International Security
Nonproliferation
Arms Control

DIGEST OF THE RUSSIAN JOURNAL

YADERNY KONTROL

(NUCLEAR CONTROL)

Volume 5, № 1

Winter 2000

PUBLISHER: PIR - CENTER FOR POLICY STUDIES IN RUSSIA

Moscow, 2000

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YADERNY KONTROL
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International Security. Nonproliferation. Arms Control.

Volume 5

N 1 (13)

Winter 2000

Published four times a year since 1996

Contains selected analytical articles from *Yaderny Kontrol*, a journal published in Russian six times a year

Printed in Russia

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Subscriptions worldwide (Russian and English editions): please, send requests to fax +7+095-234-9558 or e-mail: info@pircenter.org. Checks or wire transfers. Express mail delivery.

Circulation:
Russian journal: 2,000 copies
English Digest: 800 copies
Signed for printing
on December 3, 1999

- The editors wish to express special thanks to the Center for Nonproliferation Studies at the Monterey Institute of International Studies for making this publication possible through its support of the PIR-Center for Policy Studies in Russia

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Editorial

THE WORLD COMMUNITY SHOULD FORM A UNITED FRONT AGAINST A NEW WAVE OF TERRORISM

The situation in the North Caucasus and terrorist explosions in Moscow forced Russian society to seek new methods of countering terrorism in its various manifestations. The social concern about easy ways of conducting terrorist acts resulted in the understanding that the main challenges to Russian national security would come not from the USA or NATO (as one might think analyzing military expenditures) but from instability in the south of Russia. The public realized the danger of limited armed conflicts.

Russia has to face the most complicated type of terrorism - unselective terrorism, which chooses its objects to provide maximal intimidation of the population, to undermine morale and to destroy the political will of the elite. Under such circumstances, Russia will have to work out a social psychological pattern, which should influence public consciousness and will reduce, if not prevent, the cases of terrorism. This doesn't mean promoting a climate of suspicion and slander. We advocate reasonable caution and attentiveness.

Most desirable would be to de-politicize terrorism, to deny the terrorists excusable motives for their activity. All political parties and movements of the country should come to an agreement that terrorism is an absolute evil, and neither living standards nor a fight for ideals should call into question the right and duty of the Government to struggle against terrorism using the severest methods. Unfortunately, Russia lacks such a unity of intentions.

The current wave of terrorism results from the stirring up of non-governmental groups of the world system. In recent years, the international community has found itself confronting the international Islamic movement, whose activities have become a global security challenge and replaced existing Islamic non-governmental organizations. Another threat is the Taliban movement combining the ideology of radical Islam with a strong Pashtun nationalism. The world has to fight against international drug dealers, who directly affect the decision-making process in some European states (this was clearly demonstrated by the developments in the Balkans), and to face the challenges coming from other religious and ethnic entities of sub-national or transnational character.

For the representatives of these sub-national non-governmental groups, terrorism is one of the ways to let the world know about their existence; to assert their claims, since they have no opportunity to achieve their goals within the framework of a state. In these circumstances, the most dangerous thing would be the lack of unity within the international community. Unfortunately, we witness a situation where the illegal activities of sub-state groups are used to pursue political goals. This is true with respect to the loyal NATO attitude to the drug-traffickers of the Kosovo Liberation Army, Western *flirting* with the Chechen secessionist movement, and moral support to the Kurdish Labor Party on the part of the Russian political elite, although the Kurds were involved in drug trafficking and terrorism.

In fact, these processes are even deeper. They mark the emergence of a multi-polar world, which is so highly praised in Russia. The emergence of a multi-polar system is an objective trend of the world development in the last decade of the XXI century. However, it has to overcome the resistance of the USA and other members of the UN Security Council's exclusive *club*, who don't want to concede some of their rights and to make the change of *status quo* in world politics more predictable, dirigible and painless for the Great Powers. This process of creating a multi-polar world order has found other ways of military-political and geopolitical implementation. In its fight against terrorism and other challenges the international community should not forget the genuine roots of this extremism.

Hot Topic

75% OF RUSSIANS STAND FOR NONPROLIFERATION

by Ivan Safranchuk,
PIR Research Associate

Translation into English. Abridged version

The PIR Center is conducting the research "*Examining Attitudes of Russians towards Nuclear Weapons*" in cooperation with the Center for Nonproliferation Studies of the Monterey Institute of International Studies. This research is the first of its kind in Russia. Within the framework of this research project, we have just conducted an all-Russian public opinion poll. The poll covered 1,500 people in 56 localities, within 29 regions of the Russian Federation, in all economic-geographical zones.

The results of the poll will be thoroughly analyzed in a PIR Study Paper, which will come out in early 2000. The respondents were asked more than 20 questions concerning nuclear nonproliferation, nuclear arms reduction, nuclear terrorism, and Russian nuclear policy. Unfortunately, it is impossible to cover all results of the poll in this article. This is why it's main objective is to present the most thought-provoking results relating to nonproliferation problems.

We will therefore examine answers to three of the questions:

- Will the world be more stable if the number of nuclear weapon states increases?
- Should Russia transfer its nuclear weapons and technologies to other states?
- Is nuclear theft from Russian nuclear facilities possible or not?

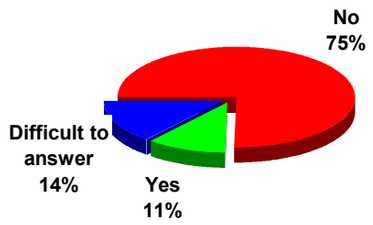
Will the World Be More Stable if the Number of Nuclear Weapon States Increases?

The results of the poll demonstrate that Russians generally support nonproliferation. 75% believe that the world will not be more stable if the number of states possessing nuclear weapons increases. It is somewhat alarming that 11% think that the world will indeed become more stable with proliferation, while 14% found it difficult to answer this question.

The percentage of those predicting a more stable world is nearly the same among men and women: 11% and 10% respectively. At the same time, there is a substantial difference among those presuming that nuclear arms proliferation would make the world less stable (80% of men and 72% of women).

Women are not as clear about the problem of proliferation as men, since nearly one fifth of them has no particular opinion on the matter. When we correlate this fact with the evidence that fewer women predict that proliferation

Will the world become more stable if the number of nuclear weapon states increases?



will lead to global instability, a striking conclusion can be drawn: women believe less enthusiastically than men in the advantages of nonproliferation.

The answers given by two of the age groups (18-29 and 40-59) were nearly the same. 75% of each group supposed that the world wouldn't be more stable if the number of nuclear weapon states increased. 13% (18-29) and 12% (40-59) shared the opposite view, while the respondents of the two other age groups were even more pacifistic: 8% of those over 60 and 9% of those between 29 and 39. The latter group (29-39) demonstrated the largest percentage of nonproliferation supporters (81%) in comparison with other age groups and the average figure. Moreover, this group comprised the smallest number of those finding it difficult to answer (10%). 73% of senior citizens (over 60) are sure that the world won't be more stable. 20% of seniors hesitated to answer, and this was the largest number among all the age groups.

Thus, the 29-39-year old respondents are most inclined to share nonproliferation values, while as much as one fifth of the older generation has no particular opinion on this matter.

The answers concerning nonproliferation significantly depend on the level of education of the respondents. For instance, 81% of the people with higher education believe that the world won't be more stable if the number of states possessing nuclear weapons increases. This can be compared with 74% of the respondents with secondary education and 64% of the people with only primary education.

The share of those believing that the world will be more stable if the number of nuclear weapon states increases is nearly the same across all educational groups. (11% of all respondents, ranging from 8% to 12% depending on the level of education; incidentally, 11% of people with higher education share this view).

However, the level of education does influence the number of those hesitating to give an answer. They amount to 14% of all respondents, 9% of people with higher education, 14% - with secondary education, and 28% - with only primary education.

Thus, the opinion on nuclear nonproliferation and the level of education are correlated in the following manner: the higher the level of education, the fewer the number of people who find it difficult to assess the consequences of nuclear nonproliferation and the larger the number of those sharing nonproliferation values. At the same time, the share of those who believe that global stability will be strengthened through proliferation is not subject to fluctuations and accounts for 10%.

The inhabitants of small provincial towns answered in nearly the same manner as the citizens of big towns and cities (including Moscow and St. Petersburg). 77-78% of town inhabitants (78% from megalopolises and 77% from big and small towns) believe that nuclear arms proliferation won't make the world more stable. The number of their opponents increases depending on the type of locality (9% in small towns and 14% in Moscow and St. Petersburg). On the contrary, the number of those hesitating to answer decreased in the big cities (14% in small towns and 9% in Moscow and St. Petersburg). In rural areas, this figure was even greater (19%), while 72% believed that the world wouldn't become more stable with proliferation and 10% believed it would. Thus, there are more proponents of nonproliferation in towns than in villages.

The number of nonproliferation opponents is nearly the same in all political groups (8-10%), except Yevgeny Primakov's voters (13%).

On the contrary, the number of nonproliferation supporters differs from politician to politician. The highest figure is 87% (Sergei Kiriyenko's followers); then 83% of Alexander Lebed's and Grigory Yavlinsky's adherents. The smallest number was among Yevgeny Primakov's proponents (74%). The quantity of those finding it difficult to answer also varies. The extremes here are 5% of Sergei Kiriyenko's voters, 7%

of Grigory Yavlinsky's voters and 8% of Alexander Lebed's voters against 16% of Gennady Zyuganov's followers.

It turns out that the supporters of Sergei Kiriyenko, Alexander Lebed and Grigory Yavlinsky tend more strongly towards nonproliferation values than others, while Yevgeny Primakov's followers are the least nonproliferation-oriented. It is noteworthy that the opinion of two radical political groups - Gennady Zyuganov's and Vladimir Zhirinovsky's adherents - was not outstanding and was very close to the average results among all respondents regardless of political preferences.

Should Russia Transfer Its Nuclear Weapons and Technologies to Other States?
78% of the Russian population are against transferring Russia's nuclear weapons and technologies to other states. 14% are happy to let this happen, while only 8% find the question difficult to answer.

favor of the transfer of nuclear arms and technologies. While the average figure is 15-17%, the senior group accounted for only 8%. Only 5-7% of people in all age groups found it difficult to answer, although among those over 60 this figure amounted to 14%.

Regardless of education, the number of opponents of such transfer amounts to 77-80%. In fact, this figure increases with the level of education of respondents (77% - primary education; 78% - secondary education; 79% - secondary specialized education; 80% - higher education). However, this data don't enable us to draw any conclusions about a stable correlation between the answers and the level of education, since a 3% range may result from normal statistical error (2.5%).

Meanwhile, depending on the level of education, the number of those supporting such transfer varies (9% - primary education; 13% - secondary education; 15% - secondary specialized education; 18% - higher

Should Russia transfer its nuclear technologies and weapons to other states?

The men were more enthusiastic about transferring nuclear arms and technologies - 17%, compared with 11% of the women. The share of those opposing such transfer is nearly the same (77% and 80% respectively), while more women were indecisive on the matter (10%, against 6% of men).

77-79% of respondents in all age groups support the prohibition of the transfer of nuclear arms and technologies under any circumstances. At the same time, age considerably affects the number of those in

education). There is a strict correlation between the level of education and the number of those finding it difficult to answer (14%, 8%, 6%, 2% respectively).

Thus, there is a clear linkage between the answers and the level of education. As the educational level increases, the number of those hesitating to answer is decreasing while the share of supporters of nuclear transfer is growing significantly. At the same time, variation in the number of opponents of nuclear transfer is negligible. Thus, public

opinion on this matter will change slightly as the level of education of society increases: the same number of people will oppose the transfer of nuclear weapons and technologies, while an increasing number will support such transfer.

13% of the inhabitants of Moscow, St. Petersburg and megalopolises believe that nuclear transfer should occur, 82-84% are against this, while the number of those finding it difficult to answer is low (3-6%).

As far as small towns and rural area are concerned, 78-80% are against transferring nuclear arms and technologies to other states. More supporters of such transfer live in villages than in small towns (15% and 9% respectively), while the number of uncertain respondents varies (7% in villages; 11% in small towns).

It is noteworthy that the inhabitants of big cities painted a different picture. 18% of them back the transfer of nuclear technologies and weapons (more than in the rest of the groups, and above average) and 74% are against it (less than in the rest of the groups, and below average).

Hence, the answers vary from group to group, although there is no direct correlation. The data doesn't enable us to make any unequivocal conclusions, though one can presume that people in megalopolises support the non-transferal actively and more than others.

Grigory Yavlinsky's and Yevgeny Primakov's voters gave nearly the same answer to this question (14-15% of transfer proponents against 79% of opponents; 5% and 7% uncertain, respectively). Gennady Zyuganov's followers share a similar view (14% against 78%). Moreover, the opinion of these three political groups is close to the total results (figures concerning Gennady Zyuganov's voters correspond perfectly).

The largest number of transfer supporters is found among Sergei Kiriyenko's voters (18%). At the same time, they account for the biggest figure of nuclear transfer opponents.

The difference in views with respect to political preferences is not sufficient to draw any particular conclusions. The number of transfer proponents is nearly the same in all political groups (13-15%), except Yury Luzhkov's voters (11%) and Sergei Kiriyenko's adherents (18%).

The share of transfer opponents does not seriously depend on political preferences and amounts to 79-83%. 4-7% of respondents find it difficult to answer (the only remarkable figure is Sergei Kiriyenko with his group: 2%).

Is Nuclear Theft from Russian Nuclear Facilities Possible or Not?

The gap between the answers of men and women is 1-2%, which corresponds with a normal statistical error. Hence, it is possible to presume that men and women gave the same answer to this question.

The respondents of two age groups (18-28 and 40-59) answered in a similar manner: 82% believed that the theft was possible while 11-12% thought that it was impossible. This nearly corresponds with the results of the senior group (60 years or above), which were 79% and 10% respectively.

The situation is different with those aged between 29 and 39. 89% of them are sure of the possibility of nuclear theft, 8% believe the opposite, and the number of those finding it difficult to answer is the lowest among all age groups. One should bear in mind that this group is the most active from the point of economy and its activities are often connected with the circumvention of established rules, petty violations of the law, etc.

The people with secondary, secondary specialized and higher education answered similarly to one another. 84-86% of them assume that the leakage of nuclear material is possible, while 9-11% don't think the situation to be that gloomy. As far the primary education group is concerned, 75% believe in the possibility of nuclear theft, 13% are more optimistic and 13% (the largest number among all educational groups) find it difficult to answer.

The answers didn't depend on the type of locality (the gap is negligible): 82-83% are pessimistic and 10-12% are optimistic. The only astonishing figure relates to the inhabitants of Moscow and St. Petersburg: 91% believe in the possibility and only 3% disagree with this.

The percentage of those assuming the possibility of nuclear material theft is nearly the same across all political groups and is very close to the average results: 83-86%. The extremes are Sergei Kiriyenko's voters (90%) and Yury Luzhkov's followers (only 80%).

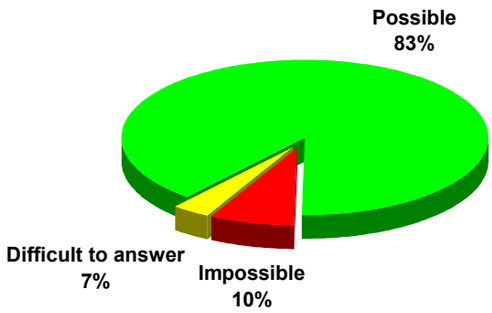
The share of those sure of the impossibility of nuclear material leakage is practically the same among Gennady Zyuganov's, Yevgeny Primakov's, Alexander Lebed's and Grigory Yavlinsky's adherents: 8-11%. Sergei Kiriyenko's voters stand apart (5% believe that it is impossible to steal nuclear material in Russia). On the contrary, Vladimir Zhirinovsky's and Yury Luzhkov's supporters give the opposite results (15 and 16% respectively).

The number of those hesitating to respond didn't vary much: 5-8%, which is quite a low result. The answers of Vladimir Zhirinovsky's voters were even more impressive - only 2% had no particular opinion on the matter.

So, only 10% of respondents are sure that nuclear theft from Russian nuclear facilities is impossible. This result is extremely low. At the same time, only 7% find it difficult to answer (or even 2% in some groups), what reflects the firm public opinion on this issue.

Nonetheless, we presume that 83% believe in the possibility of nuclear material theft not because they know how and where to do this, but due to a Soviet stereotype - it is allegedly possible to steal practically everything from one's working place. The majority of the respondents may follow this logic, thinking 'If it is possible to steal a telephone or all necessary construction materials from my office or my enterprise than why can't the nuclear facility employee steal some nuclear material from his plant!' This conclusion is proved by the fact that the number of those believing in such illegal actions with respect to fissile material is more in the economically active and mobile population groups, members of which have an everyday experience of violating laws and regulations (which is often a prerequisite for successful economic activity in modern Russia). The pensioners and the respondents with low educational level were less afraid of

Is nuclear theft from Russian nuclear facilities possible or not?



this danger, since they are the least active and enterprising group.

The analysis of answers concerning nonproliferation issues enables us to come to certain conclusions. The Russian population on the whole supports nonproliferation. The most important correlation is that between the answers and the level of education. Therefore, the problem of nonproliferation values and culture depends on the problem of access to appropriate information and the availability of this information. As the educational level increases, the number of hesitating to answer decreases and the share of nonproliferation supporters grows.

The nonproliferation values are shared mostly by those who believe that Russia needs nuclear weapons. 78% of Russia's nuclear arsenal supporters think that the world won't be more stable if the number of nuclear powers increases. Only 71% of Russia's nuclear arms opponents believe in this. Meanwhile, the latter have more people finding it difficult to answer (20% against 11% of nuclear arms proponents).

Both opponents and proponents of proliferation back START II ratification by Russia. 60% of the nonproliferation-oriented public supports the treaty, while 25% are against its ratification (49% and 35% of the proliferation-oriented respondents respectively).

The supporters of nuclear proliferation have more people presuming that foreign states may attack Russia using nuclear weapons (57% against 51% of nonproliferation advocates).

Other Results of the Poll

The answers to questions about US plans to develop its national missile defense system proved to be some of the most thought-provoking results of the poll. 54% of respondents had no previous knowledge of American NMD plans, 25% had heard something about them before, and only 16% claimed to be properly aware of the problem. When asked what measures Russia should take in response, if the US plans in the area of missile defense are implemented, 54% supported the development of Russia's own NMD system, 32% preferred to reduce the threat to Russia by diplomatic means and only 8% backed the build-up of Russia's strategic nuclear forces (the course declared by the Russian military-political Establishment as the most probable Russian response to the US plans).

55% of Russians support START II ratification while only 25% are against it. However, 72% believe that the USA will implement only those provisions of nuclear arms reduction treaties that are beneficial to Washington.

86% expressed fears that nuclear weapons in the hands of international terrorist groups may be used against Russia. 10% think that such an attack is improbable. And only 4% found it difficult to answer this question, which indicates that the overwhelming majority of the population is concerned about the issue of nuclear terrorism. The possibility of nuclear attack on the part of terrorist groups seems more serious to Russians than the possibility of nuclear aggression on the part of foreign states (52% raised their concern about such aggression). However, Russians are even more worried about the possibility of sabotage against the nuclear sites themselves (nuclear power plants, nuclear munitions storage facilities, etc.). 90% of the respondents expressed such a fear.

77% of Russians support the wording contained in the *Concept of National Security* – '*nuclear weapons play a decisive role in providing national security*'. At the same time, 18% (or nearly one fifth) believe that Russia doesn't need nuclear weapons at all.

Russians seem to back the idea of complete nuclear disarmament. For instance, 57% of respondents think that the world will be more stable if all nuclear weapons are eliminated. 34% share the opposite point of view. Senior respondents (60 years or older) surprisingly contain the largest number of supporters of complete nuclear disarmament - 67% of them believe that the elimination of all nuclear weapons in the world will contribute to international stability. Here there is a stable correlation between the answers and the age of respondents. Only 49% of the young (18-28 years old) believe in a more stable world resulting from elimination. This figure amounts to 55% of people aged 29-39 and 56% of people aged 40-59.

More proponents of the Russian nuclear status are to be found among people with higher education than in other population groups.

The political preferences, in general, had practically no impact on the answers to the questions posed by the poll. However, it turned out that supporters of Grigory Yavlinsky (leader of the *Yabloko* party and faction, candidate for the presidency in 1996 and would-be candidate at the 2000 presidential elections) are more inclined than others to believe that Russia needs nuclear weapons (85% of them share this view).

Yury Luzhkov's voters have the most *pacifist* intentions (only 73% of them think that Russia needs nuclear weapons).

Followers of Sergei Kireyenko (former Prime Minister and one of the right-wing leaders participating in the parliamentary elections) are strongly against nuclear arms proliferation. As we mentioned above, 87% of them are sure that the world won't be more stable if the number of states possessing nuclear weapons increases (compared to 76% of all respondents, who share this point of view).

The majority of voters supporting Vladimir Zhirinovsky (leader of the Liberal-Democratic Party and corresponding faction in the parliament) believe that the Russian nuclear arms should be permanently targeted at certain states (54%). However, amongst the supporters of all the other politicians, only a minority shares this view.

It turned out that the supporters of Gennady Zyuganov (leader of the Communist Party of the Russian Federation and corresponding faction in the parliament) give the least backing to the idea of US-Russian nuclear parity. About 23% of them maintain that Russia must have the same number of nuclear weapons as the USA (in comparison with the followers of other politicians, no less than one third of whom advocate this idea). At the same time, 31% of Gennady Zyuganov's voters are sure that Russia needs more nuclear weapons than the USA. Moreover, his supporters account for the largest number of START II opponents.

Yevgeny Primakov's followers demonstrated their distrust of the USA in the area of implementing nuclear arms reduction treaties - 79% of them don't believe that the USA will act fairly in the fulfillment of the agreements.

PIR Center News

Winter 1999-2000

1999, October 5. The PIR Center held a regular Research Council meeting on "*The Safe Storage of Nuclear Weapons in Russia and Disarmament Problems*".

Researcher of the Center for Energy and Environmental Studies at the Princeton University Joshua Handler made a report on "*Russian Nuclear Weapons Storages and Dismantlement Rates: Implications for Future Arms Control Proposals and Co-operative Programs for Nuclear Weapons Security*".

In his report, Mr. Handler touched upon the following topics:
- the Russian weapons storage capacity;
- the withdrawal from deployment and dismantlement rate of Russian nuclear weapons;
- the implications these factors have for START II, START III, de-alerting measures, the CTR program, and transparency.

PIR Senior Advisor Colonel-General (ret.) Yevgeny Maslin, former head of the 12th GUMO of the Russian MOD, commented on the matter.

In the course of informal discussion, the participants touched upon the problems of the safe storage of nuclear munitions, the prospects of continuing negotiations on nuclear disarmament, the de-alerting measures, and other issues.

Vladimir Frolov (MOD), Vladimir Belous (*RAU*-University), Alexander Kalyadin (IMEMO), Vladimir Novikov (RISI), Andrei Zobov (*Russian Nuclear Society*), Anatoly Dyakov (MPhTI), Ivan Safranchuk (PIR Center), and others delivered reports on the matter. Among other participants were Valery Menshchikov (Security Council), Sergei Prokhorov, Yury Zabaluyev (MOD), Vladimir Shmelyev (the *Kurchatov* Institute), Alexander Nikitin (Center for Political and International Studies), Sergei Zelentsov (Minatom), and others.

1999, October 30-31. The PIR Center and the London-based International Institute for Strategic Studies (IISS) held the international conference "*Nonproliferation Policies: Shaping Agenda for the Coming Decade*" in the Moscow *Proton* hotel.

The conference united leading experts in the area of WMD nonproliferation and arms control from Russia and Great Britain, representatives of France, Sweden and the Netherlands as well as the governmental structures concerned, non-governmental experts, and journalists.

The conference assessed new challenges to the international WMD nonproliferation regime; studied the NPT state-depositaries preparation to the 2000 NPT Review Conference; analyzed the prospects of the CTBT entering into force and the problems of negotiating the FMCT; and touched upon the export control issues, the interdependence between arms control and nuclear nonproliferation matters, and the regional aspects of nonproliferation. The conference set forth proposals on expanding the assistance to Russia in the area of nuclear threat reduction and in the sphere of strengthening nuclear security, above all on the part of European states.

The following participants delivered their reports and made comments: Michael Davenport, British Embassy in the Russian Federation, John Chipman, IISS, Terence Taylor, IISS, Gile Andreani, IISS, Paul Schulte, British Ministry of Defense, John Badley, HM Customs and Excise, Neil Harper, British Ministry of Commerce and Industry, Vladimir Frolov, Russian MOD, Marina Belyaeva, Minatom, Vladimir Dvorkin, 4th TsNII of the Russian MOD, Pavel Podvig, Center for Disarmament, Energy and Environment of the MEPhI, Natalya Kalinina, Government Staff, Dmitry Evstafiev, PIR Center, Arzamat Kulmukhametov, MFA, Valery Semin, MFA, Roland Timerbaev, PIR Center, Vladimir Orlov, PIR Center, Yevgeny Maslin, PIR Center, Ivan Safranchuk, PIR Center.

Among other participants of the conference were Andrei Zobov, Russian Nuclear Society, Oleg Grinevsky, Monterey Institute of International Studies, Nikolai Voloshin, Minatom, Vasily Lata, PIR Center, Yury Polyakov, Council of the Federation, Valery Prozorov, General Staff Academy, Mikhail Shelepin, Diplomatic Academy of the Russian MFA, Pavel Zolotarev, Inter-Regional Public Foundation in Support of the Military Reform, Dmitry Litovkin, *Krasnaya Zvezda*, Alexander Zarubin, Security Council of the Russian Federation, Sergei Belov, RISI, Richard Nystrom, SIPRI (Sweden), Robert Schuddeboom, Dutch Embassy in the Russian Federation and others.

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1999, November 11-12. The PIR-Center for Policy Studies in Russia and the Center for Nonproliferation Studies (Monterey, USA) held a seminar for Russian specialists on "*Nonproliferation and MPC&A Sustainability*".

Minatom addressed the opening session of the seminar emphasizing that First Deputy Minister of Atomic Energy Valentin Ivanov 'attaches tremendous importance to the cause of developing US-Russian cooperation and devotes much of his energy and power to solve the problems of nonproliferation. First Deputy Minister V.B. Ivanov is sure that the seminar will make a significant contribution to building confidence and developing partnership between our countries and hopes that the practice of holding such seminars will continue.'

US Assistant Secretary of Energy Dr. Rose Gottemoeller delivered an introductory report. She pointed out that 'to efficiently solve the problems of nonproliferation originating from hundreds of metric tons of Russian weapons-usable nuclear material, it is necessary to promote close cooperation between the USA and Russia to create a solid basis for long-term functioning and sustainability of MPC&A systems in the Russian Federation. In this respect, the work should follow several directions. First of all, the joint US-Russian program on material consolidation and conversion will help to maintain the security of Russian fissile material, to define the resources allocated to solve this problem efficiently and to reduce

long-term operating costs. Secondly, it would be reasonable to prefer a way of modernizing security systems which does not require huge financial spending on operation and maintenance. Thirdly, it necessary to conduct joint activities in the area of training skilled personnel capable of taking responsibility for modern MPC&A systems. Fourthly, we should work at developing a technical and personnel infrastructure to operate the MPC&A systems, capable of producing and maintaining the equipment used in these systems.'

In the course of two-day discussions the seminar touched upon, among others, the following issues "*Problems of Nuclear Nonproliferation and New International Challenges*", "*Developing a Culture of Nonproliferation and MPC&A Sustainability at Large Enterprises*", "*The Role of Education and Training*", "*The Role of Technology and Methodology*".

The list of participants included Yury Volodin, Gosatomnadzor (Moscow), Nikolai Pogojin, MEPhI (Moscow), Eduard Kruchkov, MEPhI (Moscow), Alexander Tolstoi, MEPhI (Moscow), Vasily Glebov, MEPhI (Moscow), Oleg Peskov, VNIIA (Moscow), Alexander Izmailov, NPO *Eleron* (Moscow), Igor Bumblis, VNIIA (Moscow), Andrei Sviridov, VNIIA (Moscow), Stanislav Sergeyev, TsNIIAtominform (Moscow), Andrei Zuyev, *ISTA* company (St. Petersburg), Vladimir Yuferev, VNIIEF (Sarov), Victor Maltsev, VNIIEF (Sarov), Vadim Rayev, *Urals Electrochemical Combine* (Novouralsk), Vladimir Sirotenko, *Electrochemical Plant* (Zelenogorsk), Igor Goloskokov, *Siberian Chemical Combine* (Seversk), Gennady Tyurin, the *Krylov* TsNII (St. Petersburg), Fred Wehling, Monterey Institute of International Studies (USA), Carrie Smarto, US DOE, Sonia Ben Ouagrham, Monterey Institute of International Studies, NISRO (Kazakhstan), Roland Timerbaev, PIR Center, Vladimir Orlov, PIR Center, Yevgeny Maslin, PIR Center.

Summary

Yaderny Kontrol (Nuclear Control) Journal of the PIR Center for Policy Studies Volume 48, No. 6, November-December, 1999

Colonel-General (ret.) Fyodor Ladygin in his article "*Current External Challenges to Russian National Interests and Security*" argues that 'On the one hand, it is quite understandable that the state leadership is willing to abandon the policy of continuous long-term *para bellum* and to focus on creative peaceful activities. What's more, the Russian defense potential is weakening and the state possesses no resources to restore the military might in the near future. That's why senior officials should be cautious in using declaratory threats. On the other hand, top political and military leadership should be well aware of the realistic external security challenges, should know the scale and degree of danger. However, it should not always cry wolf, exaggerate its weakness, and terrorize the electorate. It would be more important for the state security if the Russian leadership assesses the realistic threats, takes them into account in pursuing the foreign policy, and deliberately and coherently takes all necessary measures to maintain the state defense might at the required level.'

The issue also contains a *Documents* section, including the Federal Law "*On Financing the State Defense Contracts for Strategic Nuclear Forces of the Russian Federation*", the *Protocol to the Agreement between the United States of America and the Russian Federation Concerning the Safe and Secure Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation*, the Federal Law "*On Amending Article 64 of the Federal Law on Nuclear Energy Use*". The issue includes an *Information* section.

Interview

VLADIMIR YAKOVLEV: *'STRATEGIC MISSILE FORCES ARE THE STATE SHIELD'*

[This article was originally published in Russian in *Yaderny Kontrol*, No. 6, Vol. 48, November-December, 1999]

On December 17, 1999, the Russian Strategic Missile Forces will celebrate their 40th anniversary. During these years the SMF evolved from nuclear truncheon to nuclear shield. Nowadays, Russian politicians consider the SMF to be the means of deterring external aggression, while the nuclear arsenal is no longer regarded as the means of limited nuclear war. However, the missile forces continue to develop, to upgrade their materiel and equipment, to improve command and control systems, and to commission new Topol-M ballistic missile system. The SMF have become a pioneer of the military reform initiated by Russian Defense Minister Marshal Igor Sergeyev.

Yaderny Kontrol Journal Staff Writer Dmitry Litovkin interviews Commander-in-Chief of the SMF Colonel-General Vladimir Yakovlev on the life and problems of the missile forces.

***YADERNY KONTROL:* What are the SMF today: a means of deterrence or an offensive force? What external and internal factors determine the future of the SMF and contribute to enhancing the capabilities of this Armed Service?**

VLADIMIR YAKOVLEV: I would like to say that at present the SMF are the state shield, although if necessary they may serve as the *Nemesis sword*. So, if we speak about further development priorities of this Armed Service, we should emphasize that they are directly connected with changes in the foreign policy environment and in the military-strategic situation in the world, which reached their climax in 1999. I mean further NATO expansion to the East, US claims for world leadership corroborated with enforcement measures, decreasing UN influence on the international processes, NATO attempts to ignore Russian national interests in the Balkans, and the expansion of unstable zones in the neighboring regions sharing borders with Russia. This, together with a number of other foreign policy factors, has dramatically changed the approach to the modern role and the terms of using various components of the Russian military might.

At present, the SMF increasing role results in maintaining deterrence politically. Perhaps, under current circumstances, we can speak about extended nuclear deterrence, taking into account that any armed conflict and any infringement of Russian national interests will involve the leading powers, including the USA. In this situation, an adequate response is impossible without demonstrating nuclear deterrence capabilities. However, we should not expect drastic improvements to the state of the Russian Armed Forces in the near future. The Russian economy can't create the necessary conditions for the fast build-up of combat capabilities. For instance, in 1998, the MOD received only half of the funds appropriated by the state budget. In fact, nearly all the funds were expended to cover maintenance costs of the Armed Forces. Expenditure on purchasing arms and equipment and conducting research and development (R&D) activities accounted to less than six percent of the allocated budgetary means.

Q.: What decisions does the SMF leadership take in order to possess the adequate response capabilities and to meet modern technical requirements in this difficult situation?

A.: We have a program of SMF development that relies on estimates of the current economic situation and takes into account its possible changes in the next decade (2000-2010). Our program complies with the documents providing for the key stages of the military reform till 2005, which have been approved by President Yeltsin. These are the *Concept of State Policy on Military Construction* and the Presidential Decree of November 10, 1998, containing the guide-lines for the prospective development of nuclear deterrence forces. In conformity with the

aforesaid provisions, the SMF command has chosen the appropriate priorities in further SMF development and their components' improvement.

We have two major tasks to accomplish for the SMF to succeed. The first is to complete the development and commissioning of Topol-M stationary and mobile missile systems. Despite the lack of funding, we managed to achieve certain progress in this area. In December 1998, the first missile regiment armed with Topol-M missile systems was on active duty. In accordance with the plans, we continue to test and up-grade the missile system and to carry out the modernization of another missile regiment. Hence, despite the slow pace of the process, the tangible basis for a prospective Task Force armed with advanced missile systems is being formed.

The other priority is to extend the existing missile systems' service life. Such an extension is a forced step in the state of uncertainty which exists with the implementation of strategic offensive arms reduction. Such a measure also creates conditions for gradual nuclear forces improvement at a pace corresponding with the capabilities of the modern Russian economy and military-industrial complex.

In this connection it is necessary to bear in mind the importance of START II ratification and the further elaboration and signature of START III agreements. In the current economic situation, only these measures can provide for balanced reductions in US nuclear warheads. In Russia the reductions are objective and occur naturally, resulting from Russia's limited capability to up-grade its aging weapons.

The major track in developing SMF space components is maintaining the orbital group at the level necessary to accomplish its current and future missions, i.e. to have at least 60-80 spacecraft. Moreover, we are planning to change the structure of carriers and to enhance the capabilities of land-based launching and control infrastructure. By 2005, only three types of space carriers out of seven will remain. We will develop new light space carriers on the basis of decommissioned SS-19 missiles and finish the modernization of Soyuz-2 and Proton-M carriers. The SMF will continue works to up-grade the existing and to develop new space systems for various purposes. The program provides for the infrastructure development of the *Plesetsk* space-vehicle launching site, which should replace the *Baikonur* site. The *Svobodny* space-vehicle launching site development is connected with the use of carriers produced from decommissioned ICBMs, i.e. Start-1, Rokot, and Strela carriers.

We will improve our aerospace defense by developing the characteristics and enhancing combat capabilities of the missile-attack early warning system, by controlling outer space and providing for missile defense by modernized and newly invented means. The SMF defense and information components will develop along with improving command and control system by increasing the level of automation. The pre-requisite of successful missile forces development is the coordinated improvement of command and control structures and the upgrading of major combat group elements.

Q.: At present, when the economic situation in the country determines the amount of funding for military reform, the SMF experience in integrating various military structures, which were accomplishing similar missions and pursuing similar strategic interests, may serve as an example of the army prospective development after the reform. How successful was this integration? What are the practical results and what goals have you failed to achieve?

A.: The Aerospace Military Forces (AMF) and Aerospace Defense Forces (ADF) integration into the SMF structure in 1997 enabled us to find tangible inner reserves to economize on maintenance, to reduce the troops' strength, and to optimize the structures preserving required combat efficiency.

According to our estimates, the optimization of the integrated Armed Service organization and the elimination of parallel and redundant military structures allowed us to economize 700 million rubles on maintenance

costs. This amount accounted for 10% of the SMF costs in 1998.

At the same time, the normal functioning of the SMF during this period proved their viability, controllability, and high degree of combat readiness. Despite severe financial restraints, the SMF managed to preserve the military training capabilities and to carry out its primary duties in a regular regime.

This year proved the necessity of amending systematically the decisions made in the area of military construction. First of all, this relates to the NATO military operation in Kosovo. The example of Yugoslavia demonstrated that the USA together with other Western states was deliberately working out the ways of conducting combat operations, which would be used in the armed conflicts of the next century.

The massed employment of aviation, long-range high-precision weapons, electronic countermeasures, and the use of the spacecraft information capabilities - all this has been actively practiced by the US military since the *Desert Storm* operation against Iraq in 1991. Moreover, the USA clearly determined the principal objects to be destroyed in the course of the conflict - key economic infrastructure facilities, major elements of the command and control system, means of communication, and transportation routes. NATO expansion to the East has drastically changed the balance of power on the theater of war and encouraged the use of tactical and operational-tactical weapons to accomplish strategic missions.

All these changes and innovations should be taken into account in the course of Russian military construction, above all, with respect to the strategic nuclear forces, military tactics and strategy, and the Armed Forces personnel training. Besides, there are a number of other aspects that should be born in mind, due to changes in the nature of future armed conflicts.

The current state of the Russian military organization requires the establishment of unified commands at different levels, which would be assigned with accomplishing a certain strategic mission. The first experience in this area (although not perfect) has been obtained through establishing operational-tactical commands on the basis of military districts' directorates. Another example relates to the strategic nuclear forces. Uncoordinated financing of the separate elements results in dissipation of funds, since the state has not determined the principal area of expenditures. We believe that this problem should be urgently addressed. However, so far this issue is only under discussion.

Q.: So, what is the modern SMF technical policy? What tasks, requiring a centralized government solution, do you consider to be the most urgent for the missile forces?

A.: Defense Minister Igor Sergeyev approved the *Plan of SMF Construction* until 2001 setting forth the main objectives, tasks, tracks of SMF development, and their minimal financing. We have laid down the *Program on Maintaining Technical Development of Aerospace and Missile Weapons*. This program provides for technical policy priorities in the area of maintaining existing, operational, offensive, defensive and informational strategic systems taking into account not only minimal financing but the assessed limitations on SMF funding in the future.

Naturally, we can't expect cardinal changes in defense expenditure today and a sudden increase. That is why we are seeking inner reserves to finance the implementation of the Plan's major provisions, and it is the core of command organizational activities. The *Program on Maintaining Technical Development* is based on the principle of preserving and maximizing use of the existing arms service life through conducting R&D and the practical assessment of the actual technical state. These activities will allow the service life of weapons to be extended and provide for nuclear safety and security, as well as maintaining Russian defense potential.

Hence, we will be able to preserve the SMF qualitative characteristics with minimal maintenance costs. The solution of this problem will encourage our activities on

modernization and qualitative build-up of the arsenal. The technical policy implementation should be based on two principles: unification and optimization. As for unification, we are planning to re-arm the ICBM units (to replace six various types of missile systems with Topol-M system) and to reduce the types of carriers to launch spacecraft from seven to three (Proton-M, Angara, Soyuz-2). In the case of ICBM units, we'll manage to cut launchers' maintenance costs by 32% per annum.

The program envisages the establishment of a unified arms ordering and purchasing system and a unified R&D plan to eliminate parallelism and to finance the top-priority projects and activities. We are planning to restructure the system of arms production and development to provide for the deeper cooperation of enterprises, which will ensure the defense contracts' fulfillment with 30%-reduced costs. The idea is to concentrate main R&D works at the most advanced and mighty scientific research enterprises with a high technical potential and to get rid of unprofitable and unpromising production facilities. In 1999, these activities helped us to economize 515 million rubles on the development and production of arms and materiel.

Another track of SMF new technical policy is the decision to raise the efficiency of decommissioned ICBM disposal. This process is complicated and requires substantial spending. According to expert estimates, a solid-fuel ICBM disposal costs 1.2-2.2 million rubles while a liquid-fuel ICBM disposal amounts to 300 million rubles. One of the possible solutions is to re-equip the decommissioned missiles and convert them into carriers for launching commercial spacecraft. For instance, on March 4, 1997, at the *Svobodny* site, the Russian MOD launched a Zeya spacecraft with the help of the Strela-1 carrier rocket based on RS-12M Topol missile. A Start-1 rocket can go into a 300-km orbit with 420 kg of payload. In December 1997, this rocket was used to launch a US satellite.

It is necessary to point out that the re-equipment of decommissioned ballistic missiles will be carried out through attracting foreign investments. For instance, the *Khrunichev* State Space Science and Production Center collaborated with German DASA in developing a Rokot carrier on the basis of the SS-19 missile, whose payload is 1.9 ton. SS-19 serves as a basis for Strela carriers developed at NPO *Mashinostroyeniye. Yuzhnoye* Design Bureau and PO *Yuzhmashzavod* use an SS-18 missile to construct a Dnepr carrier rocket with about 4-ton payload. The use of each decommissioned missile to launch spacecraft yields approximately 50-60 million rubles.

The technical policy efficiency is reflected in setting up a unified system to store and repair the SMF arms and materiel. The implementation of the program enabled the reduction of administrative staff (integrating AMF, ADF and SMF structures) and the list of technical documentation required for repairs. The use of experts, working at SMF principal repair plants, to repair AMF and ADF arms ensured the rational use of existing funds and enhanced the production capacity of SMF enterprises, which got new defense contracts and managed to prevent a drain of skillful personnel. We also create the SMF logistic support computer system providing for efficiency, reliability and flexibility of spare parts supplies to the troops. The calculations demonstrate that the establishment of unified complexes of spare industrial equipment will enable us to cut down regular purchases by 20-30%, and hence, to reduce shipment and storage expenditures. In these circumstances, the shortage of spare parts will go down by 25-30%.

One of the most important technical policy tracks is the establishment of a unified system to provide for arms operational safety based on the achievements of all three branches of a new Armed Service. The system will ensure nuclear and environmental safety of arms and equipment and will allow for reducing the SMF costs in this area.

What's more, the SMF and AMF used to conduct the ICBM tests independently, although the mission of missile test ranges

and space-vehicle launching sites was nearly the same. This problem will be also solved within the program framework.

Q.: Vladimir Nikolaevich, as far as I understand, this was an underlying cause for setting up a unified test range base at *Kapustin Yar* site, which would comprise the 10th *Balkhash* test range and the 11th *Emba* test range (both situated in Kazakhstan).

A.: Quite right. The *Kapustin Yar* site was designated to carry out tests for various Armed Services: the SMF, the Air Force, the Army ADA, the Navy, etc. Nowadays it's the most complicated structure among Russian test sites comprising *Kapustin Yar*, the 10th, and the 11th test ranges. The unification aims to clarify the amount of necessary works to develop the test range till 2005, for *Kapustin Yar* is used to implement about 130 various R&D programs to up-grade the arms and materiel characteristics. We should estimate how reasonable and promising these tests will be. In the USSR we could afford a large number of test sites and to conduct vast research activities. However, modification and unification of arms and materiel as well as the unification of R&D works require economical approach to financing, including expenditures on maintaining testing facilities.

At present, the number of research areas has decreased and we enjoyed the opportunity to concentrate a number of tests in one location in order not to depend on political moods in the neighboring state [Kazakhstan - **Ed**.]. We can now reduce the *Emba* site personnel strength. We should also bear in mind that Russia has to pay Kazakhstan $4.7 million annually to rent the *Emba* site, which constitutes a substantial amount of spending for the MOD.

The unification of test ranges' measuring systems and space-vehicle launching sites' measuring systems will provide for the optimization of organizational structure and technical facilities, increasing the cost-efficiency of testing activities. At the *Baikonur* launching site we'll reduce the number of measuring posts from seven to three. Personnel can be reduced to a third of its present strength, due to the use of new flight control methods and perspective telemetric data processing means. We plan to cut the number of existing technical means for measuring, information collection and data processing. The annual operational costs on the cosmodrome measuring system will decrease by three fifths of their current level.

Q.: START I and START II determine the SMF prospective development. Much will depend on the dialogue to review the ABM treaty provisions and to perform aerospace military activities. What is their impact on the SMF technical policy?

A.: First of all, let me emphasize the significance of the START treaties, which provide for preserving a US-Russian nuclear balance, i.e. the main factor of strategic stability. Without these treaties, it would seem unrealistic for Russia to maintain this balance even if the economy made efforts comparable to the World War II strain. We should certainly possess enough strategic arms to protect independence and territorial integrity but this task can be accomplished with less expensive means (political, diplomatic, or cultural).

The Helsinki summit agreements to extend the START II implementation by five years (reaffirmed in New York in September 1997 in an additional protocol) solve the problems of Russian MIRVed ICBMs' early destruction, and the extra costs relating to this process. The START II ratification by the State Duma will pave the way for concluding a new US-Russian agreement - START III, which will create favorable conditions for technical policy implementation in a climate of strict financial restraints.

Another important element is the 1972 ABM treaty with the *First* and *Second Agreed Statements*, and the *Statement on Confidence-Building Measures* of September 26, 1997. Besides limitations on the parameters of interceptors and target missiles, the agreements commit the parties not to deploy any tactical missile defense system that may pose a realistic threat to each other.

The START treaties and the ABM agreements shape a legal system aimed at maintaining strategic stability. However, other components of this system exist only in a feebly marked form. In our opinion, the next stage should be an agreement on the status of land-based missile-attack early warning systems.

Q.: Do you agree that to maintain strategic stability it is necessary to prevent a nuclear arms race in outer space?

A.: The maintenance of strategic stability is connected with the problems of counter-satellite measures and arms deployment in outer space. This problem first emerged in the course of US-Soviet negotiations in 1978-1979 but didn't lead to a diplomatic breakthrough in this area. The USA insisted on an agreement to eliminate existing anti-satellite systems and to prohibit their development and deployment. The USSR didn't agree with these proposals, because the prohibition was not supposed to cover the deployment of US space shuttles capable of conducting anti-satellite warfare.

Since 1983, when the USSR declared a unilateral moratorium on deploying anti-satellite weapons in outer space, the process began to resemble a pendulum, as the parties first unilaterally declared bans on counter-satellite measures, then revoked these commitments. In 1988, the USA intensified the anti-satellite development activities. In October 1997, it succeeded in conducting a series of tests of the Miracle land-based chemical laser, which was used directly against a spacecraft situated at a height of 400 km. This laser is capable of destroying spacecraft's solar batteries and optical-electronic devices, and can significantly reduce the sensitivity of early warning system space sensors.

The lack of agreements banning counter-satellite activities negatively affects the viability of START and ABM treaties since all elements of strategic stability maintenance are inter-twinned. The missile defense systems are capable of accomplishing aerospace defense missions and, hence, the possible agreements on space defense should be linked to the corresponding missile defense commitments. The threat to the parties' spacecraft, including the early warning systems, will have an impact on strategic arms treaties. This interdependence will grow as the strategic offensive arms reduction continues, and the lack of agreement on the matter will undermine the strategic balance. That's why the negotiations and further improvement of the international arms control regime should be carried out in close connection with the whole system of agreements in the area of strategic stability.

Q.: Before the Balkan crisis the Russian strategic missile forces and their US counterparts were fulfilling the so-called *Shadow* program. Russian and US officers got to know the duties and peculiarities of service, following their colleagues like shadows and performing their duties. After NATO attacks air raids against Yugoslavia, all contacts in this area were suspended. Do you find it necessary to resume the practice of exchanging experience, which promotes mutual understanding between the two armies?

A.: You are quite right, the program was rather interesting and useful for both states. These contacts have been developed for five years, and I believe they have born their fruit. We witnessed some positive moments in the US military routine and our colleagues had a chance to make sure that we were not *monsters* or Russian *bears*. Even in private talks many US officers told me that they understood our similarity and our unwillingness to make a pre-emptive nuclear strike.

Some time should pass so that we may understand each other. The US fear of Russian ballistic missiles results from the apprehensions that our systems are not safe and unauthorized launches may occur. The *Shadow* program proved that it was not true. The US officers served together with Russian counterparts and could study in person the organization of our decision-making structures. As a result, they agreed that the USSR had managed to develop reliable missile delivery systems and systems to prevent unauthorized access to nuclear arms and unauthorized missile launches. Commander-in-Chief of the US Strategic Command General Habiger admitted that the level of Russian SMF expertise exceeded that of the US missile forces. I visited the command posts of a regiment and a brigade in the USA and I can state that our security systems are not worse than the US analogues, and sometimes they are even better. The statistics show that in 1998, our orders registration system didn't lose a single order out of tens of thousands of orders a year.

As for the resumption of cooperation, I can only say that after developments in Yugoslavia we need some time to return to the prior level of relations. That's why I would prefer not to make any forecasts for the future.

Interview

VICTOR YERASTOV: *'MINATOM HAS ALL CONDITIONS FOR PROVIDING SAFETY AND SECURITY OF NUCLEAR MATERIAL'*

[This article was originally published in Russian in *Yaderny Kontrol*, No. 6, Vol. 48, November-December, 1999]

In late December 1998, the ITAR-TASS news agency reported on the detention of a criminal group that had stolen fissile material from a Minatom enterprise in the Chelyabinsk region.

To clear up the situation regarding fissile material storage facilities, Yaderny Kontrol Staff Writer Dmitry Litovkin talks with Head of the Department of Nuclear Material Accounting and Control (Minatom) Victor Yerastov.

***YADERNY KONTROL*: Victor Vladimirovich, would you, please, clear up the situation. What has happened in Chelyabinsk?**

VICTOR YERASTOV: Minatom checked the information on the aforementioned case. There are several Minatom enterprises in the Chelyabinsk region, and Minatom and FSB specialists managed to prevent an attempt to illegally remove fissile material from one of the enterprises. I can't go into details, for the investigation is under way. The only thing I can confirm is that the thieves could have inflicted a significant damage to the state. The substance they were interested in is a sort of semi-finished product made of fissile material. It can be used in the manufacture of various military and civilian products in the nuclear industry. The attempt to steal this material was prevented at the very beginning, on the enterprise territory, and we do not find it correct to say that the theft occurred.

Moreover, all our enterprises working with fissile material undergo annual, quarterly and monthly inventories, which show the state of materials and provide for calculating a material balance. The enterprises are under strict and comprehensive control. That's why I can state that the Minatom annual inventory didn't reveal any cases of fissile material loss or theft at the enterprises in Chelyabinsk: all material was in the right place.

Q.: Will you please tell us the number of exposed cases of fissile material theft from Minatom enterprises?

A.: We have officially registered 52 cases in our database. In most cases the illicit trafficking involves radioactive substances having nothing to do with fissile material. These sources of radiation are mainly used in the national economy, in various industries. The last case of fissile material theft in the Minatom structure dates back to 1995. Since then we haven't registered any theft.

Q.: You argue that after 1995 the nuclear theft has suddenly stopped. What accounts for such a drastic change of the situation?

A.: It is all very simple. In 1992-1995, the privatization program was under way and the boost of business development was following the *all-for-sale* motto. Naturally, some dealers began to incite the employees of our enterprises to make money on illicit trafficking in fissile and radioactive material. The press was fuelling the myth about the fabulous price of this material on the black market and alleged interest in it on the part of criminal groups. This was the time when the press invented red mercury and some other non-existing substances, which were supposed to be necessary for the criminal groups. Thus, the mass media promoted the craving for profits and a growth in the amount of illegally taken nuclear material.

Before and after 1995, the Minatom leadership paid much attention to fissile material security and took steps to strengthen controls in this area. The ministry held a special Ministerial Board session devoted to this issue, which decided to work out a program for maintaining security and control over fissile material at Minatom enterprises. The program was submitted to the Government, which ordered the implication of the *Federal Program on Establishing the State System of Nuclear Material Accounting*, which for the first time replaced our sectoral program and covered the whole country.

So, today, in accordance with the Law "*On Nuclear Energy Use*", we are responsible for

general security. Concerted efforts of different agencies resulted in the elaboration of the aforesaid national program. These decisions coincided with the beginning of broad international cooperation in the area of maintaining nuclear material security and safety. This problem is topical for many states of the world and Russia is not an exception. Nonetheless, I would like to point out (and our foreign partners usually agree) that information about the existence of international crime groups interested in acquiring nuclear material and in its further use to blackmail the international community is exaggerated by the press.

Q.: The fissile material can't be used by itself. It is impossible to create an atomic bomb at home. This sounds unrealistic…

A.: If we speak about primitive devices it's quite possible. A lot of general information about nuclear munitions' production is described in detail in literature that is available to the public. Thus, if you have enough knowledge and perseverance you can solve this problem. That's why the UN is concerned with this threat and calls for the signing of an international convention on preventing nuclear terrorism. So, the world community is anxious about this possibility because you can't completely rule out the emergence of nuclear terrorist groups. We do our best to prevent this, work out and implement the programs aimed at enhancing security of fissile material, and take appropriate measures at all enterprises of our industry.

Q.: We have discussed the external aspects of the problem, but how is it solved at the level of an enterprise?

A.: We have organizational and physical means of protection. We have set up a reliable system of physical protection of nuclear plants and fissile material production facilities. Specially trained MOI units guard Minatom enterprises. We actively use various technical means: a multilevel system of control containing computers and television sets, enabling us to control and monitor the security and safety of nuclear material at all stages of its life cycle, i.e. from the phase of production to a complete disposal.

Q.: How important is the international assistance rendered to Minatom?

A.: Since 1993, we have been implementing a cooperating program with the United States. Minatom and the US DOD signed an agreement on improving the MPC&A of fissile material. At first, the program was financed in the *Nunn-Lugar* framework, but in 1995, the US DOD ceded its powers to the US DOE, which has become our exclusive partner in this area. All contacts are aimed at solving the problem of improving the MPC&A systems. This work engages practically all our nuclear enterprises, including federal nuclear centers in Sarov and Snezhinsk.

The USA rendered substantial aid to our enterprises in this area. For instance, we introduced an MPC&A system in the FEI (Physics Energy Institute) in Obninsk. In some cases, our institutes developed and started manufacture of indigenous MPC&A systems financed by the USA. We are now introducing radioactive monitors produced by one of our laboratories in VNIIEF (Sarov), which got funding from the Los Alamos laboratory (USA); the monitors have already been tested and certified. Our cooperation with the USA has enabled our enterprises not only to consume the assistance but to develop new technologies and introduce them into serial production. Beside the USA, Minatom collaborates with the *Euroatom* Safeguards Directorate, EU Joint Research Center, and nuclear centers in Germany, Great Britain, and France.

Q.: What is your vision of the further improvement of fissile material storage systems? May it happen that the human factor will be completely excluded one day?

A.: The human factor will always exist, but the machinery should serve mankind. A comprehensive system of organizational and technical means should hamper nuclear theft. We can say that the human factor is not as decisive as it was several years ago. Modern equipment allows us to control the movement of a uranium pellet weighing only 10-15 g and containing 3-4% of uranium-235. Our monitors for radiation control can register the movement of a single pellet.

Besides, the State Customs Committee (GTK) has set up a system of external radiation monitoring at customs posts and terminals. All this provides for a unified system of reliable control over the safety and security of nuclear material in Russia.

Commentary

THE CTR PROGRAM AND RUSSIA'S NATIONAL SECURITY INTERESTS

by Yevgeny Maslin,
PIR Senior Advisor

The first year of the approaching millenium becomes a key stage in implementing the US-Russian *Cooperative Threat Reduction* program, also known as the *Nunn-Lugar Plan*.

In the program framework, the US provides technical assistance to Russia and other former Soviet states in strategic offensive arms elimination, transportation and storage of fissile materials, and chemical weapons destruction. Since the program's inception in 1991, the US has appropriated $1.7 billion to Russia, 450 million of which have been actually spent. The Clinton administration request for FY2000, which amounts to $475.5 million ($35 million more than in 1999), has already gained the consent of the Senate.

On June 16, the parties signed the protocol in the Russian embassy in Washington, extending the CTR *umbrella* agreement till June 16, 2006. By signing the protocol, Russia provided for the program's legal basis for the next seven years and, hence, contributed to CTR maintenance. At the same time, all previous agreements were left unaltered.

Even a month before the agreement's expiration neither the Pentagon nor the US Congress had any certainty about Russian willingness to extend it in time. That's why the US administration notified the congressional committees concerned about the possible freezing of funding, while the US DOD on June 9, 1999 was ready to inform contractors, working in the program's framework, that the projects might be suspended. More likely, the actions of the US executive were formal and overcautious, although there were reasons for uncertainty - this spring the CTR underwent a serious durability test.

The NATO bombing of Yugoslavia inflicted significant damage to US-Russian bilateral relations. It's known that at one point the Russian leadership began to question the necessity of continuing cooperation on nuclear threat reduction. The Russian legislature and executive consistently proposed to *freeze* or even *bury* the program. Some program components, albeit the less important ones involving the Russian Defense Ministry (MOD), were actually suspended for a brief period.

However, even when the tensions in bilateral relations reached their climax, when it seemed that bilateral contacts established in late 1980s and early 1990s were falling to pieces, CTR implementation continued at the pre-determined pace, although with a few exceptions. The *Nunn-Lugar* program became one of the few elements of US-Russian partnership which stood the Kosovo test. The program turned out to be equally needed on both sides of the ocean.

CTR Program: How It All Began

Even today we can here skeptical voices: did Russia have to join this program, to *bite a US fly*? The number of these skeptics has decreased since 1992 but those remaining continue to repeat: *the only place to find free cheese is a mouse-trap*. This idea was first voiced at the Supreme Soviet hearings in 1992 when the MOD and Minatom senior representatives had to answer the questions of the MPs astonished by the US initiative.

To my mind, we should proceed from the actual state of affairs. This is not just from word of mouth. I remember how in 1992-1993 and even later I had to face *ex officio* (as head of the Russian MOD Main Directorate in charge of storage and transportation security of the Russian nuclear arsenal) a completely new, non-typical situation, concerning the maintenance of control over entrusted munitions.

Specialists who operated nuclear weapons were at a certain loss due to a growing number of tasks - we had to transport

nuclear munitions throughout Russia more often than not by railroads and vehicles. There was an increasing munitions inflow from the Russian neighbor FSU states. I remember how in the early 1960s Soviet nuclear munitions were delivered to Eastern Europe in ordinary railway cars usually used for the transportation of cement, iron, etc. In the 1990s, the situation was different. We had to think about enhanced transportation security. And we were not ready to solve these problems on the spot.

The process of arms reduction intensified, above all within the START I framework. Could we then have solved the problem on our own and in time? I have serious doubts about this.

With this background we had to meet the new challenge of nuclear terrorism, trying to prevent unauthorized access to stored or transported nuclear weapons. We felt the most serious threat in 1991-1992, at the time of the escalation of the Chechen conflict.

I don't want to describe the situation in terms of Hollywood action movies, showing our nuclear arms storage facilities simply as a yard with a through-passage for terrorists of different nationalities. Russian nuclear weapons storage bases can be said, with some reservation, to be sufficiently protected. It isn't supermen-peacemakers, who safeguard the world from nuclear arms proliferation, but soldiers and officers, professionally guarding storage facilities.

At the same time, I'm not going to run to another extreme; we have to admit that the situation was quite problematic.

So, there was an objective need for external assistance.

Obviously, the CTR agreements with the USA were promoted partly thanks to the general climate of US-Russian bilateral relations which existed until 1994-1995. It had some elements of euphoria and *naivete*. There was an illusion that the USA and Russia had common foreign policy goals, the most important of which was the nuclear arms reduction.

My colleagues and I had to solve the problem of enhancing nuclear arms security. We required many things to accomplish this task - supercontainers, new computer systems, and armored blankets. We had to deploy the emergency systems to respond to potential accidents involving nuclear weapons. All this we got from the US: railcar conversion kits (100 cargo and 15 guard), 4,520 Kevlar ballistic blankets, and 150 supercontainers. In the CTR framework, we set up an analytical security assessment system (ASSESS), automated inventory control and management system to account for and track nuclear warheads. The Security Assessment and Training Center began operation in Sergiev Posad. We also received polygraph equipment to check personnel reliability, which was somewhat exotic for us at that time but turned out to be extremely necessary.

The main value of the CTR program is the efficiency of funding. When the financing is timely and correct and helps to cure our weak points, the program can be called really useful.

Could we then have solved the problem on our own? Perhaps, yes, but it would have required titanic efforts and in conditions of Russia's difficult financial-economic situation, the process of enhancing security wouldn't have been as fast as it had to be due to circumstances and security challenges.

However, we should not forget that the US assistance to the MOD is an important and appreciable contribution but not the determining financial factor. The lion's share of money is appropriated from the Russian budget. The Russian political leadership and the legislators are beginning to realize the utmost priority of appropriating funding for the programs of nuclear security and arms reduction. This positive trend should be marked.

The CTR program played a remarkably positive part. Nowadays we can admit that the US-Russian cooperation in enhancing storage and transportation security of nuclear warheads encouraged Russia to start solving the problems of nuclear arms

proliferation prevention and to reduce the risk of nuclear terrorism.

The program equally helped both states to maintain their national security, hence, the program is mutually beneficial and demonstrates a real cooperative threat reduction.

I would like to say a few words about successful implementation of the program for strategic offensive arms elimination, which is aimed at assisting in disposal of ICBMs, silo launchers, SLBM launchers, heavy bombers, and liquid fuel.

The agreement on this project was signed on August 26, 1993. In accordance with the agreement, the Strategic Missile Forces (SMF) obtained $10.5 million-worth of different equipment. The substantial assistance was provided for the re-cultivation works.

The SMF received 20 items of materiel worth $4 million. In the next years, the cooperation improved, resulting in open contacts on constructing the base for solid-fuel ICBMs destruction at the *Votkinsk Plant* and on reconstructing the similar bases in Surovatikha and Pimashura.

Transparency and Secrecy

Sometimes in Russian lobby interviews, especially in conversations among legislators, one can hear the following accusations: how could Russia run such a risk and become transparent to US equipment and inspectors? I'll make no secret of the fact that on-sight inspections are sometimes meticulous if not overly opportunistic. However, in most cases in the course of program implementation, the parties have learned to feel the boundaries of secrecy, which shouldn't be crossed. At the same time, we know each other very well and know too much about nuclear weapons and technical capabilities to bluff or *to be secretive* if the secrets are no longer secrets for anyone.

I believe that the most sensitive issue for the national security is the brain drain, i.e. the knowledge of our scientists and designers involved in developing military equipment. The process of nuclear munitions' dismantlement should also be kept in secret in order to prevent unauthorized access to the technology of a nuclear charge.

At the same time, the progress in the area of information enables us to gradually but inevitably reduce the *threshold of sensitivity* and welcome more transparency, since the parties know the alleged *secrets* of each other.

Shortcomings of the Program

At the same time, although the program's evident achievements are its timeliness and the partner-like and mutually beneficial character reflected in its title, the CTR has some negative sides, impeding its implementation and casting a shadow on the whole CTR concept.

First, it's worrisome that the program, annually approved by Congress, is constantly linked with certain political conditions, which have nothing to do with CTR (for instance, there are demands for the cessation of Russian-Iranian cooperation). Preserving such a policy of artificial but rigid linkages results in disappointment and a lack of understanding. I believe that the CTR has become a quite independent element of US-Russian bilateral relations, and that we should strive for preserving its importance, regardless of the domestic or external political situation.

Tactical reasons shouldn't hamper the movement towards strategic goals.

Otherwise, we may find ourselves having to confront a situation where Russian legislators, pressured by the US, Congress in particular, and willing to hinder the policy of artificial linkages, may try to block further CTR implementation. And they have such opportunity, for Russian law requires ratification of the June 16, 1999 protocol by the State Duma. At present, President Yeltsin hasn't submitted the protocol to the State Duma for ratification, and thus, the decision will be taken by new parliamentarians after the December elections.

Secondly, the program's social component hasn't been taken into full account yet. In the process of arms reduction under START

treaties, providing housing for thousands of people who earlier worked with nuclear arms and their carriers, should become one of the most important parts of the program; at least, no less important than missiles or nuclear powered submarines dismantlement. It's noteworthy that US partners, involved in the program's fulfillment for many years, demonstrate a better understanding of the importance of the human factor in nuclear threat reduction. The sooner CTR provides for social programs and the sounder their fulfillment is, the more fruitful will be our cooperation on new directions and the less political objections will emerge on the part of Russia.

Thirdly, it's not always clear what amount of allocated funding eventually reaches Russia, i.e. what the amount of actual assistance is. As far as I understand, this problem is not only Russian but relates to the US General Accounting Office as well. Impressive declared sums are normally no more than figures of appropriated assistance. However, at the final stage when we try to figure out how much money has been spent on nuclear threat reduction, attaining the program's objectives in Russia, and what amount has been left for administrative and other vague costs, it's always difficult to understand the real situation. It seems that in certain cases the gap between appropriated funds and actually received funds is rather large.

There are problems in Russia as well. First of all, it's the lack of coordination among aid recipients. Unfortunately, bureaucratic squabbles occur very frequently and each ministry attempts to prove its primary importance. As a result, the money is appropriated not to those who badly need it, but to those who are good at elbowing their way. This vicious practice reduces the attractiveness of the program. A solution might be found in establishing a Russian coordinating structure, whose functions might be performed by an Arms Control and Disarmament Agency, and it would be important if President Yeltsin eventually takes the decision to set up such federal authority.

The good news is, however, that the two sides have learned to discuss collaboratively emerging problems. The CTR program hardly resembles a dialogue of the deaf. On the contrary, it's an impressive starting point for the realization of ideas and the creation of an atmosphere of trust and transparency. When the program was launched, my US partners - Assistant to the Secretary of Defense Harold Smith and Gen. Roland Lajoie - made every effort to promote its success. The air of confidence helped us to found the basis for the present-day steps of our successors in the two defense departments.

Nunn-Lugar Plus

The US contribution to nuclear threat reduction in Russia is decisive, although Russia also highly appreciates the support provided or promised by other states. The MOD has received assistance from Great Britain and France. At present, we appreciate the aid provided - or to be provided - for Russian enterprises working with nuclear material, whose security should be guaranteed. Japan, Norway, the Netherlands, and Italy are making efforts in this field.

Nevertheless, I have to emphasize that the amount of assistance from *G-7* states (except USA) and European countries is still small.

Without the active participation of all leading developed economies, Europe in particular, Russia may fail to solve the problems of nuclear arms reduction and to maintain nuclear materials security.

CTR Prospects

Is the CTR agenda still topical? Does the above-mentioned success give reasons for finishing it? To my mind, it is still topical and there are no such reasons. On the contrary, the program is steadily developing, partners have learned to understand each other, all growing pains have been cured, and the program seems to gain resistance to crises after Kosovo. It's high time we thought about exploiting the program's former achievements and yet unrevealed potential at least for the next seven years.

Changes in governments, parliaments, and administrations shouldn't affect the program's dynamics.

Russia and US have, as never before, a rich CTR agenda. By 2007 1,003 ICBMs and 500 silos should be eliminated, 95 bombers and 669 SLBMs dismantled. The fissile material storage facility at the *Mayak* plant in the Urals will become operational. Two nuclear cities - Zheleznogorsk and Seversk - will conduct reactor core conversion to cease production of weapons-grade plutonium.

As for the enhancement of nuclear munitions' security, which has been my area of work for several decades, I have to admit that despite large-scale activities in this area, much is left to do together. It's important for the program to be able to adequately respond to emerging challenges. There is still room for improvement in nuclear arms security.

Coming back to US-Russian CTR cooperation, we can't neglect another of the program's advantages - a pragmatic concept and the utmost concrete implementation.

When euphoria in bilateral relations has yielded (presumably, for long) to cool relationship, romanticism of the past is absolutely irrelevant. At a time when the bilateral agenda has been, if not ruined, then washed out by the Kosovo crisis and the equal indifference of foreign policy makers in Moscow and Washington, it's extremely important to find pragmatic *islets*, enabling us to cross the swamp and not to perish in quagmire. Despite swelling voices in Moscow and Washington, surreptitiously advising the governments to ignore the interests of each other, the existence of nuclear weapons makes inevitable, even at worst, the continuation of bilateral strategic dialogue. An *ignore-and-neglect* policy won't work, in spite of one's bad will. In the lack of breakthroughs, with the uncertainty about the prospects of negotiations on further strategic arms reduction (the so-called START III process) and with the fragile future of the ABM treaty, the policy of *small deeds* should become the basis for resuming dialogue. We should work hard together to persistently enlarge such *islets* as the CTR program.

Analysis

RUSSIA AND THE 2000 NPT REVIEW CONFERENCE

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[This article was originally published in Russian in *PIR Study Paper*, No. 12, 1999]

The Process of NPT Implementation and the Present Status of the Nuclear Nonproliferation Regime

It is useful to study in more depth the process of NPT implementation in the light of the 1995 conference decisions, which led to the agreement of the majority of non-nuclear weapon states to the treaty's indefinite extension.

Decision 1 of the conference hasn't been fulfilled, because the Preparatory Committee failed to approve recommendations for the 2000 conference in accordance with this decision.

The main document of the conference concerning substantive matters is Decision 2 "*Principles and Objectives for Nuclear Nonproliferation and Disarmament*". The document names as the top-priority issue the problem of universality: 'All States not yet party to the Treaty are called upon to accede to the Treaty at the earliest date, particularly those States that operate unsafeguarded nuclear facilities. Every effort should be made by all States parties to achieve this objective.'

There are four such states - Israel, India, Pakistan and Cuba[1], while all other 187 countries of the world are the NPT participants. India and Pakistan have openly conducted nuclear tests. There is no such data on Israel, which continues to adhere to a policy of *opacity*. However, it is recognized and everyone proceeds from the assumption that Israel possesses nuclear weapons and their delivery systems[2].

Naturally, it would be unrealistic to expect these states to accede to the NPT, in any case, before the opening session of the 2000 conference, although many countries are urging them to do so[3]. And one can hardly doubt that all three states must be interested in preventing further proliferation of nuclear weapons, since the emergence of new *de facto* nuclear weapon states in their regions would undermine their security. This should be clearly understood and explained to their officials and to the public, especially in India and Pakistan. Israel fully recognizes the threat of proliferation. In 1981, an Israeli air raid destroyed the Iraqi *Ozirak* reactor, which might have been used for plutonium production, and the international community condemned these arbitrary actions of Israel.

What can these states do to help to maintain the nonproliferation regime, taking into account their own interests?

Firstly, they can declare without reference to the appropriate provisions of the NPT (e.g. Article I) that they will refrain from transferring nuclear explosive devices and from assisting, encouraging or inducing the manufacture or acquisition of such devices[4]. It would be more difficult for Israel to make such a statement because of its proclaimed policy of *opacity* but this could be voiced, perhaps, in another, more disguised way.

Secondly, they can participate in activities to ensure strict nuclear export controls. In 1975, France took part in the work of the *Nuclear Suppliers Group*, although it hadn't joined the NPT (France acceded to the treaty in 1992). At this stage, it is obviously unrealistic to speak about Israeli, Indian or Pakistani participation in the NSG but they can coordinate their actions with the group. According to Prof. Larry Scheinman, all three states can officially pledge their commitment to the guidelines established by the NSG and the *Zangger* Committee and can pass appropriate national legislation on nuclear export controls[5].

Thirdly, they can submit to the IAEA safeguards (following the example of officially recognized nuclear weapon states) their operating reactors or power plants under construction, which are not directly related to military programs. This step, in practice, would demonstrate their willingness to promote the expansion of the nonproliferation regime.

India has six operating reactors in Madras, Kakrapar, and Nagora and four energy units in Kaiga and Kota, which will soon come into operation. All these reactors have the capability for producing plutonium. The experimental fast breeder reactor in Kalpakkam and all research reactors are not covered by the safeguards[6]. It is necessary to point out that some other Indian nuclear plants are under the IAEA safeguards, including two energy units in Kudankulam, the construction of which will be aided by Russia.

Pakistan has one energy reactor in Kanupp and two research units in Parr-1 and Parr-2, which are under the IAEA safeguards. However, the heavy water *Kushab* reactor with plutonium production capability is not covered by the safeguards.

Israel has no energy reactors and has only one research reactor in Soreq, supplied by the USA and covered by the IAEA safeguards. However, the spent fuel re-processing plant in Soreq is not under the safeguards.

Fourthly, these states may join the 1980 *Convention on the Physical Protection of Nuclear Material*. Israel signed the convention in 1983 but hasn't ratified it yet.

Fifthly, they may accede to the 1994 *Convention on Nuclear Safety*. All three states have signed the convention but haven't ratified it yet.

Sixthly, they may join the CTBT.

Seventhly, Israel can accede to the CWC and the *Biological Weapons Convention*. India and Pakistan are participants to these treaties and India has submitted information on its prior capabilities of chemical weapons production. Israel hasn't even signed the *Biological Weapons Convention* and it is suspected of performing activities in violation of its provisions in the Institute for Biological

Research in Ness Ziona[7]. As for the CWC, Israel has signed it but not ratified the treaty.

Eightly, three states may support the earliest possible commencement of FMCT negotiations without any conditions, in which neither of three countries has so far shown great interest. India and Israel as *de facto* nuclear weapon states are against considering the issue of existing stockpiles of such material, while Pakistan insists on taking these into account.

The implementation of some of these measures, which do not run counter to the security interests of India, Pakistan, and Israel, would make the problem of universality less acute at the 2000 conference and would contribute to creating a favorable climate at the conference and to strengthening the nonproliferation regime.

Decision 2 of the 1995 conference emphasizes the importance of the NPT for preventing further proliferation of nuclear weapons. In this connection, one can expect that the 2000 conference will discuss many topical issues such as the situation with Iraq, North Korea and some other states suspected of nuclear ambitions, the problem of nuclear material drain and physical protection of this material, the problem of nuclear terrorism, etc. The conference might touch upon the issue of WMD and the proliferation of their delivery systems.

The 1995 conference decision on the principles and objectives of nuclear nonproliferation and disarmament attached special importance to the goal of nuclear disarmament. As we have already said, the most urgent tasks in this area were defined as follows:

- conclusion of the CTBT no later than 1996;
- commencement of negotiations and conclusion of the FMCT;
- and continued efforts of all nuclear weapon states to reduce their nuclear arsenals with the ultimate goal of their complete elimination.

The **CTBT** was concluded and opened for signature on September 24, 1996. So far, 155 states have signed the treaty. Out of the 44 countries possessing nuclear potential (energy and research reactors in accordance with the IAEA data), whose ratification is required under Article XIV for the CTBT's entry into force, 26 states have ratified the treaty (Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Finland, France, Germany, Hungary, Italy, Japan, Mexico, the Netherlands, Norway, Peru, Poland, Romania, Slovakia, South Africa, South Korea, Spain, Sweden, Switzerland, and the UK). In total, 51 states have ratified.

The treaty has a provision that if it 'has not entered into force three years after the date of the anniversary of its opening for signature', its depositary (UN Secretary-General) shall convene a conference of ratifiers upon the request of a majority of these states. This conference 'shall consider and decide by consensus what measures consistent with international law may be undertaken to accelerate the ratification process in order to facilitate the early entry into force of this Treaty' (paragraph 2, Article XIV). Such conferences may be repeated in the future until the treaty becomes effective (paragraph 3). All signatories to the treaty may attend the conference as observers (paragraph 4), i.e. without the right to participate in decision-making.

This clause concerning the conferences is aimed at exerting political pressure on the states delaying ratification of the treaty and, hence, its entry into force. Vague wording about the time of convening the conference caused debate but most of the states agreed to hold the conference in October 1999.

The CTBT conference was held in Vienna on October 6-8, 1999, and was presided by the Japanese foreign minister. Among its participants were ratifiers, signatories and some states that didn't sign the treaty (Libya, Pakistan, Saudi Arabia, and Zimbabwe). India refrained from participating in the conference, although it had earlier declared its intention to sign the CTBT.

The conference adopted a final declaration urging all states to sign and ratify the treaty. The parties to the CTBT reaffirmed their

commitment to major obligations of the treaty and pledged to refrain from acts which would defeat its object and purpose before the CTBT becomes effective.

Many NGOs attended the conference. George Bunn delivered a statement on behalf of all NGOs, including the PIR-Center for Policy Studies in Russia, and called for the CTBT entry into force at the earliest possible date.

It is difficult to say so far how effective the Vienna conference will be from the point of facilitating the process of CTBT entry into force[8]. Obviously, the fate of the CTBT depends on its ratification by the USA, Russia, China, India, Pakistan, and Israel. The situation in these states is analyzed below.

United States of America

The US administration submitted the CTBT to the Senate for ratification in September 1997. US President Bill Clinton and US Secretary of State Madeleine Albright have many times emphasized that the treaty complies with US security interests and has a high foreign policy priority. For instance, Bill Clinton in his foreign policy speech on February 26, 1999, urged the US Senate to ratify the CTBT in 1999 because of the significance of the treaty to the USA and the world at large. On July 20, President Clinton reiterated his resolution to achieve ratification of the treaty and urged the Senate Foreign Relations Committee to start hearings on the CTBT in autumn 1999. He made a similar resolute statement on October 6, 1999.

In late January 1999, Madeleine Albright informed the Chairman of the Senate Foreign Relations Committee, Jesse Helms, that the US administration believed the CTBT to be the matter of top priority among the international agreements submitted to the Senate for consideration. However, according to the *Washington Post*, Senator Helms said that the committee would not consider the CTBT until the administration submitted additional documents related to the 1972 ABM treaty and signed in 1997. On February 15, 1999, the *Washington Post* wrote that Jesse Helms had objections to these additional documents and was going to use them to dispose of the ABM treaty.

In his opposition to the treaty, Jesse Helms was backed by the Senate Republican majority. According to *Arms Control Today*, Senator Helms enjoyed the full support of the leader of the Senate Republican majority, Trent Lott[9].

In this connection, the *Washington Post* pointed out that senior executive officials would refrain from submitting to the Senate the amendments to the ABM treaty unless the Russian parliament ratified START II. Therefore, it's a vicious circle. The Senate Committee or, at least, its leadership linked the CTBT ratification to the abolition of the ABM treaty. At the same time, the State Duma of the Russian Federation, if it decides to ratify START II, will link it to the strict observation of the ABM treaty on the part of the USA. Thus, US prompt ratification of the CTBT seemed extremely problematical.

Nonetheless, the US executive branch continued to make resolute statements in favor of prompt ratification. On March 2, 1999, Secretary of Energy Bill Richardson maintained that the whole Cabinet would be engaged in promoting the ratification and that he believed that the chances of passing the ratification bill were more than 50-50 if it was put to the vote of the Senate. It is well known that international agreements need 67 votes to be ratified by the Senate. On April 1, 1999, Madeleine Albright reaffirmed the administration's appeal to ratify the CTBT in 1999. The public opinion polls conducted in summer 1999 demonstrated that 82% supported the treaty (in comparison to 73% before Indian-Pakistani tests in May 1998).

The US Government used all available means to convince the senators, including a positive reaction to the agreement by the directors of three nuclear laboratories (Los Alamos, Livermore and Sandia) and the Joint Chiefs of Staff.

However, on October 13, 1999, the US Senate rejected ratification of the CTBT by 51 votes against 48 without even holding hearings in the committees. The voting was seriously

influenced by party interests. The US refusal to ratify the treaty has dealt a significant blow to the prospects of the CTBT entering into force. President Clinton stated after the voting that the USA would continue to observe moratorium on nuclear tests and would continue to strive for CTBT ratification.

US Vice-President Al Gore, who is one of the Democratic Party's presidential candidates for the 2000 elections, is also backing the ratification. Another Democrat candidate, Bill Bradley, supports the treaty as well, while a Republican candidate George W. Bush (Governor of Texas and the son of former US President George Bush) is against the CTBT.

Russian Federation

President Boris Yeltsin has submitted the CTBT to the Federal Assembly for ratification only in November 1999. The Government officials realize the complicated character of the issue and predict a difficult ratification process by the State Duma now that the US Senate position is clearly negative and especially if India and Pakistan continue to refrain from signing the CTBT. *Yaderny Kontrol Journal* called for the prompt ratification of the treaty by the State Duma in order to demonstrate Russia's strong will to promote the CTBT's entry into force[10].

Head of the Russian delegation at the CTBT conference in Vienna Valery Loshchinin stated on October 7, 1999:

'We intend to continue to observe the basic obligations under the CTBT pending its entry into force. Provided, of course, that the other treaty signatories will do likewise. Our attitude towards the CTBT ratification process is based on the assessment of the overall ratification process, including in those states whose ratification is required for the Treaty's entry into force.'

The Russian representative said that the process of preparing for the CTBT international verification regime, in general, was going smoothly, including on the Russian territory, which would contain more than 10% of all future International Monitoring System (IMS) facilities.

After the US Senate's refusal to ratify the CTBT, on October 14, 1999, the MFA spokesman expressed Russia's disappointment and grave concern about the Senate decision and regarded that decision as a serious blow to the prospects of the CTBT's entry into force. 'In the existing situation, Russia commits itself to the CTBT but finds it necessary to take into account the consequences of the Senate decision for its security and world stability.'

Among FSU states, only Azerbaijan, Tajikistan, Turkmenistan, and Uzbekistan have ratified the treaty.

China

The mass media have not reported on the process and prospects of the CTBT ratification by China. At the same time, it is noteworthy that some Chinese officials use any opportunity to criticize (sometimes in a harsh manner) the Indian nuclear tests of May 1998. Therefore, one may presume that China won't be willing to ratify the CTBT before the Indian Government signs the treaty. China is likely to exploit the delayed ratification by the USA and Russia to postpone its own stride to ratification. Besides, China is strongly against abolishing or amending the 1972 ABM treaty (contrary to the intentions of many US senators).

According to the *Kyodo* news agency, in November 1998, the Japanese Foreign Ministry took steps to urge 29 states to accelerate the process of ratification. 18 states, including China, responded positively and said that the treaty would be ratified in the near future. The other 11 states, including the USA, Russia, India, Pakistan, and Israel, responded that they were not ready yet to ratify the CTBT. On March 26, 1999, China's President Jiang Zemin maintained at the Geneva Conference on Disarmament that the Chinese Government would soon submit the treaty to the National People's Congress for ratification. However, since that time the situation has only became worse due to the *espionage scandal*, NATO bombing of the Chinese embassy in Belgrade and aggravating relations with Taiwan. In July 1999, Japanese Prime Minister Keizo Obuchi addressed once again the leaders of China,

Russia and the USA, asking them to ratify the CTBT before the Vienna Conference, but this appeal fell flat.

At the CTBT Conference in Vienna, the head of the Chinese delegation named some of the '*negative*' developments affecting the situation with the CTBT. Amongst the events cited were the nuclear tests in South Asia; the decision of '*some states*' to develop and deploy a national missile defense system (NMD) and TMD system, guaranteeing their own absolute security at the expense of the security of others; and the arbitrary and unscrupulous uninterrupted bombing of a small and weak non-nuclear weapon state for 78 days by the most powerful military bloc, under the pretext of protecting human rights. He said that China would continue to fulfil the CTBT but, because of a series of negative actions, Beijing would start the process of ratification only as soon as it was "*practically possible*", taking into account the international security situation.

India and Pakistan

India and Pakistan haven't signed the treaty. Although the premiers of both states declared in the UN in 1998 their readiness to join the treaty before September 1999, this promise was not kept. The two countries have witnessed a new escalation of the protracted conflict in Jammu and Kashmir. The USA hasn't lifted sanctions against India and Pakistan imposed in connection with the 1998 nuclear tests, and this has provoked a wave of criticism from both states.

Pakistan sent its representative to the CTBT conference and he stated that Islamabad was still committed to acceding to the CTBT, but only when the pressure was lifted, which he hoped would happen soon. As a result of the military coup in Pakistan, the situation became even more vague. Many states, including Russia and other nuclear powers, expressed their deep concern about the military being in power in a country which possessed a nuclear arsenal.

The parliamentary elections in India in late September-early October 1999 made Prime Minister Atal Behari Vajpayee argue that it would be pointless to bind the country by any obligations before achieving a parliamentary consensus. The Indian Minister of External Affairs, Jaswant Singh, in his interviews for the *ITAR-TASS* news agency and for *Ekho Moskvy* radio during his visit to Moscow in May 1999, maintained that the problem of signing the CTBT would be considered by a new Cabinet after the parliamentary elections.

In August 1999, New Delhi published a draft nuclear doctrine based on the principle of assured minimal deterrence and providing for the development of a nuclear triad (air force, land-based mobile missiles, and SLBMs). Reportedly, the doctrine is still to be approved by the Indian Government.

As we can see, the prospects of signing the CTBT by the two states are not entirely optimistic.

Israel

Israel has signed the treaty but hasn't yet ratified it. At the CTBT conference in Vienna, Director of the Israeli Atomic Energy Commission Gideon Frank said that ratification would depend on three major factors. Firstly, the degree of readiness of the verification regime and its resistance to '*potential abuses*'. In this regard, special attention will have to be paid to the procedures of on-site inspections. The second factor is equal and sovereign representation for Israel in the governing bodies of the CTBTO. Thirdly, ratification by Israel will depend on the developments in the Middle East, including other states within the region acceding to the treaty. Bearing in mind that some states within the region from among the 44 (Algeria, Egypt, and Iran) are not hurrying towards ratification, and that all the other aforementioned factors will take time to be implemented, one may conclude that Israel will not accelerate the ratification process.

North Korea

Nothing is known about the intentions of North Korea, which is one of the 44 states and which hasn't signed the treaty.

As for other states from among the 44, the number of ratifiers is unlikely to rapidly

increase after the US Senate's negative decision on the CTBT. The treaty envisages convening more conferences in order to promote its entry into force. At the Vienna conference, some delegations tried to include in the final declaration, or in the report on the results of the conference, a provision calling for the next conference to be held in 2000. However, these attempts didn't gain support of those nuclear weapon states that hadn't ratified the CTBT.

Hence, the prospects of the CTBT entering into force soon seem to be now slight, and this may have a negative impact on the work of the 2000 NPT Review Conference.

As for the **FMCT**, the situation seems to be quite gloomy as well. In December 1993, the UN General Assembly passed Resolution 48/75L in favor of a non-discriminatory and universally applicable convention banning the production of fissile material for nuclear weapons or other nuclear explosive devices. However, the Conference on Disarmament in Geneva took a decision on establishing the *ad hoc* committee on FMCT and its negotiating mandate only in August 1998. But so far, the committee hasn't started its work.

There are many reasons for this delay. On the one hand, some non-aligned states insist on the simultaneous establishment of an *ad hoc* committee on nuclear disarmament, which is opposed by some nuclear weapon states. As experts believe, in Geneva 'it is generally thought that India and Pakistan would like to string the fissban negotiations out long enough to produce as much plutonium and highly-enriched uranium as they deem necessary for their projected nuclear weapon requirements.'[11].

On the other hand, China insists on the establishment of an *ad hoc* committee on preventing arms race in outer space (PAROS) - an idea opposed by the USA. The Chinese representative at the Geneva Conference said that many delegations, including the Chinese, believed that nuclear disarmament and PAROS were of no less importance than the FMCT. The Chinese are concerned about the US and Japanese plans to deploy their missile defense systems, and try to use the Conference on Disarmament to resist these plans[12]. We can't rule out the possibility that China will be unwilling to facilitate the prohibition of weapons-use fissile material production, since the Chinese Government, unlike other nuclear weapon states, has made no official statement on this matter.

Moreover, some Non-Aligned Movement states might be prepared to block any work of the Conference on Disarmament on FMCT until the 2000 NPT Review Conference in order to exert additional pressure on nuclear weapon states.

On July 23-25, 1999, Munich hosted an international seminar on the FMCT, which was attended by the representatives of many states. The participants pointed out that delayed negotiations on this matter were due to the unsolved problem of establishing the *ad hoc* committee on nuclear disarmament within the Geneva Conference, and China's toughening position on PAROS, which remains unacceptable to the USA. The non-aligned states are unlikely to be satisfied with an initiative proposed by Belgium, Germany, Italy, and the Netherlands, to establish a working group without a specific negotiating mandate to discuss ways of organizing the exchange of information and opinions on nuclear disarmament.

In the course of the seminar, some experts emphasized that the motion put forward by certain states (Egypt and Pakistan in particular), implying that the FMCT must cover stockpiles of weapons-usable fissile material, should not serve as a pretext for postponing the negotiations, since agreed negotiating mandate gave the CD participants the right to raise any issues during the talks.

Representatives of Britain, France, the USA and some other countries raised objections to the link between FMCT negotiations and the committee on nuclear disarmament, and considered the future treaty to be one of the first steps in the concerted international efforts on nuclear disarmament. They stressed the importance of a stage-by-stage approach to this process and the unacceptability of its artificial acceleration by

the adoption of an *all-or-nothing* position. As for the stockpiles of weapons-usable fissile material, these countries pointed out the counter-productiveness of this proposal, which would, in fact, lead to *immediate* nuclear disarmament.

As for the verification mechanism for the FMCT, most of the participants believed that it should be efficient, non-intrusive, inexpensive, and more focused, i.e. it should cover key fissile material production facilities - uranium-enrichment and chemical processing plants. Some delegates (Egypt and Canada) called for the use of comprehensive safeguards under INFCIRC/153[13], while others presumed that it would require a three-fold increase of the current IAEA safeguards budget. Indian and Pakistani representatives opposed the idea of comprehensive safeguards, arguing that this would mean the application of NPT verification mechanisms while neither of the two states were parties to the NPT.

The Munich seminar demonstrates that the FMCT negotiations, when they start, will be a complicated and lengthy process.

Finally, the third item of the 1995 program - **nuclear arms reduction with a view to eventual elimination** - will inevitably trigger a most heated discussion at the 2000 NPT Review Conference.

The evident reasons for the lack of progress in this area in recent years are the following:

- START II is not ratified by both parties[14];
- the ABM treaty is called into question with the threat of US withdrawal from the treaty raising concerns from Russia, China, and France;
- the aggravation of the general political climate in the world (NATO expansion to the East, the NATO operation in the Balkans) and Russia's weakening general purpose forces make the Russian military-political Establishment rely more on nuclear weapons (both strategic and tactical) [15];
- all nuclear weapon states reaffirmed by their statements and actions, the intention to preserve their nuclear arsenals and existing strategic doctrines[16];
- India and Pakistan conducted nuclear tests;
- the US Senate refused to ratify the CTBT; etc.

Cathleen S. Fischer, a US researcher from the Washington-based *Henry Stimson* Center, has recently analyzed the shifts in US public opinion concerning nuclear weapons. She names three stages in the debate on the future of nuclear weapons after the Cold War.

During the first stage (1992-1995), NGOs and many independent experts began to doubt the traditional Cold-War vision of the role of nuclear weapons, and stood for the declaratory policy of diminishing the role of nuclear arms by limiting their function solely to deterrence against nuclear threats.

During the second stage (1995-1996), as the movement for achieving *nuclear zero* began to gain broad support there appeared authoritative reports and statements in favor of decisive steps to eliminate nuclear arms (the Canberra Commission Report, the statement of 61 retired generals and admirals from 17 countries, including Russia, etc.).

During the current third stage (since 1996), the worsening East-West relationship and new challenges to nonproliferation have resulted in a split among NGOs, while their attention has shifted to such short-term and more feasible tasks as the deactivation of nuclear weapons, de-alerting measures, *virtual* nuclear arsenals, etc.[17]. On July 25, 1999, the *Tokyo Forum for Nuclear Nonproliferation and Disarmament* adopted a report supporting some urgent steps to strengthen the international nuclear nonproliferation regime and to reduce the nuclear threat without laying down more prospective plans in the area of nuclear disarmament.

US-Russian bilateral dialogue on nuclear disarmament seems to have slowed down. On June 20, 1999, during their meeting in Cologne, Boris Yeltsin and Bill Clinton agreed on bilateral discussions on START III

and the ABM treaty, to start later that summer. In August-September 1999, the parties started to exchange their views on the problem and held bilateral meetings. However, it is still too early to speak about any results of these contacts or about the willingness of the parties to reach any agreement. We should take into account the political situation in the two states, in the year of parliamentary (1999) and presidential (2000) elections in Russia and the 2000 presidential race in the USA.

The joint statement of the foreign ministers of the UN Security Council *P-5*, issued after their meeting in New York on September 23, 1999, contains no new encouraging signs, except the reiteration of their commitments on nuclear disarmament and general and complete disarmament under Article VI of the NPT[18].

So, it seems that the world will still have to wait some time for nuclear disarmament, and the non-nuclear weapon states will use the 2000 conference to express their disappointment and concern about the unwillingness of all nuclear weapon states to fulfil their commitments under Article VI of the NPT.

Another section of Decision 2 of the 1995 conference names the establishment of nuclear-weapon-free zones as a matter of priority.

Since 1995, treaties have been signed establishing NWFZ in Africa (the Pelindaba Treaty of 1996) and in South-East Asia (the Bangkok Treaty of 1995). None of them have yet come into effect.

As for the Pelindaba Treaty, its entry into force is delayed chiefly by slow ratification by Arab states, who are waiting for clarification of the situation with the NWFZ in the Middle East, which should include Israel. Meanwhile, many sub-Saharan African states are also reluctant to ratify the treaty. So far, only 11 of them have ratified the agreement, while the treaty's entry into force requires 28 ratification instruments deposited.

The implementation of the Bangkok Treaty is hindered by the objections of nuclear weapon states to the Protocol which stipulates that they should respect the non-nuclear status of the NWFZ[19]. The nuclear weapon states are not willing to accede to the Protocol, since the zone covers a 200-mile EEZ which may restrict access to the strait connecting the South China Sea and the Indian Ocean. Moreover, China has territorial claims to some islands in the South China Sea, which are included in the NWFZ under the Bangkok Treaty. India has recently demonstrated its readiness to join the Protocol in order to legitimize its nuclear status. Naturally, officially recognized nuclear weapon states and many other countries won't agree to that.

The work on establishing the NWFZ in Central Asia is under way, although the treaty is yet to be finalized. The Kazakhstani Declaration of Independence stated the intention to ban nuclear tests and to shut down the test range in Semipalatinsk. In 1993, Uzbek President Islam Karimov used the UN rostrum to call for establishing the NWFZ in Central Asia. At the 1995 NPT Conference, Kyrgyzstan disseminated a working paper on this matter. The efforts to establish the zone got a new impetus with the Tashkent Conference of September 1997, convened at the invitation of Uzbekistan. In 1997-1998, the UN General Assembly passed a resolution endorsing the idea of NWFZ in Central Asia.

The Central Asian states have held several working meetings attended by representatives of the UN and IAEA secretariats to negotiate a draft of the treaty. The latest meeting took place in Sapporo (Japan) in October 1999. The IAEA Legal Division provides assistance in laying down the provisions of the draft. The unsolved issues on the threshold of the Sapporo meeting have been as follows.

- Russia supports the idea of NWFZ and believes that the treaty should contain the provision that the treaty will work without prejudice to rights and obligations of the member states under existing international agreements. Russia

has in mind the Tashkent Treaty on Collective Security of the CIS states[20];
- The possible participation of neighboring states in the NWFZ. China is worried about the possible consequences of such a provision[21];
- Transit of nuclear weapons through the zone. Washington doesn't want the treaty to prohibit such transit and believes that member states should take a unilateral decision on each particular case[22]. Russia holds the same position;
- The place of signature and the name of the treaty reflect a certain rivalry among Central Asian states - Kazakhstan and Uzbekistan in particular - for dominance in the region. Kyrgyzstan is also believed to hold a claim for a leading role in the process of NWFZ establishment.

Only three Central Asian states (Kazakhstan, Kyrgyzstan, and Uzbekistan) participated in the Sapporo meeting in October 1999. Representatives of Tajikistan and Turkmenistan were absent due to *technical reasons* (as it was announced at the meeting). The parties achieved further progress in preparing the draft of the treaty.

The Kazakhstani representative managed to convince his colleagues to preserve Article 12 stating that the treaty would not affect the existing rights and obligations under other bilateral treaties and agreements signed by the parties, though Uzbekistan had reservations. The participants didn't touch upon the issue of the Caspian Sea and the existing description of the zone of application was preserved (the zone includes land, water (harbors, lakes, rivers, and streams) and air belonging to Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). Thus, the Caspian Sea is beyond the zone of application of the treaty. The article providing for the possible accession of neighboring states remained.

The parties failed to approve Article IV about the terms of transit. The draft text of this article envisages that each party is free to decide on its own whether or not to permit the transit by air, water or land of nuclear weapons or other nuclear explosive devices, plants and material, including radioactive waste belonging to other states.

As for the place of signing the treaty, the Uzbek representative suggested Tashkent while Kyrgystan proposed Issyk-Kul. The parties agreed that they would conduct diplomatic consultations with the states that didn't attend the Sapporo meeting, in order to coordinate positions on the unsolved matters.

Some experts still hope that the NWFZ in Central Asia may be established before the opening session of the 2000 NPT Review Conference.

The idea of establishing a NWFZ in Central and Eastern Europe has failed due to the unwillingness of new NATO member states to join this zone, the lack of interest on the part of Ukraine and US resistance.

There was a plan to establish a NWFZ in the Caucasus, which has been recently voiced by Georgia and Azerbaijan. At the same time Armenia, relying on its alliance with Russia, has expressed no interest in this zone, referring to the potential threat from neighboring states[23].

In 1997, Mongolia declared itself a NWFZ and the UN General Assembly officially took note of this decision in 1998.

The situation with the NWFZ in the Middle East is described below in the paragraphs relating to the implementation of the 1995 resolution on this matter.

In general, the hopes for the prompt establishment of nuclear-weapon-free zones are not justified and the discontent of many states about this issue will certainly affect the work of the 2000 NPT Review Conference.

As far as security assurances for non-nuclear weapon states are concerned, the 1995 conference decisions have not been implemented. All nuclear weapon states continue to adhere to their nuclear doctrines, which they have confirmed in recent years. As for China, it has once again declared its policy of non-first use of nuclear weapons.

Non-aligned states, on their part, are still seeking legally binding arrangements to assure non-nuclear weapon states against the use or threat of use of nuclear weapons. To that end, these states are insisting on the establishment of an *ad hoc* committee within the Geneva Conference to work out regulations under the framework of international law. Nuclear weapon states are trying to hamper this process.

At the third meeting of the Preparatory Committee, the South African delegation submitted a draft protocol to the NPT concerning *negative* assurances[24], which was not discussed due to the lack of time and the reluctance of nuclear weapon states.

The foreign ministers of the *P-5*, in their statement of September 23, 1999, pointed out that they understood the willingness of many non-nuclear weapon states to obtain security assurances. However, they didn't go beyond the promises stated in UN Security Council Resolution 984 and in their unilateral statements on *negative* assurances.

One can expect a heated discussion on this issue to continue at the 2000 NPT conference.

The 1995 conference decisions relating to the IAEA safeguards emphasize the importance of these activities for nuclear nonproliferation and the necessity to assess and evaluate the safeguards of the Agency and to increase the IAEA's capability to detect undeclared nuclear activities. 'Nuclear fissile material transferred from military use to peaceful nuclear activities should, as soon as practicable, be placed under IAEA safeguards in the framework of the voluntary safeguards agreements in place with the nuclear weapon States.'

The IAEA has carried out a substantial amount of work in this area. To strengthen the comprehensive safeguards system approved in the early 1970s for non-nuclear weapon states participating in the NPT (INFCIRC/153), the Board of Governors adopted the Additional Protocol (INFCIRC/540), in May 1997, providing for the following extended measures for the verification of comprehensive safeguards agreements and agreements of INFCIRC/66/Rev.2-type:

- obtaining information and access for inspectors to all components of the nuclear fuel cycle of the states - from uranium mines to uranium waste storage facilities, and to all other sites with nuclear material designated for non-nuclear use;
- obtaining information on research and development activities related to the fuel cycle, and the mechanisms of their inspection;
- obtaining information on all buildings situated at nuclear sites and access for the inspectors to these buildings with short-term notification;
- obtaining information about the development and export of sensitive technologies related to nuclear activity, and the mechanisms of corresponding on-site inspections;
- taking environmental samples beyond the declared sites if the IAEA deems it necessary;
- administrative activities improving the process of appointing inspectors, granting multiple-entry visas (necessary for undeclared inspections) and the IAEA's access to modern means of communication.

The Board of Governors has approved Additional Protocols with 45 states. Negotiations with Russia and some other states are under way. Cuba, which has an INFCIRC/66-type agreement with the IAEA, has also expressed its eagerness to sign an Additional Protocol, and the Board of Governors has approved it.

The expanding IAEA activities in the area of safeguards are demonstrated by the constant growth of the substantive quantity of nuclear material under the safeguards[25]: the number has risen from 94,294 in late 1996, to 103,883 in late 1998.

Since adopting the Additional Protocol, the Agency has continued its endeavors to improve the system of safeguards. Another stage is to develop an integrated system of safeguards, aimed at their optimization with

regard to new measures provided in the Protocol, and including the most economically feasible use of modern technical means. If the Agency knows that the undeclared irradiated fuel reprocessing plants really do not exist, it may reduce the level of safeguards currently required for such fuel. Such an optimization can touch upon other categories of nuclear material which are not sensitive from the viewpoint of nuclear nonproliferation. The economized resources can be used to control more sensitive nuclear material and to apply international safeguards to an increasing amount of nuclear material released from defense programs.

It is noteworthy that the money expended on the safeguards doesn't exceed $100 million: in 1998, the Department of Safeguards accounted for $80 million of the regular budget and obtained $18 million from extra-budgetary sources. The IAEA aggregate budget has had a zero growth rate for the last 15 years and amounted to approximately $220 million in 1998 (which is less than the price of one modern fighter aircraft).

The IAEA General Conference session noted in September 1999 that 52 non-nuclear weapon states participating in the NPT had not concluded or ratified safeguards agreements with the Agency. Although these states conduct no nuclear activities, they committed to sign these agreements under the NPT and should fulfil this obligation.

The 2000 NPT Review Conference will discuss the issues concerning IAEA safeguards in Iraq and North Korea. Since the UN Security Council hasn't set up a new verification mechanism for Iraq, the Agency is not able to provide for the application of required safeguards to verify the implementation of the 1991 UN decisions. The IAEA can't monitor all nuclear material in North Korea subject to the safeguards, but does monitor the *freeze-on* graphite-moderated uranium reactors and related facilities as required by the UN Security Council.

The IAEA is preparing to control weapon-origin fissile material released as a result of the dismantlement of nuclear warheads. In September 1996, Russia, the USA and the IAEA agreed that the Agency should verify weapon-origin material. In their joint statement of September 27, 1999, Minister of Atomic Energy Yevgeny Adamov, Secretary of Energy Bill Richardson and IAEA Director General Mohamed ElBaradei maintained that the parties had considered the implementation of the Trilateral Initiative aimed at solving technical, legal and financial problems of IAEA verification of weapon-origin fissile material, designated as no longer required for defense purposes. The parties stated that a substantial progress in developing and testing the verification equipment had been achieved. This is a new technology known as *information barriers* designed to allow the inspectors to derive sufficient information for the verification to be credible and independent, while preventing access to classified information as it is required by Article I of the NPT. The standard verification agreement may be used by other nuclear weapon states parties to the NPT to provide for the international monitoring over the fissile material released in the future under arms control agreements.

In the USA, the Agency will inspect the K-Area Material Storage Facility at the *Savannah River Site*. In Russia, the monitoring will be organized at the Fissile Material Storage Facility at the *Mayak* plant, which is under construction in the Urals.

The delegates of the General Conference had a chance to visit an exhibition of verification equipment and technology, which is being developed within the framework of the Trilateral Initiative. The exhibition provided information about the future Fissile Material Storage Facility at the *Mayak* plant in Ozersk, which will store Russia's weapon-origin plutonium. Among the technologies demonstrated, were the non-destructive neutron and gamma ray assay equipment, using *information barrier* technology to prevent the disclosure of classified nuclear weapon information; remote monitoring via the *Internet* involving test installations at the Sandia National Laboratories in the USA and at Sarov (Arzamas-16) in Russia; and integrated radio frequency sensor platforms

for inventory monitoring systems at storage facilities.

Taking into account the character of discussions on the IAEA safeguards at the Preparatory Committee meetings, we may presume that these matters, as usual, won't be a stumbling block for the decisions of the 2000 NPT conference.

The same goes for the issue of peaceful uses of nuclear energy. In 1998, nuclear power plants (434 nuclear energy units) accounted for 16% of the world's energy output. Throughout the year four more units became operational - three in South Korea and one in Slovakia. The number of reactors under construction amounted to 36, most of which were being built in East Asia. Seven reactors were shut down. After the *Civaux-2* reactor in France has been built the European Union will construct no more energy reactors. The USA, which is the world leading nuclear energy producer, cancelled the construction of NPPs many years ago. Despite the continuous building of new nuclear power plants, in some countries the share of electric power produced by the NPPs will reportedly decrease from 16% to 13% in 2010 and drop to 10% in 2020.

In 1998, the IAEA's financial situation improved thanks to the donations of the member states to the Technical Assistance and Cooperation Fund. 73 states took part in financing the Agency's projects in developing countries, generating a total of $65 million.

In April 1999, the parties to the 1994 Convention on Nuclear Safety held their review meeting in Vienna to study the states' reports on the situation regarding nuclear safety. The report of the meeting stated that the process of reviewing the individual reports had demonstrated their importance for national nuclear safety programs[26].

Finally, we would like to deal with the situation as regards the implementation of the 1995 conference resolution on the Middle East. No practical steps have been taken during the past years to meet the call for establishment of a NWFZ. The Madrid peace process is practically dead: the multilateral working group on arms control and regional security (ACRS), set up within the framework of the peace process, no longer meets due to Israel's unwillingness to discuss nuclear problems.

Israel (and the Israeli authorities do not deny it) possesses nuclear weapons and advanced delivery systems[27] but, presumably, have conducted no nuclear tests, except hydrodynamic experiments[28]. Moreover, Israel pursues an official policy of *opacity* in nuclear matters. One can assume that, after the Indian-Pakistani nuclear tests and while there is instability in the Middle East, the Israeli politicians and mass media have got new arguments for preserving nuclear means of deterrence.

Following the decision of the General Conference on the application of comprehensive safeguards as the basis for establishment of the NWFZ in the Middle East, the IAEA Director General addressed Israel and received the traditional response: 'The policy of Israel has always maintained that the nuclear issue, as well as all regional security problems, conventional and non-conventional, should be dealt with solely within the context of the regional peace process.'[29].

In these circumstances, Arab states will naturally raise the issue of NWFZ in the Middle East in a most resolute manner at the 2000 conference and this will, obviously, complicate the situation. Nonetheless, bearing in mind the Israeli interest in maintaining the nuclear nonproliferation regime, we can only hope that the Cabinet of Ehud Barak will be able to start the dialogue with Egypt and other Arab countries on nuclear matters within the framework of the Middle East peace process, which, in fact, is under way.

Some Steps to Strengthen Nuclear Nonproliferation

Summing up the course of implementing the 1995 NPT Review and Extension Conference decisions, we have to admit that nearly all key political decisions have not been fulfilled. Besides, the political climate in the world does not bode well for the successful

conclusion of the 2000 NPT Review Conference. One can presume that the conference will be a success even if it only manages to keep the current status of the nonproliferation regime and to review the implementation of the treaty without any substantial losses.

It is obvious that all nuclear weapon states are interested in maintaining and strengthening the international nuclear nonproliferation regime. However, experience shows that, in practice, at least some of them like to follow their transient interests and indulge in some violations of the regime. They often do not take into consideration the broad nonproliferation agenda, which is paramount to ensuring the efficiency of the regime. To mention just two examples, the State Duma has been delaying the process of START II ratification and the US Senate refused to approve the CTBT.

Due to differences on this or that matter, the interaction of nuclear weapon states in the area of nonproliferation is becoming increasingly formal and is not always fruitful. In fact, none of these states has managed to give an adequate response to the key issues of the NPT: the fate of the regime depends on the coherent efforts of these states to cut down nuclear arsenals, and their ability to find new ways of maintaining strategic stability in the changing world. It is noteworthy that this question relates not only to Russia or the United States but concerns all nuclear weapon states, including those countries that have recently demonstrated their possession of nuclear explosive devices or those that may *hide* their nuclear bombs *in the cellar*.

Despite the complicated situation regarding NPT implementation, and the gloomy prospects of the 2000 conference, we can't give way to despair, as some experts do, by predicting the end of the arms control era and a new arms race following the Senate voting on the CTBT.

We believe that the *post-arms race epoch* still has a chance of survival. There is a window of opportunity for further nuclear arms reduction. As for the 2000 NPT Review Conference, it is still possible to improve the situation in the next few months and to take some steps to implement the provisions of the treaty which currently raise grave concerns (some of our recommendations have been described above).

At the bilateral level (Russia-USA)
Provide for the entry into force of START II. The US Senate has ratified the treaty but without additional agreements concluded in September 1997 in New York. Nowadays, the Senate links the ratification of these additional documents with amending or abolishing the 1972 ABM treaty. The State Duma has been considering START II for several years, has discussed the treaty at the level of committees in cooperation with the executive branch, has prepared all necessary documents for ratification and even agreed on the time of voting. Nonetheless, the unfavorable political climate, including foreign policy developments, such as the NATO expansion to the east and NATO attacks against Yugoslavia, and domestic policy factors, such as the differences among parliamentary factions and their confrontation with the government, has resulted in new delays with the voting. However, there is still a chance for START II ratification by the new Duma to be elected in December and its entry into force before the 2000 conference.

The parties can come to an agreement on START III and the ABM treaty as was decided by the two presidents during their meeting in Cologne on June 20, 1999. Some Russian independent experts believe that the USA and Russia can meet halfway, taking into account their concerns and interest in further arms reduction and maintaining strategic stability, on the following basis.

START III will envisage the reduction of strategic offensive arms to 1,500 warheads for each state with the subsequent elimination of nuclear warheads under mutually acceptable transparency to prevent the use of *reverse potential.* START III should provide for the possibility of mounting MIRVs on existing (to be remained under START II) stationary or mobile missiles (but no more than three re-entry vehicles on each missile).

The ABM treaty will continue to be effective preserving the existing ban on deploying the ABM systems for a defense of the territory and providing a base for such a defense (Article I). At the same time, the parties may agree to designate two areas of limited missile defense deployment with the same number of interceptor missiles as it is provided in the treaty (Article III). Hence, the amendments would deal with the ABM deployment sites, which may be chosen by the parties. This could be achieved by making amendments to the Protocol related to the ABM treaty of 1974 reducing the number of sites from two to one. Thus, the modified treaty would allow for developing limited missile defense without undermining strategic stability, whose '*cornerstone*' it is, as confirmed by the two presidents in Cologne on June 20, 1999.

It will be significant if the parties manage to achieve a principal, if not final, agreement on START III and the ABM treaty before the 2000 conference.

It would be reasonable to take measures to promote the cooperation of the two states in the area of developing non-strategic missile defense systems.

In our opinion, a solution of the issues concerning offensive and defensive arms on the aforesaid basis would meet the Russian interests in maintaining international stability. Otherwise, Russia risks not only *losing* the ABM treaty but impeding the process of nuclear arms reduction and inflicting irrevocable damage on the nonproliferation regime.

Intensify efforts to implement the Trilateral Initiative (together with the IAEA) to verify weapon-origin fissile material in conformity with the agreement reached in Vienna in September 1999 at the meeting of the two energy ministers and the IAEA Director General.

At the five-power level (Russia, the USA, the UK, France and China)
It is necessary to agree at the top-level talks (presumably at the summit of the *P-5*) that after concluding START III the parties will start five-power negotiations on further nuclear arms reduction. The parties should discuss the possibility of inviting the UN Secretary General or his special representative to participate in the talks so that the international community might be in the know. An appropriate declaration of intentions should be made before the 2000 conference.

The parties should try to agree on the *negative* security assurances for non-nuclear weapon states, in the form of a UN Security Council resolution. Taking into account the special position of China, it would be helpful if the Chinese Government agreed to such a resolution and refrained from blocking its adoption. In exchange, China would make an additional unilateral statement in compliance with its declared non-first use policy. This UN Security Council resolution on *negative* assurances would strengthen the existing unilateral statements of nuclear weapon states, although it won't completely meet the demands of non-aligned states for an international convention on security assurances. This resolution would be complementary to Resolution 984 on the *positive* security assurances.

At the multilateral level
It is necessary to start the FMCT negotiations before the 2000 conference. Nuclear weapon states should take a flexible position on setting up the corresponding committee at the conference if non-nuclear weapon states insist on the parallel establishment of other subsidiary bodies, e.g. on nuclear disarmament issues. It would be reasonable to take into account the position of China and some other states on creating a subsidiary body on PAROS.

The CTBT entry into force before the NPT conference is unrealistic. Nonetheless, partial and even substantial progress in increasing the number of ratifiers, especially from among the 44, is quite possible before the 2000 NPT Review Conference. This would be useful for the NPT conference.

As for Russia, it is extremely important that the State Duma ratify the CTBT at the earliest

possible date. President Yeltsin should encourage the ratification process.

Russia, the USA and other states should take steps to persuade India and Pakistan to sign the treaty as their premiers promised before.

[1] Cuba occupies a special place in this list, since the only operating reactor of zero power and energy units to be constructed in Haragua are under the IAEA safeguards. Moreover, Cuba has agreed to sign the Additional Protocol with the Agency (INFCIRC/540) and the Board of Governors approved it in September 1999.
It would be good if before the 2000 conference Cuba completed all procedures necessary to accede to the Tlatelolco Treaty, which it signed in 1995. This step would contribute to the efficiency of the treaty and, besides, could be used to exert pressure on Israel, India, and Pakistan to make them join international nonproliferation efforts. Moreover, this Cuban step might give impetus to other states to accede to the NWFZ treaties and promote further establishment of nuclear-weapon-free zones. Even more important would be Cuban accession to the NPT.
However, according to the recent statements of Cuban officials at the international forums and our conversations with some of them, it is hardly feasible. Thus, the head of the Cuban delegation at the 43rd session of the IAEA General Conference (September 1999) said that his country was still supporting its opinion about the discriminatory character of the nonproliferation system and referred to the 1996 *Helms-Burton* law passed by the US Congress which declared that the functioning of any nuclear plant on the Cuban territory would be regarded as aggression against the USA.

[2] The Israeli researcher Avner Cohen believes that on the eve of the 1967 war with Arabs Israel had two nuclear explosive devices which might have been delivered to the targets with available delivery systems. (A.Cohen, *Israel and the Bomb,* NY, 1998, p. 274).

[3] The 1998 *G-8* summit in Birmingham urged India to listen to global public opinion and immediately join the NPT and the CTBT (the summit took place before the Pakistani nuclear tests).

[4] In the Lahore Declaration signed by the Indian and Pakistani prime ministers on February 21, 1999, the parties pledged their commitment to universal nuclear disarmament and nonproliferation. However, the parties failed to continue the dialogue.

[5] L. Scheinman, Engaging Non-NPT Parties in the Nuclear Non-Proliferation Regime. *PPNN Issue Review*, No.16, May, 1999, p. 2.

[6] Ibid., p.3.

[7] Ibid., p.5.

[8] Some observers attending the conference believed that its convening was counter-productive and pointed out that the Republican majority in the US Senate timed the negative CTBT voting to coincide with the conference.

[9] *Arms Control Today*, June-July, 1998, pp. 3-9.

[10] R. Timerbaev, Prospects of CTBT Entry into Force. *Yaderny Kontrol Journal*, No. 3, May-June, 1999, pp. 67-71. Director of the Nuclear Program of the Moscow Carnegie Center Alexander Pikayev has also supported the idea of the earliest possible submission of the treaty to the State Duma (*Moscovskiye Novosti*, No. 40, October 19-25, 1999).

[11] *Disarmament Diplomacy*, No.37, May, 1999, p.27 and No.39, July-August, 1999, p.19.

[12] It is noteworthy that the Chinese delegation headed by China's deputy minister of foreign affairs visited Moscow in April 1999 and had consultations with Deputy Foreign Minister Georgy Mamedov. The parties issued a communique emphasizing the critical importance of preserving the ABM treaty and stating that China, although not being an ABM treaty participant, expressed its solidarity with the Russian endeavors to prevent attempts to undermine or circumvent the treaty.

[13] At the Conference on Disarmament, South Africa proposed to apply verification measures to the FMCT similar to the IAEA safeguards and mentioned that as a result of using only transparency measures with regard to fissile material in the USA, 2,800 kg of plutonium have been left unaccounted for.

[14] While the State Duma hasn't ratified START II in its full form with all additional agreements, the US Senate has ratified the treaty only in its initial form without the protocol and other amendments negotiated and concluded in 1997.

[15] Nuclear weapons will remain a necessary means of deterrence for a long time. However, in the current political situation, the demonstrative stressing of the special role of nuclear weapons for the Russian Federation (which is often used by some representatives of the Russian military-political elite to obtain additional funding for the nuclear complex, or because of populist considerations) is not understood by many and irritates the international public. Russia should avoid this. In this connection, it is necessary to mention the published draft of a new military doctrine which broadens the potential use of nuclear weapons.

[16] The 1999 NATO summit reaffirmed the alliance's strategic concept, providing for the first nuclear strike and the deployment of US nuclear weapons in Europe for a undetermined period.
[17] C.S. Fischer, *Reformation and Resistance: Non-Governmental Organizations and the Future of Nuclear Weapons*. The *Henry L. Stimson* Center Report, No.29, May, 1999. Washington, pp. vii-viii.
Cathleen Fischer, however, doesn't arrive at pessimistic conclusions, believing that the efforts taken by the NGOs in recent years have founded the basis for their future cooperation and for the emergence of new ideas to achieve nuclear arms reduction and to exert pressure on the governments and legislators.
[18] UN Document, S/1999/996.
[19] The treaty became effective in 1997. Nonetheless, without the Protocol, which is its integral part, the Bangkok Treaty is not truly effective.
[20] I. Safranchuk, The Russian Position on the Creation of a Nuclear-Weapon-Free Zone in Central Asia. *Yaderny Kontrol Journal*, No. 4, July-August, 1999, p. 45.
[21] Clay Moltz, Brief History of Establishing Nuclear-Weapon-Free Zones. Presentation at the briefing seminar "*Nonproliferation and Mass Media*". Alma-Ata, July 16-17, 1999, p. 18.
[22] Ibid., pp. 17-18.
[23] Ibid., p.15.
[24] NPT/CONF.2000/PC.III/9
[25] The data is given according to the IAEA annual reports of 1996 and 1998. The substantive quantity is 25 kg of uranium-235 and 8 kg of plutonium and can be found in separated plutonium, plutonium in irradiated fuel, highly-enriched or low-enriched uranium and other nuclear material.
[26] IAEA Document, GOV/INF/1999/11-GC(43)/11
[27] According to the Tel-Aviv-based *Ha'aretz* of April 12, 1999, Israel has developed the third generation Jericho ICBM with the range of 11,500 km. (See: *PPNN Newsbrief*, No.46, 2nd Quarter 1999, p.19).
[28] Israel, presumably, conducted such a test in November 1966. (A.Cohen. *Israel and the Bomb*. NY, 1998, p. 232). A hydrodynamic test involves the testing of a nuclear charge by using high explosives to exert pressure on substitutes for fissile material or small quantities of uranium-238.
[29] IAEA Document, GOV/1999/51-GC(43)/17. Annex II, p. 4.

Viewpoint

SHAPING THE NON-PROLIFERATION AGENDA FOR THE COMING DECADE

by Michael Davenport,
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This speech was delivered by Mr. Davenport at the PIR-IISS conference "Nonproliferation Policies: Shaping Agenda for the Coming Decade" held in Moscow in late October 1999. Mr. Davenport spoke on behalf of Mr. Paul Hare, Head of the Non-Proliferation Department at the Foreign and Commonwealth, concerning the priorities in this area as seen from the UK. In his report, he also thanked the organizers for taking the initiative to bring together those interested in non-proliferation issues in Russia, the United Kingdom and elsewhere and paid tribute to the important role played by the PIR Center in enhancing understanding of non-proliferation issues in the Russian Federation.

As a consequence of current problems, it is not difficult to be pessimistic about the coming decade. Many things are not going as we would wish at the moment.

Three important states are not parties to the *Non-Proliferation Treaty* (NPT) as Non-Nuclear Weapon States (NNWS) - India, Israel and Pakistan. Regrettably, there is no realistic prospect that they will become parties in the near future. Instead, there is a serious danger of a new arms race developing in the sub-continent following last year's tests by India and Pakistan. Some NNWS parties to NPT also pose a continuing challenge - I am thinking here of Iraq and North Korea.

Meanwhile, efforts by two major Nuclear Weapon States (NWS) parties to NPT to reduce their nuclear forces are not proceeding as smoothly as was anticipated in September 1997, when agreements were

reached in New York designed to ensure the ratification of START II and to resolve outstanding issues relating to the ABM Treaty.

On top of all this, we are now faced with the rejection by the US Senate of the *Comprehensive Test Ban Treaty* (CTBT), in addition to the failure of India and Pakistan to sign CTBT and our inability to start negotiations on a *Fissile Material Cut-Off Treaty* (FMCT) at the Conference on Disarmament in Geneva. The UK has ratified the CTBT. We welcome the continuing commitment of the US administration to secure the ratification of the treaty in the form, in which it has been ratified by the UK, France and others.

In addition, it is proving more difficult than we had hoped to conclude negotiations on a *Verification Protocol* to the *Biological and Toxic Weapons Convention* (BTWC). Several important Middle East states have yet to ratify the Chemical Weapons Convention.

Against this background, there is an even greater need for us to work together to shape an agenda for the coming decade that will put things back on a more promising path.

A good start would be the successful conclusion next year to negotiations on a *Verification Protocol* to the BTWC. We would also like to see continuing progress with the implementation of the *Chemical Weapons Convention*, including renewed efforts on CW destruction and conversion of former CW production facilities.

A start to FMCT negotiations would be a further step forward, as would renewed momentum towards meeting the CTBT's conditions for entry into force. In this context, we welcome Russia's stated intention to accelerate the process of Russian ratification of CTBT.

And, of course, it will be essential for the USA and Russia to find an agreed way forward on the ABMT-START nexus in order to keep the whole structure of strategic nuclear arms control in place and moving in the right direction. We very much hope that a serious US-Russia dialogue on this complex set of issues can lead to a mutually acceptable balancing of concerns for strategic stability, on the one hand, with legitimate concerns about threats from missile proliferation, many of which have arisen since the ABMT was first signed in 1972, on the other.

It is essential that the United States and Russia keep this show on the road in order to put pressure on India and Pakistan to restrain their nuclear programs and to reassure the bulk of good-faith NNWS parties to the NPT that their continued self-restraint is paving the way to implementing the goals of the *Non-Proliferation Treaty* and not simply leaving the field open to others.

This in turn will strengthen international support for efforts to deal with the small number of NNWS which pose non-compliance challenges and concerns. It is worth underlining in this context the importance of reinforcing existing international export control regimes, especially (in this context) the *Nuclear Suppliers Group* and the *Missile Technology Control Regime*. We welcome the attention given in Russia to strengthening Russian export control legislation, including the adoption of a new federal law. The key will be to see its effective implementation, especially in the areas of enforcement and internal compliance. The UK is engaged in a program of cooperation to support these efforts.

Even during the worst years of the Cold War, the Soviet Union and Western powers found sufficient common ground to promote an effective non-proliferation and arms control agenda. More than ever, it is essential to harness the necessary political vision to make progress on these vital issues, not only in the coming decade, but in the coming century.

Analysis

DRAFT OF THE MILITARY DOCTRINE: THE NUCLEAR FACTOR

by Andrei Gordiyenko,
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Translation into English. Abridged version

On October 9, 1999, the draft of a new Russian military doctrine was published. This document has been under development since 1994. When in October 1993 Russia approved the *Basic Provisions of the Military Doctrine*, the first such document in the history of the USSR and Russia, everyone realized that this document had a provisional character. However, the development of a new doctrine was delayed for a number of reasons. Intensive deliberate work on the new doctrine started immediately after appointing Igor Sergeyev as Defense Minister. Nonetheless, the ideas of Sergeyev's team were irritating the General Staff and the ministry officials, which impeded the work on this document. A new variant of the doctrine was expected to appear in 1998. But the struggle around the *Concept of National Security*, when the ministries and agencies concerned were presenting their own drafts directly to the Commander-in-Chief, has ruled out the possibility of speedy elaboration of the doctrine.

According to military experts, the military doctrine should contain the basic principles of modern warfare, indicating the ways of preventing and conducting a war. It is not meant to sum up Russia's military development, to analyze the state of the Armed Forces, or to set forth a long-term defense policy plan. In this sense, the meaning of the military doctrine hasn't changed since 1993, when there were discussions about the essence of the military doctrine. The draft states that the military doctrine is 'a systemized aggregation of fundamental official views, concentrated in a single document, on preventing wars and armed conflicts, on their character, on the ways of conduct, and on the organization of the state and social activities to provide military security of the Russian Federation and its allies.'

The structure of the doctrine comprises three parts: military-political, military-strategic, and military-economic guidelines for providing Russia's military security. The document has no separate section devoted to nuclear arms and nuclear policy. Provisions on nuclear matters can be found in all three parts of the doctrine.

The general principle determining the nature of the doctrine is its defensive character stated in the introduction, 'The military doctrine has an exceptionally defensive character predetermined with the combination of a persistent commitment to peace and the firm resolution to defend national interests and ensure the military security of the Russian Federation and its allies.'

Military-Political Guidelines

As far as nuclear issues are concerned, the first section of the doctrine is the most detailed. The doctrine states that the modern world has two trends: the shaping of the multi-polar world order with universal non-force mechanisms of conflict resolution; and the shaping of the unipolar world with the prevalence of force and uncoordinated measures of conflict management. The authors of the doctrine share the second vision of the world and base the document on these assumptions. Hence, they name the following '*key features of the military-political situation*':

- '*the decreasing threat of waging a world war, including nuclear war*';
- '*the increasing regional arms race*' (It is difficult to understand whether they mean missile and nuclear areas or not. The doctrine on the whole clearly distinguishes nuclear arms and other WMD from conventional arms. Therefore, we may presume that this phrase relates to missile and nuclear areas, for there are no reservations.)
- '*the proliferation of nuclear arms and other types of WMD and their delivery systems*'.

Among the main factors destabilizing the military-political situation, the authors mention '*the violation of international treaties and agreements in the area of arms limitation and disarmament*'.

The aforesaid provisions evidently characterize the new features of a multi-polar world: forming regional centers of power, separatism, etc. It is noteworthy that many provisions of the first and second sub-sections [features and destabilizing factors - **Ed**.] coincide and just have a different wording. At the same time, the first sub-section speaks about 'the expansion and deepening of transnational organized crime groups, terrorism, illicit arms trade, and drug-trafficking', while this factor is not included in the second sub-section.

The analysis of these two sub-sections draws us to a conclusion that the main features of the multi-polar world are regarded in Russia as challenges to national security, although this is not stressed in the doctrine in order to save the multi-polar concept, i.e. the fundamental principle of the Russian foreign policy. The sub-sections have evident contradictions. For instance, the first sub-section mentions '*the development of mechanisms for maintaining international peace and security at global and regional levels*'. Meanwhile, among the destabilizing factors we can find 'the decreasing efficiency of existing mechanisms for maintaining international security, above all the UN and the OSCE'.

Analyzing '*the major threats to military security*', the authors of the doctrine emphasize that the 'threat of direct military aggression against the Russian Federation and its allies in its traditional forms is prevented by pursuing an active foreign policy course, maintaining a sufficient level of Russian military might, including the potential for nuclear deterrence.' This statement runs counter to the aforementioned '*decreasing threat of waging a world war*'. It would be more reasonable to speak about the decreasing possibility of waging a world war because the interpretation of the military aggression implies that the threat will remain.

When there is little probability of direct aggression against Russia, '*the major external threats*' relating to the nuclear sphere are 'the activities aimed at undermining global and regional stability through interdicting the work of Russian systems of state and military control, systems providing for the normal functioning and combat viability of the strategic nuclear forces, missile attack early warning, missile defense, controlling outer space, and for the normal functioning of nuclear munitions storage facilities, nuclear energy facilities, nuclear and chemical industry facilities, and other potentially dangerous objects.' So, the existence of threats to Russian nuclear and strategic facilities implies that these facilities may have to counter diversions or other similar activities.

The list of internal threats focuses on terrorism: five out of six named threats relate to terrorism. The list of external threats also includes diversion and terrorist activities as we have already said. Unfortunately, the doctrine doesn't try to correlate in detail all these factors.

The doctrine implies that nuclear arms play an important role in '*providing state military security*'. This comes from the following provisions:

- Russia 'preserves its nuclear power status to deter (prevent) aggression against it and its allies';
- 'accurately fulfils all intertwined commitments concerning strategic offensive arms and missile defense, and is ready to provide for further reduction of its nuclear arms bilaterally - with the USA - and multilaterally - with other nuclear weapon states - to the minimal levels meeting the requirements of strategic stability and of maintaining the strategic arms balance as a guarantee from returning to a global confrontation and arms race, if other states, above all the USA, are also committed to these goals through preserving and strengthening the 1972 ABM treaty';
- 'stands for attributing a universal character to the nonproliferation regime, for the stopping and comprehensive banning of tests, and, in the future, for

complete elimination of nuclear arms as an ultimate goal';
- 'promotes the expansion of confidence-building measures in the military sphere, including mutual exchange of military information, coordination of military doctrines, plans, and military construction, and of military activity' (we believe that this provision relates to the nuclear area as well).

The sub-section "*Key tasks of providing military security*" contains a number of provisions for both the times of peace and war. It is noteworthy that in this sub-section there are practically no provisions relating to nuclear weapons. In times of peace the key tasks are 'the prevention (deterrence, including nuclear) of aggression or threat of aggression of any scale against the Russian Federation or its allies on the part of any state or a group of states', 'verification of the implementation of commitments taken by the foreign states in the areas of arms limitation, preservation, elimination, and confidence-building'. Before war and when war breaks out, the key tasks will be to 'suspend the implementation of Russia's international commitments in the area of arms limitation, preservation, and elimination'.

The doctrine includes some details of the Russian nuclear policy. It is strange that these details are mentioned in the sub-section "*Military organization of the state*". The document states that Russia must have a potential for nuclear deterrence ensuring 'the infliction of required damage to any aggressor, either a state or a coalition, under any conditions'. The document continues with the declaration of the negative safeguards regarding non-nuclear weapons states, 'Russia will not use nuclear arms against the NPT member states not possessing nuclear weapons if there is no invasion or any other attack against the Russian Federation, its territory, its Armed Forces or other troops, its allies, or against a state, to which it is tied with security commitments, carried out or supported by a non-nuclear weapon state jointly or due to alliance commitments with a nuclear weapon state.' The doctrine doesn't mention directly Russia's right to the first use of nuclear weapons. However, the document states that 'the Russian Federation keeps the right to use nuclear weapons in response to the use of nuclear arms and other WMD against it or its allies, and in response to a large-scale aggression with the use of conventional arms in situations critical for the national security of the Russian Federation or its allies.' In fact, this practically means the declaration of the right to the first use of nuclear weapons.

Taking into account the significance of nuclear weapons, the development and improvement of nuclear deterrence forces is called a top-priority for military construction and military organization of the state.

Military-Strategic Guidelines

The sections starts with the classification of modern wars, in accordance with three criteria:
- military-political objectives;
- employed combat means (nuclear - with the use of nuclear weapons or other types of WMD; conventional - with the use of conventional arms);
- scale (local, regional, and global).

The doctrine admits the possibility of world and regional nuclear warfare and argues that a conventional world war '*will be characterized by a high probability of escalating to a nuclear level*'. The doctrine suggests that any nuclear conflict, either global or regional, will result from a non-nuclear confrontation. This means that Russia doesn't see the danger of direct nuclear aggression and practically rules out the possibility of sudden nuclear attack.

This section reiterates some of the provisions of the first section:
- Russia's right to use nuclear weapons if necessary to prevent or repel aggression;
- the main mission of the nuclear arms is deterrence; in case of nuclear warfare - infliction of required damage;
- one of the main tasks of providing military security is to maintain the organization, composition, combat and mobilization readiness, and training of the strategic nuclear forces;
- one of the main tasks of repelling aggression against the Russian

Federation and its allies is to maintain the readiness for use and to use (as provided in the doctrine) the potential of nuclear deterrence.

Military-Economic Guidelines

One of the priority tasks of maintaining military security with military-economic means is to provide for '*the qualitative improvement of the strategic arms complex*'. One of the major tracks in this area is 'the implementation of international commitments on reduction and limitation of Armed Forces and arms, as well as the maintenance of international security and peace.'

We would like to point out a provision of the sub-section "*International military and military-technical cooperation*". The key mission of international military and military-technical cooperation is 'to increase the inflow of hard currency for the needs of the state, for the development of military production, conversion, elimination and disposal of arms and materiel, structural reform of the enterprises in the defense industries.'

Analysis of the military doctrine enables us to make some conclusions concerning the perception of military threats by the Russian leadership and the approaches to neutralize these threats.

The doctrine, especially its first section, has obvious contradictions. The main contradiction lies between the perception of the multi-polar world (positive) and the ways of describing the modern world (through negative factors, hence, virtually equating the characteristics of the modern world with the destabilizing factors).

The doctrine practically rules out the possibility of a nuclear attack against Russia. Some parts of the document put it more clearly, others - more vaguely. It is difficult to understand how small the probability of nuclear aggression is. The nuclear factor is mentioned in the list of external threats only because of its possible impact on the Russian systems of control over nuclear weapons and nuclear munitions' storage, missile defense system, etc. At the same time, one of the main reasons for possessing nuclear arms is to prevent aggression, including nuclear aggression. The doctrine implies that the availability of nuclear arms reduces the risk of nuclear attack. So, the dilemma is that the means of neutralizing one threat become the source of another threat. This dilemma has not been addressed in detail in the document.

The doctrine attaches significant attention to terrorism. This is a positive fact, but the document doesn't characterize the threats coming from terrorists and doesn't offer the ways of combating these threats.

If the previous variant of the nuclear doctrine and the 1997 *Concept of National Security* reflected the trend of the increasing role played by the nuclear factor in maintaining Russia's national security the present document doesn't develop this trend. This doesn't mean that *nuclear wording* in the doctrine is less tough. However, we can feel the reassessment of threats to Russia in the modern world. It is noteworthy that the doctrine doesn't mention nuclear weapons as the means for providing Russia's Great Power status (this was one of the fundamental principles of Russian nuclear policy).

YADERNY KONTROL JOURNAL (IN RUSSIAN) IN 1999

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