensive approach will enable us, given regular receipt of budgetary funding, to start work at the seven facilities simultaneously and to carry out all Russian obligations under international treaties on time.

Q.: However, as is well known, one of the main conditions for beginning the work on chemical weapons destruction was solving social problems in the areas where these destruction facilities would be built, such as housing, laying gas and electrical lines, establishing telephone systems, and developing other infrastructure in the localities where CW depots are situated. Reportedly, hospitals, clinics, cultural facilities, et cetera will be built. How are these problems being solved?

A.: Unfortunately, we have to say that this matter remains undecided. The above-mentioned financial problems have already resulted in changes in our plans in this area. Nevertheless, there are some positive results. First of all, there is the finished construction of an 18-flat apartment building in Gorny (Saratov Region). There are two 150-flat apartment buildings under construction in Oktyabrsky and four being built in Mikhailovsky. All these apartment houses are intended for the personnel working in the destruction facilities, and in Gorny 19 houses have already been inhabited, while another 27 will be finished by the end of 1999. We completed the installation of an 8-km-long high-voltage line and are planning to install another 16.5 kilometers. We are laying a 14.9-kilometer-long water pipeline, two lines of purification systems (previously Gorny had none), and are reconstructing water-pumping facilities.

In December 1999 we plan to start the construction of facilities in the industrial zone: two buildings for experimental industrial plants and an administrative complex. The facility itself (its first stage) will be completed by December of this year. To provide for the safety of operations we are building a fire station and a depot to produce foam for the fire brigade.

In Kambarka (Udmurtia) we finished the construction of a 60-flat apartment building, completed the first stage of water pipeline, laid about 15 kilometers of gas pipeline which hadn't existed before. In Mardykovsky (Kirovskaya oblast), Leonidovka (Penzenskaya oblast), Pochep (Bryanskaya oblast), Shchuchye (Kurganskaya oblast), and Kizner (Udmurtia) we conducted large-scale reconstruction of chemical weapons depots. New barracks have been built for the battalions deployed to guard and prevent

possible accidents at the storage and destruction facilities.

Q.: The CWC envisages that each country ratifying the Convention shall designate or establish a National Authority to supervise the implementation procedure. The debate on this issue continues to this day. Will you clarify the situation? What are the parties concerned and their interests?

A.: You are quite right, the CWC provides for the establishment of a National Authority to serve as the national focal point for effective liaison with the Organization for the Prohibition of Chemical Weapons in The Hague. At present, this problem has not been solved. Within the Russian Government there have been disagreements among several political and economic groups, each one of which is ready to perform these functions itself.

One of them is the President's Committee on Conventional Problems of Chemical and Biological Weapons of the Russian Federation, which used to be chaired by former Deputy Chief of Radiological, Chemical and Biological Defense Forces, Retired General and Academician Anatoly Kuntsevich.

At one time this organization was set up to accelerate the process of preparing Russia's acceding to the international Convention. The Committee has completely fulfilled its mission. It would seem that it could have left the political arena, but as any bureaucratic body comprising about 60 well-paid officials, the Committee began to seek as new identity.

From the point of view of the Ministry of Defense, which was several times conveyed to the Russian leadership, including Prime Minister Yevgeny Primakov, the Committee is a superfluous organ.

The main mission of the National Authority shall be the collection of information concerning those chemical industry plants falling under provisions of the Convention which earlier produced chemical weapons and the course of their conversion. The Authority shall also process data on scheduled chemical weapons destruction and submit all this information to the Organization for the Prohibition of Chemical Weapons. The other aspect of its activities is reception and organization of work by foreign inspectors in Russia.

To economize on the budget, the Ministry of Defense suggested that these duties be performed by the National Center on Nuclear Threat Reduction, which exists within the ministerial structure. The Center carries out similar functions under other international agreements in the field of arms reduction. This work has become daily routine for employees of the Center since they annually receive and accompany hundreds of various international commissions to MOD facilities. On top of that, it would be reasonable to task the Center with this function as it has within its structure special test benches for verifying and calibrating foreign checkout equipment and possesses methods of processing data.

Unfortunately, certain factors impede the designation of National Authority. There are forces wishing to preserve the Committee as *a bureaucratic reserve* to create structures that will have nothing to do with the functions of the National Authority. However, we believe that there are enough responsible and competent officials to find the solution while meeting the interests of the state.

Q.: The elimination of chemical agents seems to be a large-scale and very important step. Are there any chances for the terrorists to obtain the dismantled chemical weapons? The notorious religious sect Aum Shinri Kyo was reportedly interested in getting access to Russian chemical arsenals and tried to establish contacts with the experts in the field of development and use of chemical munitions.

A.: We regard the problem of security of stored and disposed chemical weapons as one of the most significant. We realize the menace to state security and human health which can result from unauthorized access to chemical weapons. That's why the technology of chemical weapons destruction is based on principles of strict accounting for

each projectile leaving the depot for the destruction plant.

All operations with chemical weapons are fully automated and are under the supervision of modern computers. We have machines that not only count all items arriving for reprocessing, but also automatically take samples in the course of the destruction (at the beginning and final stages of the technological cycle of destruction). All these samples are sent to the laboratory for tests, where the completeness of detoxification of chemical agents is studied. The complicated system of control and the close technological cycle ensure a high degree of security and safety of chemical munitions during destruction and help to prevent them from being stolen.

The only opportunity for stealing chemical weapons may appear during the transportation of chemical weapons to the area of destruction. Nevertheless, a solution can be found. All destruction facilities are built near the districts where chemical weapons are stored. We are planning to construct special access roads and railway spurs to transport munitions. We will provide for strong control over loading and unloading of chemical agents and will assign special guard units to ensure physical protection during transportation.

Upon arrival at the facility, each projectile passes through a special *Schet* system, which not only allows the quantity of weapons that have arrived to be displayed but also exactly what they are to be determined. It's impossible to deceive the machine by placing an empty shell-case or imitation instead of a chemical weapon.

We have had no interaction between criminal groups or terrorist organizations and officers or civilian personnel at the facilities for the purpose of acquiring chemical weapons. It's rather difficult to steal the munitions. First, this can be accounted for due to the high degree of control over each item at all stages of storage and transportation as well as the reliability of security systems at the facilities. Second, all facilities for storage and destruction are situated far from populated areas and major towns where any newcomer will be, so to speak, in view and tracing all his contacts will not be difficult. It is this very principle that helps to avoid incidents in the areas of chemical weapons storage.

The only thing we can't guarantee is collaboration of former employees of chemical plants and scientific laboratories with criminal groups and religious sects. But that is not a question for us.

Analysis

COOPERATIVE DISMANTLEMENT OF RUSSIA'S CHEMICAL ARSENAL

by Harold P. Smith, Jr.[1]

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Introduction

Prior to April 1997, when the Chemical Weapons Convention (CWC)[2] entered into force, there was neither a legal basis nor a set of timelines for the complete destruction of chemical weapons (CW) that were acceptable simultaneously to the Russian Federation and to the United States. With the ratification of the CWC by the Duma and the Congress all was changed. At last, there was an agreed upon instrument with international approval and the means for international scrutiny by which both stockpiles[3] of chemical weapons should be destroyed. The Clinton Administration was hard pressed to convince the Congress to take this step, and given the resources available, it was at least as difficult in Russia. Nonetheless, both administrations succeeded, and with this step, the question was not whether or when to remove the two stockpiles, the question was how to do so.

Up until that time, neither country had exhibited great success. Admittedly, the American approach was beginning to destroy weapons, but it had seen the life-cycle cost grow from an original estimate of $2 billion in 1986 to the current $15 billion. Meanwhile, the date of completion had been postponed many times. Although its chosen process of incineration was technically successful, its implementation had become a political nightmare. The Russian program was even worse off. It had destroyed no weapons, and its initial facility at Chapayevsk had been abandoned in the face of public outcry. It was from this minimal base that both countries had agreed in a highly public document that their arsenals would be destroyed by the year 2007. Charles Dickens was right, '*It was the best of times, it was the worst of times*.'

The requirements of the Convention are absolute and essential, but they are also difficult and expensive. Both countries not only had to destroy their chemical weapons and their means of production, but they had to do so in a safe, environmentally sound, and cost effective manner. The magnitude of the task was enormous and the situation in Russia was unpredictable. No one could expect Russia to restructure its political, military, and economic bases, yet at the same time dismantle its stockpiles of weapons of mass destruction in the absence of assistance from those nations that should, in their own interest, assist. The United States was, in particular, well poised to help. It had the experience, the resources, and most importantly, thanks to Senators Nunn and Lugar and to Congressmen Murtha and McDade, the political will to offer such assistance.

The Cooperative Threat Reduction Program

The Cooperative Threat Reduction (CTR) Program, often termed the *Nunn-Lugar* Program, took its cue from the *Marshall* Plan, but it is certainly not the equivalent of that plan, nor should it be. The devastation of the Cold War was miniscule compared to that of World War II. However, the potential for devastation residing in the arsenals of the Cold War beggars the actual damage extant in 1945. It was apparent as the Cold War ended that those arsenals had to be removed safely, quickly, and if need be, cooperatively. Again, as in 1948, the United States found the political will to provide the resources for an essential international undertaking. CTR was the result.

The political will was there, but just barely. It took great skill by the CTR congressional leaders to provide authorization to the Department of Defense (DOD) to reallocate from its FY92 (Fiscal Year 1992)[4] budget almost half a billion dollars for CTR. No funds were appropriated, and as a result, the money had to be taken from other DOD accounts, all of which were fully subscribed

and strongly defended. With the end of the Cold War, the entire DOD budget was in decline and demands for everything from improved equipment to quality of life was on the rise. It should surprise no one that very little money was obligated in FY92.

The situation repeated itself in FY93, with one important difference: a new administration, the Clinton Administration, came to power in January of 1993, and with it came a new Deputy Secretary of Defense, William Perry. Dr. Perry, in collaboration with Secretary of Defense Les Aspin, brought with him not only a fresh, experienced, and dedicated team; he brought also a firm personal commitment to implement CTR. An important part of that commitment was to assist Russia in dismantling its CW arsenal, and he made that commitment vividly clear when I had the honor of being sworn into office in June 1993 as the Assistant to the Secretary of Defense (ATSD) with broad responsibilities for all aspects of acquisition (or *dis-acquisition*) related to weapons of mass destruction, including implementation of CTR[5]. From that moment, it was ordained that CW dismantlement would proceed as fast as Russia would allow. By January 1994, six months later, the necessary commitment from the Russian government was obtained through the signing of the 1994 Plan of Work by Colonel-General S. V. Petrov, chief, Radiological, Chemical and Biological Defense Forces of the Ministry of Defense, Dr. A. D. Kuntsevich, chairman of the President's Committee on Conventional Problems of Chemical and Biological Weapons of the Russian Federation, and myself. The journey of innumerable twists had begun.

Some of the twists were humorous (at least after the fact), some were forceful, and some were essential. Ms. Irene Nehonov, OSIA's[6] premier interpreter of the Russian language, whose diplomatic talents equal her linguistic skills, has regaled Russian and American audiences alike with her tale of General Busbee's[7] *Midnight Ride* which found the general and his small entourage on the outskirts of Moscow in a blizzard on New Year's Eve on the wrong side of the fence of the *Shemiakin* Institute. The general looked like a military version of Charles Dickens' *Ghost of Christmas Past*[8].

During the early negotiations in Moscow, (then) Congressman Martin Lancaster from North Carolina provided at just the right time and, as a congressman, just the right forceful statement that clearly convinced the Russian negotiators that their demands had gone too far. When a man with Mr. Lancaster's credentials and with his hand on the purse threatens to cancel the program, the opposite side has to listen and came to understand. Only the ATSD knew that the statement was unrehearsed and might very well be true. It was never challenged, and both sides benefited from his shrewd judgment of force and timing.

The essential twists were provided by changes in the top Russian personnel. Dr. P. P. Suitkin replaced Dr. A. D. Kuntsevich as Chairman of the President's Committee and Colonel-General S. V. Petrov took the lead in formulating and implementing Russian policy for the MOD. What had been a stalled program began to move when these gentlemen took the reins[9].

The Choice of Technology

General agreement, although difficult, was simple compared to the ensuing details. The first consideration was the selection of a technology for elimination of Russia's chemical weapons. From the American point of view, nothing could have been simpler. The USA had been working on the problem for over a decade with expenditures in the billions to see if incineration of its stockpile could be done safely and effectively. By 1995, the Americans were quite confident that they had succeeded. The facility on Johnston Island, a remote island 700 miles southwest of Hawaii, was operating at satisfactory production (or more appropriately destruction) levels with an enviable safety record and without harm to the environment. The former was a matter of record; the latter was the conclusion of the (on-site) Fish and Wildlife Commission, an agency beyond the purview of the DOD. Furthermore, the use of incineration in Tooele, Utah, had been accepted by all appropriate authorities despite the loud and skillful protests of local

and national interest groups inalterably opposed to incineration. In short, the Americans were justifiably confident that the correct technology was at hand and could be offered *gratis* to our Russian counterparts, there being no proprietary considerations.

It was not to be. The Russians had their own technology, of which they were understandably proud, for the destruction of CW agents. Perhaps, the Russians saw a long-term competitive advantage in developing an alternative to incineration, but their *neutralization-bituminization* process had not been developed beyond the laboratory bench. Therefore, additional time and expense for full-scale development and large-scale testing would be required. The American approach would have eliminated both of these steps and would have allowed an instantaneous start with no prior expenditure of funds. Perhaps, the most serious oversight on the part of the Russians was the lack of recognition that the American Congress is a fickle and impatient mistress. When Congress is involved in projects of this nature, the projects must be taken on the flood, or they will not be taken at all. Nonetheless, it became apparent, after long, but professional, discussion that the Russians would not accept incineration on their territory, and after all, it was their territory. The Americans could either leave the weapons as they were or stay and undertake the long and tedious mission to determine if the proposed Russian technology was safe and effective. The USA chose to stay.

It remains a mystery why the Russians should be so obdurate. Supposedly, the local populace would not accept incineration even though their counterparts in America already had. Moreover, one of the major responsibilities of the American contractor, who would be selected to perform the work, would be its skill in public relations. American industrial bidders were not confused on this issue nor was DOD bashful in making clear the overwhelming importance of public relations. Moreover, given the strong distrust of Russian governmental projects, why would the local population be more willing to accept an unproven Russian technology rather than an established American one? The local authorities might also have noticed (although they had not been informed by the government) that the Russian technology left behind a waste product, the bituminized residue of neutralization, that might be judged dangerous long after the Americans had left. Incineration was not only immediately available; it had no long-term storage liability.

The case for incineration is even stronger today. At Johnston Island, 75% of the munitions stored there have been eliminated. At Tooele, the number is 18%, and both have enjoyed excellent safety records without any measurable impact on the local environment. New incineration facilities are under construction at Anniston, Alabama and at Umatilla, Oregon. Construction will begin in the fall at Pine Bluff, Arkansas. Perhaps more to the point has been a series of highly publicized, landmark judicial decisions associated with initiation of operation at Tooele. The Department has prevailed in every case; the most important of which was a hard-hitting, 28-page ruling by Judge Campbell in Federal District Court in Utah in 1996. None of the allegations brought by the environmental groups was sustained, and the DOD was allowed to initiate operations after voluntarily postponing start-up until the judge had had time to rule. While the seemingly inevitable appeals and additional legal tactics were invoked (and will continue to be invoked) by the losing parties, one could only conclude that incineration of the Tooele arsenal would proceed. One would also think that the same could have been true in Russia.

To be fair, incineration in the USA has encountered difficulties, and it may have been those difficulties that frightened the Russians. Two American sites, where the CW agents are stored in bulk, will be destroyed by chemical treatments[10]. Furthermore, Congress has ruled that alternative technologies must be explored before incineration can be employed at two (other) final sites. There is no doubt that chemical demilitarization in the USA will proceed in accordance with these laws, but even so, there is still a chance that the weapons at all

nine sites will be eliminated by one means or another in accordance with the CWC without seeking an extension to the deadline. However, with each passing day of successful operation of the incineration facilities, the arguments for alternative approaches become less compelling. Would that Russia were on the same track.

In the final analysis of the negotiation, the USA had no choice. Certainly, Americans are in no position to instruct the Russian government on how their local populations will react to the ever-present danger of eliminating chemical weapons by any technology, even one as well established as incineration. Furthermore, it is in America's interest that the weapons be eliminated. The choice of technology is secondary.

There was a cost, however, in agreeing to a Russian approach that, *ipso facto*, assured that the job would take longer and cost more. It was inevitable that an increase in cost to the American taxpayer with a resultant delay in removing weapons of mass destruction would be viewed unfavorably by members of the Congress, and indeed it was. Without invoking all the demands for expenditure of public funds that must be adjudicated by Congress, the legislators needed only to look at the allocation within the CTR budget, itself. It was apparent that removal of nuclear warheads from missiles and the destruction of the missiles was moving forward nicely under effective and cooperative management. At the same time, not one chemical weapon had been destroyed. As a result, US support for the Russian chemical destruction program grew increasingly hard to defend in the Congress, and suspicions began to surface regarding intent: namely, was there a sinister Russian military purpose for delaying the elimination of their chemical arsenal? Probably not, but the answer, supplied at the insistence of Congress, was less convincing than it would have been otherwise. The decision to reject incineration was, therefore, more than a technical choice: it made a difficult political task more so. Our Russian colleagues were aware of all this, but there was no choice other than to accept their decision and to press on, the difficulties notwithstanding.

Initially, Russia's neutralization process had to be understood at its most basic level. There were no developmental data to support even the beginning of an industrial process. Proof testing in the laboratory was required, and even this was compounded by unwillingness on the part of the Russians to provide samples of the agents that were to be destroyed. The best that could be done was to arrange for cooperative testing at the laboratories of the US Army Chemical Research, Development and Engineering Center *Edgewood* Laboratories located within the Aberdeen Proving Grounds, Maryland of replicated Soviet chemical agents using the proposed Russian neutralization process. Fortunately, the testing proceeded in a satisfactory manner, and for the first time, a sense of teamwork began to develop.

The neutralization process was then tested jointly in Russia using actual Russian agents, again with apparent success. These results were validated by a peer group that concluded that, in minute quantities under laboratory conditions, the proposed neutralization process appeared to be effective. At the same time, CTR funds were applied and progress has been made (and continues to be made) in the construction of a Central Analytical Laboratory on the outskirts of Moscow to support all aspects, including environmental aspects, of monitoring the agent destruction processes. The chosen path may be slow, but it seems sure. However, it is still too soon to tell if the neutralization scheme, when applied at the industrial level, will meet the safety and environmental demands that will, quite properly, be placed upon it.

Selection of a Depot

The selection of a technology was only the first of a difficult set of decisions. Next was the choice of the first depot. The criteria proposed by the USA were straightforward: maximum reduction of the military threat with a minimum expenditure of time and money. The former led the USA to suggest that the first set of weapons to be destroyed should be those containing persistent nerve agents that could be delivered quickly at long range; i.e. air delivered munitions carrying Russian VX nerve agents. The second criteria

called for a site with an established infrastructure of power, water, transportation, and skilled labor at a large depot near an established point of entry (POE) for ease of logistics and transportation. It is not an exaggeration to claim that the American position was rejected *in toto.*

The Russian plan for destruction of chemical weapons calls, first, for the elimination of blister agents at the Gorny and Kambarka sites followed by destruction of nerve agent weapons at the remaining five stockpile locations, starting with the artillery munition sites, Shchuchye and Kizner. Consequently, the Russian Federation offered artillery rounds with mostly non-persistent agents stored at the smallest depot, Shchuchye, located in the foothills of the Urals and furthest from any POE that would be convenient to shipments from America or its European allies. There are three possible reasons, of increasing concern to the West, for the Russian insistence on such a remote and relatively unimportant site.

The first and, perhaps, over-riding consideration was remoteness from population centers and from European nations. After all, the Americans, as noted above, chose a truly remote site, a desert spit hundreds of miles from Hawaii, to develop their technology to eliminate lethal chemical weapons. Why should the Russians do otherwise? Remoteness in this particular arena is the best and first line of defense in the event of accident. If the proven American technology had been chosen, remoteness would have been a minor consideration, but in the face of a decision to implement an unproven technology, distance from population centers can only be applauded. While the Americans agreed with the logic, they rued the previous technological decision that made such logic acceptable.

Remoteness had a further advantage that would not be apparent in the USA, a country endowed with a free press that can go anywhere, report anything, and if newsworthy, be confident that the nation and the world will be aware of their opinion almost instantaneously. The same is not true in Russia as one travels eastward into Siberia. It is not the absence of freedom of the press that is the problem, it is the absence of information on which to report. The first American demilitarization team to visit Shchuchye included the very astute Congressman from Alabama, Glen Browder, who insisted, quite correctly, on meeting with local authorities. At those meetings, it became obvious that very little was known, even to elected officials, of what was stored nearby – let alone the process by which the stores were to be eliminated. While one should not condone such suppression of information, one must understand the Russian desire to take its initial step in destroying their weapons of mass destruction far from the klieglights of Moscow.

There may have been other, less logical and less acceptable reasons. There is far more to the destruction of chemical weapons than the technological processes involved, whether incineration, neutralization, or any of the other procedures that has been suggested[11]. An immense infrastructure is required in all cases. There must be power, roads, railroads, water, security, hospitals, and on and on. The logic may have been that if the Americans were going to underwrite the costs for one demilitarization site, it might as well be the one requiring the most infrastructure. After all, when the weapons were gone and the process machinery decommissioned, the infrastructure would remain, and that infrastructure would mean a far better life for those who chose to remain in Shchuchye. Unfortunately, such logic has all the trappings of the *goose that laid the golden eggs*. The demand for a total infrastructure, including such niceties as swimming pools and day-care centers, did not go unnoticed by the Congress, nor should it have. At this stage of the negotiations, the chances for a dead program (or a *dead goose*) were quite high.

There were also those who saw far more malevolent reasons in the Russian rejection of what the Americans considered to be a straightforward, sound, generous, business approach to the problem at hand; viz., the destruction of vast amounts of unneeded weapons of mass destruction. Sooner or later, it was inevitable that the long series of

counter demands would be interpreted as stalling, and the purpose of stalling was presumed to be reluctance by Russia to give up its chemical weapons. Undoubtedly, there were those, presumably within the Russian military establishment, who felt exactly that, but it seems unlikely that they commanded much attention. Other than the weapons, themselves, there was no indication to support such a conclusion. For example, the use of chemical weapons demands far more than the munitions. At the very least, use of such lethal material demands intense training and special equipment. Of this and other indicators, there was no evidence. While the concern was appropriate, postponement of destruction for later military use was rejected as a consideration in the negotiation.

The selection of Shchuchye as the first (and only) site where the CTR program would assist in the direct destruction of Russia's chemical weapons was a deep frustration to the Americans, which was further compounded by the rejection of incineration. However, it was, in fact, a considerable step forward. It was the first direct step, and was more than a small step on an admittedly long journey. The higher goal was not what technology or where to apply it; the goal was to begin the destruction of the world's largest arsenal of chemical weapons, and that had been accomplished. Surely, the willingness of the Americans to cooperate in the removal of this previously highly secret remnant of the Cold War was proof that the journey had an end and was significant in convincing the Duma that the CWC should be ratified, itself a major step in that long journey.

The Status at Shchuchye

One cannot describe the ensuing progress at Shchuchye as breathtaking. Tedious might be a better word, but there has been progress, and no project of this unique complexity could be expected to proceed smoothly. There was the predictable haggling over industrial infrastructure, critical to running the plant, and the social infrastructure (SI), necessary to convince the local population that their interests would be protected. The Americans agreed to underwrite portions of the former and Major-General Kapashin, deputy commander for Chemical Weapons Destruction within the Russian Radiological, Chemical and Biological Defense Forces, has guaranteed that the SI will begin by June of 1999. How he will accomplish this is by no means clear, and therefore, the Americans will not mobilize their already selected contractor until September 1999. It is understood at this point that (1) failure by Russia to provide the SI will bring the total effort to an end, and conversely, (2) provision of the SI will open the door to a major investment by the United States in an area devoid of such investment. By now, it is quite obvious to all parties that General Kapashin must succeed.

Progress may not have been breathtaking, but the complexity, in all its dimensions, certainly is. Even the choice of land on which to build the plant was complicated. One particular site would have maximized the required industrial infrastructure and increased the cost of operation, which, of course, is another version of the *golden goose*. Any site would, understandably, be opposed by nearby residents who presumed, at a minimum, that their mode of living, which was difficult enough, would be further disturbed and, at a maximum, that their very lives would be at risk. Nonetheless, a location has now been chosen and has been commemorated with a three-meter granite monument with local and international press as witnesses. The real work can now begin.

The selection of an actual site has brought to an end the interminable arguing over infrastructure. A site demands a boundary, and a boundary, in this case, requires a fence separating potentially dangerous plant operations from all other activity. The Americans have assumed responsibility for all aspects inside that fence and the supporting industrial infrastructure outside the fence, including the site for burial of the bituminized waste. The Russians have assumed responsibility for all aspects of the SI, including the industrial infrastructure that supports the general community around Shchuchye. Congress has provided sufficient funding for FY99 to set the stage for the essential steps required before construction can begin. If all goes well, preparation of the

final working documents (blueprints) required for construction should begin in FY00. Only two major items remain: (1) sufficient social infrastructure *outside the fence* to support such construction and (2) final assurances that the Russian technology is both safe and effective. Failure of the first, as discussed above, will bring the project to an end. Failure of the second, where recent testing has indicated that the proposed chemical reaction when operated on a large scale will not destroy a sufficient percentage of the lethal agents, is worrisome, but not catastrophic. Further improvements in the process may well be possible, and even at this stage, incineration remains an option, but time truly grows short. It is essential that final preparations for construction begin in October 1999.

The Path Ahead

The path beyond Shchuchye looks bleak. Indeed, the financial travail through which Russia is (hopefully) passing may preclude its ability to make even the comparatively minor investment required to proceed at Shchuchye, and Shchuchye is only the first of the nerve agent depots that must be dismantled under the CWC. Unfortunately, forfeiture of the opportunity at Shchuchye could well foreclose all opportunity to destroy forty thousand tons of chemical weapons, and yet the source of Russian funding for Shchuchye is not in sight – at least not to those looking in from the outside.

On the American side, the foreseeable end of the Clinton Administration is leading to the usual distractions of a presidential election augmented by the unusual distractions of the current political scene. Under these conditions, it seems doubtful that Congress will continue its generosity if there is no physical progress at Shchuchye in 1999. Money may or may not be the root of all evil, but in this case, the lack of it is the problem. Additional funds must be found elsewhere and soon.

The central problem is the absence of an economic multiplier in the world of chemical demilitarization. Not only have the Russians and the Americans failed to find an economic use for the dismantlement plants after the weapons have been destroyed, they have not found a way to eliminate the additional cost of decommissioning such a plant whether in the United States or in Russia. The economic multiplier in this industry, if there is one, is negative. In essence, a ruble spent on dismantlement is more than a ruble gone; whereas, a ruble spent on a potentially productive factory is an investment likely to lead to more rubles, more factories, and to a happier stable Russia. One should not look to Russia, at this time in her history, nor to private enterprise to make such an economically poor investment, and yet an investment must be made.

In the near term, the costs of dismantlement should be borne by those most threatened by a possibly unstable Russia possessing still effective chemical weapons. In the long term, the inevitable deterioration of the weapons will first threaten local residents and then slowly spread its poison into the national and international environment. At the same time, the CWC will become a worthless document, opening wide the door to any nation that chooses to develop an arsenal of chemical weapons. It is in the interest of all nations, but particularly those near the Russian borders, to invest in the short term and avoid the consequences of the long. No one can afford to wait.

With the completion of the project at Shchuchye, the Americans will have done their share and more to remove the threat of forty thousand tons of chemical weapons. To date, the USA has obligated over $130 million and will expend almost $800 million to complete the project at Shchuchye. Because the current American program to destroy its chemical weapons will exceed $15 billion[12], one can estimate that at least half that amount is required to complete the Russian program. There is only one source for such funds: the wealthier governments on the Eurasian landmass.

There is no disagreement on this point. The Conference on Dismantlement and Destruction of Nuclear, Chemical and Conventional Weapons in Bonn in 1996, jointly sponsored by NATO, the Foreign Office of the Federal Republic of Germany,

and the German Federal State of North Rhine-Westphalia came to exactly this conclusion. The conference was well represented by all affected parties and devoted a majority of its time to the chemical problem. Joachim Krause, deputy director, Research Institute of the German Society for Foreign Affairs summarized the situation accurately in his concluding remarks:

'How does it come that European and Japanese efforts in this field are virtually dwarfed by the US programs? […] There is nothing on the side of the Europeans that could – even if everything is added together -- come close to the huge US effort. I always hear European politicians complaining about the increasingly inward looking US Congress and the lack of interest in international affairs. I wish we had at least one single parliament in Europe which would show the same degree of international responsibility as the US Congress did in this field -- and I wish we had parliamentarians such as Senators Nunn and Lugar, who made such concerns a matter of priority.'

The problem is not obtaining agreement. The problem is finding the funds.

To date, setting aside (1) the American contribution, (2) the Russian contribution in real and in kind, and (3) the funds promised by Japan to remove chemical weapons left behind in China in the aftermath of World War II, less than $20 million have been earmarked for Russian chemical demilitarization. In a world facing global economic recession and with recent major shifts in the governments of France, Germany, Italy, and the United Kingdom, public expenditures to tidy up the mess in other lands left over from the Cold War, is not politically appealing. Nonetheless, it is economically correct and environmentally necessary. A way must be found. The United States is more than willing to lead the search, or not to lead the search, but the funds must be found, or all will be the poorer. At this point, the journey to full chemical dismantlement seems long indeed, but the way is clear. Unfortunately, the tolls are high, and the money is nowhere to be found.

Appendix: The Chemical Weapons Convention[13]

The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, commonly called the Convention, was negotiated over a period of 20 years before it was concluded and opened for signature in Paris in January 1993. Concurrent bilateral negotiations and activities between the Russian Federation and the United States in the late 1980s and early 1990s facilitated completion of this historic Convention, and the United States and the Russian Federation were among the original 130 signatories to it.

This Convention bans the development, production or other acquisition, stockpiling or retention, transfer, use or preparations to use chemical weapons; and it requires the destruction of chemical weapons stockpiles and chemical weapons production facilities. Moreover, it monitors the production of chemicals that have been or could be used to produce chemical weapons.

A key element of the Convention is a comprehensive verification regime composed of declarations of past chemical weapons activities and current stocks and facilities, and inspection and verification of their status and destruction; and declaration and monitoring of peaceful uses of chemicals that have been used or could be used to produce chemical weapons.

The Convention entered into force in April 1997, six months after ratification by the 65th State Party, having benefited from over four years of work by a Preparatory Commission established to carry out the necessary preparations for the effective implementation of the Convention. Both the United States and the Russian Federation were key participants in this process.

Upon entry into force, the States Parties formed an Organization for the Prohibition of Chemical Weapons (OPCW) in The Hague to implement the Convention. A Technical Secretariat was established to accomplish day to day support for the OPCW governing

bodies made up of the member states, and to execute the Convention verification regime.

The OPCW and its component bodies have been operating for almost a year and a half now, supporting their currently 114 member states. Another 54 countries have signed, but not yet ratified, the Convention. Again, the Russian Federation and the United States, as the only two originally acknowledged possessors of chemical weapons, are full, and key, representatives in these bodies and the Convention process.

This unique, nearly universal, arms control treaty is the first to ban an entire, particularly onerous, category of weapons of mass destruction. Central to its effectiveness are faithful, full declaration of chemical weapons programs, stockpiles, and means of production; confirmation of the declarations; destruction of the chemical weapons and their means of production; and effective verification of this process. The United States, the Russian Federation, and to this date 166 other countries have forsworn the use, stockpiling, and production of any sort of chemical weapons, and have committed to the effective destruction of the stockpiles and the means of production.

The Russian Federation and the United States have submitted their initial declarations, undergone Technical Secretariat initial inspections to confirm these declarations, and are undergoing systematic verification of their stockpiles, their means of production, and the destruction of both. Both countries have expended considerable effort and resources to close their production facilities and begin to destroy them, to initiate and continue the destruction of the chemical weapons stockpiles, and to host the Technical Secretariat verification inspections of these facilities and their closure and destruction.

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[1] Dr. Smith was the Assistant to the Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs from June 1993 to January 1998. The views reflected herein are those of the author and do not, necessarily, reflect the position of the Government of the United States.

[2] An appendix to this article provides more detail regarding the terms of the Convention.

[3] Russia has declared that it has 40 thousand tons of chemical weapons located at seven sites; the USA has 30 thousand tons located at nine sites.

[4] The fiscal year for the government of the United States is from 1 October of the preceding year to 30 September of the year cited.

[5] Direct management of CTR was the responsibility of Major-General Roland Lajoie (US Army retired) who was ideally qualified for this important assignment and did a superb job. He has retired from government service and has been replaced by the very able Brigadier General Thomas Kuenning (US Air Force retired). Mr. Kevin Flamm, then, and now Mr. Paul McNelly were directly responsible for all matters related to Russian chemical weapons.

[6] OSIA, the acronym for the On Site Inspection Agency, was established by General Lajoie in 1988 and is now part of the Defense Threat Reduction Agency or DTRA.

[7] Brigadier General Walter Busbee (US Army now retired) was the program manager of the US chemical demilitarization program and a valued player on the CTR team.

[8] This paper is not the proper vehicle for the telling of the tale, but all are advised to listen should the opportunity arise.

[9] The description of *gentlemen* is intentional and accurate. They have become more than valued colleagues; they are, in fact, good friends. Without their friendship and leadership, there would be no program.

[10] Neutralization followed by biodegradation will be employed at Aberdeen, Maryland and by super critical water oxidation at Newport, Indiana.

[11] It has been proposed, for example, that the chemical agents could be subjected to the environment of an underground nuclear explosion, a seemingly simple, but in fact, extremely hazardous operation including transportation of the weapons to the underground site. The suggestion at this point is moot because the Comprehensive Test Ban Treaty expressly forbids nuclear explosions.

[12] This sum does not include the cost to destroy the non-stockpile weapons whose destruction, wherever they are found, is required by the CWC.

[13] The appendix was prepared by Mr. Dirk Wychoff of DTRA who is the manager for implementation for the USA of the CWC.

Interview

IGOR VALYNKIN: WE WON'T LET ACCIDENTS LIKE THAT OF NOVAYA ZEMLYA REPEAT

[This article was originally published in Russian in *Yaderny Kontrol*, No. 6, November-December, 1998]

Colonel-General Igor Valynkin, head of the 12th GUMO (Main Directorate of the Russian Ministry of Defense), was interviewed by Victor Litovkin. In his exclusive interview to *Yaderny Kontrol Journal*, he said that '*Russian nuclear weapons are under effective control*.'

'All rumors about insecurity of our control over the nuclear arsenal arise in periods of political instability in Russian society with one practical end in view: to convince the international community that the country is unable to maintain nuclear safety and security. Hence, there is allegedly an urgent need for international supervision, like what happened in Iraq,' stated Colonel-General Valynkin.

At the same time, the 12th GUMO objects, which serve as storage facilities for the warheads of strategic, substrategic, tactical and cruise missiles, torpedo missiles, and air bombs with nuclear charge, nuclear mines and artillery-fired atomic projectiles, are under vigilant surveillance by both Russian and, in a way, American military experts. As we were told by Gen. Valynkin, one of our nuclear technical bases, known as "*Object C*," was visited in summer 1998 by Commander-in-Chief of the US Strategic Command General Habiger. According to Valynkin, he was satisfied with the level and quality of the object's protection.

The US top military official even had a chance to see the hypothetical battle, staged by the officers in charge of nuclear munitions protection. The *terrorists* (special Federal Security Service (FSB) unit) were trying to capture the nuclear technical base, whereas its guard, supported by mechanized infantry units of the given military district, repelled *enemy* attacks.

Gen. Valynkin cited Mr. Habiger, who had even told the Russian MOD leadership and then reiterated at the hearings in the US Congress that the level of nuclear safety and security at Russian military bases somehow surpasses that of American army. However, the United States provides for a considerable amount of assistance to the Russian military in equipping the aforesaid facilities with state-of-the-art surveillance and protection systems, of which Russia feels shortage, maintained the head of the 12th GUMO. Lately in the framework of the *Nunn-Lugar* Program, the country has received 300 computers, necessary to set up the system of automatic accounting of nuclear munitions. 'All the computers have been certified by Russian specialists,' said Valynkin, 'they have no bugs or any other hidden devices to obtain secret information. The software for the computer network of the 12th GUMO was developed in the heart of the Russian Defense Ministry as well.' Besides computers, the 12th GUMO has received five lie detectors to check the personnel of nuclear technical bases, five sets of equipment to discover drug addicts among these people, 100 specially protected carriages for transportation of missile warheads and 18 carriages for the guard accompanying the cargo. The aid amounts to $35 million but the United States has allocated the same sum to further strengthen and improve the *locks* at Russian nuclear objects.

The general said, 'Concerns of our strategic partners and other countries about the order and regime at our nuclear objects are quite understandable, especially if we take into consideration the emergency situations which occur at them rather often. For instance, hostages were taken at the *Novaya Zemlya* Test Range, guard were killed at *Mayak* plant in the Chelyabinsk region, a seaman committed suicide in the torpedo room of the Vepr atomic submarine.' Nevertheless, the head of the 12th GUMO is sure that all measures are being taken to prevent further accidents alike. He states with certainty that Russia with its 30,000-strong personnel of the special objects, 45% of which are commissioned officers, can on

its own provide for the security of the nuclear facilities.

According to General Valynkin, the Directorate has drawn serious conclusions from the emergency situation at Novaya Zemlya. Although the GUMO cannot instantly replace all 123 soldiers, natives of the Northern Caucasus, who will continue to serve till their demobilization, supervision has been tightened. The soldiers have no access to any special facilities or any other places where important devices and materials are stored.

Since autumn 1998 the enlistment of recruits in the 12th GUMO units has involved only young men *with unstained reputation* who have no criminal or any other suspicious record, are appropriately educated and are psychologically and mentally stable. From now on, that has become the personal responsibility of the local bodies of the Interior Ministry and Federal Security Service, and medical institutions. The recruits are also tested by the GUMO officers, who are in charge of personnel, before being permitted to guard the special objects or to do any other important work whatsoever. As Colonel-General Valynkin put it, the GUMO '*apply lie detectors and personnel selection methods used in many developed countries*.' '*We'll do our best to prevent a repeat of accidents such as that on Novaya Zemlya*,' he said.

Viewpoint

TOWARDS A NEW NUCLEAR ARMS LIMITATION TREATY (Negotiations Resume on Banning the Production of Fissile Materials for Nuclear Weapons)

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New important multilateral negotiations are due to begin in Geneva in January 1999. Following the conclusion of the Comprehensive Nuclear Test Ban Treaty (CTBT) in 1996, the Disarmament Conference was practically idle for two years. Now it embarks on negotiations to conclude a treaty to ban the production of fissile materials for nuclear weapons and other explosive devices (FMCT)[1]. An agreement on the start of such negotiations was reached at the Geneva Conference in August 1998. The Conference formed a special committee for the conduct of negotiations and agreed on its mandate.

The problem of FMCT has a long history. The idea of ending the production of fissile materials for military purposes as an important step toward nuclear disarmament was first put forward by Indian Prime Minister Jawaharlal Nehru in 1954[2]. In April 1964, at the initiative of the American side, the Soviet Union and the United States reached the first agreement on fissile materials when the leaders of the two countries, Lyndon Johnson and Nikita Khrushchev, announced cuts in the production of enriched uranium and plutonium for nuclear weapons and the future diversion of a large amount of fissile materials to peaceful purposes. British Prime

Minister Douglas Hume made a similar statement[3].

During the Cold War there was no question of halting the production of nuclear materials for weapons, but the issue was widely discussed in international forums and, at the insistence of many non-nuclear countries, the demand for a convention or a treaty on FMCT was repeatedly included in the UN General Assembly resolutions.

Hundreds of tons of fissile materials were stockpiled in the world during the nuclear era. According to prominent specialists in this field, David Albright, Frans Berkhout and William Walker, by the end of 1994 weapons-grade and energy plutonium stockpiles amounted to 1,160 tons (including 250 tons of weapons-grade plutonium) and those of highly-enriched uranium to 1,770 tons[4]. Energy plutonium is constantly produced by nuclear plants, and its stockpiles are steadily growing.

Following the end of the Cold War, the nuclear powers - Russia, USA, Britain, France and China - stopped the production of nuclear fissile materials for weapons. That made it possible to step up the study of the FMCT problem. An important milestone along that path was the UN General Assembly Resolution 48/75L passed unanimously in December 1993 in favor of signing a 'non-discriminatory and universally applicable treaty to ban the production of fissile materials for nuclear weapons or other nuclear explosive devices'.

In May 1995 the conference to review and extend the Nuclear Non-Proliferation Treaty passed a resolution on the "*Principles and Goals of Nuclear Non-Proliferation and Disarmament*" (which was a condition for the consent of non-nuclear states to an indefinite postponement of the treaty). It set an agenda in the field of nuclear disarmament that included '*immediate commencement and early conclusion of negotiations*' on FMCT[5].

But it took five years of arduous discussions at the Geneva Disarmament Conference to set up a special committee for the conduct of corresponding negotiations and to determine its mandate.

The difficulties stemmed from the fact that some states, notably Pakistan, Iran, Egypt, and Algeria, wanted the negotiation mandate to include the issue of existing stockpiles of fissile materials. India and some nonaligned states, on the other hand, sought to link the FMCT and the problem of nuclear disarmament, insisting on a tight schedule for disarmament measures. Neither option suited the nuclear powers and many other countries.

Paradoxical though it may seem, it was only after India and Pakistan staged nuclear tests in May 1998 that the logjam was cleared and on August 11 the Disarmament Conference decided by consensus to establish a special committee for FMCT.

The decision to form the committee was delayed because of the position of Israel, which reportedly feared that the FMCT could '*undermine its deterrence policy based on ambiguity*' and put it under pressure to reveal the amount of fissile materials it produced and allow intrusive inspections of the *Dimon* facility in the Negev desert. It was also reported that as a result of consultations between the USA and Israel the latter agreed to the start of FMCT negotiations, but this does not mean that it committed itself to agree with the outcome of the negotiations[6]. The Israeli representative at the Geneva Conference, Lamdan, said in the wake of the decision to set up a special committee that his country '*reserved its position on the substance of the issues*' pertaining to the FMCT[7].

From the above it is obvious that the FMCT committee faces formidable problems both of substance and of procedure as it begins its work. From the outset the delicate question of who will chair the committee will have to be decided. Given the large number of members of the special committee (61), the role of the chairman can turn out to be highly influential. Let us recall that chairmen had in many ways a decisive say in the negotiations on the Chemical Weapons Convention and the Comprehensive Nuclear Test Ban Treaty.

All the five nuclear powers, in their joint statement of April 28, 1998 at the session of the preparatory committee for the 2000 NPT conference, stated unambiguously their commitment for early achievement of FMCT and pronounced themselves in favor of an early start of the negotiations.

In the Moscow declaration "*On Establishing a Constructive Partnership Between the Russian Federation and Japan*" signed on November 13, 1998, President Yeltsin and Prime Minister Obuchi declared that the two countries 'would promote cooperation in [...] the development of the treaty to ban the production of fissile materials for nuclear weapons and other explosive nuclear devices'.

Russia and the USA, in addition to actively dismantling their nuclear devices[8] and discontinuing the production of fissile materials for nuclear weapons, have announced in a joint statement by Presidents Yeltsin and Clinton of September 2, 1998, the commitment to remove 50 metric tons of plutonium each from their nuclear weapons programs and to '*process it to make it impossible to use the plutonium in nuclear weapons*'. It has been agreed that interim storage of the material will be required. The two presidents also declared: 'Recognizing that the amount of such plutonium will increase as further arms cuts proceed, measures on handling it and diminishing its stockpiles will become an important element in the effort to ensure that the process of arms cuts is irreversible and are necessary for preventing the proliferation risk.'[9].

Along with these measures on plutonium, Russia processes large amounts of highly-enriched uranium into low-enriched uranium.

Britain for its part declared its stockpiles of nuclear materials in civilian and military sectors in 1998 and said it intended to put part of these materials under Euratom and IAEA safeguards (as part of the agreement with the Agency on voluntary submission of civilian nuclear activities for verification).

The negotiations will have to grapple with the exceedingly complex problem of monitoring compliance with the treaty. Russia and the United States, as Presidents Yeltsin and Clinton announced in their joint statement of September 2, are already starting to develop 'acceptable transparency methods and technology, including corresponding international verification measures and rigorous standards of physical safety, verification and accounting in handling the plutonium' released from nuclear military programs.

The participation in the FMCT by Israel, India and Pakistan is likely to present considerable (probably the greatest) problems.

What would be the implications of a ban on the production of fissile materials for nuclear weapons for strengthening the international nuclear nonproliferation regime and movement towards nuclear disarmament?

First, the FMCT would establish an international legal norm to set a limit on the increase of nuclear arsenals. Although the states already possessing stocks of fissile materials could in principle use these stocks to manufacture nuclear weapons, they would have no right to increase the amount of such materials. That would lay the legal foundation for further nuclear disarmament measures. It would mark a practical contribution by all the nuclear powers to their compliance with Article VI of the Non-Proliferation Treaty.

Second, the FMCT treaty is the most realistic of all the possible approaches to reducing nuclear weapons on a multilateral level. The solution of this issue is overdue.

Third, the five nuclear powers and three threshold countries would be covered by an international norm set by the NPT for non-nuclear states that bans the production of fissile materials for nuclear weapons.

Fourth, the three threshold countries would make a major step toward joining the international nuclear nonproliferation regime.

Fifth, for the first time a universal and non-discriminatory system of guarantees and verification covering nuclear, threshold and non-nuclear states would be established. That would lay the foundation for future comprehensive international monitoring of nuclear disarmament.

Sixth, FMCT would make more effective the systems of accounting, verification and physical protection of nuclear materials worldwide, which is currently a priority in the nonproliferation field.

Seventh, the conclusion of FMCT and even (in the absence of a final agreement) real progress on the way toward such a treaty would demonstrate that the nuclear powers are honoring their pledge given at the 1995 NPT conference to take that important step which brings humankind closer to a nuclear-weapon-free world. That would lay the foundation for a successful NPT-2000 conference and, consequently, for further strengthening of the entire nuclear nonproliferation regime.

What are the main problems that the negotiators will have to tackle in the process of preparing the treaty? Some preliminary thoughts on that score are expressed below.

First of all, the scale of the ban should be agreed upon. Although the UN General Assembly has unambiguously recommended that the treaty should ban the production of fissile materials for nuclear weapons, it can be said with a fair degree of certainty that some countries (for example, Pakistan and Egypt) for understandable reasons will try to include provisions that would bring the existing stockpiles of such materials under the treaty. The Pakistani representative, Akram, said at the Disarmament Conference on July 30, 1998, shortly before the special committee was set up, that Pakistan would '*seek the solution of the problem of unequal stockpiles*' of fissile materials which '*may undermine nuclear deterrence stability*' [10].

It is also obvious that most participants in the negotiations, including all the nuclear powers, will be vigorously opposed to expanding the agreement to cover their stockpiles. Only the practical course of negotiations will show how strong a stand the advocates of bringing existing stockpiles of nuclear materials under the treaty will take. A compromise is hardly a realistic option, unless the treaty were to reflect, for example, in the preamble or as an ultimate goal the objective of liquidating all the stockpiles of weapons-grade nuclear materials or guarantees that such materials will never be used for nuclear weapons.

Hopefully, the negotiators will be mindful of the important circumstance that Russia and the USA, which have the largest stockpiles of weapons-grade fissile materials, over a number of years have been taking steps to remove plutonium and highly-enriched uranium from their nuclear weapons programs and have agreed on further steps in that direction. Britain has been making some steps in that direction as well.

In identifying the concrete nuclear materials whose production is to be banned, the negotiators will have to agree what materials these will be and even on their isotope composition.

As for plutonium, the production of weapons-grade plutonium for nuclear weapons must undoubtedly be banned. Because the treaty will regulate only the ban on the future production of such plutonium, the disposal of stockpiles and the plutonium released from arsenals, in our view, must be placed outside the agreement and addressed outside its framework.

Another issue to be considered is what to do about energy plutonium. A simple nuclear explosive device can be made from such plutonium[11]. The USA even detonated such devices in the 1960s by way of experiment. But energy plutonium is used to manufacture MOX fuel and is widely used in nuclear plants and will be used increasingly in the future for peaceful purposes. So the question arises whether any restrictions should be imposed on such plutonium.

There exist fundamental international accords that declare such utilization of plutonium to be practicable. Nine countries

that use plutonium (Russia, the USA, Britain, France, China, Belgium, German, Japan and Switzerland) have agreed on guidelines for handling plutonium, providing for the publication of annual reports on plutonium stockpiles[12] to ensure greater transparency, raise safety standards and improve physical protection, and cover with IAEA safeguards the excess plutonium of the five nuclear powers released as a result of nuclear cuts[13]. In setting targets for plutonium for FMCT, the negotiators should take into account existing ideas about the handling of plutonium.

With respect to uranium, it would be necessary to determine what levels of uranium enrichment should be banned for production. Highly-enriched uranium is considered to be uranium containing more than 20% of uranium-235. But highly-enriched uranium is widely used in research reactors and nuclear-powered submarines and this must be taken into account. Consequently, for the purposes of FMCT, uranium with higher than 20% degree of enrichment will be subject to a ban. Uranium-233 could be used to create nuclear explosives. It is produced by exposure to radiation in a nuclear reactor by torium-232, but that uranium isotope has no practical uses.

The negotiations may also touch upon the question of tritium, which is not a nuclear material but is used in nuclear warheads with gas boosting. Tritium is also used in controlled thermonuclear fusion research. Because tritium's half-life is about 12 years, nuclear and perhaps threshold states will hardly be enthusiastic about the proposed ban or any restrictions on tritium. International accords already provide for limitations on tritium. The nuclear suppliers group has included tritium in the list of dual-purpose materials covered by agreed-upon international rules of control over sensitive materials export.

A serious stumbling block for the negotiators will be monitoring compliance with FMCT. The UN General Assembly resolution of 1993 speaks of a non-discriminatory FMCT, which implies international verification in all the signatory countries, including the nuclear powers as well as Israel, India and Pakistan. But the specific features of the nuclear powers and the need for strict compliance with obligations under NPT must be taken into account in order to prevent the leakage of sensitive information that could lead to the proliferation of nuclear weapons. Consequently, in drafting the main provisions of FMCT a differentiated approach will have to be applied of necessity.

Russia, the USA and the IAEA are taking concrete steps to apply Agency controls to fissile materials originating from weapons. In September 1996 the Russian Atomic Energy Minister, the US Energy Secretary and the Director General of the IAEA agreed to hold trilateral consultations. These consultations have already reported some progress, although some issues still remain to be solved.

If one looks at things realistically, the question may arise of fixing standards and verification procedures for threshold states which already possess nuclear explosive devices that take into account their status and would prevent the proliferation of data on the design of nuclear devices.

Two options (or two stages) of verification are possible: 1) to establish control over all fissile materials produced prior to the effective date of the treaty from the outset, but that would call for highly intrusive and costly control; and 2) first to apply safeguards for the enterprises which process, and enrich, and store these materials, and at the second phase consider bringing all the earlier produced fissile materials under control. Such a phased approach appears to be more practical because it would make it possible to deploy the verification system gradually and therefore more rationally and cheaply.

As for non-nuclear participants in NPT, the provisional articles of FMCT should be based on comprehensive IAEA safeguards (INFCIRC/153) along with the recently agreed additional protocol under "*Program 93 + 2*" (INFCIRC/540).

The negotiators would also do a useful job by considering the feasibility of applying the Euratom and ABACC safeguards.

The idea of dividing non-nuclear countries into groups based on whether they present a major proliferation risk and whether a more rigorous verification regime should be applied to them can hardly be recognized as acceptable[14]. FMCT should be non-discriminatory and cannot be based on double standards. The only legitimate exception from that rule is the need to take into account the standards set under the Nuclear Non-Proliferation Treaty that are fully in line with international law.

An international verification agency will have to be created to monitor compliance with the treaty. We believe it is a foregone conclusion. The existing international nuclear energy agency, IAEA, already possesses unique potential to monitor compliance with FMCT - legal, technical and human - and extensive experience in applying safeguards, including enterprises for the processing of contaminated fuel and uranium enrichment. It is likewise obvious that its functions will have to be enlarged to match the additional or new tasks the treaty may set.

The UN General Assembly Resolution 48/75L already urges the international Agency to assist in the development of verification procedures for the treaty. By way of preparing the Agency for performing the new functions which will inevitably call for additional outlays for guarantees, the idea of creating a Nuclear Arms Control Verification Fund which has been put forward by its Director General Mohamed ElBaradei is being discussed.

The advantage of using the Agency to monitor compliance with FMCT would be that the governing body of IAEA, the Board of Governors, now comprising 35 members, has in its more than 40-year history proved to be effective and able, including as the Agency's authorizing body for monitoring compliance with NPT.

Vesting the IAEA with verification functions for FMCT would in the long term contribute to consistent building up of an international nuclear disarmament verification agency, an idea first considered at the dawn of the nuclear era in the 1940s. That period saw the publication of the *Acheson-Liliental* report (March 1946), the *Baruch* Plan (June of the same year), Soviet proposals on a nuclear weapons ban (June 1946), and the establishment of international control (June 1947) which could not be implemented at the time because the Cold War was gathering momentum. But in the current dramatically changed situation there is a real possibility of going back to a search for ways to establish international control over nuclear disarmament.

A major test for the negotiators will be the discussion of the issue on the participation of states in the treaty and the terms of its enactment. The question of which countries will have to be parties to FMCT may turn out to be a central problem. The General Assembly Resolution of 1993 described the treaty as universal. Presumably, that meant that the treaty should cover all countries possessing fissile materials suitable for building weapons or capable of producing such materials if the treaty had to make any sense at all. As witnessed by the process of introducing similar multilateral agreements -- the Non-Proliferation Treaty and the Nuclear Test Ban Treaty -- the procedure of enactment is a fundamental and a very complex issue. Under its terms, the NPT was to be enacted upon ratification by 48 states, including three depositaries (the USSR, the USA and Britain) and 40 other countries which were not named in the treaty. The treaty was enacted in less than two years and now numbers 187 members, almost the entire world community. True, India, Pakistan and Israel have not joined NPT, but it was clear to the negotiators from the start that none of these countries would join.

CTBT is to be enacted upon ratification by 44 states, all of which are named. Two years into the process only 10 of these states have deposited their instruments of ratification. They include Britain and France. The treaty is stuck in the US Senate, and the Russian executive branch has not even submitted CTBT for ratification by the State Duma.

So, one should think twice before using the CTBT precedent for the new agreement. Perhaps it would make more sense to provide for mandatory participation of eight nuclear and threshold states while easing the conditions for enacting the new treaty.

These are only some of the questions that arise today and that will confront the special FMCT committee when it starts negotiating the new treaty. The negotiators will have a number of *hard nuts to crack*. In our view, pragmatic solutions leading to quick agreement on the treaty should be sought. What will be difficult to solve now should be deferred until future agreements. Beginning from 1963 (Moscow Treaty Prohibiting Nuclear Tests in the Atmosphere, Outer Space and Under Water) about ten international nuclear arms control and reduction agreements have been signed, temporary moratoria have been put into effect, and unilateral steps are being made. It is important to keep up the momentum.

In conclusion, it should be stressed that public opinion now plays an immeasurably greater role in the solution of arms control and disarmament issues. One would hope that Russian public opinion, the research institutes and centers, and the broad scientific community will take an active part in resolving the practical issues of the FMCT treaty.

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[1] The preferred abbreviation in English is FMCT, Fissile Material Cut-Off Treaty (treaty to ban the production of fissile materials). But it is not universally recognized because some states prefer a more neutral acronym, FMT, pending the solution of substantive issues.

[2] A. Schaper, A Treaty on the Cutoff of Fissile Material for Nuclear Weapons - What to Cover? How to Verify? Peace Research Institute, Frankfurt (PRIF), Report No. 48, July 1997, p. 5; G. Bunn, Making Progress on a Fissile Material Cut-Off Treaty After the South Asian Tests. *The Non-Proliferation Review*, Spring-Summer 1998, p. 78.

[3] The texts of the statements by the leaders of the three countries will be found in the *Collection of the Main Disarmament Documents*, Moscow, Vol. VII, 1964, pp. 79-83.

[4] D. Albright, F. Berkhout, W. Walker, *Plutonium and Highly-Enriched Uranium. 1996 World Inventories, Capabilities and Policies,* CIPRI, Oxford University Press, 1997, pp. 395-397. Other estimates put world stocks of highly-enriched uranium at 2,300 tons (*Nuclear Encyclopedia*, Moscow, 1996, p. 94).

[5] NPT-Conf., 1995/L5.

[6] *Disarmament Diplomacy*, August-September 1998, p. 21.

[7] CD/PV.802.

[8] According to reports, the two countries dismantled more than 18,000 warheads in recent years.

[9] The text of the joint statement was published in *Yaderny Kontrol*, No. 4, July-August, 1998, pp. 37-38.

[10] *Arms Control Today*, June-July, 1998, p. 27.

[11] The 1994 report of the US National Academy of Sciences entitled "*Management and Disposition of Excess Weapons Plutonium*" concluded that the state which would potentially embark on the road of proliferation could well create a simple nuclear explosive device from energy plutonium which would reliably have a yield of between one and several kilotons and a larger yield given an improved design (p. 33).

[12] All civilian plutonium stockpiles are included, namely: isolated plutonium, plutonium in non-contaminated mixed oxide fuel elements, plutonium in non-contaminated finished products, plutonium in the process of manufacture or production or in non-contaminated articles in process of manufacture or production.

[13] INFCIRC/549.

[14] This idea was tentatively suggested by Annette Schaper of the Frankfurt Peace Institute who proposed that such countries as North Korea, Iraq and Iran be put in a separate category. (A. Schaper, op. cit, p. 23).

Commentary

COMMENTS TO THE RESOLUTION No. 746 OF THE GOVERNMENT OF THE RUSSIAN FEDERATION OF JULY 10, 1998 ON ESTABLISHING THE RULES OF ORGANIZATION OF THE STATE SYSTEM OF NUCLEAR MATERIAL ACCOUNTING AND CONTROL

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The *Yaderny Kontrol Journal* issue No. 5, 1998 published the Resolution of the Government of the Russian Federation "*On Establishing the Rules of Organization of the State System of Nuclear Material Accounting and Control*". This comment draws the attention of the readers of the Journal to the main provisions of the above-mentioned resolution.

The Federal Law "*On the Use of Atomic Energy*" (referred to hereinafter as the Law) approved in November 1995 has defined the main requirements regarding the establishment of the state system of nuclear material accounting and control in the Russian Federation.

The Law contains the following basic provisions in the area of protection, accounting and control of nuclear materials.

- All nuclear materials shall constitute the federal property of the Russian Federation. The owners of nuclear materials shall exercise control over their preservation and appropriate use (Article 5 of the Law).
- The Government of the Russian Federation shall manage nuclear materials that constitute the federal property (Article 9 of the Law).
- The state accounting and control of nuclear materials shall fall within the competence of the managing authorities in charge of the use of atomic energy in accordance with their regulations (Article 20 of the Law).
- The nuclear materials shall be subject to state accounting at federal and agency level within the state system of nuclear material accounting and control with a view to determine the existing quantity of these materials in their locations, to prevent their loss, misuse, or theft, and to provide information to the state authorities and managing authorities in charge of the use of atomic energy and state security regulatory bodies on the presence and relocation of nuclear materials, as well as on their export and import. The procedures for the establishment of the state system of nuclear material accounting and control shall be determined by the Government of the Russian Federation (Article 22 of the Law).

The above-mentioned provisions of the Law stipulate that the state system of nuclear material accounting and control should ensure the possibilities for the federal executive authorities entrusted with appropriate powers to exercise the functions of management of nuclear materials in federal property.

In accordance with the Law and the plan of preparation of draft legislative and other regulatory legal acts, required for the implementation of the Law, approved on March 12, 1996, by the instruction of the Government of the Russian Federation, the Ministry of Atomic Energy has developed in 1996-1997 jointly with other interested federal executive authorities and organizations and approved in the Government of the Russian Federation the main legal documents that expand the above-mentioned provisions of the Law in the area

of protection, accounting and control of nuclear materials. First of all, these documents include:

- *Concept of the State System of Nuclear Material Accounting and Control* (Resolution No. 1205 of October 14, 1996)
- *Rules of Physical Protection of Nuclear Materials, Nuclear Installations, and Nuclear Material Storage Facilities* (Resolution No. 264, dated March 7, 1997)
- *Regulations of the Ministry of Atomic Energy of the Russian Federation* (Resolution No. 392 of April 5, 1997)
- *Rules of Organization of the State System of Nuclear Material Accounting and Control* (Resolution 746, dated July 10, 1998)
- Resolution of the Government of the Russian Federation No. 1117, dated September 15, 1998 "*On a Special State Agency Authorized to Sign Contracts for the Transfer of the Federal Property Nuclear Materials for the Use by the Legal Persons*".

These documents contain the following main provisions on the legal status of the Ministry of Atomic Energy, which shall:

- be defined as a federal executive authority that exercises the state management of the use of atomic energy;
- be authorized to sign contracts for the transfer of nuclear material in federal property for the use by the legal persons;
- be defined as a state contractor for the works in connection with the establishment and operation of the state system of nuclear material accounting and control;
- act as the managing authority of the state system of nuclear material accounting and control at the federal level;
- ensure the interaction of the federal authorities, executive authorities of the constituent territories of the Russian Federation, and organizations that have within their institutional framework the nuclear hazard facilities, for the enforcement of state control and accounting of nuclear materials, and their physical protection;
- act as central state authority and a contact point in accordance with the provisions of the International Convention on the Physical Protection of Nuclear Material, and as national competent authority for the implementation of the obligations of the Russian Federation to the International Atomic Energy Agency and other international organizations in the area of physical protection of nuclear materials;
- ensure the creation of the federal automated information system of state accounting and control of nuclear materials;
- ensure state accounting and control of nuclear materials at federal and agency level with respect to organizations that conduct the activities in the area of production, use, processing, storage and transportation of nuclear materials.

As it was stated in the *Comments to the Federal Law on the Use of Atomic Energy*, the absence of appropriate legal framework has raised concerns not only among the population of this country, including people working in the atomic industry, whose rights in this area were not protected, but also the concerns of the international community.

It is our hope that the publication of the legal instruments adopted in 1996-1998 in the area of accounting, control and protection of nuclear materials will partially alleviate the concerns on the following key issues.

1. Who can conduct economic activities involving nuclear materials and what rights and opportunities exist during the current process of redistribution of state property, which was formerly called socialist property?

The degree of this concern is in direct proportion to the price of nuclear materials at domestic and international markets, however, the scope of this concern is limited by persons and entities that are involved, to that or another extent, in the activity in the area of the use of atomic energy.

2. How to create an efficient system of measures that would prevent the possibility of uncontrolled development of nuclear weapons or

theft of nuclear materials and nuclear technologies?

In a situation of political instability and armed conflicts between and within the countries this issue acquires a special sense of urgency.

3. How to ensure an efficient and irreversible process of nuclear disarmament in Russia?

This issue, naturally, is a matter of concern for our international partners and *in the first place,* the United States of America and the European Union, which, since 1994, have provided special financial assistance to nuclear facilities of Russia for the conversion of their defense-oriented activities, as well as for protection, accounting and control of nuclear materials.

The Law and the resolutions of the Government of the Russian Federation adopted on its basis have preserved the state monopoly on the production, storage, use, and export of nuclear materials. All activities associated with the state management of nuclear materials, and their protection, accounting and control fall within the competence of the Ministry of Atomic Energy as the federal executive authority of the Russian Federation that exercises the state management of the use of atomic energy. This is the main answer to the above-mentioned questions.

The accounting for nuclear materials at the enterprises and organizations that are conducting activities with nuclear materials has been and is carried out presently '*on the basis of money equivalent of natural measurement indicators*' in accordance with the book-keeping and accounting regulations in the Russian Federation. The improvement of accounting and control at the enterprises and organizations consists in the application of advanced high-precision methods of evaluation of physical characteristics of nuclear materials during their inception, transfer and inventory. The reporting to the superior bodies on the presence of nuclear materials at the enterprises and organizations should be based on the measurement data.

The main goal of the establishment of the state system of nuclear material accounting and control is to organize the classification of appropriate data at federal and agency level, which is not an easy task in the light of the present circumstances.

First, it is necessary to give the authorization of the Government of the Russian Federation to federal ministries (Ministry of Economics, Ministry of Transport, Ministry of General and Professional Education, Ministry of Defense, Ministry of Science and Technologies, Ministry of Public Health) and the Russian Academy of Science to exercise the state management of the use of atomic energy at the enterprises within their institutional framework involved in the production, use, processing, storage, and transportation of nuclear materials. The absence, thus far, of such functions in the regulations of the above-mentioned ministries has provided them with legal basis not to carry out state accounting and control of nuclear materials in their subordinate organizations.

Second, it is necessary to create an efficiently operating and stable mechanism of funding for the development and use of modern technical means of measurement, collection, processing and transfer of information and professional training for accounting and control that would ensure the functioning of the state system of nuclear material accounting and control. The attempt to obtain funding from the state budget for this goal through Special Federal Program "*On the Development and Application of the State System of Nuclear Material Accounting and Control*" has been bogged down at the final stage of getting approval of the Russian financial authorities.

The current situation with funding cannot persist for a long time. Not waiting for a better budget for that branch of civil service, there is an urgent need to work out mechanisms of self-financing through the establishment of special funds.

These structures will provide financial means for the development and normal functioning of the state system of control and accounting

of nuclear materials. The issues of top priority are elaborating and introducing into practice the legal acts on accounting and control, and solving the problems of system as a whole. At present, the work is under way to draft the set of federal and ministerial acts, containing norms, rules, methods of measurement, technical requirements, forms of presenting data, procedures for information exchange and decision-making.

The earliest establishment of the federal automated information system of state accounting and control of nuclear materials is one of the essential tasks.

The Federal Automated Information System of Accounting and Control of Nuclear Materials (FAIS UK YaM) is considered to be the combination of interrelated institutional units and technical means that would ensure the collection, processing and use of information in the area of accounting and control of nuclear materials in the Russian Federation in accordance with the established rules and procedures. All units participating in the system will be assigned specific missions and functions associated with the accounting and control of nuclear materials, appropriate volumes of information and formats of data presentation, and rules and procedures for information exchange.

FAIS UK YaM will include:

- data analytical centers for gathering and processing information at nuclear installations and nuclear material storage facilities;
- data analytical centers at the operating facilities;
- data analytical centers at the agency level;
- data analytical center at the federal level;
- subscribers of different data analytical centers.

The technical support of FAIS UK YaM will be based on modern hardware and software for information processing; electronic, magnetic and other information media, and modern means of telecommunications and information protection.

It is also intended to create the following databases:

- institutional and technical information on nuclear installations and nuclear material storage facilities with reference to their operating organizations and agencies;
- quantitative characteristics of nuclear materials (including special non-nuclear) and their distribution by nuclear installations and storage facilities;
- metrological support for accounted materials;
- regulatory documents;
- organizational, technical and factographic information to prevent illicit trafficking of nuclear materials.

Some data will have an international status. These databases will include the following:

- Database containing the information on cases of illicit trafficking of nuclear materials, which is created in order to assist the law enforcement agencies and international organizations, as well as to provide the information to the public. The creation of this database is fully consistent with the efforts of the IAEA in the development of an international Illicit Trafficking Database, and the goals of the Ministry of Atomic Energy as the central state authority and a contact point in accordance with the provisions of the International Convention on the Physical Protection of Nuclear Material. The Department of Security of Information, Nuclear Materials and Facilities of the Ministry of Atomic Energy has started to establish and use this database.
- Database on nuclear material identification characteristics intended for the interagency and international use in the event of arrest of nuclear materials of unknown origin by the law enforcement agencies. Scientific and technical support and the establishment of this database is a prospective task for long-term international cooperation.
- Database for scientific and technical support and professional training in the area of accounting, control and protection of nuclear materials, which will contain an electronic version of the encyclopedia

of methods of destructive and nondestructive assay of materials and a catalogue of the existing measurement instruments.

It is intended to improve the existing institutional network of information analytical units of the Ministry of Atomic Energy and assign them with additional tasks and functions.

The development of instrument building industry for measuring physical characteristics of the materials during their inception, transfer and inventory, as well as for improving containment measures and control over transportation is another important area in the establishment of the state system of nuclear material accounting and control. The scientific research with a view to develop appropriate requirements, improve methods of measurement, ensure the instrument quality, and to create the standards, as well as metrological research and certification testing of instruments have been conducted in this area under technical assignments of the Ministry of Atomic Energy.

The system of metrological support encompasses the development, testing, production, and operation of instruments, and the standards and equipment used for certification, verification and calibration. This industry has acquired a wide experience that can ensure the high level of metrological characteristics of instruments of different types in the process of their development, production and operation. The methods of in-built self-control and diagnosis of failures, sampling, and statistical control of technical characteristics of instruments have been widely used in the process.

The legal framework of instrument building industry includes the standards, general technical requirements, guidelines, and rules and regulations that stipulate the modern requirements to the development, production and use of instruments, including the software applications, equipment and technologies, control and assessment of their quality and safety.

In accordance with the Law, the technical means used in the nuclear activities are subject to mandatory certification. The basic provisions of the system of certification of equipment, products and technologies for nuclear installations, radioactive sources, and storage facilities were developed and approved in 1998 by the Minister of Atomic Energy of the Russian Federation, the Chairman of the State Committee of the Russian Federation for Standardization, Metrology and Certification, and the Head of Federal Nuclear and Radiation Safety Supervision Agency of Russia.

It should be noted that despite economic difficulties the industry did not stop the development of new technical means for nuclear material accounting and control. A number of new devices for measuring and controlling physical characteristics, monitors and other devices for controlling the transportation and containment of nuclear materials have been developed in 1996-1998.

These comments have touched upon only some of the basic issues of the creation of the state system of nuclear material accounting and control provided for in the Resolution of the Government of the Russian Federation "*On the rules of Organization of the State System of Nuclear Material Accounting and Control*", within the terms of reference of the Ministry of Atomic Energy.

The tasks and functions of the Federal Nuclear and Radiation Safety Supervision Agency of Russia, the Ministry of the Interior of the Russian Federation, the State Customs Committee of the Russian Federation and other organizations within the state system of nuclear material accounting and control require additional comments.

PIR – CENTER FOR POLICY STUDIES IN RUSSIA

PIR is the acronym for the Russian words *Policy Studies in Russia*. The PIR Center is a non-profit, independent, Moscow-based research and public education organization, which was founded in July 1994. Although its name and flexible structure permits it to conduct research on a wide range of issues related to Russian foreign and domestic policy, the Center is currently focusing on **international security, arms control and civil-military relations issues** that are directly related to the situation in Russia. It is considered to be the leading Russian non-governmental organization working in this area. In March 1997, the PIR Center was registered as *autonomous non-profit organization*, following the requirements of the Law on Non-Profit Organizations of the Russian Federation.

That the PIR Center which is registered and based in Russia, is a Russian non-governmental organization is important for two reasons. **First**, being a Russian organization, it avoids the current tension between Russian officials and foreign non-governmental organizations, which are conducting research and working on international security issues related to Russia. **Secondly**, in the present situation when Russia is trying hard not to copy the political experience of the West and is seeking its own roots and models, a Russian non-governmental organization is more likely to bring about needed changes in Russian policies and political practices than a foreign one.

The PIR Center has the following **objectives**:

- to make information on security issues available to the public and to distribute this information to the general public and experts via newsletters, journals, and study papers;
- to independently analyze the most urgent international security issues from a Russian perspective; and
- to educate Russian decision makers, legislators, young researchers, and students in the areas of international security and arms control.

Leading Russian and international experts in the area of arms control and nonproliferation contribute their articles to the Center's publications or have contracts with the Center to work on one or more research projects. The target audience of the Center's journals and reports includes Russian policy makers, legislators in the Federal Assembly, and experts, as well as the decision-making communities of the CIS. Therefore most of the study papers and reports are in Russian.

Located in the South-West of Moscow, the city's academic center, the PIR Center is a small and flexible non-profit institute working on the most challenging issues on the international security and arms control agenda. Financial support comes from various sources including foundations (The Ford Foundation, The John D. & Catherine T. MacArthur Foundation, The W. Alton Jones Foundation, The John Merck Fund, The Ploughshares Fund, and others), the private sector, and the consulting and publishing projects of the PIR Center itself. The organization has tax exempt status in Russia and the USA.

The Executive Board of the PIR Center, or the **Executive Council,** is composed of Dr. Vladimir **Mau,** Prof. Yuri **Fyodorov**, and Dr. Vladimir **Orlov,** Director of the PIR Center.

Research projects include:

- Nuclear Nonproliferation & Russia.
- The Future of Nuclear Weapons.
- Tactical Nuclear Weapons and Prospects for Their Reductions.
- NBC Terrorism: New Challenges for Russia's security.
- Ways to Improve Physical Protection of Nuclear Warheads and Fissile Materials in Russia.
- Sensitive Exports and Export Controls in Russia: legal, political, and enforcement aspects.
- Destruction of Chemical Weapons in Russia: Political, Financial, and Technological Aspects.

Information-oriented projects include:

- *Nuclear Russia* Database.
- *Arms Control Letters* from Russia on the Internet.
- Assistance to the National Press Institute in publishing a newsletter for the Moscow-based and regional journalists on nuclear safety.

Educational Projects include**:**

- Educational Program on Arms Control and Nonproliferation Aimed at Legislators and Staff of the State Duma.
- Program "*Legal, Political, and Economic Aspects of Nonproliferation and Nuclear Security*" for the graduate students of the Moscow Engineering Physics Institute (MEPhI).

Conferences, **seminars and workshops** sponsored or co-sponsored by the PIR Center, held in Moscow, have taken place in the *Metropol, National, Danilovski,* and *Bor* hotels and have covered the following topics:

- Comprehensive Test Ban Treaty (CTBT): Problems of Ratification and Enforcement in the Changing Environment (December 1998).
- Ratification of START II and Prospects of Elaboration and Conclusion of START III (October 1998).

Journals:

- *Yaderny Kontrol (Nuclear Control):* international security, arms control, and nonproliferation. Published six times a year in Russian.
- *Digest of the Russian Nonproliferation Journal Yaderny Kontrol (Nuclear Control):* selected analytical articles from *Yaderny Kontrol*. Published three times a year in English.
- *Voprosy Bezopasnosti (Security Issues Newsletter):* executive intelligence review. Includes commentary and prognosis on foreign policy, national and international security, military affairs, and defense policy. Published bi-monthly in Russian. Distributed by express mail, courier, or e-mail.

Study Papers:

- Study Papers No.8. *Nuclear and Missile Programs of Iran and Russian Security Policy: Russian-Iranian Cooperation and Export Controls*. By Ivan Safranchuk, PIR Research Fellow. October 1998.
- Study Papers No.7. *Reform of the Armed Forces and Civil-Military Relations*. By Prof. Yuri Fyodorov. March 1998.

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