Reducing Nuclear Tensions:
How Russia and the United States
Can Go Beyond Mutual Assured
Destruction

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This report was prepared by a group of experts from the Institute of the United States and Canada of the Russian Academy of Sciences (Sergey Rogov, Victor Esin and Pavel Zolotarev). The authors note that implementation of the concepts contained in the report may require more time than the schedule outlined here. Much will depend on the state of relations between the United States and Russia, as well as possible threats posed by third countries, in particular, China. Nonetheless, the authors believe the concepts contained in the report should proceed and that any obstacles are surmountable.

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EXECUTIVE SUMMARY

1. The policy of Mutual Assured Destruction (MAD) still practiced by Russia and the United States is incompatible with the collaborative strategic relationship the two countries have declared and are attempting to develop. Indeed, serious collaboration requires both Russia and the United States to stop viewing the other as a threat.

   Today, relations between the U.S. and Russia rule out MAD as a necessary or desirable basis for mutual security arrangements. Reliance on a massive nuclear threat to deter an attack that neither side has any reason or intention to undertake is irrational; moreover, it creates the possibility of a catastrophic accident. MAD is a crude and dangerous policy that should no longer be utilized, as more refined and effective measures are available.

2. The national interests of both Russia and the United States dictate that both countries act immediately to minimize the operational risks of their nuclear deterrent policies and eventually terminate the practice of MAD altogether.

   This cannot be achieved overnight. The concept of MAD embraces a broad spectrum of problems of Russian-American relations, including political, economic, military and other spheres. In essence, the policy of MAD is determined by these factors. This means that Russia and the United States need to radically improve their relations in all the spheres mentioned above. In order to be able to renounce MAD, the two countries must become strategic partners not merely in rhetoric but in reality as well. If this is to occur, the legacy of antagonism and mistrust accumulated during the Cold War will have to be overcome.

3. The first task is to minimize the significant risks that arise today through the operational nuclear force postures of Russia and the United States.

   This can be accomplished in the course of implementing new approaches to Russian-American strategic relations defined in the May 24, 2002, Joint Statement by Presidents Vladimir Putin and George Bush. Implementing the provisions of the Moscow Strategic Offensive Reductions Treaty will also help accomplish this task.

   This report examines a number of specific political, diplomatic, military and technical measures beyond those measures referenced above. The implementation of these measures, provided there is the necessary political will, may result in minimizing mutual nuclear risks. These measures include:

   - Harmonizing Russian and American nuclear policies;

   - Addressing concerns in connection with the implementation of the Moscow Strategic Offensive Reductions Treaty and the implementation of other measures;

   - Greater transparency in questions concerning the existing and future nuclear forces of both sides;

   - Creation of a joint early warning system;

   - Renunciation of plans to deliver launch on warning strikes in combination with lowering the alert status for the main part of land- and sea-based components of the "nuclear triad"; and

   - Rational moderation by the United States in deploying the national Ballistic Missile Defense (BMD) system and expansion of Russian-American practical cooperation on questions concerning BMD defense.

4. At the next stage, Russia and the United States must reject the model of MAD and transition to a relationship based on the principles of mutual security.

   The authors of this report believe that political, economic, military and other prerequisites for renouncing MAD may be in place in 2010-2025. This may happen only if Russian-American strategic relations continue to develop successfully.

   This scenario suggests that MAD will be evolving on the basis of bilateral agreements and will gradually be replaced by a more cooperative model of interaction in order to change radically the whole system of Russian-American relations in the sphere of nuclear arms.

   The sides will have to build their nuclear deterrence strategies taking into account not only their own security interests but also those of their partner. This will require the implementation of a complex set of measures, which will make the delivery of a preemptive counterforce strike impossible.

5. Russia and the U.S. should move their nuclear relationship from one of mutual rivalry to military and political interaction based on the principles of cooperation. This will permit both countries to substitute a model of mutual assured security for MAD.

   Substituting a model of mutual assured security for MAD may take place only if Russia and the United States are able to make a political breakthrough and start coordinating their nuclear policies for real. Building cooperative relations will require eliminating uncertainties that were acceptable under the framework of MAD. The required level of transparency will make it impossible to continue the policy of MAD.

   The model of mutual assured security will require making adjustments in the military policy of both sides concerning tactical nuclear weapons, as well as conventional weapons.

   Russia and the United States will have to make deep cuts in tactical nuclear weapons, banning some types of such weapons completely. The two sides will also have to set clear limits on deploying tactical nuclear weapons in peacetime and provide for mutual routine notifications.

   With the end of the Cold War, Russian and American ground forces have been disengaged. It is also necessary to disengage air and naval forces of the two countries in order to prevent situations in which conventional forces of one country might pose a threat to the strategic objectives of the other country. This is especially important in light of the so-called "revolution in military affairs" dramatically enhancing combat capabilities of the new generation of conventional arms.

   The new type of relations between Russia and the United States in the nuclear sphere – making them close partners – may require qualitatively different agreements between them. A Mutual Security Treaty may best regulate this new type of relations.

THE COLD WAR LEGACY

During the Cold War, the United States and the Soviet Union were the two major opposing centers of power. They were also the two countries primarily involved in the nuclear competition. Each side sought to achieve a position of strength by relying on nuclear weapons, both for nuclear deterrence and for applying political pressure on the opponent. When any further numerical nuclear buildup became senseless, the focus of attention shifted to efforts to gain qualitative advantages, such as:

1. *Gaining an opportunity to strike first, unexpectedly, in a fashion forestalling the adversary's strike.*

2. *Delivering a blow in such a way so that following the strike, the enemy would not be able to implement the order for nuclear launch.*

3. *Threatening to knock out the adversary's strategic nuclear carriers to rule out or minimize the scale of a responsive nuclear strike.*

4. *Creating a system of tracking and monitoring nuclear weapons means of delivery that would allow detecting their use in real time.*

5. *Building nuclear weapons control systems that are able to detect the use of nuclear weapons by the enemy, to authorize retaliation, and to implement orders for nuclear retaliation before the enemy's weapons hit their targets.*

6. *Enhancing the level of survivability of one's own control system to such a degree as to allow implementing the order for launch following the enemy's nuclear strike.*

7. *Ensuring sufficient survivability of one's own nuclear carriers that they could still be used with a high degree of probability after a nuclear attack.*

Only after it became clear that the Soviet Union was capable of creating symmetrical threats to the United States along the whole spectrum of the strategic arms race were Washington and Moscow able to address the problems of strategic nuclear arms control and to start work on international agreements designed to ward off a nuclear conflict between the two superpowers.

More than ten treaties and agreements on nuclear arms control and strategic stability have been signed by the Soviet Union (and later Russia) and the United States.

In the course of negotiations, a number of important approaches concerning how to prepare agreements were developed. Soviet-American negotiations and the resulting agreements on arms limitation and reduction embraced at least six problems:

1. *The subject of negotiations, i.e., which arms are to be limited or reduced;*

2. *Levels of reductions;*

3. *Method of counting arms;*

4. *The time frame of arms reductions;*

5. *Techniques and procedures of reductions;*

6. *Mechanisms of verification.*

The two sides implicitly recognized the basic principle of conducting negotiations – that of equality and equal security. Following this principle meant that the sides recognized the need to maintain arms parity; to combine quantitative and qualitative limits; and to keep a certain dynamic balance between the two sides (considering their geo-strategic position; the deployment of their own and their allies' armed forces; etc.). It is safe to say there was common understanding that it was impossible to build up one's own security at the expense of the

partner's security. The recognition of this fundamental principle did not mean, however, that the sides always followed it in practice.

WHAT IS WRONG WITH THE MUTUAL ASSURED DESTRUCTION?

Since the end of the Cold War and of brinkmanship between the Soviet Union and the United States, concern over nuclear weapons has drastically diminished. The issue has been understood as one of managing the retreat from the nuclear arms race and handling its consequences, especially the ecological consequences or such problems as "loose nukes". Much less attention has been given to the nature of the nuclear postures and the strategic interrelationship that had been developed by the Soviet Union and United States and which remains mostly intact despite the end of the Cold War and the disappearance of the Soviet Union.

From the beginning of the "Atomic Age", nuclear weapons were perceived as the absolute means of destruction, which immediately created the political question of their usability. As absolute weapons, which can destroy humanity, nuclear systems couldn't be treated like any other weapon previously invented by the human mind. A conceptual effort was made to design a rational political role for something, which, by definition, is irrational. This original problem was never resolved, but the interim solution to it was found in the concept of mutual nuclear deterrence, which eventually was accepted as wisdom — the basis for strategic stability between the Soviet Union and the United States, and for a special regime encompassing the entire international community.

During the arms race both superpowers were able to build strategic nuclear forces which in their quantity and quality guaranteed mutual annihilation if the ideological and political competition between them will bring them to a nuclear war. Thus they were able to deter each other from use of nuclear weapons. The notion of mutual nuclear deterrence or mutual assured destruction (MAD) by the early 70s was recognized as a blessing in disguise, and was conceptualized as a foundation for the Soviet-American strategic stability.

The global confrontation between the United States and the USSR is behind us. The ideological sources of the conflict between Moscow and Washington disappeared when the Soviet Union was dissolved and the Russian Federation started reforms aimed at transition to market economy and political democracy. Russia and the United States are no more engaged in the global ideological and political rivalry that produced the need for mutual assured destruction. Today and in the foreseeable future they do not have any reasons for a nuclear confrontation. But the MAD model survived the end of the Cold War.

Mutual assured destruction is a very rigid relationship between Russia and the United States, when their nuclear deterrence postures are almost totally interrelated and evolve within this framework. What's also important - the decision-making of both sides on nuclear matters is not independent but is determined by actions and/or perceived intentions of the other side.

MAD is based on the dubious philosophical premise that you posture nuclear weapons in a way that demonstrates your ability to act irrationally, for by threatening to act irrationally you force the other side to behave rationally and not to cross a certain threshold. This is "a dialectic contradiction": You show that you yourself can cross this threshold as a means of preventing the other from doing so.

It is not always understood that the model of mutual assured destruction and a "pure" nuclear deterrence posture are not exactly the same. The nuclear deterrence posture may not be related against a particular country, even if this country possesses nuclear weapons. For instance, while Great Britain and France do rely on nuclear deterrence, they are not engaged in mutual assured destruction towards each other, even if they may sometimes strongly disagree on some issues. There is no mutual assured destruction between the United States and each of these two countries either.

The nuclear deterrence model based on mutual assured destruction is unique in that it exists only in Russian-American relations. Both superpowers subscribed to the mutual deterrence model, which was developed after the Cuban missile crisis and became accepted by the United States and the Soviet Union by the beginning of the 1990s. Both sides codified the rules of managing the nuclear arms race between them. The main principles of this system are:

1. Preoccupation with numerical parity;
2. Reliance on counterforce weapons;
3. A theoretical possibility of a preemptive strike;
4. Dependence on early warning;
5. Launch-on-warning;
6. Artificial distinction between "strategic" and "tactical" nuclear weapons;
7. Assumption that strategic offensive capability is stabilizing, defensive capability destabilizing;
8. Emphasis on "uncertainty" or lack of transparency.

First, preoccupation with parity characterizes the mutual assured destruction posture — the intention to maintain equality so the posture of each of the two players develops together with the posture of the other, the outcome of this is a continued interplay, the rigid rules of action and reaction, with both countries threatening the other with complete annihilation. The principle of parity was codified in the SALT, START and INF treaties.

The second feature of this model of MAD is its dependence on counterforce weapons, which can destroy hardened targets. Of course, all counterforce weapons can be used against urban/industrial targets. And even nuclear attacks against military targets will produce numerous civilian casualties. But the perception of the distinction between counterforce and countervalue weapons seemed to help to solve the moral and political dilemma, which the nuclear age created since Hiroshima.

The existence of counterforce weapons challenges this strategic stability system and renders it rather unstable. The counterforce weapons create the illusion that nuclear weapons are not means of mass destruction whose purpose is to kill many millions of innocent people, but "usable" weapons which differ from conventional weapons only by their greater firepower and thus can be used for rational political purposes, which are no more immoral than any other traditional means of war-making.

Only Russia and United States have counterforce capability — the nuclear weapons capable of conducting a preemptive disarming and decapitating strike. The technical capability to conduct precise nuclear attacks against the other side allows the possibility of preemption and

avoidance of a retaliatory counterattack. The reliance on counterforce weapons raised at least theoretically a possibility of a preemptive strike, which can disarm and decapitate the enemy. The scenario of a surprise nuclear attack against your own targets ("the bolt out of the blue") has become the preoccupation of the military planners.

It also should be taken into an account that both sides were able to create delivery means that can carry a large number of independently targeted nuclear warheads. The MIRVing of strategic missiles established such ratios between delivery means that theoretically allow most if not all delivery means of the opponent to be destroyed with only some of your prompt delivery means.

The possibility of a preemptive strike may create doubts about the inevitable retaliation against the attacker. Thus one can seriously plan the scenario for a "victory" in a nuclear war, with the first strike seen as a prerequisite for saving your country from what otherwise would be an inevitable annihilation.

More than that - it's claimed that war-fighting capabilities are necessary to provide credibility to the nuclear deterrence posture. This claim blurs the distinction between the nuclear deterrence posture and the nuclear war-fighting posture. In fact the possibility for preemption by the other side can be used as a justification for the planning of your own first strike.

The scenario of a preemptive counterforce strike makes it necessary to ensure tactical warning of the imminent attack by the other side. So the focus is on the alert status of the nuclear forces of the opponent. Detection of the changes in the alert status of the strategic forces has become as important (if not more important) as the evaluation of their development and deployment and of the political intentions of the other side. Thus the nuclear postures of both the United States and the USSR over the years have become dependent on multi-layered early warning systems, including ground based long-range radars and space based detectors.

That's why each side continuously expects a surprise devastating attack and must rely on tactical warning. You must not miss the launch when the other side begins the attack, so both sides maintain their forces on alert — ready to launch within minutes after the other side launches its missiles. Both side adopted the launch-on-warning posture, which in Russian military doctrine is defines as "retaliatory-offensive strike" (while on the one hand emphasizing the retaliatory nature of this posture, it also reflects the notion of an operation when both sides simultaneously attack, when both sides are on the offensive).

That means that neither country is willing to absorb the first strike and take a purely retaliatory posture. The alert status necessary to make the launch on warning credible is extremely difficult to distinguish from the readiness to begin a preemptive strike. It also allows a human or a technical mistake, leading to the threat of an accidental nuclear war.

Another main feature of this relationship is the possibility of escalation. Vertical escalation occurs as an effort to resolve the original shortcoming of nuclear weapons: their unusability. In a situation of escalation, you have choices at each step — whether to give up or face the consequences of escalating all the way to complete annihilation. And sometimes it is asserted that even a limited use of strategic nuclear weapons may present the opponent with a dilemma, when it will have to face the choice between accepting defeat or loosing its most valuable targets.

The existence of non-strategic nuclear weapons provides for possible plans to initiate their usage at a certain stage of a conventional military conflict. It was claimed that tactical, or battlefield nuclear weapons, or intermediate range nuclear weapons could allow to achieve decisive objectives of a conventional war, when the opponent may be deterred from a massive nuclear retaliation by your own strategic forces.

The vertical escalation implies the notion of nuclear thresholds or steps on the escalation ladder, which claims that the dominance at a certain stage of a nuclear conflict will make it possible to achieve "victory" in a limited nuclear war. If the opponent will try to dominate a certain stage by his sub-strategic weapons, you have to raise the stakes by escalating the conflict to the next stage where you are superior. And your capability to dominate all steps of the escalatory ladder will force the opponent to accept his defeat as a rational alternative to the suicidal strategic nuclear war.

The Soviet Union and the United States created tactical nuclear weapons for all kinds of military missions. But unlike long-range weapons, they were not included in the SALT and START treaties, although at the end of the Cold War the INF Treaty eliminated all intermediate range ballistic nuclear missiles. The INF Treaty and the Bush-Gorbachev parallel arrangements substantially diminished the role of non-strategic nuclear weapons and removed several steps from the ladder of vertical escalation. But this ladder still exists, and the possibility of vertical escalation of a nuclear conflict will remain as long as the tactical nuclear weapons exist.

The most unusual feature or concept of mutual assured destruction was the idea that it's necessary to maintain the vulnerability of your territory and strategic forces. That principle was built into the ABM Treaty, which prohibits the territorial ballistic missile defenses.

But there was no effort to banish all strategic air defenses. First of all, the ABM Treaty did not ban any passive strategic defenses, including hardening and concealment of targets, or their mobility, which allows escape from the devastating attacks. Secondly, it permitted active defenses, which are different from interception of ballistic missiles (for instance, air defenses). Thirdly, there were no restrictions on non-strategic ballistic missile defenses, or limits on the ASW against strategic submarines. Fourthly, the ABM Treaty allowed deployment of a very limited number (100) of strategic interceptors. Nevertheless, with all these inconsistencies, the premises of the nuclear mutual deterrence model remain valid only if the ABM Treaty remains intact.

Finally, if you look at the history of the Cold War you find that the nuclear arms race was carried out separately from the conventional arms race. Both superpowers behaved as if conventional weapons were completely distinct from nuclear weapons. Actually, of course, conventional weapons could be used to destroy the nuclear arsenal, and vice versa.

The mutual assured destruction theory gives a special emphasis on issues of "certainty" and "uncertainty". The purpose of your nuclear policy is to deter the opponent from certain actions, to psychologically influence the decision-makers on the other side. Thus you have to be sure that your nuclear weapons make the necessary impact and could not be misinterpreted by the opponent.

On the one hand, the opponent has to be deterred by a credible threat, and should not doubt your capability to destroy him (or deliver the unacceptable damage). That means "certainty" in the mind of the other side about the inevitability of its assured destruction by your

capability to deliver the unacceptable damage to him. Thus it's quite logical that you have to demonstrate to the opponent that his strategic assets are always at risk.

On the other side, the opponent also possesses means to deter you by his nuclear weapons. That's why you have to preserve "uncertainty" in his mind about his capability to deter your side. Thus you have to avoid full transparency about your own technical means and plans. More than that - you have to assure the opponent that if he is not careful you might undertake irrational actions and will take the chances of waging a suicidal nuclear war. The Cold War brinkmanship required well-calculated strategic gestures to permanently maintain the credible threat to the other side.

The tension built in to mutual assured destruction cannot be escaped or fundamentally ameliorated within this model.

NEW APPROACHES TO STRATEGIC STABILITY

At present, strategic stability between Russia and the United States continues to rely on the principle of MAD. This situation is incompatible with a long-term strategic partnership between the two powers.

To enhance strategic stability it is necessary:

- To minimize mutual nuclear risks arising from American and Russian strategic nuclear arms;
- To continue the policy of preventing nuclear proliferation and to complement it with the task of preventing the use of nuclear weapons by any state possessing these weapons;
- To find a way to settle internal conflicts and to prevent them from developing into armed conflicts;
- To neutralize and eventually wipe out transnational criminal and terrorist organizations;

The analysis of the most effective approaches to strategic stability under modern conditions shows that two major problems in the sphere of nuclear arms need to be resolved:

1. To abandon MAD or at least minimize the risks of staying within this framework for Russia and America; and
2. To prevent further spread of nuclear weapons and simultaneously take measures against their possible use by third countries.

We believe that Russian-American cooperation should be focused on:

- First, neutralization of mutual threats arising from the continued state of MAD;

- Second, improvements of the mechanisms of nuclear deterrence in order to keep its effectiveness, while lowering the risks of the use of nuclear weapons;

- Third, prevention of the growth of the number of countries that possess nuclear arms;

- Fourth, development of mechanisms of international influence capable of preventing possible regional use of nuclear weapons by the new nuclear states;

- Fifth, prevention of access to nuclear materials and weapons by terrorist, extremist and criminal organizations.

Mutual threats arising from nuclear deterrence can be minimized by development of special confidence-building and transparency measures based on the exchange of information. The contents of such information exchanges should guarantee each side's confidence that the other side does not have even a theoretical possibility to deliver a surprise attack. This information should also rule out a possibility of making erroneous decisions resulting from a third countries' actions, which may provoke Russia and the United States into actions against each other.

The task of perfecting the mechanisms of nuclear deterrence along with minimizing the risks of using nuclear weapons can hardly be accomplished without adapting trust-building measures. If the trust-building measures used by Russia and the United States in the nuclear sphere extended to include other nuclear countries, the problem could be resolved among all nuclear states.

DEBATES AND PROPOSALS OF THE EXPERTS

In summary, the proposals by Russian experts could be divided into eight options, based in large part on deeper transparency concerning the intentions and plans of the sides:

1. Joint discussion of military doctrines and nuclear policy to harmonize them further;

2. Information exchange concerning: principles of nuclear deterrence; approaches to nuclear planning; and options for use of nuclear weapons;

3. Information exchange on composition and development of nuclear forces;

4. Information exchange on potential launch location of nuclear missiles with minimum flight time;

5. Possibility to reliably "monitor" the other side's nuclear status ("principle of mutual control");

6. Information exchange on actions related to deployment of higher alert strategic nuclear forces;

7. Information exchange on nuclear potentials of other states and assessments of proliferation of nuclear weapons and delivery means, including potential threats to Russia or the United States from other states;

8. A complete exchange of information prior to scheduled missile launches; possibility of exchange of all data in real time on detected missile launches and assumed nationality of the missiles.

The steps enumerated above present a specific set of new confidence building measures to: lower the alert status of nuclear forces; prevent proliferation of nuclear weapons and their delivery means; and encourage military cooperation. Adoption of these measures requires not only official discussions but also regular consultations among experts.

The question of exchanging information on nuclear postures became much more acute under the Strategic Offensive Reductions Treaty (SORT), which entered into force in May 2003. Russia and the United States agreed to independently define composition and structure of their nuclear strategic offensive potentials within the level of 1700-2200 operationally deployed munitions by December 31, 2012. Unlike the START I Treaty (which requires an annual data exchange on strategic offensive potentials in accordance with a special memorandum), no information exchange on strategic offensive weapons is provided for by this Treaty. This gap may lead to uncertainty concerning information exchange on offensive weapons and have a potential negative effect on Russian-American relations concerning nuclear arms policy.

The problem of data exchange should be resolved so as not to undermine mutual confidence. It is not sufficient to prolong the START I Treaty (which expires in 2009) until 2012 coincident with the provisions of the SORT Treaty as some experts suggest. The information exchange under SORT should be significantly broader than what is exchanged between Russia and the United States according to START I. The information exchange should focus on nuclear systems that make it possible to deliver a disarming and decapitating strike – for instance, nuclear munitions in the process of development which can be employed to attack highly protected targets.

Since it is especially important to exchange information on the location of minimum flight time missiles, priority should be given to sea-based systems. This component of the nuclear triad has greater possibilities to approach a target unnoticed and with the shortest flight time period.

A related challenge is connected to scenarios when ships belonging to “rogue states” (or ships captured by extremists or terrorists) may appear in the sea areas of special sensitivity for Russia as well as the United States. A possible attack by missiles from these ships may provoke a conflict between Russia and the United States. This also confirms the importance of information exchange between Russia and the United States on their sea-based nuclear platforms.

The availability of information about the presence or absence of Russian or U.S. nuclear weapons delivery platforms at sea in a given area could prevent a negative response by Russia or the U.S. in case of provocative actions taken by a third party.

It is sufficient for each side to monitor forces capable of a preemptive strike, that is land- and sea-based strategic missile platforms. They are permanently monitored by the Russian and U.S. strategic command and control systems. In this context, it would be expedient to include in the equipment inventory of the command posts of both sides separately installed indicator boards displaying the location of land- and sea-based launchers of the other side. This would enhance mutual confidence in the impossibility of a surprise attack by the other side.

Advance warning of the active deployment of strategic forces or an increase in their alert level is necessary in order to preclude destabilizing reactions by the opposing force. In the future, Russia and the United States should agree on a confidential exchange of plans of major operational activity of strategic forces, as well as an exchange of observers.

U.S. expert proposals concerning enhancing mutual nuclear security in Russia and the United States are mainly aimed at minimizing risks of the accidental or unauthorized use of nuclear arms.

Some of these proposals were presented in a 2003 report prepared by the RAND Corporation's Center for International Security and Defense Policy. The authors of the report identified 10 suggestions to lower the risks of accidental or unauthorized use of nuclear arms:

1. American assistance to improve the condition of radars and satellite equipment of the Russian strategic early warning system;

2. Creation of a highly efficient joint early warning system by installing sensors outside Russian and American missile silos;

3. Early decommissioning of all systems to be eliminated according to the Strategic Offensive Reductions Treaty.

4. Withdrawal of all U.S. SSBNs from patrol areas near the Russian shore;

5. Keeping SSN (attack submarine) patrol areas farther from the Russian territory;

6. Removal of W-88 warheads from Trident SLBMs;

7. Reduction of the alert status of 150 silo-based ICBMs;

8. Reduction of the alert status of all nuclear forces;

9. Equipping all ICBMs with self-destruction systems;

10. Limitation of NMD deployment on U.S. territory.

In our view, implementation of many of these measures would make it possible to significantly lower the mutual risks of accidental or unauthorized launch.

That said, some of these proposals might be too complicated. For example, creation of a joint early warning system by installing sensors outside Russian and American missile silos will require both significant funds and resources and the high reliability of the system in question. And, as the authors of this idea acknowledge, there would still be some probability of producing faulty information. A more balanced approach based on the universal criterion of "cost-effectiveness/implementability" may be required in order to avoid burdensome expenditures.

The goal could be achieved in a much simpler, less expensive and more reliable way if each side gave the other the opportunity to reliably monitor the status of its nuclear forces with the help of separately installed indicator boards displaying land and sea launchers of the other side.

Proposals to withdraw all U.S. SSBNs from patrol areas near the Russian shore at a distance of up to 6000 nautical miles; and to withdraw U.S. attack submarines (SSNs) (as part of Anti-Submarine Warfare – ASW – forces) from Russian SSBN patrol areas could be implemented without putting special radio buoys on submarines to aid in their location. It seems sufficient to establish a regular information exchange at the Navy Staff level. And the Russian Main Navy Staff on its part would inform its U.S. counterparts about the location of Russian submarines.

An additional step, such as a reduction in the number of American SSBNs and SSNs patrolling at sea, would enhance mutual security. The Russian Navy has already implemented this measure due to financial and logistical difficulties.

There may be no need for the expanded system of monitoring of the status of W-88 warheads (more inspections), as proposed by American experts. It may be enough for the United States simply to provide Russia with the necessary information about these warheads.

The proposal to lower the alert status of <u>all</u> Russian and U.S. strategic forces evokes doubt. There are other nuclear states, besides Russia and the United States. That is why the idea of lowering the alert status of all strategic forces cannot be implemented without taking into consideration the nuclear postures of China, Great Britain and France, as well as the non-recognized nuclear states that we have today: Israel, India and Pakistan. That is why <u>some</u> Russian and U.S. nuclear forces should be kept in high alert status.

There are no technical problems in equipping ICBMs with self-destruction systems. For some time, all Russian and U.S. ICBMs used for testing and training have been equipped with accident-proof self-explosive devices. There are no technical difficulties to adapt the system for ICBM self-destruction so that it can be implemented at the order from launch control or any other command post. But there is still concern about the ability of this system to preclude spontaneous self-destruction or premeditated interference from some unauthorized source.

That is why we think there should be more encompassing studies concerning self-destruction equipment on board ICBMs, as well as enhancement of the existing system of authorization of missile launches. This would allow for the selection of the best methods to enhance protection of nuclear means from activities that can result in an unauthorized missile launch.

Meanwhile, we fully support the idea, suggested by the United States Senate during the Strategic Offensive Reductions Treaty ratification, of working out a joint schedule of the Treaty's implementation. Then, with some additional financial assistance to Russia (within the framework of the Cooperative Threat Reduction program), the Treaty's provisions could be completed not by the end of 2012, but much earlier.

A NEW MECHANISM

There is a need for a special mechanism to take the necessary steps to minimize mutual nuclear risks. The strategic security consultative group, established by Vladimir Putin and George W. Bush, can be used for this purpose. Within its structure there is a joint team of experts to deal with nuclear arms issues.

What recommendations could be offered to this group?

The first task would be to assess the existing views and proposals on both sides aimed at minimization of mutual nuclear risks and to evaluate their prospects for implementation.

Then the group would establish priorities and a sequence of implementation for proposals assessed as expedient to adopt. The first priority should be given to steps evidently useful for all and leading to greater results in the field of mutual risk reduction.

Taking into consideration the Bush administration's tendency to substitute "negotiating process" with "consultations," each side should direct its official representatives to keep up the dialogue at the high level, as well as to establish working groups for detailed discussions of specific issues. They could hold regular sessions and conduct normal negotiating process as "consultations." Such issues as threat assessment, nuclear arms, missile defense and joint projects could be put on the agenda.

The Strategic Offensive Reductions Treaty's framework allows for new agreements on offensive nuclear arms, and these could be helped by the U.S. interest in a tougher transparency regime. It is possible to agree on reduction of warheads down to 1500 (with up to 1000 in lower or "zero" alert status).

Today, unilateral – but mutually taken (parallel) – measures are more appropriate for rapidly achieving results in the field of offensive reductions. Such measures are flexible and acceptable to both sides. They are not so critically dependent on intrusive verification procedures that normally go along with the implementation of treaties.

Informal arms control arrangements, which do not rely on any legal obligations, engender specific risks and uncertainties. One of them is lack of verification provisions that can result in doubts and uncertainties about the implementation of the stated goals.

Unilateral reductions based on confidence building measures and transparency may give rise to doubts about real numbers of nuclear weapons and the status of the other side's nuclear

potential. But we do have a positive example from 1991 – that is, the parallel transformation of the U.S. and Russian arsenals of tactical nuclear arms – undertaken in accordance with initiatives of then presidents George Bush, Michael Gorbachev and Boris Yeltsin.

As time goes by, the logic of traditional nuclear arms control is weakened, along with the prerequisites and basic principles the entire process was built on. Russia and the United States no longer view each other as enemies, and the logic of arms control under the conditions of confrontation is no longer valid. The ideological basis for confrontation has vanished; by and large, the United States and Russia have similar economic systems. The old arms control approaches no longer correspond to the broader goals of national security and foreign policy that both Russia and the United States aspire to.

From our perspective, there are two ways the negotiating process may unfold:

The first option is that, with appropriate changes, *the legal system of offensive and defensive arms control would stay in effect during a "transitional period" (8-10 years)* and would significantly limit America's aspiration for absolute military superiority. Formal *numerical parity* between Russia and the United States would be *preserved* in a manner that best suits Russian interests.

The second option is that legal obligations would be substantially diminished and the positions of both sides would be primarily defined by parallel – but not legally binding – political declarations. In this case, the United States would have broader opportunities for unilateral action, but would still, to some extent, be limited in the scope of any military build up. This option is more favorable for Russia than the total absence of restrictions on the United States that would result if the entire arms control system were to collapse.

If the Russian Federation and the United States establish a political partnership, the two options mentioned above could then be transformed into a more positive pattern of military-strategic cooperation.

CREATION OF A JOINT EARLY WARNING SYSTEM

There is no doubt that Russia and the United States are equally interested in obtaining complete information on ballistic missile launches. That is why Russian and U.S. early warning systems should be unified. To a significant extent, this has to be carried out in accordance with the Memorandum on the Creation of a Joint Missile Launch Early Warning Data Exchange Center, signed by the Presidents of Russia and the United States on June 4, 2000. Regretfully, this project has not yet been implemented.

If the hindrances in Moscow to creating a Joint Early Warning Center are insurmountable, there is an option of establishing such a center in the United States, for instance near the NORAD command post.

The activity of the Nuclear Threat Reduction Centers should be continued, including the exchange of data on the current status of nuclear forces. The current scale and content of the information exchanged could be reconsidered on a mutual basis, and fixed by an appropriate document.

The establishment of the Joint Russian-U.S. Missile Launch Early Warning Data Exchange Center is recognized as an effective confidence building measure. It is beneficial to accelerate its creation as well as to broaden cooperation in the field of early warning, including U.S. assistance in maintaining and upgrading Russian space- and land- based early warning infrastructure.

In the future, a concerted effort to develop and increase capabilities of Russian and U.S. early warning systems should take place. Mutual efforts should lead to the capability to exercise surveillance and control over the whole territory where nuclear weapons and platforms could be stationed and deployed, including oceans and seas where sea-based systems can be deployed.

The joint experts team within the structure of the Strategic Security Consultative Group should do away with all obstacles that impede the implementation of the RAMOS program.

If potential missile threats emerge in some new areas of the globe, then practical steps should follow to enhance the joint early warning system's technological capabilities. If no such threats emerge, we can avoid unnecessary expenditures for upgrading the joint early warning system and make more rational decisions concerning creation and deployment of missile defenses.

Russian and American interests will gain if other countries are recipients of the information provided by the Joint Data Exchange Center. Other countries would feel more confident in critical situations and avoid disproportionate actions that could be detrimental to Russia and the United States.

Data exchange will create the proper conditions **to set up a joint early warning system.** Right now the separately functioning Russian and U.S. early warning systems have different operational characteristics. The dissolution of the Soviet Union and lack of funds has greatly limited the capabilities of the Russian early warning system.

That said, ground-based radars of the Russian strategic early warning system[1] possess unique capabilities to survey and control the missile threat directions in the vast area from the Middle East to the Korean peninsula – the main source of the threat for mankind today. Bringing Russian and American capabilities together would greatly improve the security of both sides.

REDUCING THE ALERT STATUS OF NUCLEAR FORCES

One of the main avenues towards diminishing nuclear risks is lowering the alert status of tactical and strategic nuclear weapons, which will lead to a longer time period to prepare forces for combat.

[1] Including Russian radars in Azerbaijan, Kazakhstan and Siberia

In theory there are several options. The main ones are presented below:

OPTION	COMMENTARY
1. To eliminate all programs and flight plans aimed at striking targets on the Territory of Russia and the U.S.	The most radical but not rational or realistic.
2. To remove programs and flight plans from all guidance and control systems of delivery means and to store them in units with independent electricity supply.	Alert status against targets not related to Russia or the U.S. is lowered, besides it is hardly verifiable.
3. To leave programs and flight plans in guidance and control systems of delivery means but lower all delivery means alert status.	Alert status against targets not related to Russia or the U.S. is lowered, besides it is hardly verifiable.
4. To leave all programs and flight plans in the guidance systems and lower alert status only for those that are assigned to strike U.S. and Russian targets.	In great measure operational plans to deliver strategic strikes against other countries are revealed. Hard to verify.
5. To preserve present alert status of delivery means and take away flight plans from on board guidance systems and store them in strategic nuclear forces command and control systems.	Easy to implement. Has very positive political effect, but time to insert flight plans into delivery means is so short that it can be disregarded, and as a result it doesn't influence situation in practical terms.
6. To leave all plans and the alert status unaltered as in Option 5, but to take additional measures to exclude unauthorized and accidental launches.	The most easy to implement, does not require expenditure, but requires a very high level of openness and mutual trust.

The organizational and technical options for lowering alert status should be evaluated in three dimensions:

1. Time required for restoring alert status;

2. Possibilities for mutual control and verification; and

3. Cost of alert reduction and restoration.

Reducing the alert status of missiles is achievable through separation of some parts and units, for example, organic power generators, head caps, etc. Later on, as confidence grows, gradual deeper reduction is possible to even lower alert status – up to the point of removal of warheads from the delivery vehicles and their storage at far away facilities.

GIVING UP LAUNCH ON WARNING

The creation and implementation of a joint early warning system would enhance mutual confidence of the respective military structures of Russia and the United States and allow such an important risk reduction measure as the mutual decision to give up launch on warning. The very existence of plans for launch on warning underlines an evident discrepancy between the principles of MAD and the new partnership between Russia and the United States.

Despite the promises not to target each other, nuclear risks between the two countries remain. It can lead to an unintentional strike.

The decision to forgo a launch on warning posture can be implemented by taking some of the measures proposed by the RAND experts, including:

- Withdrawal from alert (combat readiness) of all nuclear forces which have to be eliminated according to the Strategic Offensive Reductions Treaty (according to the schedule of the Treaty's implementation);

- Withdrawal of SSBN's away from each other's territory to the distance exceeding SLBM range of flight to the planned targets;

- Reduction of the alert status of 150 silo-based ICBMs.

START-1 verification procedures should be used to reduce ICBM alert rates to minimize additional costs.

This can be done by decoupling warheads from missiles and storing warheads at a distance far away from the missiles, to prevent a quick restoration of their combat readiness.

It is feasible to remove the mechanism that performs the high-speed opening of the silo sliding plate (i.e., "the roof"). Without these mechanisms, sliding plates could be opened only with the help of hoisting cranes – as it is done now for maintenance or repairs as well as upon demands of inspectors.

Built in missile power batteries (which are observable) could also be removed to make a rapid launch impossible.

The period for restoring missile combat readiness (high-alert status) is approximately the same in each of the options discussed above.

COOPERATION IN MISSILE DEFENSE

Missile defenses require special consideration among mutual risk reduction measures.

The most effective measure to avoid apprehensions would be expansion of bilateral cooperation in the field of missile defense.

It would be very useful to arrange regular joint sessions of the existing working groups of Russian and American nuclear arms and missile defense experts.

There is already a starting point – Russia and the United States take part in the multilateral European missile defense program within the framework of the Russia – NATO Council.

It is logical to link intensification of Russia-U.S. missile defense cooperation to the joint early warning system. Then it would become feasible to harmonize detection and warning information systems development with work on means for interception of missiles and separated warheads.

As previously mentioned, the main and growing source of missile threat is the vast area extending from the Middle East to the Korean peninsula. To respond to these threats, it would be convenient to use the capabilities provided not only by the Russian ground early warning infrastructure but also by Russian missile defenses. Presently the already existing S-300 and S-400 air defense systems could do the job if they were deployed in the South, Siberia and the Far East of Russia – matching the missile threat directions. The American Patriot PAC-3 and THAAD systems could also be used for this purpose.

As "rogue states" go on working on their new missile offensive potential, Russia and the United States could join in development of new missile defense systems to counter those threats.

Russian-American Ballistic Missile Defense (BMD) cooperation – because of the geographic situation of Russia (i.e., its proximity to the area of the threat) – could in the most effective and less costly way downgrade, if not eliminate, the threat from the Middle East and Korean peninsula.

Later, as new threats arise, Russia and the United States could deepen their cooperation in the field of missile defense. In particular, there are good prospects for expanding the emerging missile defenses in Europe to the whole North American region, including the United States, Canada and Asian part of Russia. The independent U.S. and Russian systems should become interoperable with the European one, permitting their full integration in the future.

TRANSITION TO A NEW TYPE OF NUCLEAR PLANNING

Adaptive planning assumes the feasibility of real time detection of new targets for strategic forces; the ability to define parameters for calculating missile flight plans; the ability to select delivery systems; and the ability to flexibly input flight plans into delivery systems.

Adaptive nuclear planning may play an important role.

Simultaneous adoption of adaptive planning in Russia and the United States could help remove the burden of obsolete war-fighting plans. If both sides adopt adaptive planning, old war plans can be retired or kept only as a last resort.

Mutual risk reduction is possible only in the case where both sides are capable of adaptive planning. If one side is not able to do it, that side would have no choice but to stick to the old plans. As a result, both sides would have to rely on the traditional war-fighting plans.

That is why it is necessary for the two sides together and in a concerted way to move their nuclear forces to adaptive planning.

Now or in the near future, neither Russia nor the United States will be able to give up planning for the use of nuclear weapons against the other. The reason is that the level of political relations between Russia and the U.S. do not correspond – and will not for a long time – to the level of British-American, or even French-American, relations.

Nevertheless, it can be presumed that if the present Russian-American strategic partnership remains in force and expands, MAD plans will loose their top priority and, following the declared non-targeting of ballistic missiles against each other, will not be the primary war plans anymore, but become secondary options, reserved for "prudence" or "insurance" purposes.

In that case, no more than 500 operationally deployed warheads kept on high alert would be required to cope with any potential threats coming from a third party (or parties). 500 operationally deployed warheads are quite enough for Russia and even in greater measure for the United States (who are allied to such nuclear states as the United Kingdom, France, Israel, Pakistan and, to a certain degree, India).

The remaining strategic warheads will be kept for "prudence" as active reserve or should be stored.

The total number of "the active reserve" warheads should not be too big or burdensome; 1500-1700 would be reasonable, so that together with deployed warheads on high alert the Strategic Offensive Reductions Treaty limit wouldn't be exceeded. But formally each side should be free to independently define the composition of its "active reserve."

The other important factor is that if the limit is about 500, neither Russia nor the U.S. will be capable of conducting a surprise disarming or decapitating strike against the other. They will maintain nuclear deterrence, but the Cold War model of MAD will become irrelevant. At the same time, the capability to deter any third party (or parties) will be preserved.

If there is the necessary political will, reductions to the level of 500 operationally deployed warheads kept on high alert can be done within the framework of the Strategic Offensive Reductions Treaty until 2012. Of course, it will be necessary to synchronize the mechanism for reducing nuclear weapons.

It is enough to have 150-200 high alert warheads deployed in the land-based leg of the triad and no more than 300-350 high-alert warheads on SLBMs. The entire air component should become part of the "active reserve."

It will not be too difficult to reduce the land- and sea-based nuclear forces, for example, by downloading delivery means (i.e., reducing the number of warheads on buses). This is the least costly and easy way. But each side will have the ability, if needed, to increase its active (high-alert) forces in a relatively short period of time. And there will be no need for symmetry between the nuclear forces of Russia and the United States.

This state of strategic potential would allow mutual nuclear risks to be reduced to the lowest level, while the nuclear security of both countries would be significantly enhanced.

NON-STRATEGIC NUCLEAR WEAPONS

There is no easy way to solve the problem of limitation and reduction of non-strategic nuclear weapons. This problem cannot be solved on a bilateral (Russia-U.S.) basis, but only on a multilateral basis with participation of (besides the U.S. and Russia), Great Britain, France, China, Israel, India, Pakistan and perhaps some other states within the framework of existing international mechanisms or some new arrangements. The initiative should belong to Russia and the United States because only these two countries have the necessary experience in negotiations about limitation and reduction of nuclear arms, as well as conclusion and implementation of corresponding agreements and treaties.

We consider it necessary to take three urgent measures to lay a solid basis for subsequent steps to resolve the problem of non-strategic nuclear weapons:

1. Classification and definition of types of non-strategic nuclear weapons;

2. Institutionalization of parallel/unilateral U.S.-Soviet 1991 tactical nuclear weapons initiatives; and

3. Information exchange on non-strategic nuclear weapons between official and non-official members of the "nuclear club."

The United States and Russia should jointly institutionalize the U.S. – Soviet/ Russian 1991-1992 tactical nuclear weapons initiatives to prevent their erosion. It is not necessary to conclude

a legally binding treaty or agreement as some experts affirm.[2] It would be enough if the Presidents of Russia and the United States made official declarations on implementation of the 1991-1992 tactical nuclear weapons obligations, presenting precise numbers of reduced and eliminated warheads and assuring the world community these reductions are irreversible. The Presidents could also declare their commitment to further reductions, at the same time calling upon other nuclear states to follow their example.

Given the tremendous difficulties in verification of dual-use systems, we think that legally binding commitments concerning tactical nuclear weapons should be avoided, and that certain numerical superiority in this type of weapon be preserved. Instead, it is possible to make parallel political statements (similar to the Bush-Gorbachev statements made in 1991) about voluntary limitations of all non-strategic nuclear charges to the level of 1,500-2,000 units. This ceiling cannot be substantially higher than the ceiling for strategic nuclear weapons.

These parallel declarations of the U.S. and Russian Presidents would do away with the concern of the world community about uncertainties in American and Russian nuclear policies. Thus it would prepare the ground for a success at the next Conference on the Nuclear Nonproliferation Treaty (NPT) in 2005.

It will also help to end allegations popping up from time to time about the possession by terrorist and extremist groups of small size Soviet made nuclear weapons.

It should not be overlooked, however, that the division of nuclear weapons into "strategic" and "non-strategic" is rather superficial.

SCENARIO FOR THE TRANSITIONAL PERIOD

During the transitional period, the set of agreements on strategic offensive and defensive weapons should basically stay within the framework of principles regulating mutual nuclear deterrence. Only in a more remote perspective, by 2010 or later, with political and economic prerequisites enabling abandonment of MAD, could the security interests of both countries rest on the principles of mutual security.

This scenario envisages the evolution of the model of mutual nuclear deterrence on the basis of bilateral agreements and a gradual replacement of this model by a more cooperative model of interaction in order to change radically the whole system of Russian-American relations in the nuclear sphere.

First, the two sides should move away from being too focused on quantitative parity and symmetry in the composition and structure of their nuclear deterrent forces. Each country should formulate its nuclear strategy on the basis of its own security interests rather than be concerned about projecting a weaker image if outnumbered in nuclear or other types of weapons. Also, the practice of maintaining all deployed nuclear deterrent forces in combat readiness (high alert

[2] journal "Nuclear Control" N2, 2000

status) should be fundamentally changed. These measures are designed to make it impossible to implement the scenario of a preemptive counterforce strike, which will allow creating a model of mutually guaranteed security in place of the MAD model.

Initially, Russia and the United States, acting through negotiations, are to find solutions to a number of interdependent questions in order to achieve maximum stability within the framework of the model of MAD. This will lay the groundwork for the next stage, where transition to military and political interaction on the principles of cooperation rather than rivalry could be implemented.

At the same time, it is possible to go beyond the model of MAD in a number of directions.

Transparency requirements concerning reserve warheads are in the interests of Russia and the United States. For the U.S., the so-called "return" potential (stockpiled nuclear bombs for conventional heavy bombers, as well as the warheads that Americans are removing from the Minuteman III ICBMs and the D-5 SLBMs in order to fit into the framework of the Moscow Strategic Offensive Reductions Treaty) may comprise from three to four thousand nuclear warheads. Naturally, the lower the officially permitted level of deployed weapons, the more serious these "return" stockpiles look. This explains why it is necessary to seek coordinated measures, which will help to reduce the "return" potential (for example, dismantling not only the warheads themselves but the buses capable of carrying more MIRVs as well). Also, such measures may promote information exchange and facilitate inspections on a mutual basis.

The Moscow Strategic Offensive Reductions Treaty should not make the MAD model perpetual.

Keeping only a small part of the strategic offensive forces on high alert will make the implementation of a preemptive counterforce strike impossible. Control and verification measures will prevent raising the alert status of the strategic arms at a lower or "zero" stage of alert. This will guarantee either side the ability to retaliate.

A combination of traditional numerical limitations with reduced alert levels could create a sort of "matryoshka" (Russian doll) effect.

The first category could comprise strategic weapons at a high stage of alert (say, under ten minutes). Russia and the United States could agree to limit this category to 500 warheads. These may include SLBM warheads on strategic submarines on patrol, as well as warheads on ICBMs on permanent combat alert.

The second category could comprise the weapons at a low stage of alert, whose preparation for use requires a few days or even a longer period of time. The number of such weapons could be limited by a ceiling of between 500 and 1,000 nuclear charges.

The third category may comprise the nuclear weapons that are either in reserve or at a "zero" stage of alert, so it takes months to activate them. Their number should not exceed, say, 1,000 nuclear charges either.

Apart from this, Russia and the United States could come to terms on controlling the perimeter of the industrial enterprises where nuclear warheads are assembled and dismantled.

The suggested approach would eliminate the possibility of a surprise disarming and decapitating attack. It is worth noting that the two sides will not be barred from building up their nuclear forces in case China or any other power decides to catch up with them in terms of the number of nuclear arms.

At the same time, the U.S. superiority in "return" potential (the number of reserve strategic warheads) gives Russia a bargaining chip to press for recognition of its numerical superiority in tactical nuclear charges, though the U.S. will insist that Russia cut its tactical nuclear arsenals to the level approximately equal to theirs. One possibility may be to set a common ceiling for all types of Russian and American nuclear warheads (both strategic and tactical).

FROM MUTUAL ASSURED DESTRUCTION TO MUTUAL ASSURED SECURITY

The end of the current decade may see conditions ripen for abandoning the MAD model. Some important elements of the weapons control system may stay intact, but mechanisms of positive military and political interaction should be coming to the forefront.

The ceilings for Russian and American nuclear weapons may turn out to be much lower than those envisaged by the Moscow Strategic Offensive Reductions Treaty, if the two sides are guided by the principle of sufficiency rather than parity. In reality, this may happen only if the United States and Russia are able to make a political breakthrough and start coordinating their nuclear policies for real, breaking away from some rules and requirements of MAD.

Cooperative relations call for eliminating "uncertainties", which were considered admissible within the framework of MAD. The transparency level demanded by the strategic partnership will make further existence of the MAD model impossible.

As far as the future ceilings are concerned, most likely they will depend on the nuclear levels of the third countries (China, France, Great Britain, India, Pakistan and Israel). There is reason to believe there will be no need to substantially exceed the level of 1,000 warheads. The factor of redundancy and survivability may serve, as another criterion, according to which 500 warheads, guaranteed to stay invulnerable from the enemy, is enough to inflict irreparable damage.

We cannot forget the counterforce characteristics of the current generation of Russian and American nuclear weapons. In the near future, the United States and Russia will keep the systems capable of destroying protected targets within a limited time frame. This problem cannot be solved by purely technical means. But the significance of counterforce nuclear capabilities can be reduced by lowering the alert level of nuclear deterrent forces, as well as by political and psychological means.

It is also worth considering the stabilizing effect of declaring "counter-value" targeting. Such a step would undermine the false concept that a nuclear war can be limited to an exchange of "surgically precise" strikes without causing mass casualties among civilians. It would also help underscore the fact that a nuclear war has always been a barbaric weapon of mass destruction of millions of innocent people.

The counter-value strategy will undermine the illusory advantages of a preemptive strike, making unavoidable a retaliatory strike to hit urban / industrial targets. Requirements for nuclear forces needed to attack such targets to achieve assured retaliation are less rigid than the requirements for the nuclear forces needed to knock out military objectives. Even a limited strike at a civilian target will cause unacceptable damage.

Embracing the counter-value strategy will make it possible to abandon the concept of a launch-on-warning strike. If the forces of one side are unambiguously designed to deliver only a retaliatory counter-value strike rather than a preemptive counterforce strike, there is no need to maintain them at the highest stage of alert. Such postures will encourage the other side also to renounce the launch-on-warning concept and depend on forces designed to deliver only a retaliatory strike.

Obviously, such a transformation will render the advantages of the nuclear escalation scenario worthless. But this can be achieved only if parallel cuts in non-strategic nuclear arsenals are made.

On the one hand, it is necessary to make deeper cuts in tactical nuclear weapons. Moreover, some of these weapons should be banned altogether (as was the case with medium-range nuclear missiles and land-based tactical nuclear weapons). On the other hand, it is necessary to set clear limits within which to deploy tactical nuclear weapons in peacetime (since Russia and the United States may need such weapons in case of a conflict with third countries). But any movement of tactical nuclear arms from the place of their permanent location will necessarily require advance warning of the other side.

The stability of the model, which will replace MAD, must also be ensured through adjustments of the military policy concerning conventional weapons. With the end of the Cold War, Russian and American land forces have been disengaged. It is also necessary to disengage the air and naval forces of the two countries in order to prevent situations where the conventional forces of one country may pose a threat to the strategic objectives of the other country. This is especially important in light of the so-called "revolution in military affairs," which dramatically enhances the combat capabilities of the new generation of conventional arms.

The implementation of other measures needed to dismantle the model of MAD may require a longer period of time and will depend not only on further improvements of Russian-American relations but also on the evolution of threats emanating from other countries. It should be emphasized that moving away from the concept of a preemptive strike against each other does not preclude the United States and Russia from delivering such a strike against other countries.

In all probability, the ultimate objective – i.e., the stage at which Russia and the United States will be able to renounce the mechanisms of MAD – may be reached no sooner than 2010-2015. Instead of another arms control treaty, the new type of strategic nuclear relations may need qualitatively different agreements, which resemble those that regulate relations between close partners and allies. In other words, new relations may best be regulated by an agreement on mutual security.

STRENGTHENING THE NON-PROLIFERATION REGIME

Speaking in Krakow on May 31, 2003, President Bush made a number of proposals to prevent the proliferation of weapons of mass destruction. With certain reservations, the American initiative – whose aim is to tighten the regime of nuclear nonproliferation and create effective mechanisms for preventing the spread of non-strategic nuclear weapons – merits support. As of now, the initiative has already been supported by nearly twenty countries.

To be workable, this initiative, which provides for intercepting vessels and aircraft in international waters and airspace on suspicion of shipping WMDs or their components, needs an appropriate international legal basis, so that these actions cannot be regarded by the world community as piracy or aggression. In this connection, Russia should support the American proposal to create a "special committee" under the IAEA responsible for measures to control nonproliferation of nuclear technologies and compliance by the IAEA member-states with their commitments.

Very important are the proposals made by Mr. ElBaradei, the IAEA Director General, who spoke in favor of revising the NPT to make withdrawal from the Treaty impossible, with violators facing all appropriate consequences. Also, in keeping with the Supplemental Protocol (INFCIRC/540) to the Agreement on Comprehensive Guarantees with IAEA, ElBaradei suggested making inspections obligatory for all NPT member-states and reorganizing the Nuclear Suppliers Group into an organization of states bound by an official treaty.

We think that the American initiatives and ElBaradei's proposals can be brought to life through a special UN Security Council resolution, which should be initiated by the United States and Russia with the support of other developed countries. This resolution will certainly meet with some opposition, which needs to be overcome even if this requires changing some principles of the UN Charter.

If the task of nonproliferation of nuclear weapons has not been accomplished, very serious efforts must be directed to avert the use of nuclear weapons. In fact, it is necessary to complement the task of nonproliferation with the task of non-use of nuclear weapons.

CONCLUSIONS: A NEW MODEL OF INTERACTION BETWEEN RUSSIA AND THE UNITED STATES IN THE NUCLEAR AREA IS NECESSARY AND POSSIBLE

It is obvious that the model of MAD, which took shape in a certain historical period, cannot remain intact in a totally new epoch. With the end of the ideological and political conflict between Moscow and Washington, followed by the breakup of the bipolar system of international relations, there is a theoretical possibility of replacing the model of MAD with a new and more positive pattern of interaction between Russia and the United States in the nuclear sphere.

We think the transition to a new model of Russian-American strategic interaction may be implemented in two ways.

The first way is for the United States to try to achieve an absolute military superiority through a numerical preponderance in offensive nuclear means along with the development of effective ballistic missile defenses.

The other way is for both countries to move in a coordinated way from a confrontational nuclear missile rivalry to a qualitatively new model of cooperative strategic interaction.

Certainly, one can hardly expect Moscow and Washington to immediately agree on the entire range of economic, military and political questions. On the other hand, it is too early to make conclusions about Russia and America being doomed to either a new Cold War or a Cold Peace. A few years ago, we used to relish the illusory idea about a conflict-free development of Russian-American relations. That is why today we should not go to the opposite extreme of predicting a new Russian-American confrontation.

If the Russian Federation and the United States manage to establish relations of political partnership, a more positive form of strategic military cooperation may replace the model of MAD.

First, the two sides should proclaim their *common objective* – the formation of a new, positive model based on cooperation and common interests. As a result, Russia and the United States will be able to move gradually from the framework of MAD to a new framework of mutual assured security.

Second, the new framework of Russian-American strategic relations should be *fixed and institutionalized* with new mechanisms of strategic cooperation.

Third, a radical transformation in relations between Russia and the United States requires a *transitional period*, during which confrontational elements inherited from the past should be gradually done away with, while new principles of interaction reflecting our common interests should be worked out.

Moscow and Washington should in no uncertain terms declare their willingness to forge special allied relations in the struggle against world terrorism and WMD proliferation, as well as their readiness to move in this direction by stepping up coordinated efforts.

The necessary level of mutual trust and cooperation in the military and political sphere may eventually be legally formalized in a treaty on mutual security fixing strategic partnership between the two countries.