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**RUSSIA:
ARMS CONTROL, DISARMAMENT AND
INTERNATIONAL SECURITY**

IMEMO SUPPLEMENT
TO THE RUSSIAN EDITION
OF THE SIPRI YEARBOOK 2013

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This year's edition also highlights problems of technology transfer in Russia, military cooperation among BRICS countries, Luxembourg Forum's nuclear tolerance initiative, and US-Russian cooperation beyond Nunn-Lugar program.

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CONTENTS

PREFACE 7
Alexander DYNKIN

ACRONYMS 9

PART I. ANALYSES, FORECASTS, DISCUSSIONS

1. STRATEGIC TALKS: NEW EMPHASES 15
Alexei ARBATOV
Recent missile defense history 16
New threats 24
New solutions 28
Strategic prospects 30

2. SYRIA’S CHEMICAL WEAPONS:
DEVELOPMENTS AND FACTS 34
Natalia KALININA
History of Syrian chemical weapons program 35
Timeline 38
UN investigation 44
US-Russian agreement 46
UN Security Council resolution and its implementation 49
The early stages of demilitarization process and its prospects 54

3. ROLE OF THE UN SECURITY COUNCIL IN MANAGING
INTERNATIONAL SECURITY IN THE LIGHT OF
THE SYRIAN CRISIS 61
Alexander KALYADIN
Need for coercive diplomacy based on international law 61
Most important resource 64
UN and Syrian chemical disarmament 67
Changes needed to increase the effectiveness of
the UN Security Council 72
From the perspective of Russia’s foreign policy 78

4. RISING THREAT OF INTERNATIONAL TERRORISM: CAUSES, COUNTERMEASURES, ROLE OF RUSSIA IN FIGHTING IT	81
<i>Stanislaw IVANOV</i>	
Characteristics of present-day international terrorism	81
Root causes and rise factors of international terrorism	85
Role of Russia in fighting international terrorism.....	88
5. INFORMATION WARS OF THE 21TH CENTURY: FROM THEORY TO PRACTICE.....	93
<i>Natalia ROMASHKINA</i>	
Information war and its variations.....	94
Modern technologies of a cyber war	99
Information security	107
International cooperation in the sphere of information security	110
6. THE DEBATE ON THE FUTURE OF EUROPEAN SECURITY: INTERIM BALANCE SHEET	113
<i>Andrei ZAGORSKI</i>	
Basic policy options	115
Major avenues for the pursuit of the debate on the future of European security.....	120
Interim balance sheet of the debate on the future of European security.....	129
7. NEW ASPECTS OF RUSSIA’S POLITICAL AND MILITARY COOPERATION WITH THE CIS COUNTRIES	131
<i>Vadim VLADIMIROV</i>	
The western region	131
Situation in the South Caucasus	137
Military-political situation in Central Asia.....	142

PART II. EXPERT INSIGHTS

8. TECHNOLOGY TRANSFER IN RUSSIA’S MODERN INNOVATION SYSTEM.....	153
<i>Lyudmila PANKOVA</i>	
Key milestones in the development of technology transfer in Russia	156

The main barriers to technology transfer.....	162
9. NUNN-LUGAR PROGRAM HAS ENDED: WHAT'S NEXT?.....	
<i>Dmitry KONUKHOV</i>	170
Program origins	171
Beyond Nunn-Lugar: reformatting cooperation.....	175
10. RUSSIA'S MILITARY-TECHNICAL COOPERATION WITH BRICS COUNTRIES: KEY ASPECTS	
<i>Marianna YEVTODYEVA</i>	185
Objectives of Russia's military-technical cooperation with BRICS countries.....	185
Brazil and South Africa: tuning up ties	188
Problems and prospects of MTC with China	192
Problems and prospects of MTC with India.....	199
11. SAFE TOLERANCE CRITERIA OF NUCLEAR NON-PROLIFERATION REGIMES: CONFERENCE OF THE INTERNATIONAL LUXEMBURG FORUM	
<i>Vladimir YEVSEEV</i>	209
PART III. DOCUMENTS AND REFERENCE MATERIALS	
12. KEY DOCUMENTS OF THE RUSSIAN FEDERATION ON NATIONAL SECURITY, DEFENCE AND ARMS CONTROL (JANUARY-DECEMBER 2013)	
<i>Tamara FARNASOVA</i>	223
Legislative acts	223
Normative acts.....	224
ABOUT THE CONTRIBUTORS.....	229

PREFACE

The Institute of World Economy and International Relations presents its annual Special Supplement – Russia: Arms Control, Disarmament and International Security prepared for the Russian edition of 2013 SIPRI Yearbook. The Supplement covers the events and developments in arms control and military policy in the year 2012 – prior to the current confrontation of Russia and the West triggered by the Ukrainian crisis. This crisis is unmatched by its severity since the end of Cold War.

Under these circumstances the maintaining of obligations between the USA and Russia under the 2010 New START Treaty, including inspection activities, is a welcome exception in the overall environment of curtailment of many channels of cooperation. But the prospects for the future strategic talks remain extremely uncertain and mostly depend upon the way the crisis over Ukraine will be resolved.

The contributors to the volume point out that in general the formation of a polycentric world continues. Contrary to the initial expectations, this process is taking place in an environment of high military and political tension, expanding areas of turbulence and chaos in international relations. This is interpreted by some analysts as an evidence of the ‘irrelevance’ of the United Nations and its Security Council. While this is an exaggeration, the problem of strengthening the mechanisms of international institutions in arms control and security is definitely an important and urgent issue.

The deep crisis did not affect significantly some other key security activities, in particular the elimination of the Syrian chemical weapons. The positive outcome of this remarkable cooperative effort will definitely serve the goal of strengthening the Chemical Weapons Convention.

Under present circumstances an additional importance should be attributed to the reinforcement of the existing structures of European security and to the search of the new approaches to strengthen it. The very fundamental analyses of this issue is provided in this volume.

There are many other relevant topics analyzed in the Supplement – the ways of enhancing the information security, the struggle against international terrorism, the future of the Nunn-

Lugar program, the view upon the Russian military and political cooperation with the BRICS and CIS countries, and some others.

Of special interest is the review of the latest initiative by the International Luxembourg Forum on Preventing Nuclear Catastrophe – to introduce the notion of secure nuclear tolerance – a set of criteria to identify the non-declared activity of states aimed at developing nuclear weapons under the cover of peaceful nuclear energy program.

The brief summary of key Russian documents on national security and arms control contains reference to legislative acts passed in 2013. This information is particularly useful to specialists looking for source material.

This book represents a collective effort. I would like to express my thanks to Academician Alexei Arbatov for compiling and editing this volume and providing important contributions of his own as well as to Sergey Oznobishchev and Tatiana Anichkina for their important contribution to this process. Appreciation is also due to the authors of this volume – Tamara Farnasova, Stanislaw Ivanov, Natalia Kalinina, Alexander Kalyadin, Dmitry Konukhov, Lyudmila Pankova, Natalia Romashkina, Vadim Vladimirov, Vladimir Yevseev, Marianna Yevtodyeva, and Andrei Zagorski.

I also gratefully acknowledge the lasting support of this project by the Swiss Federal Department of Defence, Civil Protection and Sports.

Academician Alexander Dynkin, Director,
Institute of World Economy and International Relations,
Russian Academy of Sciences
May 2014

ACRONYMS

ABM	– anti-ballistic missile
ABM Treaty	– Anti-Ballistic Missile Treaty
ACFE	– Adapted Treaty on Conventional Armed Forces in Europe
ALCM	– air-launched cruise missile
APM	– anti-personnel mine
ASAT	– anti-satellite weapon
ASD	– Aerospace Defence (Russia)
ASEAN	– Association of Southeast Asian Nations
ASW	– anti-submarine warfare
ATGM	– anti-tank guided missiles
ATT	– Arms Trade Treaty
BM	– ballistic missile
BMD	– ballistic missile defence
CA	– Central Asia
CBM	– confidence-building measure
CD	– Conference on Disarmament (in Geneva)
CFE Treaty	– Treaty on Conventional Armed Forces in Europe
CIS	– Commonwealth of Independent States
CSBM	– confidence- and security-building measure
CST	– Collective Security Treaty (Tashkent Treaty)
CSTO	– Collective Security Treaty Organization
CTBT	– Comprehensive Nuclear Test Ban Treaty
CW	– chemical weapons
DIC	– defence-industrial complex
DP	– defence products
DPRK	– Democratic People’s Republic of Korea
EC OPCW	– Executive Council of the OPCW
EU	– European Union
FA	– Federal Assembly (Russia)
FC	– Federation Council (Russia)
FBS	– forward-based system
FEP	– fuel enrichment plant
FMCT	– Fissile Material Cut-off Treaty
FZ	– Federal Law
G8	– Group of Eight
GDP	– gross domestic product

GICNT	– Global Initiative to Combat Nuclear Terrorism
GLONASS	– Global Navigation Sputnik System (Russia)
GMD	– global missile defense (the USA)
GPF	– General-Purpose Forces
IAEA	– International Atomic Energy Agency
ICBM	– intercontinental ballistic missile
IMEMO	– Institute of World Economy and International Relations
INF Treaty	– Treaty on the elimination of intermediate-range and shorter-range missiles
INP	– Iranian nuclear program
IRBM	– intermediate-range ballistic missile
LEU	– low-enriched uranium
LWR	– light-water reactor
MANPADS	– man-portable air defence systems
MIRV	– multiple independently targetable re-entry vehicle
MOD	– Ministry of Defence
MTC	– military-technical cooperation
MTCR	– Missile Technology Control Regime
MWS	– missile warning system
NAM	– Non-Aligned Movement
NATO	– North Atlantic Treaty Organization
New START	– Treaty between the RF and the USA on measures for the further reduction and limitation of strategic offensive arms
NNWS	– non-nuclear-weapon state
NPT	– Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty)
NSW	– non-strategic weapons
NTMV	– national technical means (of verification)
NW	– nuclear weapon (warhead)
NWFZ	– nuclear-weapon-free zone
NWS	– nuclear-weapon state
OPCW Weapons	– Organization for the Prohibition of Chemical Weapons
OSCE	– Organization for Security and Co-operation in Europe
R&D	– research and development
RAF	– Russian Armed Forces

RAS	– Russian Academy of Sciences
RF	– Russian Federation
RNC	– Russia-NATO Council
SD	– State Duma (Russia)
SIPRI	– Stockholm International Peace Research Institute
SLBM	– submarine/sea-launched ballistic missile
SLCM	– sea-launched cruise missile
SNDS	– strategic nuclear delivery system
SNF	– strategic nuclear forces
SOA	– strategic offensive arms
SRF	– Strategic Rocket Forces (Russia)
SSBN	– ship submarine ballistic nuclear (strategic nuclear submarine)
SSN	– ship submarine nuclear (nuclear-powered submarine)
START	– Strategic Arms Reduction Treaty (I, II, III)
TCBM	– transparency and confidence-building measure
THAAD	– theatre high-altitude area defence
TMD	– theatre missile defence
TNW	– tactical nuclear weapon
UN	– United Nations
UNDC	– United Nations Disarmament Commission
UNGA	– UN General Assembly
UNSC	– UN Security Council
UNSCR	– UN Security Council Resolution
WMD	– weapons of mass destruction

PART I. ANALYSES, FORECASTS, DISCUSSIONS

1. Strategic talks: new emphases
2. Syria's chemical weapons: developments and facts
3. Role of the UN Security Council in managing international security in the light of the Syrian crisis
4. Rising threat of international terrorism: causes, countermeasures, role of Russia in fighting it
5. Information wars of the 21th century: from theory to practice
6. The debate on the future of European security: interim balance sheet
7. New aspects of Russia's political and military cooperation with the CIS countries

1. STRATEGIC TALKS: NEW EMPHASES

Alexey ARBATOV

Diplomatic cooperation between Russia and the US on Syria and Iran resumed in late 2013 was interrupted by the crisis in Ukraine, unexpected and unmatched by its severity since the Cold War. Unlike previous instances of rising contradictions between the two states in the last twenty years the Ukrainian crisis has had elements of military confrontation and even scenarios of an armed conflict comparable to crises of the Cold War. At that sanctions against Russia and ‘freezing’ of almost all channels of cooperation on the part of the US and its allies are unprecedented in the history of relations between the USSR/Russia and the West.

Given these circumstances the fact that the two countries maintain their obligations under the 2010 New START Treaty, including inspection activities, is a welcome exception. But the prospects for strategic talks remain highly uncertain and depend mostly on the way the crisis over Ukraine will be resolved. Its further escalation and subsequent disintegration of Ukraine would entail a new period of confrontation alike the Cold War and probably destroy even those agreements that so far have remained intact (primarily the New START Treaty and Intermediate-Range Nuclear Forces Treaty).

Mutually acceptable settlement of the Ukrainian crisis eventually will allow to resume cooperation in the field of arms control. However, such cooperation is unlikely to be similar to the interaction between Russia and the West after 1991. One can rather expect selective and strictly pragmatic agreements on areas of common interest, comparable to the detente of the mid-1960s and early 1970s.

Even before the Ukrainian crisis, in 2011-2013 the relations between the two countries were marred by contradictions, mutual suspicion and even hostility that affected nuclear arms control dialogue. In addition to its military and strategic significance, for nearly half a century the dialogue has been heavily politically loaded. It has always been an indicator of relations between the two powers and the general state of international security.

After the New START was concluded in 2010, in 2011 negotiations on nuclear arms control reached an impasse due to the parties' differences on the US and NATO missile defense programme.

Recent missile defense history

At the same time with pursuing active talks on START in 2009, Moscow insisted on developing a common so-called 'sector-based' missile defense. Having failed at that, Russia demanded legally binding assurances that the US missile defense should not be targeted against Russia, which in fact was tantamount to concluding a new ABM Treaty. Indeed, in November 2011, President Medvedev said: '...these obligations... must be worded not as promises and reassurances, but as specific military-technical criteria that will enable Russia to judge to what extent US and NATO actions in the missile defense area correspond to their declarations... whether our interests are being impinged on, and to what extent the strategic nuclear balance is still intact'¹.

This option was also rejected by the US government (especially as the Congress views the missile defense as a sacred cow and would never ratify such treaty). It is true, however, that the dialogue on missile defense – which gained momentum in 2007 when President Vladimir Putin proposed to use Russian radars in Gabala (Azerbaijan) and Armavir as a first step of cooperation – was not absolutely fruitless. President Obama's administration has twice subjected the BMD programme to unilateral revision.

In 2009 it renounced the plan to deploy GBI strategic interceptors in Poland and a radar in Czech Republic, a plan that

¹ <<http://eng.kremlin.ru/news/3115>>.

had elicited a vehement reaction from Moscow. After that, in early 2013 the US gave up the fourth phase of the phased plan of European missile defense, that is the deployment of the most efficient interceptor modification SM-3 Block IIB in Poland and on board ships in northern seas. This particular stage caused greatest concern on the part of Russia, as the flight path of its ICBMs launched from the bases in the west of the country lies across the North Atlantic.

Although due to the attitudes within the Congress the above decisions had been justified by technical reasons, those were obviously aimed at addressing Russia's concerns. (A 2012 episode during which the US president inadvertently asked Dmitry Medvedev to tell Vladimir Putin that after the election he would have 'more flexibility' on missile defense in front of an open microphone, which evoked a storm of criticism against him.) In the history of the two powers' strategic dialogue these unilateral steps by Washington in favour of Moscow have had no precedent (the 1991 tactical nuclear arms reduction initiative can be cited as the only exception).

What is more, in the 2010 START Treaty the US made a concession that was heavily criticized by the US Congress at the time of ratification. Article V, paragraph 3 says 'Each Party shall not convert and shall not use ICBM launchers and SLBM launchers for placement of missile defense interceptors therein'. This implies that the US cannot ensure a stronger protection of its territory deploying GBI interceptors in the hundreds of silos previously used for Minuteman II missiles.

However Moscow found these concessions insufficient. It appears that political considerations rather than strategic assessments clinched the matter, as Russia opted for distancing itself from the West who had supported protest movement during the 2011-2012 election campaign. At the same time it should also be noted that the strategic assessments of threats posed by missile defense, made by government bodies and experts loyal to them were to a great extent marked by the ruling elite's attitudes to the US and their allies.

Indeed, the most competent Russian experts not belonging to official hierarchy have unequivocally demonstrated that the US missile defense programme as planned cannot undermine Russia's nuclear deterrent if the latter is subjected to at least reasonable

modernization. (This was repeatedly stressed by chief missile designers Yuri Solomonov and Gerbert Yefremov, missile force generals and admirals Victor Yesin, Vladimir Dvorkin, Pavel Zolotaryov, Valentin Kuznetsov, civilian experts such as Academician Sergey Rogov, etc.²)

As for the proposal of common missile defense, it was by all appearances premature and to a certain extent utopist. There were two obstacles to it, a political and a strategic one.

The first one can be summarized as follows. Basically, a joint missile defense implies that one party makes the lives of millions of its citizens dependant on the political obligations and efficiency of technical missile defense systems of the other party. Such interdependence involves nothing but close allied relations not merely in the missile defense sphere, but in major military and foreign policy areas of the countries in question. Even the current US missile defense programme in Europe and Asia Pacific is not a common US and their allies' missile defense in a proper sense of the word, but a US missile defense a part of which is deployed in their allies' territories and certain elements of which are conceded to them.

Russia and the US have no such relations and are unlikely to have them in the foreseeable future. Now it seems clear how naive it was to expect that a purely technical solution of combining certain missile defense elements would be sufficient, while the fundamental political factors in the two countries' relations can be neglected.

For instance, even a partial combination of missile defense systems requires Russia and the US to agree as to the characteristics of threats and the azimuths thereof. The US expressly declares that its system is intended to protect it from Iranian and North Korean missiles, and appear to imply also the Chinese ones. Russia has

² Rogov, S., Yesin, V., Zolotarev, P., Kuznezov, V., 'Ten years without ABM Treaty', *Nezavisimoe Voennoe Obozrenie*, 13 June 2012, <<http://nuclearno.ru/text.asp?16335>>. *Ballistic missile defense: confrontation or cooperation?* Eds. A. Arbatov and V. Dvorkin (ROSSPEN: Moscow, 2012); Dvorkin, V.Z., 'It's time to forget about EuroBMD threats', *Nezavisimoe Voennoe Obozrenie*, 30 Sep. 2011, <http://nvo.ng.ru/concepts/2011-09-30/1_pro.html>; Yefremov, G., 'I am scared to imagine a world without nuclear weapons', *Moskovskie Novosti*, 29 Jan. 2013, <http://www.mn.ru/society_army/20111222/309035629.html>.

never officially acknowledged that either of these countries poses any threat to it. At the same time Moscow has repeatedly expressed official concern over nuclear missile capabilities of Pakistan, Israel, United Kingdom and France, at which the US missile defense system is not targeted.

It must be said, in the interests of fairness, that these issues were also amazingly neglected in the concept of a common 'sector-based' missile defense offered by Russia during the 2009-2011 talks. If Russia and the US were to protect each other from missiles flying over the territory of one country and heading towards the other, would that mean that Russia would be ready to intercept China's missiles flying over it towards the US or Western Europe? If so, what would that imply if not an alliance with NATO against China? Or would that imply a joint missile defense system in Europe and separate missile defenses in Asia? The latter would be a complete absurd, as there must be a highest degree of integration between all elements of the missile defense systems having a global scope and operating in a fully automatic manner.

The second obstacle, the strategic one, to developing a joint missile defense is a status of military and political relations between Russia, on the one hand, and the US and NATO, on the other hand. Those are based on mutual nuclear deterrence. This term is used as a euphemism to cover a harsh reality, the countries' still targeting at one another their missiles armed with thousands of nuclear warheads capable of destroying tens of millions of each other's citizens in the few hours in which the parties exchange strikes. In the decades since the end of the Cold War those capabilities have been considerably reduced, and the reality of nuclear deterrence was overshadowed by other current issues. Yet it is still there, influencing invisibly the powers' strategic relations.

Recent time has seen a growing emphasis on nuclear deterrence in the Russian politics, in both technical matters and declarations. By way of an example one may cite Vladimir Putin's article published just before the 2012 presidential election. He stressed that 'as long as the 'powder' of our strategic nuclear forces created by the tremendous efforts of our fathers and grandfathers remains dry, nobody will dare launch a large-scale aggression

against us'³. Furthermore, he wrote: '... nuclear deterrence will retain its leading role and importance in the structure of the Russian armed forces, at least until we develop new types of weapons, new-generation assault systems'⁴.

As for the US, their official rhetoric relies to a lesser extent on nuclear deterrence, yet they are far from intending to renounce it. As the US doctrine says, 'The fundamental role of US nuclear weapons, which will continue as long as nuclear weapons exist, is to deter nuclear attack on the United States, our allies, and partners'⁵.

In these circumstances it would be at least difficult to develop a joint missile defense. One could establish a Joint Data Exchange Center (JDEC), a sort of common pool of data on missile launches that the parties agreed to establish in 2000 but in fact never created. However, not to mention common missile defense, even combining missile early warning systems (BMEWS) on a real time basis would pose a number of most considerable difficulties. Such systems of both the US and Russia are highly centralized and intended mostly to detect each other's missile launches. It would be inconceivable that the two powers would automatically exchange signals on operational launches of missiles against each other (they notify each other of test launches anyway). That would mean that the systems' components to be combined would have to be separated from the early warning systems in general and that areas of joint observation would have to be agreed, which would pose both political and technical difficulties. It is not surprising, therefore, that even the 'harmless' JDEC project has turned out to be stillborn. Indeed, it was perceived by the two countries' strategic community as a first step towards coordination of BMEWS and subsequently of missile defenses.

One should mention, however, a project of cooperation on tactical missile defense (theater missile defense) that existed in the last decade and involved joint Russia and the US/NATO computer-based exercise. Yet political environment was much more favourable at that time and, most importantly, the 1987

³ Putin, V., 'Being Strong: National security guarantees for Russia', *Rossiyskaya Gazeta*, 20 Feb. 2012. <<http://archive.premier.gov.ru/eng/events/news/18185/>>.

⁴ Putin V. Op. cit.

⁵ *Nuclear Posture Review Report* (Washington DC, April 2010), p. VIII.

Intermediate-Range Nuclear Forces Treaty (the INF Treaty) contributed to the cause invisibly. Under that treaty, Russia and the US eliminated all ground-launched missiles that could be intercepted by tactical missile defense systems. Obviously, the situation with strategic offensive arms is quite different from those of defensive arms.

Should governments have strong enough political will, the experts would develop a 'roadmap' for a phased combination of missile defense systems and renunciation of mutual nuclear deterrence. Yet currently the two powers are moving in a direction quite opposite to a military rapprochement and are expected to continue to do so in the future.

Thus, the situation has drastically changed as compared to 2010-2011. Nevertheless, Moscow repeats its objections against NATO missile defense programme. Russian Defense Minister Sergey Shoigu has recently noted 'In the relations of Russia and NATO, there are also issues that cannot be solved, including those of the European missile defense. We have made no success in cooperating in this sphere, missile defense in Europe continues to develop, and our concerns continue to be ignored... We still advocate mutually beneficial cooperation in missile defense... However, to engage in any joint missile defense project we need sound and reliable legally binding assurances that the US missile defense will not be used against Russia's nuclear deterrent'⁶.

The Minister has expressed the principled position correctly, yet in practice it seems that Russian leadership is no longer interested in the joint missile defense concept and in negotiating with the US on this issue in general. It is indicative that according to media reports President Vladimir Putin has disbanded the inter-agency working group tasked to negotiate these issues headed by Vice Prime Minister Dmitry Rogozin⁷.

One can only guess the reason. Firstly, now there no longer exists one missile defense system. At the moment there are two of them, the US one and a Russian one, with the Russian missile defense developed as part of air and space defense. In April 2011 the session of the Collegium of the Defense Ministry decided to

⁶ Litovkin, V., 'Helmet for secretary general: Russia and NATO agreed on projects and differences', *Nezavisimoe voennoe obozrenie*, 1 Nov. 2013.

⁷ <www.nti.org/gsn/article/russia.Oct.31.2013>.

establish Air and Space Defense Force based on Space Force, which was envisaged in a Presidential Decree in May 2011.

The programme of development and deployment of air and space defense system is the most extended section of the National Armament Programme 2020 and the section accounting for 20 percent of the programme's budget, that is about 3.4 trillion rubles (\$106 billion)⁸. In the context of air and space defense programme, in addition to upgrading the existing and the developing new elements of BMEWS consisting of the land-based radars and spacecraft, Russia is to deploy short-range Pantsir S1 surface-to-air missiles, 28 regimental kits of S-400 Triumph air defence systems (about 450-670 launchers) and 38 battalion kits of S-500 Vityaz missile systems (300-460 launchers)⁹. A total of up to 3,000 interceptors of two types are to enter service, for which three new plants are to be built. In addition to that, a new integrated air and space defense control system is to be established and the Moscow missile defense system (A-135) is to undergo considerable upgrade in order to convert it into a non-nuclear (hit-to-kill) ballistic missiles interception system¹⁰. Although some doubt that it would be possible to implement these plans by 2020, there are reasons to view the air and space defense as a highest priority of the armament programme in terms of procured arms and budget allocations.

Therefore it appears logical that Russia is no longer going to participate in the US/NATO missile defense. One can only contemplate possible combination of certain elements of the two programmes and systems. However, such combination would be highly unlikely due to political and strategic reasons discussed above. Furthermore, if the US missile defense is developed with the official task of providing protection against the third countries (although Russia suspects it is targeted against it), Russia's air and space defense is expressly built against the US. There is no chance of combining such systems.

During a visit to a SAM production facility in June 2013 President Putin stated 'Effective air and space defense is the guarantee that will ensure our strategic deterrent forces remain

⁸ 'Every fifth rouble for VKO', *Voenna-promyshlenny kur'er*, 21 Feb. 2012, <<http://vpk-news.ru/news/403>>.

⁹ See Putin, V., Op. cit.

¹⁰ *Nezavisimoe voennoe obozrenie*, 25-31 March 2011, p. 3.

effective, and will protect our country's territory from air- and space-launched weapons'¹¹. No other country but the US can threaten the sustainability of Russia's strategic nuclear force, and no country possesses air- and space-launched means of attack.

Secondly, as Russian leadership was developing its air and space defense programme, it apparently started losing interest in receiving assurances that the US missile defense is not targeted at Russia, as well as gave up the idea of developing a joint "sector-based" missile defense. Obviously, Moscow would willingly limit the US missile defense, but it would hardly consent to a reciprocal limitation of its air and space defense based on the principle of non-targeting it against the US, since Russian system is openly and expressly built to counter no one but the US.

Washington shows no interest in such arrangements and for some reason demonstrates no concern over the air and space defense (as well as over Russia's strategic offensive arms programmes). Does that mean that the US does not strive to attain the goals that Russia wants it to prevent from attaining, or does it believe steps taken by Russia to be ineffective?

In his programme article of 2012 Vladimir Putin noted: 'A global balance of forces can be guaranteed either by building our own missile defence shield – an expensive and to date largely ineffective undertaking – or by developing the ability to overcome any missile defence system and protect Russia's retaliation potential, which is far more effective. Russia's strategic nuclear forces and air and space defence are designed to serve precisely this purpose'¹².

As these words have a well-thought strategic meaning, one should give it a closer consideration. As missile defense is viewed as an 'expensive and ineffective undertaking', the air and space defense programme does not envisage establishing missile defense to protect SNF assets from the US nuclear-armed strategic ground- and submarine-launched ballistic missiles (providing only for upgrade of the A-135 missile defense system protecting the Moscow area). Previously, it was these missiles that were regarded as a main threat to the USSR/Russia's deterrent. Therefore, now the

¹¹ *Natsional'naya oborona*, July 2013, No 7, p. 22.

¹² *Ibid.*

main task is to protect the SNF assets from the US non-nuclear long-range high-precision arms.

New threats

There are reasons to believe that from now on Russian leadership will consider the US non-nuclear high-precision weapons, rather than the US and NATO missile defense as the main strategic threat. Apparently, Russia's air and space defense system and programme is designed to respond to a strike with these particular weapons.

As it is known, by now the US has deployed on its submarines, cruisers and destroyers about 3,000 Tomahawk sea-launched cruise missiles (SLCMs) of various modifications that carry conventional warheads and have a range of up to 1,800 km and about 500 air-launched cruise missiles (ALCMs) with a range of 1,500 km (AGM-86 C/D).

A disarming strike against Russia's SNF with the use of such weapons would hardly be any success: it would take too long to prepare it, and the preparations would be noticed by the other party, which would enable it to put its forces on the alert. The low-flying subsonic conventional cruise missiles are a less reliable means of destroying SNF facilities (silos, mobile launchers and protected command centers) than ballistic missiles, as one should verify the effectiveness of their strikes and launch more missiles as necessary. The strike itself would take hours, if not days (as compared to 20 to 40 minutes required for a ballistic missile attack), which would enable the other party to mount a retaliatory nuclear strike before the attack is over.

Nevertheless, if there are doubts as to possible nuclear response to a conventional strike, the air and space defense may be very useful. If proper information and control support is ensured, the Pantsir-S1 and S-400 systems might apparently protect mobile and stationary nuclear deterrence elements. In any case, air and space defense systems will provide more time for decision-making and contribute to uncertainty in the plans of disarming strikes, which in itself would enhance the deterrence.

The US has been developing advanced Prompt Global Strike (PGS) weapon systems, that are at various stages of testing. Those

can be fielded after 2020¹³, although current cuts in the military budget will put that off and there are doubts as to their utility in the US.

These weapons include the currently tested rocket-launched gliders (or aeroballistic systems) and HTV-2 (Hypersonic Technology Vehicle) with an expected range of 17,000 km (and a velocity of 20 M) and AHW (Advanced Hypersonic Vehicle) with a range of 8,000 km¹⁴. The former may be based in the continental US, and the latter in the islands of Guam or Diego Garcia, on surface ships or submarines. Both systems use ballistic missiles as boosters and steerable maneuverable hypersonic gliders. HTV-2 tests were not successful, after which its funding was cut, while experiments on AHV continue¹⁵.

In addition, the US is designing a submarine-launched intermediate range ballistic missile (SLIRBM) capable of carrying gliding or maneuverable warheads (with a range of 3,700 km) that may be carried by ships and submarines. At the same time, outside the PGS programme the US is developing a X-51 WaveRider hypersonic aircraft-launched cruise missile (with a range of 1,800 km and a velocity of 5M)¹⁶.

Just like in case of missile defense, Washington justifies the development of these weapons by the need to counter extremist regimes (in Iran and DPRK) and terrorists. Independent Western experts admit that these weapons can be used in an armed conflict with China. Yet, just like in case of missile defense, Russia does not believe it and views the existing and future US long-range conventional arms as a threat to Russia's nuclear deterrent.

It appears that Vladimir Putin meant those particular systems when he wrote in his article: 'All this will, in addition to nuclear weapons, provide entirely new instruments for achieving political and strategic goals. Such hi-tech weapons systems will be comparable in effect to nuclear weapons but will be more 'acceptable' in terms of political and military ideology. In this

¹³ Grossman, E.M., 'Pentagon Readies Competition for 'Global-Strike' Weapon', *Global Security Newswire*, 24 June 2011.

¹⁴ Acton, J. *Silver Bullet? Asking the Right Questions About Conventional Prompt Global Strike*, Carnegie Endowment for International Peace, 2013, pp. 33–63.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

sense, the strategic balance of nuclear forces will play a gradually diminishing role in deterring aggression and chaos¹⁷.

It should be noted that the modern conventional arms will never have a yield at least remotely comparable to those of nuclear weapons in terms of either mounting a disarming strike against protected targets, or mounting strikes against industrial or densely populated areas. The possibility of a disarming strike using these weapons against a nuclear superpower is as doubtful both politically and militarily, as the possibility of a strike using the existing subsonic cruise missiles. Yet Russian leadership's concern over a whole 'batch' of such projects and tests is understandable.

Russia has the most significant backlog in this sphere and the diminishing role of nuclear deterrence so relied on by the country's leadership is perceived with great anxiety. What is more, the new advanced systems would render much more uncertain the assessments of strategic balance and estimations of the deterrent adequacy. They would complicate even more the negotiations on arms control and even the preservation of the treaties that have already been concluded (including the 1987 INF Treaty, and the New START Treaty of 2010).

Besides, the advanced boost-glide weapons also bring about additional military and technical problems for Russia's defense.

Modern strategic ballistic missiles with nuclear warheads have higher velocities (21-22 M) and shorter flight time (15-30 minutes) and there can hardly be any protection against them. Nevertheless their trajectories are predictable and they hit only preprogrammed targets, their launch can be detected by satellites within minutes and confirmed by early warning radars 10 to 15 minutes before they hit. Hence, the other party has a chance to mount a retaliatory counter-strike, and its mobile ground-based and sea-based systems have a chance to survive and mount a retaliatory strike.

As compared to the current non-nuclear cruise missiles, intercontinental rocket-launched gliders deployed in the US would not require lengthy preparations to attack, and the duration of the strike itself would be much shorter due to the hypersonic speed of missiles.

¹⁷ Putin, V., Op. cit.

Like the ballistic missiles, the launch of glide missiles can be detected by satellites, yet having been launched, they enter stratosphere and travel at hypersonic speed with unpredictable routes. Due to lower flight altitudes as compared to ICBMs and SLBMs, the early warning radars would detect them only 3-4 minutes before they reach target, and the air defense radars, not more than 3 minutes¹⁸.

Russian experts in defensive arms believe that the US rocket-launched gliders pose threat, as for most of their flight path they remain invisible by air and missile defenses. In order to timely detect and track the PGS weapons Russia will have to significantly upgrade both its information and control systems and its interceptors.

As compared to existing cruise missiles, future hypersonic air-launched cruise missiles can be detected at great distance due to higher flight altitude, but their speed would extremely complicate their interception by both SAMs and fighters.

At the same time, there is no clear and undisputed answer to the question of whether the accuracy of such weapons would be enough to defeat protected assets (such as ICBM silos and command-and-control facilities). It is also unclear, whether they would be able to destroy road-mobile systems, for which their flight path would have to be adjusted at its terminal part with the help of satellites and aerial vehicles or autonomous homing. In any case gliding units will have to sharply reduce their speed when approaching a target (down to 2.5-3 M) to remove the blocking effect of plasma from air friction. This will facilitate their interception by air defense/missile defense systems, and will also enable the use of radio electronic warfare. (In contrast, nuclear warheads do not use correction at the final trajectory stage and attack the target with higher speed, having a much greater radius of destruction of both regular and hardened targets.)

However, both military and civilian experts responsible for ensuring Russia's defense must expect the worst-case scenario. One cannot exclude the possibility that arming the gliders with nuclear weapons will be considered, which would ensure accurate targeting at terminal stage, at least in case of fixed targets. (However in this case these weapons will loose in terms of their political and military

¹⁸ Acton, J., Op.cit.

‘acceptability’ as compared to nuclear weapons, which Vladimir Putin mentioned.)

Due to the gliders’ characteristic flight path it would be more difficult to mount a retaliatory counter-strike with ICBMs if gliders are used for attack, or one would have to launch the ICBMs in the first few minutes after a satellite signals the launch of the gliders and before the confirmation comes from the ground radars, which usually takes 10-15 minutes. That would increase the possibility of war due to false alarm, which is a great hazard posed by hypersonic gliders.

It can be assumed that the Moscow A-135 missile defense is upgraded to include non-nuclear-armed interception systems in order to protect Russia's political and military leadership from an attack using conventional weapons ballistic missiles and missile-launched gliders. As for the SNF assets, those would be protected against the mentioned weapons and hypersonic cruise missiles with the help of S-500 SAM systems that are to be integrated in the same common information and control system with the space-based and ground-based BMEWS components.

New solutions

It appears that if the situation is de-escalated and Ukrainian crisis is settled in a political way, a political window of opportunity may open in the future to renew the strategic talks. The current stalemate could be overcome through an arrangement on the newest long-range non-nuclear offensive arms, rather than through an agreement related to missile defense.

It seems that in addition to political reasons it is the threat of such means of attack that explains Moscow’s negative attitude to the US proposal to continue the reductions in strategic nuclear arms beyond the limits established by the New START and limit the non-strategic (tactical) nuclear weapons.

To pose a threat as a weapon of a disarming strike the new hypersonic non-nuclear weapons have to be deployed in large quantities (at least several hundreds of them). If the limits for strategic offensive arms are extended to them, the US will have to significantly cut down the number of deployed weapons of this kind not to impair its future nuclear triad past 2020. The precedent has

been set in the 2010 New START, the limits of which apply to strategic ballistic missiles regardless of whether they carry nuclear or conventional warheads.

It would be much harder for the parties, but not impossible to agree upon similar confidence-building measures and limitations for existing cruise missiles and advanced hypersonic ALCMs. For example, as submarines carrying SLCMs, unlike SSBNs are not constantly on alert at sea, the parties could agree upon notifying each other of massive (extraordinary) departure of multipurpose submarines capable of carrying SLCMs and explaining the reasons and purposes of such actions. They could adopt similar measures for massive departure or movement to forward bases of strategic bombers carrying non-nuclear ALCMs. Those confidence-building measures would levy concerns over possible covert preparations and unexpected disarming strikes using thousands of conventional cruise missiles.

There is one more serious problem relating to the development of AHW systems and the new intermediate-range ballistic missile (SLIRBM) to be based on Guam, Diego Garcia, surface ships and multi-purpose submarines. If they do not fall under the limitations of the subsequent START (as it has been suggested above) Russia will perceive them as a new threat just like the US ground-launched cruise missiles and Pershing II missiles in early 1980s. That would deal a final blow to a most important and historic 1987 INF Treaty that has anyway been subjected to severe criticism in Russia.

This issue could be solved through prohibiting basing on land of the gliders and ballistic missiles with a range of over 5,500 km (the lower limit of ICBM range envisaged by the INF Treaty) and extending the above mentioned confidence-building measures on submarines and ships carrying such means of attack.

Verification measures preventing the placement of nuclear weapons on hypersonic systems – which would most likely cause Russia's great concern – would also be helpful.

As for defensive systems, if actual military plans of Moscow coincide with the above considerations, Russia's air and space defense programme and the prospective air and space defense system could be regarded as stabilizing in the context of basic understanding of strategic stability (as the relations between the parties under which the first disarming strike is impossible).

Regretfully, no official clarifications are provided, and only hackneyed assurances that Russian air and space defense threatens no one, unlike the US missile defense, as it is not deployed abroad and is not drawn to the vicinity of the US borders, are repeated.

The US and their allies' missile defense cannot deal with a more or less large-scale nuclear missile attack. However, as it is intended to protect the country's territory and is developed as 'open-ended' it creates much greater uncertainty in the longer term. This uncertainty can be addressed if the parties agree upon confidence-building measures and certain quantitative, technical and geographical criteria to distinguish between a stabilizing system against the third countries from the destabilizing missile defenses they develop against each other.

This should serve as a basis for a substantive dialogue between Russia and the US on new principles of strategic stability and their application to both nuclear weapons and new generation of non-nuclear defensive and offensive arms. Strengthening strategic stability as revised would become increasingly important as the nuclear weapons further reduce.

In case the US considerably limits its newest non-nuclear offensive arms, Russia's air and space defense could become increasingly reoriented to perform other important and realistic tasks: to protect population and industry from either single or group missile and aircraft nuclear and non-nuclear strikes mounted by the third countries, radical regimes and terrorists. In fact, the same air and space defense technology yet with a wider geographic scope would much more efficiently serve these purposes. That would create conditions for combining certain elements of early warning systems and missile defenses of Russia and the US/NATO with the view to enhancing the efficiency of national systems in countering new common missile threats.

Strategic prospects

Improvement of political background of the US-Russian relations could open the way to solve these issues and resume a serious dialogue on strategic nuclear and conventional precision weapons. In the end, even during global standoff the USSR and the US pursued such negotiations for over twenty years and concluded

a series of historic treaties. At that time any strategic partnership was out of the question, and the parties had exclusively pragmatic motives: to reduce the threat of war, to limit nuclear missile forces and programmes of each other and therefore to reduce their own expenses for response steps.

These considerations will still be relevant in future. In 2012, Vladimir Putin published a rather detailed programme of modernization of Russia's strategic forces, according to which by 2020 Russia's armed forces were to field 400 modern intercontinental ballistic missiles. That means 44 or 45 missiles a year, although at present times less, are deployed. (In 2014, 22 land-based missiles were to enter service, while no data was available for sea-launched missiles after the failed test of Bulava on September 6¹⁹.) In the future, reintroduction of multiple types of missiles will increase pressure on resources many times. At the moment, there are five types of land-based intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs) that undergo various stages of design, production and deployment. Those include Yars, Rubezh, a new liquid-propellant heavy silo-launched missile to replace Voyevoda, Sineva and Bulava. In addition to the three 955 Borei class strategic submarines that have already been built, the programme envisages the delivery of five more submarines, that is about a submarine a year. However, the construction of each submarine takes many years and technical problems with the Bulava system continue.

What is more, enormous amount of resources will be required to establish information and control system and air and space defense, as well as for the technical upgrade of general-purpose forces, expansion of contractual service, improvement of military training, increase of military compensations and the provision of housing. All this will have to be done against the backdrop of economic stagnation and the growing budget deficit.

If the country could save on upgrading its strategic forces that will never have to engage in real warfare (as preventing war is the main task of nuclear deterrent), it could spend more on meeting other military needs, primarily those of general-purpose forces that are more likely to engage in real local and regional warfare. The easiest way to save while retaining strategic priority and stability

¹⁹ <<http://eng.kremlin.ru/news/6340>>. 27 Nov. 2013.

would be to enter a subsequent agreement on strategic offensive forces (and at the same time to reduce the variety of types of weapons to avoid their duplication).

After 2020 the US will follow Russia in upgrading their strategic triad. Since the beginning of the next decade they will deploy a new bomber, and after 2030, field another generation of land-based ICBMs and a new sea-based missile system to replace the Trident submarines and missiles. According to preliminary estimates, the whole cycle of upgrade will cost over \$900 billion. As Washington's budget deficit and public debt are enormous, the US should be willing to save, including on strategic programmes. A new agreement on strategic offensive arms would serve precisely that purpose, as the current START is to expire in 2020.

Russia should also care about the scale of the US strategic nuclear forces (SNF) upgrade and about what systems will be to replace the current ones. Indeed, that will impact the cost that Russia will have to pay for retaining the parity, maintaining the survivability of its deterrent and hence the stability of its strategic balance. A new treaty could play a considerable role in that.

However, there are indications that after Russia showed no interest in Washington's proposal to conclude a subsequent treaty on reducing the limit of warheads from 1,550 to 1,000 this summer, the US renounced strategic arms reductions. In November a senior official in Pentagon stated that Pentagon was pessimistic about the prospects of new pertinent agreements²⁰. The US may pursue an upgrade of their strategic nuclear triad after 2020, when they are at liberty to do so in the absence of a new strategic offensive arms treaty.

The new generation of policy-makers and experts often think that there was no history before them. They either know nothing of the past, or merely neglect it. Yet during half a century's history of strategic arms negotiations between the two powers, they tend to exchange their roles both in terms of interest in this matter in general and in specific technical issues and weapons systems, from time to time. It should be reminded that a decade ago it was Moscow who strived to conclude a new treaty, and the Bush administration demonstrated no interest in it. After 2010 and up

²⁰ <<http://www.nti.org/gsn/article/us-pessimistic-about-progress-missile-defense-arms-control-russia/?mgs1=1ddbdJhNb4>>.

until the Ukrainian crisis the situation was the opposite: Washington insisted on further disarmament and Moscow rejected the idea and even excluded 'nuclear disarmament' term from its political vocabulary. Quite possibly, things will change once again in the next few years, but Russia's position will be weaker than now.

In any case, the dream of complete nuclear disarmament that has brought heated discussions in the US and Russia, should be postponed for a more distant future. However, in the foreseeable future, it would be advisable to agree upon a next, ninth nuclear arms reductions agreement since 1972. As they say, nothing romantic, business as usual.

At the same time, one has to bear in mind that if a political window of opportunity opens at some point, it will hardly be possible to simply take things up where they were back in 2011. Many things have changed, and there are new factors influencing the situation and those have to be taken into account in order not to make the same mistakes again.

2. SYRIA'S CHEMICAL WEAPONS: DEVELOPMENTS AND FACTS

Natalia KALININA

The civil conflict in Syria ongoing for more than two and a half years has been attracting constant attention of the world community.

The rising of opposition movement in Syria began in late February 2011 under the slogan of change of the constitution and abolition of the one-party political system when the power is vested in the only Baas party headed by President Bashar al-Assad. A month later the opposition demanded his resignation. The discontent was also caused by the predominance of Alawites – a religious sect Assad belongs to – in the country's leadership positions. In November 2012 Syrian opposition groups merged into the National coalition for Syrian revolutionary and opposition forces (Syrian National Coalition - SNC), while the US, Turkey, France, the UK and most EU countries announced their support to SNC. Saudi Arabia, Qatar and other Arab Gulf states consider SNC 'a legitimate representative of the Syrian people' and assist the opposition, blaming the ruling regime for the ongoing conflict. Assad's resignation became the main condition on the part of opposition for starting talks to resolve the crisis. All the BRICS countries – Russia, China, India, Brazil, South Africa – as well as Iran and a number of Latin American countries are against forceful regime change and calling for defining the future of Syria only through negotiations between authorities and opposition.

This war resulted in an enormous humanitarian catastrophe that continues to unfold. Already more than 100,000 people have been killed; even more people have been injured; one third of the

population has been displaced or is in need of humanitarian assistance, including more than 2 million people living as refugees in neighboring countries (mainly in Jordan, Lebanon, Turkey, Iraq, and Egypt)²¹.

A new round of conflict began in August 2013 when chemical weapons (CW) were used in the country. The global importance of the followed developments is analyzed below.

History of Syrian chemical weapons program

Syria's arsenal of chemical weapons is the largest in the Middle East. According to the Syrian military doctrine, CW is a defensive weapon intended to maintain 'strategic parity' with Israel and to be used only in case of a large-scale aggression against Syria primarily on the part of the Jewish state.

Syria is a party to the 1925 Geneva Protocol which prohibits the use of chemical and bacteriological ways of warfare. It ratified the protocol in 1968 without reservations except for one clause which stated that the signing of the protocol did not imply recognition of Israel. Thus Syria officially renounced the first and retaliatory use of chemical or biological weapons against any state, which however did not prevent it from developing CW programs, especially because until September 2013 Syria was not a member of the 1993 Chemical Weapons Convention.

The program for the development of chemical weapons in Syria is believed to start in 1970 when the country began actively purchasing chemical agents used in the synthesis of chemical warfare agents (CA), as well as missiles capable of delivering chemical weapons²². The information about Syria's acquisition at that time of significant amount of degassing equipment (presumably from the USSR) and face masks (presumably from China) served as

²¹ More details about humanitarian aspects of the war in Syria: Statement by the President of the Security Council/ Document UNSCS/PRST/2013/152 October 2013; the letter dated 7 Oct. 2013 addressed to the President of the Security Council/ Document UNSCS/2013/591* on 7 Oct. 2013: The situation in the Middle East/ Document UNSCS/PV.7049 on 25 Oct. 2013.

²² Burck, G.M., Flowerree, Ch.C., *International Handbook on Chemical Weapons Proliferation* (New York: Greenwood Press, 1991), p. 213.

an indirect confirmation²³. Media and US government sources indicate that Syria first received CW from Egypt on the eve of the attack on Israel in October 1973²⁴.

Initially, as many experts believe, France was behind the Syrian CW program development –in 1969 Paris and Damascus signed an agreement on scientific cooperation. Then with the help of French experts a research center was established in Syria which, according to Western intelligence, was the government agency responsible for the development of chemical and biological weapons.

Certain CW production potential was created sometime in the mid-1980s²⁵. By 1986, Syria had already had technology (obtained in various ways from Western Europe) of the synthesis of lethal neuroparalytic CAs (sarin) and of their delivery systems²⁶. As noted in the special national intelligence estimate (SNIE) from 15 September 1983, Syria had received from the Soviet Union and Czechoslovakia toxic substances, means of delivery and assistance in training experts on chemical weapons. In the early 1990s, numerous reports on trafficking precursors and raw material from a number of European countries as well as Russia continued to appear²⁷. Other information appeared as well, in particular, about Iran's transfer of technology to synthesis CA and cooperation on these issues, including supply of raw materials, reactors, pipes, condensers, heat exchangers, as well as equipment for the detection of chemicals²⁸.

²³ *International Handbook on Chemical Weapons Proliferation*, p. 215.

²⁴ Seth Carus, W., *Chemical Weapons in the Middle East*, Research Memorandum No. 9 (Washington, DC: Washington Institute for Near East Policy, 1988); Burckand G.M., Flowerree, Ch.C., Op.cit., p. 213.

²⁵ In 1989, CIA Director William Webster testified that Syria began producing CW agents in the early 1980s. Op. by: Burckand G.M., Flowerree, Ch.C., Op.cit., pp. 210-212.

²⁶ De Zchazer Sr., M., *Chemical Weapons Proliferation in the Middle East: What is the Proper Response?* (Carlisle Barracks, PA: US Army War College, 9 April 1990), p. 10; Burckand G.M., Flowerree, Ch.C., Op.cit., pp. 211-212.

²⁷ In particular, the 1991 *International Handbook on Chemical Weapons Proliferation* states that the USSR in the 1970s and 1980s supplied Syria with the means of chemical protection and decontamination.

²⁸ *Syrian Weapons of mass destruction. An Overview*, Eds.: Anthony H. Cordesman, Arleigh A. Burke, Chair in Strategy, 1st Working Draft: 2 June 2008.

During 2002-2006, according to the CIA reports, Syria already accumulated significant amounts of sarin and began producing more toxic OS (codename VX)²⁹, though it remained dependent on foreign suppliers of raw materials (precursors and other necessary materials)³⁰.

Along with the development of the Syrian CW program Damask expanded its arsenal of delivery means including aerial bombs, artillery shells and ballistic missiles.

It is generally believed that Syria has obtained the technology of synthesis of organophosphorus neuroparalytic (sarin and VX) and blister agents (mustard). Syrian chemical weapons depots are located in the mountainous region to the east of Damascus, near Homs, Hama and Aleppo. Factories producing chemical weapons disguised as pharmaceutical companies are situated close to the mentioned cities. Center for the Study and Research (SSRC) in Damascus carries overall program management and capacity development of the Syrian chemical arsenal. Tactical missiles (there are more than enough of them in Syria) and bombs can be equipped with chemical warheads. It is also possible that the Syrian army has artillery shells filled with chemical charge for field guns of 122, 130 and 152 mm caliber.

²⁹ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions for the period 1 January to 30 June 2002* (Washington, DC: Office of the Director of National Intelligence, 2002), p. 4, <www.dni.gov>; *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions for the period 1 January to 31 December 2006* (Washington, DC: Office of the Director of National Intelligence, 2008), p. 6, <www.dni.gov>.

³⁰ *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions for the period 1 January to 31 December 2009* (Washington, DC: Office of the Director of National Intelligence, 2009), p. 7, <www.dni.gov>; *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions for the period 1 January to 31 December 2010* (Washington, DC: Office of the Director of National Intelligence, 2010), p. 7, <www.dni.gov>.

Timeline

Syria publicly acknowledged the existence of chemical weapons on July 23, 2012 when the Syrian Foreign Ministry announced it and that ‘all kinds of weapons placed in storage under the protection and the direct supervision of the Syrian armed forces and will never be used, if Syria does not undergo external aggression’³¹. The next day, the Director-General of the Organization for the Prohibition of Chemical Weapons (OPCW) Ahmet Üzümcü reacted to the statement of the Syrian Foreign Ministry, noting that the use of chemical weapons is prohibited by international law and that the presence of stockpiles and the possibility of its use are the subject of ‘serious concern’ by the international community³². The same day, UN Secretary General Ban Ki-moon said that ‘it would be reprehensible if someone in Syria considered the possibility of weapons of mass destruction, particularly chemical’³³.

On August 20, 2012, US President Barack Obama said that the issue of the Syrian CW ‘applies not only to Syria; it concerns our closest allies in the region, including Israel’³⁴. Moreover, he warned that the use of chemical weapons in the fight against al-Assad rebels would be a ‘red line’ which if crossed called an appropriate response and the use of military force, even without a UN Security Council³⁵. This statement was joined by British Prime Minister David Cameron, and later by the newly elected French President Francois Hollande. Between late November and early December 2012, Western intelligence agencies allegedly received

³¹ ‘Syrian Regime Makes Chemical Warfare Threat’, *The Guardian*, 23 July 2012; and ‘Syria: could use chemical arms against ‘external aggression’’, Reuters,

³² OPCW, ‘OPCW statement on alleged chemical weapons in Syria’, 24 July 2012, <<http://www.opcw.org/news/article/opcw-statement-on-alleged-chemical-weapons-in-syria/>>.

³³ United Nations News Centre, ‘Use of chemical weapons in Syria would be ‘reprehensible’-UN chief’, 23 July 2012, <<http://www.un.org/apps/news/story.asp?NewsID=42538&Cr Syria & Cr1 =>>.

³⁴ White House, ‘Remarks by the President to the White House Press Corps’, Press Briefing transcript, 20 Aug. 2012, <<http://www.whitehouse.gov/the-press-office/2012/08/20/remarks-president-white-house-press-corps>>.

³⁵ Ball, J., ‘Obama issues Syria A ‘red line’ Warning on Chemical Weapons’, *The Washington Post*, 20 Aug. 2012, <www.washingtonpost.com>.

evidence that the Syrian government began preparations to use chemical weapons, prompting U. President Obama on December 3, 2012 again to warn Syria against the use of chemical weapons and the possible consequences³⁶.

Syria autumn statement was widely discussed at the next session of the Executive Council of the OPCW (EC OPCW), during which Israel said that 'Syria still holds significant operational chemical weapons stockpiles and the recent official statement admitted to owning them'³⁷. In response to this statement, Iran accused Israel of the existence of 'a secret program to develop chemical weapons'³⁸.

The first reports in the media about the use of chemical weapons in the suburbs of the Syrian city of Homs Al-Bayda appeared on December 23, 2012 Syrian authorities and the opposition blamed the attack on each other.

On March 19, 2013 CW was used in the shelling of Khan el-Asal in Aleppo province: 86 people were injured, 26 people died. The same day, Syrian Information Minister Omran al-Zuabi blamed extremists from the 'Jabhat al-Nusra' group for the use of weapons banned by all international laws. Syrian rebels denied responsibility for the attack.

On March 20, 2013 Syria sent to the UN Secretary General a formal request to conduct an investigation of the use of chemical weapons in the area of Aleppo. On March 21, the UN Security Council held closed consultations convened at the initiative of France, and the same day the UN Secretary General decided to send a group of independent experts to Syria to investigate reports of the chemical attack. The group was formed by 15 inspectors led by a Swedish scientist Selstremom Oka. The UN experts demanded for unlimited access to any area in Syria including military and secret

³⁶ Gardner, A., 'Obama Hails Progress on loose nukes, warns of Chemical Weapons Risk in Syria,' *The Washington Post*, 3 Dec. 2012.

³⁷ OPCW, Conference of the States Parties, 17th Session, 'Israel: statement by Mr Eyal Propper, Director arms control policy Department, Ministry of Foreign Affairs', C-17/NAT.15, 27 Nov. 2012, p. 2.

³⁸ OPCW, Conference of the States Parties, 17th Session, 'Islamic Republic of Iran: Statement by HE Kazem Gharib Abadi, Ambassador and Permanent Representative of the Islamic Republic of Iran', C-17/NAT.24, 26 Nov. 2012, p. 3.

objects and the right to examine witnesses on their own, but the Syrian government did not agree to these conditions.

On April 19, 2013, Britain and France announced that they had ‘strong evidence’ of CW use by government forces, and apparently it was sarin³⁹. Then, on April 25, 2013, the US Defense Secretary Chuck Hagel said that the US intelligence community estimated with a certain degree of confidence that the Syrian regime was using CW, particularly sarin, against insurgents.

On July 9, 2013 Russia’s permanent representative to the UN Vitaly Churkin said that, according to Russian experts, a shell released on March 19 by Syrian rebels against an Aleppo suburb contained poisonous gas sarin. According to him, the samples taken at the crash site of the ammunition were analyzed in Russian laboratories certified by the OPCW. It was found out that the militants launched unguided projectile ‘Bashair-3’ against the city of Khan el-Asal controlled by the government. This statement was followed by the transfer to the UN of the relevant Russian report which was a scientific and technical document of about 100 pages with numerous tables and diagrams of the spectral analysis of samples.

The main conclusions of the Russian experts were:

- the munition was not an ammunition used by the Syrian Army and was home made to match the type and parameters of unmanaged jet shells produced in northern Syria by so called ‘Bashair Al-Nasr’ brigade. According to the Russian side, the production of ‘Bashair-3’ shells began in February 2013 by ‘Bashair Al-Nasr’ group associated with the Free Syrian Army;

- RDX was used as an explosive which in was not used in standard chemical munitions⁴⁰.

The US authorities immediately reacted to Churkin’s statement. The White House spokesman Jay Carney said: ‘We have not seen any evidence to support the assumption that anyone in Syria, apart from the Syrian government, used or had the opportunity to use chemical weapons’.

³⁹ Entous A., Barnes, J.E., ‘New US Probes Syria Weapons Allegations’, *The Wall Street Journal*, 19 Apr. 2013.

⁴⁰ Comment by the Information and Press Department of the Russian Ministry of Foreign Affairs in connection with the situation around the investigations of chemical weapons in Syria, 1676-04-09-2013, 4 Sep. 2013.

Meanwhile, on June 9, representatives of the Free Syrian Army command reported the use of chemical weapons by the government forces and Hezbollah during the fight in Zamalka, near Damascus. On the same day President Obama said that 'Washington has evidence of the use of chemical weapons by government troops'. On June 26, the US and UK 'provided proof to the UN Commission of at least 10 cases of use of chemical weapons' by the Syrian authorities⁴¹. Unlike Russia that on July 9 submitted to the UN Commission its evidence of chemical weapons use by the opposition in March in Khan al-Assal, the Western countries did not find similar evidence.

On August 5, Syrian opposition and human rights organizations accused government forces of the use of 'poisonous gases' during the siege of Damascus suburbs of Duma and Adra.

On August 18, UN experts arrived in Damascus where they began preparations for the on-site inspection in connection with the investigation of allegations of chemical weapons use in Khan al-Azal and Sheikh Maqsood and Sarakebe.

On August 21, the suburbs of Damascus (province Guta) again witnessed CW use and on a much larger scale than on March 19. According to the media, the firing of shells with the nerve gas sarin killed 625 to 1,300 people (according to the US, 1429 people). Again, the opposition and the Syrian authorities blamed each other. The same day, the UN Security Council held an emergency meeting.

On August 26, the Syrian government provided access for the UN inspectors to Huta district where the CW had been used.

On September 9, in Moscow during the talks between the foreign ministers of Russia and Syria, Sergei Lavrov and Walid Muallem, the former called on Syria to put its CW under international control, followed by their destruction, and accede to the Convention on the Prohibition of Chemical Weapons.

On September 10, Sergey Lavrov said that Moscow was developing jointly with Syria a transition plan to put CW facilities under international control. He also noted that the proposal to put the Syrian CW under international control was not solely Russian initiative. It resulted from the contacts with US counterparts. Syrian

⁴¹ <<http://ria.ru/world/20130626/945982834.html>>.

Foreign Minister said that Damascus was ready to accede to the Convention on the Prohibition of Chemical Weapons.

On the same day President Barack Obama met with senators and asked them to postpone the vote on the resolution authorizing the use of force against Syria scheduled for September 11 (draft document was sent to senators on September 1).

On September 12, Syrian President officially announced that Syria agreed to put its CW under international control. Following that, on September 12-14 the Russian Foreign Minister Sergei Lavrov and US Secretary of State John Kerry met in Geneva. The main focus of the talks was to discuss Russia's plan to establish international control over Syria's chemical weapons. The talks reached a Russian-US framework agreement on the destruction of the Syrian chemical weapons.

On September 14, the UN Secretary-General received an official instrument of accession to the Convention on the Prohibition of Chemical Weapons from Syria.

On September 16, the UN Security Council considered a report by the UN inspectors which stated that on August 21 in Huta suburbs of Damascus poisonous gas (sarin) was used. The document was the result of the investigations carried out from August 26 by a group of experts of the OPCW and WHO.

On September 18, Russia's permanent representative to the UN Vitaly Churkin declared at the meeting of the 68th session of the UN General Assembly that 'there is abundant evidence that on August 21 in Huta there was a large scale provocation which purpose was to cause the foreign military intervention in the Syrian conflict'.

Russia's position on the events of August 21 based on the materials transferred to Russia by Damascus that claimed the use of chemical weapons by the armed opposition. In particular, the senior officials of the Russian Foreign Ministry cited in interviews eyewitness accounts which contradicted the version of the Syrian army responsible for launching rockets with sarin. For example, the ministry drew attention to the information given by the abbess of the monastery of St. James located in the town of Kara, Mother Agnes Mariam Al-Saliba to a correspondent of 'Rusia al-Yaum' channel (Arabic version of Russia Today). The nun said that the chemical attack was a provocation by opposition forces. According to her, the media started reporting the tragedy at 06:05 am on

August 21 and chemical attack occurred between 3:00 and 05:00 am. She wondered how in this time one could shoot about 10 reports and move more than 300 young people and 200 children in one place to provide first aid and take interviews? The Russian Foreign Ministry also cited other evidence that the opposition had used the chemical weapons, including the testimony of a number of Western journalists who visited locations of Syrian opposition groups affiliated with 'Al-Qaeda'⁴².

Russia asked the following question: could the Syrian authorities use CW on August 21, if at that time there were already UN inspectors in the area. Certainly not. In addition, Russia drew attention to the fact that the information about the chemical attack near Huta came at the very moment when the Russian-American experts were preparing for the next meeting on the eve of the Geneva Conference. The following hype objectively worked against convening this forum. Perhaps this was one of the objectives pursued by the authors of this 'news'⁴³.

On September 26, 2013 in New York, Russian Foreign Minister Sergei Lavrov handed in to the US Secretary of State John Kerry evidence of involvement of Syrian opposition in chemical attack on August 21 in the suburbs of Damascus.

On September 27, 2013 in the Hague, EC OPCW approved a plan for destruction of Syria's chemical weapons. On the same evening, the UN Security Council adopted Resolution No. 2118 in support of the plan to eliminate chemical weapons in Syria. All 15 countries voted for the document. In case of repeated chemical attacks in Syria or an unauthorized transfer of CA the resolution allowed for the adoption of measures in accordance with Chapter 7 of the UN Charter, which provides for the imposition of sanctions and the use of military force. However, these measures would require the adoption of a new UN Security Council resolution.

⁴² This refers to the statement by Pierre Piccinini, a Belgian writer, who was held hostage for a few months by Syrian rebels, that he heard the militants discussed a chemical attack in one of the districts of Damascus mentioning that Bashar Assad had nothing to do with it.

⁴³ For more information see: Speech by the Russian Foreign Minister, Sergey Lavrov, and his answers to questions from the mass media during a press conference on chemical weapons in Syria and the situation around Syria, Moscow, 26 Aug. 2013, as well as Interview with the Minister of Foreign Affairs Sergey Lavrov, *Kommersant*, 30 Sep. 2013.

On October 14, the Convention on the Prohibition of Chemical Weapons entered into force for Syria.

On November 15, OPCW approved the Syrian chemical weapons destruction plan including timelines for individual stages.

On December 13, the UN inspectors presented a final report on their activities which left the question of who had used CW (Syrian government forces or opposition) open⁴⁴.

Given the importance of the events in Syria it is more details on individual facts and documents.

UN investigation

The UN inspections were carried out in Muhammadiyah in Western Huta and in Ain Tarma and Zamalka in Eastern Huta. In fulfilling its mandate the Mission followed the basic principles and procedures for the timely and effective investigation of the possible use of chemical and bacteriological (biological) or toxin weapons (A/44/561), and in appropriate cases and to the extent possible the provisions of the OPCW contained in Article I (5) (a) additional agreement to the Agreement between the UN and the OPCW.

Despite the time constraints and repeated threats including an actual attack on a convoy of UN inspectors committed on August 26 by an unidentified sniper, the Mission was able to collect a significant amount of information and the required number of samples. The mission was also able to collect eyewitness accounts of people affected by this attack, including patients, health professionals and individuals providing first aid.

The information collected about the delivery systems was extremely important for the investigation. In areas of investigation the mission discovered and recorded several 'ground to ground' missiles which could be equipped with chemical warheads.

During the investigation, a total of 30 environmental samples were collected. According to the reports received from laboratories designated by the OPCW, most of the samples revealed the presence of sarin, its degradation products and/or byproducts of its production.

⁴⁴ UN document A/68/663-S/2013/735 from 13 Dec. 2013.

The mission interviewed 80 victims of which 36 were selected for a more thorough medical examination. According to the results of the inspection, thirty patients (83%) reported that they developed symptoms after a military strike against their homes or the surrounding countryside happened; the remaining six (17%) reported that they became ill after they assisted the victims. Patients demonstrated clear symptoms, such as loss of consciousness, shortness of breath, defocusing of view, itchy eyes/eye irritation, excessive salivation, vomiting and convulsions/seizures. These symptoms are characteristic of organophosphate poisoning.

Overall, the results of environmental, chemical and medical samples are clear and convincing evidence that in Ain Tarma, Muhammadiyah, and Zamalke near Huta in Damascus were used 'ground-to-ground' missiles containing sarin (all examinations were performed in parallel in two laboratories assigned by the OPCW).

This conclusion is supported by the following facts:

- it was found that the wreckage of damaged and exploded 'ground to ground' missiles which could be equipped with chemical warheads contained sarin;
- it was found that the area in vicinity of the place where the missile hit infected with sarin;
- the surveys of more than 50 victims and health workers gave a considerable amount of information confirming the results of medical and scientific research;
- a number of patients/victims were clearly diagnosed as poisoned with organophosphorus compounds;
- the analysis of blood and urine samples taken from those patients showed the presence of sarin and its chemical signature.

Three of the five areas, examined by the mission, did not allow to examine the trajectory of missiles due to the nature of the local relief. Nevertheless, in the impact point of missile 1 (Muhammadiyah) and of missile 4 (Ain Tarma) the experts found clues to help to determine the likely trajectory of shells.

The warhead belonging to the impact point of missile 1, due to its measured characteristics was tentatively assigned to one of the modifications of M14 artillery rockets (of BM-14 Soviet multiple rocket launchers⁴⁵). The place where the missile 2 hit was 65 meters

⁴⁵ Russia responded to this information by saying that this type of ammunition were taken off the market a few decades ago and could get into Syria from

away. The location of these two sites fully corresponded to the order of dispersion which is usually observed for missiles launched from a multigun system⁴⁶.

The final conclusions of the UN experts confirmed the use of chemical weapons but did not include any assumptions about who used them – the government forces or the opposition. ‘The report of the UN experts does not determine who is guilty, to find those responsible we need to decide on a new investigation,’ Ban said after the meeting of the UN Security Council.

One of the first to comment the report was the French Foreign Minister Laurent Fabius. According to him, it ‘leaves no doubt’ as to who exactly carried out the chemical attack. ‘The report’s findings, confirming the massive use of sarin, strengthen the position of those who believe that the perpetrators of gases is the Syrian regime,’ he said. The United States also said that the report left no doubt about the guilt of the Syrian authorities. London spoke in the same spirit. In turn, Russia, as noted above, believes that the sarin was used by militants.

In any case it is unlikely that the opposition groups, represented mainly by radical Islamist movements, in case of their victory over al-Assad will be ready to as seriously consider the possibility of CW destruction as the current Syrian government does. And while this government is in power, it makes sense to consider specific plans to establish control over the Syrian chemical weapons and their subsequent destruction.

US-Russian agreement

On September 9, 2013 at a press conference in London, the US Secretary of State John Kerry, responding to a reporter’s

Eastern Europe through its former Warsaw Pact allies which the USSR used to widely share its military technologies with. As of 2010, multiple rocket launchers RPU-14 which used M-14 shells remained in service in many countries including Afghanistan, Algeria, Egypt and Yemen.

⁴⁶ Detailed analysis of the investigation presented in the report of the UN Mission to investigate allegations of use of chemical weapons in the Syrian Arab Republic, concerning the alleged use of chemical weapons in the area of Huta in Damascus August 21, 2013, Document UNGA A/67/997-S/2013 / 553 dated 16 Sep. 2013.

question, said: 'The [al- Assad's] regime can prevent military intervention if all chemical weapons will be handed to the international community over the next week.' This proposal was approved by the Russian Foreign Ministry and sent to Syria. After Syrian Foreign Minister Walid Moallem announced that 'Damascus welcomed the Russian initiative,' and China, Great Britain and the UN Secretary General expressed their support, the United States agreed to consider this option.

On September 19, 2013 the permanent representatives of the Russian Federation and the United States to the United Nations sent a letter to the UN Secretary General, as well as the text of the Agreed Framework for the destruction of the Syrian chemical weapons signed by the parties on September 14, 2013⁴⁷. The document stated that, given Syria's decision on accession to the Convention on the Prohibition of Chemical Weapons, Russia and the United States are committed to the preparation and submission to the EC OPCW within the following few days a draft decision on establishing the specific procedures for the rapid elimination of the Syrian military chemical program and appropriate verification. Parties also agreed to contribute as much as possible to the rapid adoption by the UN Security Council of a resolution that would reinforce the decision of EC OPCW.

As stated in the document, the most effective control of CW and its components can be achieved by removal of as many weapons under the supervision of the OPCW as possible and its destruction outside Syria, if feasible. A number of tasks were set for removal and destruction of chemical weapons in all categories, with the aim of completing such removal and destruction in the first half of 2014. It was noted that in addition to the actual CW stocks of chemical warfare agents and their precursors, specialized equipment relating to the CW and chemical warheads the destruction process must include facilities for the development and manufacture of such weapons. Russia and the United States also decided that to ensure full accountability of its CW Syrian must immediately provide the staff of the OPCW, UN and other support staff with the right to conduct an immediate and unrestricted inspections of any and all sites on the territory of Syria.

⁴⁷ Full text of the Agreed Framework is available in the Document UNGA A/68/398-S/2013/565 of 24 Sep. 2013.

The decision of the EC OPCW, as noted by the US and Russia, should reflect a schedule for destruction of Syrian chemical weapons capabilities. It must be drafted according to the following terms of reference:

- a) completion of the OPCW initial on-site inspections of declared facilities by November 2013;
- b) destruction of production equipment and equipment for mixing/filling warheads by November 2013;
- c) completion of the destruction of all materials and equipment for CW in the first half of 2014.

The decision shall contain a reference to the provisions of the Convention on the Prohibition of Chemical Weapons, requiring the Executive Council, in cases of violation of the Convention, to introduce the matter directly to the General Assembly and the UN Security Council.

The parties also agreed that to improve the efficiency of joint development of CWD options, including the possibility of its removal from the territory of Syria, they need precise information about its condition. The following categories of chemical weapons are subjects to destruction:

- a) production equipment;
 - b) mixing equipment and equipment for filling the ammunition;
 - c) equipment and unfilled munitions and delivery systems;
 - d) chemical agents (unfilled) and chemical precursors.
- Regarding these materials a hybrid approach will be used, eg, a combination of their removal from Syria and destruction in Syria, depending on specific conditions at each site.

The significance of the Agreed Framework is difficult to overestimate, and the three days of talks in Geneva prior to its signing will be included in textbooks on the history of diplomacy. In fact, the United States and Russia agreed on a peaceful settlement of the problem of the Syrian chemical weapons at a time when the military intervention by the West seemed imminent.

The basic provisions of the Agreed Framework in its extended version become a part of the decision of EC OPCW, adopted on September 27, 2013⁴⁸. In particular, the decision

⁴⁸ Decision of the OPCW Executive Council, OPCW document EC-M-33/DEC.1 Destruction of Syrian Chemical Weapons, 27 Sep. 2013.

clarified the amount of information that must be submitted with respect to Syria chemical weapons as defined in paragraph 1 of Article II of the Convention, including: 1) The chemical name and the military code of each chemical in its stockpiles of chemical weapons, including precursors and toxins, and their amounts; 2) a specific type of munitions, sub-munitions and devices in its chemical weapons stockpiles, including specific amounts of each type, which is filled and non-filled; and 3) the location of all the CW, facilities for their storage and production sites, including mixing and filling equipment and facilities for research and development of CW with specific geographic coordinates.

An important addition to the Agreed Framework were solutions of the EC OPCW establishing milestones for elimination of the Syrian CW by November 15, 2013 and the monthly reports submitted by the Council on the implementation of the decision, as well as consideration of urgent funding mechanisms undertaken by the Secretariat work on Syria with a call upon all States parties to the Convention to provide voluntary contributions for this activity.

UN Security Council resolution and its implementation

UN Security Council resolution on Syrian chemical weapons (Resolution 2118) was unanimously adopted by late September 27 immediately after the decision of the EC OPCW⁴⁹.

The resolution stresses that those responsible for any acts of use of CW should be taken accountable for it⁵⁰, and that the only way to resolve the current crisis in Syria is the Syria's inclusive political process on the basis of the Geneva communique of June 30, 2012. The latter invoke a specific mention of the need for an early convening of an international conference on Syria. In addition, the UN Security Council resolution allows for the removal of the

<<http://www.opcw.org/special-sections/the-opcw-and-syria/related-official-documents/>>.

⁴⁹ Resolution 2118 (2013) adopted by the Security Council at the 7038th meeting on 27 Sep. 2013, Document Security Council S/RES/2118 (2013) of 27 Sep. 2013.

⁵⁰ During the discussion of the resolution several countries spoke of the need to transfer the data on the use of chemical weapons in Syria to the International Criminal Court.

toxic substances for destruction abroad. This provision was necessary to fix the resolution, because the Convention does not provide for such a possibility (under the Convention, the weapon must be destroyed in the country which produces it and possess it).

A number of other important provisions of Resolution 2118 includes:

- recommendations to member states to provide support, including allocating staff, technical experts, to provide information, equipment, and assistance in the form of financing and other resources so that the OPCW and the UN could perform the task of eliminating Syrian CW program, and to authorise member states to receive, monitor, transport, transfer and destroy the Syrian CW in the most rapid and safest way;

- resolution on regular (monthly) spending review progress of the implementation in Syria the decisions of the EC OPCW from September 27, 2013 and this resolution;

- ordinance prohibiting member states procurement of chemical weapons related equipment, goods and technology or accepting aid from Syria by their nationals, or using in Syria their flag vessels or aircraft, regardless of their original location;

- resolution that in case of non-compliance with this resolution, including the unauthorized transfer of CW or any its use in Syria by any party measures under Chapter VII of the Charter of the United Nations will be introduced.

Last point of the resolution has different interpretations. Some countries see this situation as an opportunity for automatic sanctions in case of non-compliance with the provisions of the resolution on Syria. Others, including Russia, believe that the resolution does not fall under Chapter VII of the UN Charter and does not allow any automaticity in harnessing the coercive measures⁵¹.

It is noteworthy that the decision on the introduction of international controls over weapons destruction process, which in fact stopped the preparations by the US and its allies for military

⁵¹ See Sergei Lavrov: new resolution on Syria ‘does not allow any automaticity in harnessing coercive measures’, <<http://www.un.org/russian/news/story.asp?NewsID=20333>>, as well as materials of the UN Security Council meeting during the adoption of the resolution, Document UNSC S/PV7038 of 27 Sep. 2013 .

actions against Syria, angered a number of Arab monarchies, especially Qatar and Saudi Arabia. As a diplomatic demarche Saudi Arabia even rejected an offer to take a temporary seat in the UN Security Council, criticizing the UN for 'double standards'⁵².

It is already clear that Resolution 2118 adopted by the UN Security Council goes far beyond the issues related to the Syrian conflict and affects global issues and the future of the entire region. The development by the UN Security Council new approaches to disarmament of a state under domestic armed conflict is an unprecedented phenomenon, essential for non-proliferation regime. If the approved plan turns out feasible, it would not only enhance the credibility of the UN, but also serve as an incentive for states that are not yet members of the Convention, primarily in the Middle East region (Egypt and Israel).

Some important aspects associated with the implementation of the resolution should be noted.

In paragraph 8 of Resolution 2118 (2013) the UN Security Council authorized the deployment of an advance team of UN personnel to provide early support for OPCW activities in Syria. On October 1, 2013, four days after the adoption of the resolution, the joint advance team of 19 employees of the OPCW and 16 UN staff arrived in Damascus to begin its operations. After the joint advance team OPCW/UN arrived in Damascus, the Syrian Government provided additional information regarding the type and location of the Syrian chemical weapons and storage facilities, production, mixing and equipment.

On October 6, 2013 under the supervision of OPCW experts Syria started to destroy its chemical weapons. Using gas cutters and angle grinders Syrian staff engaged in the destruction or bringing into disrepair various equipment including missile warheads, bombs and mixing equipment and supplies.

On October 7, 2013 the UN Secretary General sent a letter to the Security Council with a proposal to establish a joint mission of the OPCW/UN program for the elimination of the Syrian CW⁵³.

⁵² Saudi Arabia rejected a place in the UN Security Council, 18 Oct. 2013, <http://www.bbc.co.uk/russian/international/2013/10/131018_saudi_un_council_anger.shtml>.

⁵³ Letter from 7 October 2013 addressed to the President of the Security Council, Document UNSC S/2013/591* of 7 Oct. 2013.

This joint mission was established immediately. In this case the OPCW acts as the lead technical agency and the UN takes the strategic coordinating role and provides operational support of the mission. The headquarters for the Joint Mission has been established in Damascus and Cyprus hosts a transit base which serves as a center for the training of mission members, a storage facility for logistical and operational equipment of the joint mission, and as an auxiliary unit providing personnel, financial, administrative and other support services. In addition to the staff of the advance team the joint mission was increased to 100 employees from the OPCW and UN. Each organization covers the costs of their staff from its own budgets.

On October 16, 2013 the UN Secretary General announced that Sigrid Kaag from the Netherlands was the head of the joint mission⁵⁴. The role of Special Coordinator is to provide access and security to OPCW inspectors, as well as to provide technical, medical, administrative and other support for the inspectors. Sigrid Kaag will also coordinate international assistance in the implementation of a program to eliminate Syrian chemical weapons.

Joint mission work is divided into three stages.

In Phase I joint mission provided the initial presence in Damascus and created an initial operational capability. At this stage, the OPCW conducted initial inspections of CW production facilities.

During Phase II, which lasted until 1 November 2013, the OPCW completed its initial inspections of all Syrian production facilities and storage of chemical weapons, and also secured the destruction by Syria of the main equipment for the production, mixing and filling of chemical weapons.

Phase III will be the most difficult and complex when (from 1 November 2013 to 30 June 2014, ie for eight months) the joint mission will be to support, monitor and verify the elimination of the comprehensive program for CW, which is carried out on the set of sites scattered throughout the country wracked by conflict and involves about 1,300 metric tons of chemical weapons, its agents

⁵⁴ Since 2010 Sigrid Kaag has been Assistant Secretary-General of the United Nations Development Programme (UNDP). She has experience in both the UN and beyond, including UNDP, UNICEF, UNRWA and other organizations.

and precursors, which are dangerous to handle, dangerous for transportation and destruction. To do this, the civilian personnel of the OPCW and UN need to move through the line of the active confrontation, and in some cases – through territory controlled by armed groups which are hostile to the goals of the joint mission.

The destruction of chemical weapons certainly raises complex technical issues like serious operational and logistical challenges associated with the transportation of specialized equipment and maintenance personnel, as well as the transportation of very dangerous weapons and materials.

Deadlines set by phase destruction can be considered ambitious even for the most peaceful and favorable conditions. In these circumstances they create a burden which not only leads to increased operational and security risks but also may cause a threat to human health and the environment.

At stage III the joint mission of the OPCW/UN is set for an operation which admittedly has no precedents in the past. Such operation is performed for the first time in the history of the UN and OPCW.

In this case, as in the case of phase II, the government of Syria is responsible for all activities for destruction of chemical weapons stockpiles and related materials. Neither the OPCW, nor the UN are authorized to carry out activities for the actual destruction.

Given the difficulties associated with the destruction and/or removal of CW within deadlines of stage III, it seems likely that it will require assistance from other member states in terms of providing technical and operational advice, support and equipment, and security⁵⁵.

Russia welcomed the start of the destruction of the Syrian chemical weapons and urged all who could do so to exercise the necessary influence on the various armed opposition groups in Syria in order to ensure safety during the monitoring of the destruction of chemical weapons, as required by Resolution 2118 of the UN Security Council⁵⁶. Russia also announced the availability of its

⁵⁵ Details of the Joint Mission published on the website of the OPCW: Bulletins from Syria, <<http://www.opcw.org/media-corner/bulletins-on-syria/>>.

⁵⁶ Comment by A.K. Lukashovich, Spokesman for the Russian MFA, in connection with the beginning of the practical steps to eliminate chemical

staff to participate in the inspection activities and other forms of international presence, which can be offered by the joint mission. In particular, Moscow sent the OPCW a list of 13 Russian inspectors to be included in the group on the destruction of chemical weapons in Syria.

The early stages of demilitarization process and its prospects

At the end of February 2014 the first two stages of the execution plan of the joint mission were completed and started stage III. The UN Secretary General submit the first monthly progress report to the Security Council on October 28, 2013⁵⁷.

It says that Syria provided the necessary information to the OPCW, including inventories of chemical weapons storage facilities (CWSF) (ammunition, chemical warfare agents and precursors); CWSF maps including buildings and their present condition; information on the components of binary weapons; site locations and technological flowcharts of some chemical weapons production facilities (CWPFs); information on the nature of the activities and the current state of the buildings and equipment at CWPFs including facilities for mixing and filling (fixed and mobile); data on the nature of the activities at the facilities for research and development; and at the testing and evaluation site.

In total, Syria provided information about 41 sites in 23 locations (18 CWPFs, including filling facilities, 12 CWSF, eight mobile filling units and three sites related to chemical weapons), on approximately 1,000 metric tons (mt) of chemical weapons of category 1 (mainly binary chemical weapons precursors), about 290 mt of category 2 chemical weapons and about 1,230 unfilled chemical munitions (chemical weapons of category 3). Moreover, the Syrian authorities reported finding two cylindrical containers which do not belong to the state and allegedly contain chemical weapons.

weapons in Syria on 7 Oct. 2013,
<http://www.mid.ru/BDOMP/Brp_4.nsf/arh/B882BA33543DA32B44257BFD0048A100?OpenDocument>.

⁵⁷ The letter of 28 Oct. 2013 addressed to the President of the Security Council, Document UNSC S/2013/629 of 28 Oct. 2013

By the time of the decision to put Syrian CW under international control the warfare agents sarin and VX gas were produced in five production centers located in different parts of the country. The main production facility is located in Al-Safir, the rest – in Homs, Latakia, Hama and Palmyra. The production of toxic substances reached several hundred tons per year. The CW were periodically moved to warehouses in Al Furkise, Dumayre, Khan Abu Shamat, as well as to Syrian Research Center in Darayya in the suburbs of Damascus⁵⁸.

Currently, 26 OPCW experts and 50 UN staff work as part of the joint mission. The number is constantly changing depending on the operational requirements. On October 16, the same day when the joint mission was officially established, the UN and OPCW established a trust fund to finance the mission. Help began to arrive and some support was received from Canada, the Netherlands, USA, UK and EU. This support includes the provision of armored vehicles to conduct operational activities of the joint mission, means of transport aircraft for transportation of employees and the transfer of material resources.

On October 27, 2013 Syria submitted a plan to eliminate its CW to the OPCW that EC OPCW approved on November 15, 2013⁵⁹. This plan provides for the transportation of Syrian chemical weapons for destruction outside its territory and the completion of this process no later than June 30, 2014, and sets the intermediate stages of this process. In particular, the removal of all declared chemical weapons and precursors (except isopropanol or pinokolina alcohol used in the synthesis of sarin) shall be completed no later than February 5, 2014, but the most toxic chemicals must be removed prior to December 31, 2013⁶⁰. All production facilities must be destroyed (fully demilitarized) between December 15, 2013

⁵⁸ According to various sources of information, the research centre is also engaged in developing biological weapons.

⁵⁹ OPCW Executive Council adopted plan for the destruction of Syria's chemical weapons programme in the first half of 2014,

<http://www.opcw.org/ru/novosti/article/opcw-executive-council-adopts-plan-for-the-destruction-of-syrias-chemical-weapons-programme-in-t/>.

⁶⁰ Most likely, it means that the filled munitions, ie iprite, which amounts according to various estimates to about 300 tons will be removed until 31 December 2013. The remaining 700 tons of chemical weapons of first category are precursors of neuroparalitical CA.

and March 15, 2014 As for the destruction of CW outside Syria, the chemical weapons first category must be destroyed by March 31, 2014, the second category – by June 30, 2014. Chemical weapons of third category (unfilled munitions) will be destroyed in Syria at their location by 31 January 2014 (the obligation was fulfilled by the beginning of March 2014 and most declared unfilled CW (774 items) was destroyed under the supervision of the Joint UN mission.

I must admit that the approved plan is quite hypothetical and there are a lot of unresolved issues in practical CW destruction.

In particular, the first variant of the Syrian CW destruction program on the transportation of weapons into the country which agreed to implement it failed. Initially it was supposed to be Albania, but on November 15, 2013 when the plan was adopted, Tirana said it would not have the opportunity to participate in the operation and that it does not have the necessary resources for this⁶¹. Albania's decision which is a member of NATO and a staunch ally of the US was a step back for the US and Russia's plan to destroy the Syrian chemical weapons. Earlier Norway and some other countries, including Russia, which from the beginning said it would not consider such a possibility but is willing to help in other ways (financially and technically) to the transportation of Syrian chemical weapons on its territory. Among other potential liquidators of Syrian CW allegedly were France and Belgium but this information was not confirmed either.

Inconclusive search for a country that would agree to accept the Syrian chemical weapons ended up with the OPCW adopting in late November 2013 the decision to destroy chemical weapons in international waters of the Mediterranean on an offshore platform, which is a sea vessel carrying on board the relevant technological installations. The platform was provided by the US (Cape Ray – 213-meter cargo ship owned by the Ministry of Transportation). It has two mobile field hydrolytic systems (Field Deployable Hydrolysis System) to neutralize the chemicals. The ship was handed over under control of Sealift Command, responsible for the organization of shipping in the interests of the US Armed Forces.

⁶¹ In 2007 Albania became the first in history to complete the process of chemical disarmament with the assistance of Germany, Switzerland, and the USA. It destroyed about 16 tons of mustard gas and other toxic substances accumulated in the days of the dictator Enver Hoxha.

The crew is civilian but the waters near the ship are under US warships patrol.

The Director General of the OPCW said that hydrolysis technology will be used to destroy the Syrian CW⁶². It is assumed that as a result of the process there will be 6.0 million liters of chemical waste⁶³ that will be stored in 4000 containers to further destroy by commercial companies in different countries. For the transportation of CW from the shore to the offshore platform Norway, Italy and Denmark provided more than 200 standard shipping containers⁶⁴.

By December 17, 2013 the OPCW submitted the final plan for destruction of chemical weapons outside Syria. At the same time, experts doubt that the deadlines of all three stages of Syrian CW destruction can be met.

If the main issue is the physical transportation of CW then the operation becomes unprecedented. In relation to the transportation of CW there is only one known precedent when the U. evacuated its chemical weapons left behind during World War II from Germany. In July 1990, the operation under the name of 'Steel case' involved two ships transporting 100,000 shells containing chemical substances GB and VX. They were transported from German Bremerhaven to Johnston Atoll in the Pacific Ocean to be subsequently destroyed in one 46-day non-stop trip.

The issue of transportation caused most discussion in the expert community, and to summarize it briefly most experts believed that chemical weapons should not be transported: it is better to destroy them at the storage site. This solution could be to assist Syria in providing mobile units specially designed for the

⁶² United States offers to destroy Syria's Priority Chemicals, 30 Nov. 2013, <<http://www.opcw.org/ru/novosti/article/united-states-offers-to-destroy-syrias-priority-chemicals>>.

⁶³ Request for National Authorities to Make Eligible Companies Aware of the 'Request for Expression of Interest', Issued with Respect to the Destruction of Syrian Chemical Weapons, 22 Nov. 2013, <http://www.opcw.org/index.php?eID=dam_frontend_push&docID=16877>.

⁶⁴ Statement by the Director-General to the Executive Council at its Thirty-Fifth Meeting, 26 Nov. 2013, <http://www.opcw.org/index.php?eID=dam_frontend_push&docID=16887>.

destruction of chemical weapons. The US⁶⁵, Russia⁶⁶, Ukraine⁶⁷, possibly other countries have such units. It would be easier, faster and cheaper to provide Syria with mobile units similar to those used in Libya⁶⁸. Destruction at the site would be a better option because it is extremely difficult to ensure safe transportation in ongoing hostilities and under the risk of possible terrorist attacks.

Nevertheless, according to the decision of the OPCW, Damascus has already begun shipping the first batches of CW to the port of Latakia and loading the transportation vessels. They will head to an Italian port (southern port of Gioia Tauro in Calabria region) where the cargo will be moved to the American vessel equipped with facilities for the destruction of chemical weapons. Transport ships are escorted by warships from China, Denmark, Norway, Great Britain and Russia. Operation is scheduled for completion by the end of March 2014

According to the initially approved plan, highly toxic substances should be removed from Syria by December 31, 2013. However, the deadline failed due to the unstable situation in the country (the first batch of XO was shipped from Syria on January 7, 2014). In accordance with the amended schedule of the OPCW, the most dangerous depleting chemicals, including about 20 tons of mustard gas, shall be removed by March 31, 2014. There is still hope that by the end of June 2014 Syrian chemical weapons will be completely destroyed.

The implementation of the plan may be stalled if the Syrian government loses control of CW stockpiles and toxic substances and they fall into the hands of radical Islamist jihadist groups.

⁶⁵ United States developed a mobile facility for the disposal of chemical weapons – FDHS (Field Deployable Hydrolysis System), <<http://topwar.ru/32962-ssha-razrabotali-mobilnuyu-ustanovku-dlya-utilizacii-himoruzhiya.html>>.

⁶⁶ Russia has KUASI mobile units (complexes to destroy special emergency items).

⁶⁷ Ukraine offers technical assistance to the international community for the destruction of chemical weapons in Syria, said the President of Ukraine Viktor Yanukovich, <http://rus.ruvr.ru/news/2013_09_20/Janukovich-Ukraina-gotova-pomoch-v-unichtozhenii-himicheskogo-oruzhija-v-Sirii-0351/>.

⁶⁸ With the support of the United States, Italy and the OPCW Libya set up a mobile chemical weapons destruction facility in the desert, far away from human settlements. It has been active for a year and so far has destroyed about half of the stocks. For details, see an interview of the Russian Foreign Minister Sergei Lavrov to 'Kommersant' newspaper, 30 Sep. 2013.

Nobody can guarantee that in future CW will not be used in unpredictable ways.

The estimated cost of the Syrian CW destruction program and waste generated during the destruction of mustard and components of binary chemical weapons, according to the OPCW estimates, will be in the range of 35 to 45 million euros. This figure does not include the cost of transporting chemicals from its storage location to an offshore platform, which is expected to be covered by in-kind contributions. Fundraising continues. In particular, Canada, Denmark, Estonia, Finland, Germany, Ireland, Netherlands, Switzerland, UK and USA made contributions. Czech Republic, Italy, Latvia, Luxembourg, New Zealand and the Republic of Korea plan to contribute⁶⁹.

Russia's contribution is \$2 million. In addition, on 18-20 December 2013 Russia delivered to Syria 75 vehicles for the transportation of CW (50 and 25 KAMAZ 'Ural' armored vehicles), 20 water tanks, 3 kitchens, 52 army tents. Russia sees its role in elimination of Syrian CW in ensuring safe transportation of chemical weapons from storage depots to the port of Latakia, assisting in loading the CW on transport ship and ensuring the safety of its transportation to the designated port of Italy. This process involves eight warships and support vessels led by the heavy nuclear missile cruiser 'Peter the Great'. It has coordination staff on board including, in addition to Russian sailors, Navy liaison officers from Denmark, Norway and China.

* * *

To conclude the review of major developments and facts related to the Syrian chemical weapons, it should be noted that the disarmament process is taking new forms demonstrating that the path of negotiation is still the most effective in cases where parties really seek a peaceful settlement. The regime of Bashar al-Assad, who until recently refused to recognize its CW arsenal, now diligently performs its disarmament obligations. Thanks to the US-

⁶⁹ Statement by the Director-General to the Executive Council at its thirty-fourth meeting on 15 Nov. 2013, <http://www.opcw.org/index.php?eID=dam_frontend_push&docID=16865>.

Russia Framework Agreement on the destruction of the Syrian CW the threat of military intervention in the conflict was removed.

However, the destruction of chemical weapons can not be a substitute for the end of civil war in Syria. It can neither put an end to the humanitarian catastrophe in the country. That is why it is essential to achieve positive results of the conference opened on January 22, 2014 on the peaceful settlement of the Syrian crisis known as ‘Geneva-2’⁷⁰. The conference is attended by the Syrian government and the main opposition political group – National Coalition of Syrian revolutionary and opposition forces (NKSROS).

There have already been two rounds of inconclusive talks, except for an agreement on a three-day truce needed for humanitarian assistance. But a positive thing is that the conflicting parties met at the negotiations table even through mediation of Lakhdar Brahimi.

For March 2014 the third round of negotiations is scheduled. The agenda for the next phase of negotiations is agreed. It consists of four sections: an end of violence and terror in Syria, the formation of a transitional government, the creation of new authorities and the transition to national reconciliation. Damascus insisted on this particular order which immediately angered the opposition. As the official representative of the National coalition of opposition and revolutionary forces Louay Safi said, the regime of Bashar al-Assad was wasting time and it did not plan to move to creation of provisional authorities at all. Meanwhile, France and the UK already call ‘Geneva-2’ a failure blaming the Assad government.

Despite the fact that many experts are skeptical about the possibility of achieving success at the Geneva Conference on the settlement of the Syrian crisis, the peace talks should continue and be the only way to resolve the conflict. And if it succeeds, then the world can applaud this grand event which can be seen as a real step towards the creation of a Middle East zone free of weapons of mass destruction, while a positive example of the destruction of the Syrian CW could push other countries to become parties to the Convention.

⁷⁰ For materials on the Geneva-1 see the final communiqué of the Action Group on Syria of 30 June 2012, Annex II to the UN Security Council resolution number 2118 (2013) of 27 Sep. 2013.

3. ROLE OF THE UN SECURITY COUNCIL IN MANAGING INTERNATIONAL SECURITY IN THE LIGHT OF THE SYRIAN CRISIS

Alexandre KALYADIN

Need for coercive diplomacy based on international law

Formation of a polycentric world order is taking place in an environment of high military and political tension, expanding areas of turbulence and chaos in international relations. Waves of extremism swept many countries in the Middle East and North Africa. The terrorism carried out by Islamic radicals is gathering momentum. Risks of domestic armed conflicts in unstable countries have increased (the transformation of the Syrian civil war into a factor of regional and international confrontation leading to the rise of extremism and terrorism). Large-scale inter-civilizational, interreligious and terrorist violence, have exacerbated multifaceted common security challenges⁷¹.

⁷¹ The term 'common security challenge/threat' is used to characterize a situation involving a threat not only to individual countries or a group of nations, but to the international community. The term covers such phenomena as international terrorism, WMD proliferation and gross violations of multilateral treaties and conventions in the disarmament and non-proliferation field, as well as armed conflicts with the escalation of hostilities beyond the regions, large scale ethnic and interreligious violence, piracy, transnational crime, drug and arms trafficking, natural and technogenic disasters.

Negative effects of global instability have been especially palpable in the field of arms control – a critical area of the global governance of international security⁷².

Multilateral disarmament negotiations were not conducted in 2013. The Conference on Disarmament (CD) – the multilateral negotiating forum - was deadlocked⁷³. US-Russian negotiations on nuclear disarmament were stalled in 2013 and chances of transition to multilateral nuclear arms control and disarmament appear more problematical. Rivalry in the development of new offensive and defensive weapons has escalated both at the global and regional levels. The arms race in Asia has intensified.

Challenges to the gains achieved in the field of international arms control continue to increase. Major trends in the global scientific, technical, industrial and military-political development have increased physical capacity of a number of new states to obtain nuclear weapons (NW)⁷⁴. The regime of non-proliferation of nuclear weapons, based on the Nuclear Non-Proliferation Treaty (NPT), is challenged by such developments as black markets in nuclear materials and sensitive nuclear technologies, the increasing opportunities for proliferating states and non-state entities (including terrorist groups) to gain access to nuclear and other WMD through the channels of illegal trade and cyberspace. In some

⁷² Formation of the broad international legal system of arms control and counter-terrorism has been a major positive achievement of the recent decades. The system includes about 60 international legal instruments (treaties, conventions, protocols) on nuclear and other weapons of mass destruction, as well as on the transparency of military activities, prohibition of the use of ‘inhumane’ weapons, etc. The weakening of the international legal arms control regimes has become a significant factor, undermining military-political stability.

⁷³ The Conference on Disarmament (CD) is the world’s only permanent multilateral disarmament treaty negotiating body. Deliberations in the CD were virtually paralyzed in 2013 due to the lack of agreement. The way out of the stalemate was not found in 2013: substantial negotiations at the CD did not commence. The continued impasse at the Conference on Disarmament remains the most serious challenge in 2014.

⁷⁴ According to the World Nuclear Association, in the period up to 2030 from 10 to 25 new countries will obtain uranium enrichment technology (or produce pure plutonium) and thus acquire the ability to produce a nuclear explosive device in the course of several months. World Nuclear Association, ‘World Nuclear Power Reactors and Uranium Requirement’, 1 Apr.2010, <www.world-nuclear.org/info/reactors.html>.

cases violations of nuclear non-proliferation norms reached the level of major international crises.

New collisions have emerged as a result of non-compliance with the term (29 April 2012) for the destruction of chemical weapons, established by the Chemical Weapons Convention, CWC and the uncertainty with regard to the prevention of the development of new kinds of chemical warfare agents (CWA), which are not covered by the CWC.

The threat of CW proliferation has increased. Smuggling chemical warfare agents and their acquisition and use by non-state entities, including irregular armed formations and terrorist groups (for example, in Syria) have become a novel challenge, fraught with unpredictable but clearly negative consequences for international security.

The question is increasingly raised in the political and expert circles: would new steps in the field of radical nuclear disarmament under the current strategic conditions be compatible with ensuring national and international security? Have the decades long established mechanisms for maintaining strategic stability based on the juridical regulation of armaments and the conclusion of new agreements a relic of the ended era, while the radical reduction of nuclear and other weapons – an elusive goal?

It is no coincidence that a certain part of the domestic political and expert community criticizes the new treaty between the Russian Federation and the United States on further reduction and limitation of strategic offensive arms (the START-3 Treaty) as allegedly being not in the interests of Russian national security. They discuss the possibility of leaving it and question the viability of signing new contracts to lower the levels of strategic offensive arms established by the START-3 Treaty⁷⁵.

The tendency to instability and chaos in international relations is interpreted by some analysts, including in Russia, as a confirmation of the thesis of the ‘irrelevance’ of the United Nations and its Security Council, on which the UN Charter conferred ‘the primary responsibility for the maintenance of international peace and security’.

⁷⁵ ‘One of the key politico-diplomatic techniques used to destroy our country is to impose unbalanced agreements on strategic nuclear missiles reduction’. See: *Russia: military vector* (expert report), Izborskii club, 2013, No 2, p. 29.

Imminence of the breaking down of the existing architecture of global stability based on the UN Charter and related legal arms control instruments is assumed by the authors associated with the Izborsk club in the report under the title ‘Russia: military vector’ issued in 2013⁷⁶.

Vargan Bagdasarian, expert of the Center of political thought and ideology, argues: the UNO replicates ‘the fate of the League of Nations’. He claims that the UN Security Council is a ‘relic body’ reflecting ‘the geopolitical realities of the Cold War’. Bagdasarian favours ‘revision of the established structure’, ‘formation of new bodies of global governance’ and ‘alternative sources of legitimate use of force’⁷⁷.

According to another analyst, Alexander Shumilin, director of the Center for Analysis of Middle Eastern conflicts, the UN Security Council is a spent force, ‘doomed to inaction’ and ‘increasingly irrelevant’. Shumilin advocates the formation of ‘a coalition of the willing’, comprising ‘countries that are ready for action’⁷⁸.

Such recommendations do not serve (to put it mildly) the objectives of deepening multilateral cooperation in the format of the UN Security Council and may cause irreparable damage to the world community.

Most important resource

The Security Council enjoys exceptional status in the modern legal system of regulating international security. It is the principal UN organ, the mega-regulator of the processes on our planet, which threaten the maintenance of international peace and security. It is a unique mechanism for managing global and regional security (in terms of legitimacy, spatial coverage and extensiveness of

⁷⁶ Ibid, pp. 28–61.

⁷⁷ Baghdasaryan, V., ‘UN repeats the fate of the League of Nations’, *Nezavisimaya Gazeta*, 16 Sep. 2013.

⁷⁸ Shumilin, A., ‘Syrian crisis shows an increasingly irrelevant UN’, *The St. Petersburg Times*, 5 Sep. 2013.

enforcement authorities). Its prerogatives in this area merit special consideration⁷⁹.

The UN Security Council consists of 15 members: five permanent members (China, France, Great Britain, Russia and the United States) and 10 non-permanent members elected by the UN General Assembly for two-year terms. Decisions of the UNSC on procedural matters are made by an affirmative vote of nine members. An affirmative vote of nine votes, including the concurring votes of the permanent members, is required for decisions on non-procedural matters.

Article 34 of the UN Charter empowers the Security Council to investigate any situation in order to determine whether the continuation of it is likely to endanger international peace and security.

The UNSC is also empowered to determine what coercive measures should be taken to maintain or restore international peace and security (economic sanctions, peacekeeping, and enforcement action). The UNSC acts as the principal coordinator of international efforts in this area.

Decisions of the Security Council are binding on all the members of the Organization. According to Article 25 of the UN Charter, the members of the United Nations 'agree to accept and carry out the decisions of the Security Council'. On the basis of this Article, the UN Security Council may require members of the UN to apply such measures as economic and other sanctions (under Art. 41) or the use of armed forces (under Art. 42). These provisions form the legal basis for the use of armed force against various threats, including threats to international peace posed by terrorist acts and WMD proliferation in order 'to maintain or restore international peace and security'.

Thus, a vote of nine members of the UNSC may set going the unique mechanism for compelling states or non-state actors to comply with decisions of the Council on the maintenance or restoration of international peace and security (including by means of force).

It should be emphasized in the light of the frequent unilateral military actions (without UNSC sanction) by the USA and its

⁷⁹The specific powers granted to the Security Council for discharge of its duties are laid down in Chapters VI, VII, VIII, and XII of the UN Charter.

allies in the past twenty years, that the current international law allows the use of force only in two cases - either for self-defence (Art. 51), or by decision of the UN Security Council.

A most important advantage of the UN Security Council relates to the fact that it is a standing organ, a vital platform for coordination of the positions of the great powers (Council meetings may be convened at any time on an urgent basis).

The UNSC has assumed a key role in enforcing international arms control, disarmament and non-proliferation treaties. In particular, the UNSC is responsible for facilitating the implementation of the Nuclear Non-Proliferation Treaty (NPT). The UNSC is empowered to consider violations of the NPT provisions, withdrawal notifications, and determine their validity.

Similar credentials are conferred on the UNSC in respect of the multilateral disarmament conventions: BTWC (Bacteriological and Toxin Weapons Convention) and CWC (Chemical Weapons Convention)⁸⁰.

In 2013 the UNSC initiated the process of the destruction of the Syrian arsenals of chemical weapons. The supervision of this process by the UNSC is an evidence of the need of its facilities in the field of the implementation of international disarmament and non-proliferation arrangements (on this theme see below).

Mankind has been lucky that in the turbulent and conflict-prone époque the world community has at its disposal the institution amply empowered to enforce peace, disarmament and non-proliferation. At that it should be borne in mind that attempts to pursue unilateral military actions without UNSC sanction, as a rule, do not bring looked-for results and often aggravate the situation. The developments occurred in 2013 amply demonstrated that decisions made without UN sanction, as well as attempts to use force and bypass the UN Charter would be extremely costly in political and economic terms.

In the foreseeable future, due to the scale and diversity of threats to global stability, it would be impossible to resolve many

⁸⁰ According to the CWC, cases of non-compliance with the CWC are to be brought by the Director General of the Technical Secretariat (TS) of the Organization for the Prohibition of the Chemical Weapons (OPCW) for the consideration by the OPCW Executive Council. The latter is to decide whether there are sufficient grounds for forwarding the dossier to the UNSC. This procedure is set forth in the CWC (par. 36, Art.VIII).

international security challenges without significantly increasing the efficiency of the UN Security Council.

UNSC permanent members need wider strategic vision involving significant adjustments in the scale of priorities of national security and setting the interests of strengthening common security as the cornerstone of their foreign policies. They must be willing to subordinate conflicting narrow interests to the tasks of strengthening arms control regimes and security of the world community. Greater emphasis should be made on multilateralism, solidarity actions and the exclusive use of UN tools for peace enforcement.

It will not be easy to implement the required changes. The Ukrainian statehood crisis, coup in Kiev in 2014, developments related to Crimea and attempts to isolate Russia on the world arena made more problematic cooperation between the great powers on issues of arms control, the transition to new cooperative strategic engagements, including the fuller use of the UNSC's facilities in the interests of enforcing peace, non-proliferation and disarmament. Thus, in 2014 the Atlantic Alliance refused to cooperate with the Russian Navy in securing removal of chemical weapons from Syria.

UN and Syrian chemical disarmament

The developments in Syria have become the highlight of the year, a priority issue on the global agenda. The armed confrontation between the Syrian authorities and the opposition, had begun in the spring of 2011/ It had been building up for three years with severe consequences for the Syrian people and regional security: over 100 thousand killed and more than three million displaced persons and refugees by the end of 2013; degradation of the humanitarian situation in the country, the destabilization of the neighbouring countries - Lebanon and Jordan; the involvement of external forces (including terrorist groups) creating prerequisites for further expansion of the conflict.

The deteriorating situation required the involvement of the UNSC facilities to put an end to the sprawling domestic armed conflict (for example, sending UN contingents to impose the cessation of hostilities on the warring sides and create conditions for overcoming domestic and interreligious unrest).

However, due to the differences between the permanent members of the UN Security Council, its enforcement facilities were not used for this purpose.

Only in the autumn 2013, after the use of chemical warfare agents (CWAs) in Syria, the UNSC members managed to formulate and agree the approaches to addressing the Syrian crisis, including the issue of the destruction of the Syrian CW arsenals.

The use of chemical warfare agents in the armed conflict in Syria demonstrated the need to apply special (emergency) procedures for the accelerated elimination of chemical weapons materials in this country under the mandate of resolution 2118, adopted unanimously by the UNSC on 27 September 2013.

In this regard, provisions of this resolution concerning the role of the UNSC in overseeing the elimination of the Syrian military chemical program (in cooperation with the OPCW) merit special attention.

The resolution contains provisions requiring both the Syrian government and all opposition groups to cooperate fully with the UN and provide access of inspectors to all the places of the CW storage and to the related personnel. The neighbouring states are urged not to allow chemical weapons and their means of delivery to come into the hands of non-state actors.

The resolution sets out an important norm: the Security Council decided that ‘the use of chemical weapons, wherever that may be, constitutes a threat to international peace and security.’

Resolution 2118 provides that any violations of the procedures for the disposal of chemical weapons by the Syrian Government or opposition forces⁸¹, or use of chemical weapons by either side will be considered by the Security Council, and measures (commensurate with the severity of violations) shall be taken under Chapter VII of the UN Charter.

Nonetheless, to give effect to any coercive measures (from sanctions up to the use enforcement action), the adoption of a new UNSC resolution is needed. In accordance with resolution 2118, the

⁸¹ At the beginning of October 2013, the opposition forces controlled about a quarter of the country.

Organization for the Prohibition of Chemical Weapons (OPCW)⁸² was designated as the main organ supervising the process of the Syrian chemical disarmament. Relevant reports are to be submitted to the UNSC on the matters of the implementation of resolution 2118 and of the OPCW decisions⁸³.

Under Resolution 2118, the Syrian CWs are to be eliminated by the middle of 2014. The resolution defines the general framework of the UN assistance to this work.

The document also outlines the basic legal framework for a comprehensive settlement of the Syrian crisis. It supports the early convening of an international conference on Syria (Geneva-2), 'serious and constructive participation' of all the Syrian parties in it. So that, in addition to the elimination of CW, the document contributes to the peaceful resolution to the Syrian conflict, as well as to the strengthening the international CW non-proliferation regime and encourages the acceleration of the process of the CW elimination in one of the most volatile regions on the planet.

The adoption of resolution 2118 helped to reduce the level of international tension around Syria and strengthen international opposition to military intervention without UN sanction.

The implementation of resolution 2118 is important also on a broader plan - as a demonstration of the possibility of advancing the disarmament cause through the greater use of the UNSC facilities.

A number of concrete steps were taken to implement key provisions of the document in a relatively short period of time after the adoption of resolution 2118.

On 16 October the UNSC established the joint mission of the OPCW and the UN to oversee the timely elimination of the chemical weapons programme of the Syrian Arab Republic (SAR)

⁸²The OPCW developed a plan of the liquidation of the Syrian chemical weapons. The plan was supported by the UNSC. The decision of the OPCW contains has a provision addressing possible actions in response to non-compliance.

⁸³ On 14 September 2013, the Syrian authorities passed the country's instrument of accession to the CWC to the depositary – the UN Secretary-General. Simultaneously, Damascus stated that Syria will temporarily apply the Convention immediately - before its formal entry into force to Syria on 14 October. This means that all the provisions of the CWC already fully apply to Syria. Practical destruction of chemical weapons in Syria began on 6 October 2013 under the supervision of a group of OPCW inspectors and the UN.

in accordance with resolution 2118. The UN and OPCW proceeded to oversee the plan for ridding Syria of the chemical weapons.

It is understood that the UN Security Council within its competence is to render assistance on the security issues in logistics, information and communication (both with the Syrian government and rebel groups), as well as ensure interaction with interested international and regional organizations.

According to the data, provided by the OPCW to the UN Security Council, Syria's CW arsenal includes about 1.29 tons of CW agents and precursors (nerve agents, mustard gas and other toxic chemicals) and 1.23 thousand of its uncharged carriers - missiles and mines stored in several dozen different places⁸⁴.

In October, Syria launched the process of decommissioning production facilities used in the manufacture of chemical weapons. In Damascus, a national authority for the implementation of the provisions of the OPCW was formed and began to operate. OPCW inspectors sealed all the warehouses with chemical weapons and components for their production.

On 31 October 2013 the OPCW announced the successful completion of the first phase the Syrian chemical disarmament (involving the destruction of declared CW production facilities)⁸⁵.

Under the arrangement with the OPCW, Syria was to remove all its most critical chemical weapons materials to its port of Latakia for destruction outside the country. (Less critical elements are to be destroyed within the country, all by 30 June 2014).

In January 2014 the first two shipments of components and precursors of chemical weapons were moved from the territory of Syria on civilian ships protected by an international marine convoy, which included the Russian ship Pyotr Veliky, along with vessels from China, Denmark and Norway in operations mandated by UNSC resolution 2118 to provide security to vessels transporting Syria's chemical weapons for destruction.

⁸⁴ The Syrian authorities declared 23 sites related to the production and storage of chemical weapons, with 41 facilities, including 18 workshops for the production of chemical weapons, 12 warehouses and 8 mobile complexes for filling chemical substances. See: *Kommersant*, 31 Oct. 2013.

⁸⁵ Plants producing shells and CWAs were rendered inactive (either destroyed or made unusable). Equipment, including machines for filling chemical warheads with sarin and other CWAs as well as warheads were destroyed with hammers, chainsaws and, bulldozers.

According to the OPCW, by 20 March 2014, about 50% of the total Syrian CW stockpile had been exported. Citing the unstable situation in the country, the Syrian government requested for postponement (until mid-May 2014) in exporting the CW stockpile. The Syrian authorities argued that they could not safely transport the toxic chemicals to the port of Latakia, where a consortium of international vessels had been assigned to transport them to southern Italy.

It should be emphasized that the process of land transportation of highly toxic chemicals had been taking place in conditions of continuing armed conflict in Syria: some CW storage sites were attacked by armed rebels; however, the attacks were rebuffed by the government forces. The speedy transportation of the remaining chemical weapons materials to the Syrian port of Latakia (for the subsequent destruction abroad)⁸⁶ would depend on the warring sides in Syria – the authorities and the armed opposition. It should be noted that resolution 2118 prescribes all the fighting parties in Syria to ensure safe conditions for the implementation of Syrian chemical demilitarization.

The implementation of the outstanding problems will require very active participation and substantive assistance from the international community in line with the provisions of UNSCR 2118.

One should not have any illusions that this process will run smoothly. There are many challenges. It should also be borne in mind that not all the territory of Syria, is likely to be controlled by the government.

OPCW specialists had to work in a combat zone for the first time since the founding of the organization in 1997. Fighting in Syria interfered already with the work of the experts in the areas controlled by the rebels. Some of them shared the ideology of the 'Al Qaeda' and did not recognize the UN decisions and, according to the intelligence services, intended to capture chemical weapons.

⁸⁶ The OPCW experts believe that in the conditions of military actions it is impossible to implement the elimination of all stockpiles of chemical weapons on the territory of Syria itself. The authorities of the Syrian Arab Republic (SAR) consented to the removal of chemical weapons abroad for their disposal. In February 2014 two firms –Ekokem OYAB (Finland) and Veolia Environmental Technical Service (the USA) – won the tender for the destruction of the Syrian chemical weapons.

Radical and extremist elements in the region might arrange provocations and undermine the implementation of the agreements on the elimination of chemical weapons. As a result, the UN and OPCW inspectors could suffer.

Securing the Syrian chemical disarmament process may require additional UN Security Council decisions to ensure the safety of inspection teams, and resolve other tasks in an environment of fighting and terrorist violence.

Several countries, including Russia, offered logistical, financial and political support in the implementation of the Syrian CW elimination program⁸⁷.

The testing of the model of accelerated CW disarmament with the involvement of the UN Security Council in an environment of an armed conflict is essential, first of all, in terms of the implementation of the CWC, as well as for the functioning of the international WMD non-proliferation regimes, since this development involves the elimination of the significant CW stockpiles in one of the most volatile regions on earth.

The breakthrough on the Syrian chemical disarmament in 2013 demonstrated the key role the Russian-US compromise on the Syrian issue. Russia and the United States brokered the agreement under which Syria renounced its chemical weapons materials and joined the Chemical Weapons Convention banning them. The breakthrough was made possible largely thanks to parallel and joint actions of the Russian Federation and the United States on the Syrian 'track' in the summer and autumn of 2013, in favour of the chemical disarmament alternative and the preparation of an international conference on Syria (Geneva-2). Progress in this direction depends to a great extent on the rapprochement of Russia and the United States, and on their perception of the need to advance positive interaction within the UNSC framework.

Changes needed to increase the effectiveness of the UN Security Council

A wide range of traditional political and diplomatic procedures (consultation, negotiation, inquiry, mediation,

⁸⁷ *Nezavisimaya gazeta*, 26 Sep. 2013.

conciliation, resort to regional agencies, etc.) has been applied for the resolution of international conflicts in the field of the implementation of disarmament and non-proliferation agreements. Such procedures are pertinent and remain central in relation to the law-abiding members of the international community. However, as confirmed by the experience of recent years, political and diplomatic instruments, multilateral diplomacy, and easy-going persuasion are not normally sufficient when dealing with rulers deliberately neglecting international obligations and paying no attention to the requirements of the UN Security Council resolutions. And the more, the application of such instruments do not yield (and cannot yield) positive results when it comes to neutralize threats posed by various extremist and terrorist formations (jihadist forces and similar fanatical groups, irregular military formations, terrorist networks, transnational criminal groups, pirates, etc.).

Expansion of forces of extremism cannot be stopped by soft diplomatic methods. In the context of growing threats to the world order from extremists, it is normal for the world community to resort more often to the enforcement facilities of multilateral diplomacy within the framework of international law.

The rise of extremism and the spread of terrorist forces on the planet underline the crucial importance of effective enforcement of the settlement of situations of high tension caused by the these actors.

Sanctions aimed at curbing destructive and illegal activities of the parties responsible for the conflict situations have become an important tool for the UN Security Council in the field of conflict resolution and the implementation of agreements on disarmament, non-proliferation and counter-terrorism.

It should be emphasized that, acting within the legal framework, the UNSC had time after time taken coercive measures (sanctions) under Chapter VII of the UN Charter in response to serious challenges to the WMD non-proliferation regimes. Thus, in 2009 the UN Security Council expressed its determination to closely monitor any situation related to the proliferation of nuclear weapons and to take measures on challenges to the non-proliferation regime necessary to maintain international peace and security.

International sanctions regimes have been established with the central coordinating role of the UNSC to thwart proliferation and terrorist activities. Tough international sanctions helped to prevent the development of events along the lines of the worst-case scenario. Sanctions pressure plays an important role in deterring destabilizing trends, including in the field of the nuclear non-proliferation regime, although the task of ensuring the effectiveness of sanctions is not completely solved (strict compliance with the requirements contained in the sanctions resolutions of the Security Council is so far lacking).

Despite the sweeping powers of the UN Security Council, its enforcement potential has not been fully realized due to the political reasons: differences in foreign policy positions of the permanent members of the Security Council, hindering the adoption of resolutions or leading to arbitrary interpretation of the resolutions and their mandates. Bypassing the UNSC and unilateral actions (after failing to reach agreement in the UNSC) are especially detrimental occurrences.

The issue of the inefficiency of the UN Security Council in the enforcement area and of the inadequacy of responses to the threats posed by armed conflicts, outbreaks of inter-religious, ethnic and terrorist violence, or by violations of the NPT, CWC, BTWC and of other arms control and disarmament conventions has assumed particular acuteness in the new strategic environment.

A number of specific measures would have contributed to the adaptation of the UNSC to the realities of the XXI century. They could be carried out without waiting for the completion of the ongoing discussions on the UNSC reform.

It should be emphasized that various schemes of ‘radical reform’ of the UNSC aimed at a sharp increase in the number of its members, the abolition of the veto power, etc. do not serve the purpose of ensuring proper performance and efficiency of decision-making by the UNSC. Preserving the compactness of the UNSC composition, existing voting procedure and only a slight increase in its membership are essential to ensure proper effectiveness of the UNSC⁸⁸.

⁸⁸ In this area the members of the UNO need to proceed patiently to seek a reform model which would enjoy the widest support in the UN (significantly greater than the two-thirds majority of its member states, legally required under the UN

The concept of improving existing UNSC enforcement tools should be the basis of the reform. For example, it is necessary to revisit the issue of the military component of the United Nations in order to address emerging threats of large-scale violence. In the first place, to study the possibilities of the allocation of contingents of national forces at the UNSC disposal (especially, mobile forces capable of rapid response).

This sphere of strategic interaction is still undeveloped, but a significant resource is available – the Military Staff Committee (MSC), something that should be built upon - a subsidiary organ of the UNSC provided by the UN Charter⁸⁹.

Russian Foreign Minister Sergei Lavrov drew attention of the international community to this theme at the 61th session of the UN General Assembly in 2006⁹⁰. Subsequently, the UN Secretary General Ban Ki-moon highlighted the desirability of benefiting from the MSC facilities in the interests of advancing international arms control⁹¹.

The idea of giving an active role to the MSC is worth considering. This body could contribute to enhancing the UNSC ability to respond to crisis situations undermining international

Charter). There is no need to force events and implement hasty institutional changes. It should be emphasized that in its current format the UNSC is quite adequate. Any attempts to impose ‘duplicate formats’ and ‘new sources of legitimate use of force’, besides the UNSC, are counterproductive.

⁸⁹ Under the UN Charter, the MSC is established to ‘advise and assist the Security Council on all questions relating to the Security Council’s military requirements for the maintenance of international peace and security, the employment and command of forces placed at its disposal, the regulation of armaments and possible disarmament’ (Art. 47). In case of the need for combined international enforcement action, the Security Council with the assistance of the MSC shall determine the strength and degree of readiness of the national contingents (placed at the disposal of the UNSC), and plans for their combined action. (Art. 45). Under the UN Charter, the Security Council is also responsible for formulating with the assistance of the MSC, plans to be submitted to the UN members for the establishment of a system for the regulation of armaments. (Art.26). So far, however, this provision of the UN Charter has not been implemented.

⁹⁰ On the Russian position at the 61st UN General Assembly see: <www.mid.ru>, 10 Sep. 2006. On the Russian position at the 62nd UN General Assembly see <<http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N07/521/23/PDF/N0752123.pdf?OpenElement>>, 28 Sep. 2007.

⁹¹ <<http://www.acronym.org.uk/textonly/dd/dd89/89news01.htm>>.

peace and security. For example, the MSC could be helpful in conducting active international enforcement action in such spheres as peace-keeping, non-proliferation and disarmament, arms trade control, compliance with the arms embargoes, combating international terrorism and piracy, etc. Progress along these lines would enhance enforcement potential of multilateral diplomacy based on international law.

There is an obvious need for the expertise of the MSC on such 'hard security' issues as the early detection of threats to international stability; planning counter-proliferation, counter-terrorism and anti-piracy operations; development of proposals for the UN-led contingents for action in areas of high tension and emerging local conflicts, etc.

Reinvigoration of the MSC is important for peacekeeping, as well as for the elaboration of coercive measures in the context of the implementation of the NPT, CWC and BWC and possible new disarmament treaties. Accordingly, the mandate of the Military Staff Committee should be expanded, and envisage its interaction with such international partnerships as the Proliferation Security Initiative (PSI)⁹², Global Initiative to Combat Acts of Nuclear Terrorism (GICNT)⁹³ and NATO - Russia Council (NRC).

The Military Staff Committee can be made very useful in terms of strengthening the capacity of the UN Security Council to cope with challenges of the XXI century and find multilateral solutions to the growing problems of international security management.

Diverse UNSC levers should be used against malicious violators of international legal disarmament, non-proliferation and counter-terrorist norms. International responsibility of the State for

⁹² The PSI goal is to create a more coordinated and effective framework to prevent and combat supplies of WMD, their delivery systems and related materials to and from any state or from and to a non-state actors of concern in terms of proliferation. The Partnership within the PSI framework plays an important role in preventing illicit transfers of nuclear, chemical and biological weapons, their means of delivery and related materials. Over 100 countries, including the Russian Federation, cooperate within the PSI framework.

⁹³ The GICNT involves 85 states, as well as the IAEA, the EU, Interpol and the UN Office on Drugs and Crime (as observers), as of 31.01.13. From the point of view of the subject and tasks of the GICNT, it is important that this international partnership includes not only NPT nuclear weapons possessing states ('the big five') but also de facto nuclear weapons states (India, Pakistan and Israel).

such violations should be made more specific, and include severe enforcement measures stemming from Chapter VII of the UN Charter (Action with respect to threats to the peace, breaches of peace and acts of aggression). The requirement to develop additional enforcement measures derives directly from UN Security Council Resolution 1887⁹⁴.

It is necessary to toughen international responsibility for gross violations of the mentioned norms (Zero Tolerance). This requirement relates in the first place to ensuring strict enforcement of UNSC resolutions adopted under Chapter VII of the UN Charter and addressing implementation of the obligations assumed by the states under disarmament and non-proliferation treaties. It is important to ensure that non-compliance with such resolutions is qualified as a totally unacceptable behaviour, entailing serious consequences for the perpetrators (for example, targeted tough sanctions).

The establishment of a UN separate list for the entities accused in gross non-compliance with UNSCRs adopted under Chapter VII of the UN Charter, as well as the interaction between of the UN Security Council and the International Criminal Court within the framework of their respective mandates, might help to combat impunity in this context.

Certain new opportunities have been already created within the UN framework in the area of combating international terrorism. They should be used with greater impact⁹⁵. In the first place, there is

⁹⁴ In this resolution, the UN Security Council expressed particular concern at the current major challenges to the non-proliferation regime that the Security Council had acted upon, and demanded that the parties concerned comply fully with their obligations under the relevant Security Council resolutions. The UN Security Council declared its resolve to monitor closely any situations involving the proliferation of nuclear weapons, their means of delivery or related material, including to or by non-State actors as they are defined in resolution 1540 (2004), and, as appropriate, to take such measures as may be necessary to ensure the maintenance of international peace and security.

⁹⁵ The UN has become the principal focal point of the international counter-terrorism system. The UNGA adopted the Global Counter-Terrorism Strategy (GCS). The UN Security Council is actively involved in the fight against terrorism. The UNSC adopted a number of resolutions have on the matter. The UNSC established several subsidiary bodies : the 1267 Committee (Counter-terrorism Committee, CTC) , the CTC Executive Directorate (ED), 1540 Committee, as well as the Task Force on Implementation of the UN Global

need for an arrangement among the permanent members of the UNSC on adequately addressing situations caused by especially dangerous terrorist acts involving WMD⁹⁶.

In the context of the rise of extremism and expanding zones of influence of terrorist groups, and of their growing negative impact on international security, it seems appropriate to place national counter-terrorism contingents at the disposal of the UNSC and provide these forces with pertinent mandates (including the mandates to conduct intelligence operations, use drones, unmanned aerial vehicles, UAVs, to disarm and neutralize terrorists and extremists, etc.).

In the context of the intensification of the international counter-terrorism activities one needs to resolve the vexing problem of the legitimization of the use of drones in counter-terrorism operations carried out under the auspices of the UNSC.

It would be appropriate to include the provisions aimed at strengthening the role of the UNSC in managing international security in the UN Post-2015 Development Agenda, which is designed to define the scope and priorities for future activities of the world organization.

From the perspective of Russia's foreign policy

A new version of the Concept the Foreign Policy of the Russian Federation, approved by the President of the Russian Federation Vladimir Putin on 12 February 2013, states that Russian foreign policy should be focused primarily (as a basic goal) on 'active promoting of international peace and universal security and stability for the purpose of establishing a just and democratic system of international relations based on collective decision-making in addressing global issues, on the primacy of international law, including, first of all, the UN Charter, as well as on equal, partnership relations among nations with the central coordinating

Strategy. 1540 Committee monitors the implementation by Member States of resolution 1540, which addresses the prevention of the access to weapons of mass destruction by non-state actors, including terrorist groups.

⁹⁶ The international community voiced concern about the possibility of attacks by terrorist groups against WMD storage facilities in Pakistan (nuclear weapons), Syria (CW) and in other countries.

role of the UN as the principal organization regulating international relations⁹⁷.

This guiding prescription orientates Russian diplomacy and expert community to vigorously increase contribution to the global effort to enhance the effectiveness of the UN enforcement machinery and resolutely resist the tendency to marginalize the UNSC by establishing various so called situational coalitions of the willing – informal structures outside the UNO claiming the authority to govern international security and ignoring the UNSC enforcement mandates and existing international law.

For Russia, with its historical traditions in defence of peace and disarmament, it is quite appropriate to initiate international debates on the issues discussed above and assume leadership in the elaboration of arrangements aimed at improving operation of the UNSC, the unique decision-making body of the world community for managing international security.

Global governance would be significantly improved by giving the UNSC additional energy and efficiency. This development would be a major achievement of the course to enhance the role and authority of the UNO.

At the same time it would be a major contribution to the creation of favourable global conditions for progress towards the reduction of nuclear and other armaments and building a world free of nuclear weapons.

It should be emphasized that the strengthening of the UN and the Security Council is an essential external factor in upholding Russian security by creating favourable conditions for nuclear disarmament and non-proliferation, prevention and settlement of regional conflicts, combating international terrorism and transnational crime, and addressing other new and traditional challenges.

Russia lags behind some other great powers and coalitions of states with respect to economic, scientific -technical and military capabilities, as well as the extent and reliability of its political alliances and partnerships abroad. Therefore, the RF is more than other major powers should be interested in all possible strengthening of the UN and the UNSC, where Russia has a veto

⁹⁷ Concept of the Foreign Policy of the Russian Federation, 15 Feb. 2013. <<http://news.kremlin.ru/media/events/files/41d447a0ce9f5a96bdc3.pdf>>.

power, and through which it can influence the global governance processes in the security field.

Russian diplomatic initiatives in the summer and autumn of 2013, aimed at the Syrian CW disarmament within the framework of the UNSC format is a brilliant example of such influence. This model requires creative development on a larger scale with strengthening Russia's leading role in enhancing the role of the UNSC as an indispensable centre for managing global and regional security.

The working-out of arrangements aimed at a wider use of the UNSC enforcement facilities in order to respond adequately to common security challenges is an overriding imperative for successful efforts in this direction.

The UN Security Council should become a robust organ of effective global governance and a reliable guarantor of progressive advancement of mankind on the path of sustainable peace and general disarmament, and, thus, upholding vital interests both of Russia and the entire world community.

4. RISING THREAT OF INTERNATIONAL TERRORISM: CAUSES, COUNTERMEASURES, ROLE OF RUSSIA IN FIGHTING IT

Stanislaw IVANOV

The end of Cold War did not rid the world of new challenges and threats. They include international terrorism which presents a significant danger not only to individuals but also to countries and whole regions. Any international terrorist act affects interests of at least two states and interception or prevention of such acts requires extensive cross-border cooperation. It stands to reason that the problem of combating international terrorism and its causes for several decades has been on the agenda of most influential international organizations and forums, as well as the subject of intense debate among politicians and scholars.

Characteristics of present-day international terrorism

The term 'international terrorism' has acquired its relevance in the context of globalization processes. The main objectives of terrorists are to disrupt the work of government and public order, create chaos and fear, cause political, economic and other damage to authorities and population, destabilize the situation in a particular country or region, provoke armed conflicts and ethnic, religious or other types of clashes. At that one of the main features of modern terrorism is the emergence of political and other conditions that may be addressed to the leadership of a state or group of states. Other characteristics of international terrorism at its present stage are: strong financial support from state sponsors of terrorism;

advancement of extremist ideology, primarily politicized radical Islam; use for criminal activity of latest tools of science and technology such as information technologies, WMD, and others; leadership planning for as large and high-profile terrorist attacks as possible. Other distinctive features include merging of international terrorism and transnational organized crime and drug trafficking; high level of secrecy and worldwide scattered agent networks and individual not connected terrorist cells; increasing use of suicide bombers, car bombs, hijacked aircraft, large groups of hostages, attempted theft and threats to use nuclear, chemical, biological and other weapons of mass destruction.

Despite all the efforts of the world community international terrorism continues to increase the scale of its operations. Following the unprecedented terrorist attack of September 11, 2001 which shocked the world and made it look differently at problems of terrorism and security, a wave of terrorist attacks has swept through many other countries. Some of the countries are now permanently immersed in the chaos of terrorism (Syria, Iraq, Afghanistan, Yemen, Somalia), others occasionally suffer from powerful international terrorist attacks (India, Pakistan, Sudan, Kenya, Algeria, Mali, Nigeria, Libya, Lebanon, Egypt, and some others).

The geography of terrorist attacks expands every year. They increases in number in Europe, the USA, CIS countries, Russia. The total number of terrorist acts and their victims worldwide also steadily increases.

In this respect 2013, unfortunately, was no exception. In September 2013, one of the gravest terrorist attacks occurred in Kenya. On September 21, in the Kenyan capital of Nairobi a group of armed terrorists broke into the Westgate shopping mall with about a thousand visitors and staff inside resulting in killing and wounding dozens of people and hundreds of visitors taken hostages. It is a known fact that terrorists released everyone who could prove he was a Muslim. Besides Kenyans terrorists ruthlessly shot citizens of Canada, France, Great Britain, China, and the Republic of Korea. The Somali Islamist group 'Al-Shabab' (which means 'youth' in Arabic) claimed the responsibility for the attack. An analogy with the well-known Afghan-Pakistani 'Taliban' movement, which name means 'students', comes to mind. According to US media, among terrorists who attacked Westgate were citizens of Western countries.

Today, no country in the world cannot completely prevent a threat of large-scale terrorist attacks. A possibility of *terrorists using weapons of mass destruction (WMD) or attacking WMD storage facilities* is becoming a reality. Politicians and experts already discuss not whether terrorists will have access to WMD or to the so-called dual-use technology but possible time of this event. Whether it will happen in 3-5 or 10-15 years is so far an equation with many unknowns. Accelerating scientific and technological progress, emergence of new types of weapons, rapid rise of the number of sites potentially dangerous for humanity (NPP, research nuclear reactors, various research centers and laboratories) dramatically increase the likelihood of seizure, theft, sabotage or illegal acquisition of both WMD and their components, as well as large-scale destructive consequences of such actions. Major nuclear missile arsenals, space forces, air defense and missile defense systems, huge stockpiles of conventional arms, traditional methods of warfare, police forces and secret services of leading powers are powerless against acts of international terrorism.

While major players of world politics and their allies continue their long-time intense rivalry in traditional areas and still are very suspicious to many initiatives of each other in the field of disarmament and security, mankind has witnessed the emergence of international terrorism as a new threat. As a result, in mathematical terms, if measures taken to counter this threat by the international community expand according to an arithmetic progression, the threat itself is growing geometrically.

Given the growing threat of international terrorism a well-established and already common term 'strategic stability' which used to mean a nuclear parity between the great powers and ensure their mutual security has lost much of its original meaning and now sounds more like a rudimentary echo of the Cold War. The collapse of the Soviet Union and 9/11 attacks in the US demonstrated that great powers' nuclear missile arsenals are ineffective against internal upheavals and large-scale terrorist attacks. It is time for leaders of major world powers and the entire international community to think seriously about finding fundamentally new approaches to international and national security. The United States, Russia, Great Britain and several other countries have already embarked on reducing their nuclear arsenals and weapons of mass destruction, as well as increasing the level of their physical

protection. Along with the continuing gradual reduction of these countries' nuclear missile forces, more politicians and scientists voice their support to the nuclear zero initiative, i.e. complete nuclear disarmament.

Indeed, the situation at the first glance is quite paradoxical: the more nuclear and similar military facilities there are on the territory of a state, the lower is the security level of the state and surrounding countries as the facilities can be potential terrorist targets. The way such facilities can be penetrated or attacked (a suicide bomber; corrupted employees; a targeted aircraft or drone; directed-energy, laser or cyber weapons; hijacking during transportation; conventional explosion, etc.) becomes almost irrelevant. Equally irrelevant is the fact whether the facility is military or civilian - in any case the consequences of such an attack are unpredictable.

On October 23, 2013, the Associated Press reported that US officers in charge of maintaining intercontinental nuclear ballistic missiles in underground bunkers regularly committed various violations of safety and security rules. Such violations could increase the risk of intruders penetrating the facilities and stealing secret codes⁹⁸.

On October 15, 2013, Vladimir Markin, the official representative of the Russian Investigative Committee, said that Russian law enforcement authorities had arrested two men for planning a suspected terror attack on the Maradykovo facility – a chemical weapons storage and destruction facility in the Kirov region. Such an attack could pose a real danger to life and health of residents of the area. According to investigators, the suspects were natives of the North Caucasus and followers of Wahhabism.

These and many other events compel the international community to focus on developing common international standards for physical protection of nuclear facilities and other potentially dangerous sites. Unfortunately, China, India, Pakistan, Israel, and North Korea remain outside nuclear disarmament processes and are actively involved in nuclear, missile and conventional arms race. Despite the fact that terrorist threat level in these countries and regions remains high they are not inclined to adopt uniform standards of nuclear safety for civilian sector. And given plans to

⁹⁸ <<http://russian.rt.com/article/17232>>, 23 Oct. 2013.

build new nuclear power plants and research reactors in areas of traditionally high terrorist activity (Turkey, Saudi Arabia, the UAE, Egypt, Jordan, Algeria, Morocco), the number of potential targets for international terrorists is thereby steadily expanding. Fundamentally new scientific programs of dual use also attract attention of terrorist groups. Today various laboratories conduct experiments to create psychophysical, geophysical, climatic, genetic, radiation, wave (microwave) and many other types of 21st century weapons. These scientific developments are not yet covered by the conventions of WMD prohibition, and terrorists can get relatively easy access to them even before the international community realizes their destructive power and possible consequences of their use for military purposes.

Root causes and rise factors of international terrorism

According to Russian expert D.N. Baryshnikov, ‘An important feature in studies of contemporary international terrorism is the need to consider a variety of factors of political, economic and social nature that influence the way its developing and spreading. In this regard the study of terrorism is directly related to the study of globalization’⁹⁹. If one tries to somehow organize and group the most important and common causes and rise factors of terrorist threat in today’s world, then he gets the following:

- the spread of Islamic ideology in the world in its politicized, radical form and not only in countries traditionally committed to Muslim values, but also in the West;
- a demographic revolution when the population of Western countries is shrinking and that of Muslim states is growing fast and is forced to migrate for higher education and jobs in Europe, the US, and Russia, which results in a change of ethnic and confessional composition of the population of the above countries;
- the ongoing global financial and economic crisis accompanied by unemployment that provokes the poorest social groups, including those in Muslim countries, to participate in

⁹⁹ Baryshnikov, D.N., *International terrorism in the context of globalization*, <<http://anthropology.ru/ru/texts/barishnikov/terror.html>>, 26 Mar. 2006.

different forms of protest ('Arab Spring', riots in suburbs of Paris, etc.);

- attempts by individual countries (Saudi Arabia, Qatar, Turkey) to use Islamic extremists and militants from various terrorist organizations ('Jabhat al Nusra', etc.) in their struggle against the regime of Bashar al-Assad in Syria and the Shiite majority in Iraq¹⁰⁰;

- lack of common approaches, as well as proper legal framework and international standards in the fight against international terrorism, which leads to certain organizations being recognized as terrorist in some countries but not in others. In particular, the US list of terrorist organizations includes about 45 entries, Canadian and Russian lists – 19 entries each, the EU list – more than 100 entries, while the UN terrorist list includes over 450 individuals and organizations. This inconsistency is due to different criteria, procedures and even agencies responsible for creating such lists, which makes it more difficult to fight against terrorism.¹⁰¹ Moreover, if one compares the US and Russian lists, he will find only 9 organizations listed in both lists¹⁰²;

- lack of effective collaboration between national intelligence agencies and other government bodies both within respective countries and at the international level in the fight against international terrorism;

- weakness of state and inefficiency of individual governments and regimes in the fight against terrorists on their own territories (Somalia, Mali, Iraq, Pakistan, Afghanistan, Yemen, Syria, etc.), their unwillingness or inability to cooperate with other countries and the international community;

¹⁰⁰ Meanwhile the sponsors' hopes that jihadist terrorists will help them to overthrow the Syrian political regime or to pressure the government in Iraq and then will disperse to their homes and get engaged in peaceful labor are hardly justified. Most likely tens of thousands of fighters who have received combat experience in Syria and Iraq will become 'the vanguard' of international terrorism and continue their criminal activities.

¹⁰¹ Davydova, D., *Terrorism: global census*,

<<http://nbenegroup.com/syndrome/census.html>>.

¹⁰² <<http://nac.gov.ru/document/832/edinyi-federalnyi-spisok-organizatsii-priznannykh-terroristicheskimi-verkhovnym-sudom-r.html>>;

<<http://www.state.gov/j/ct/rls/other/des/123085.htm>>,

<http://en.wikipedia.org/wiki/United_States_State_Department_list_of_Foreign_Terrorist_Organizations>.

- expansion of activities of and growth of financial opportunities for international criminal groups and syndicates (drug, human, and arms trafficking, smuggling, fraud using advanced information technologies, etc.);

- intensification of recruitment activities of radical Islamist groups in order to attract new fighters and suicide bombers in their ranks, including on the territory of the EU, CIS, US and Russia;

- unresolved Palestinian problem, continuing confrontation between Israel and the Arab (Muslim) world, resulting in a growing number of militants in the Gaza Strip, West Bank, Lebanon ('Hezbollah'), almost all Arab and Muslim countries, as well as calls issued by radical Islamist for jihad (a holy war) against Israel, the US, West, and in general against the 'infidels' which are finding more support among Muslims;

- inciting of Sunni vs. Shiite religious conflict in Syria, Lebanon, Iraq, Saudi Arabia, Bahrain, and between the Gulf monarchies and Iran ;

- a number of unresolved regional conflicts (Kashmir, Cyprus, Nagorno-Karabakh and the like) which continue to be accompanied by local terrorist attacks and may at any time reenter the phase of armed conflict;

- high levels of corruption in most countries of the world, willingness of some officials, scientists and individuals to make money at any cost including by means of assistance to international terrorists¹⁰³;

- relatively easy access to arms and ammunition, explosives and home-made technologies on the world market. In this respect the example of Syria where Islamist militants managed to attain and use chemical weapons is quite illustrative. Meanwhile, large corporations and smaller dealers which make 'blood money' selling weapons and ammunition to unknown final recipients are thriving. The adoption by the UN General Assembly on April 3, 2013, of the international Arms Trade Treaty (ATT) – voted for by 154 states, voted against by Iran, North Korea and Syria – was an important step to establish control over weapons traders. To enter into force the treaty requires at least 50 states to join (ratify). ATT is designed

¹⁰³ Pakistani nuclear scientist Abdul Qadeer Khan who used an extensive network of resellers and specialists around the world to sell nuclear technology, equipment and materials can serve as an example.

to ensure control, albeit not complete and comprehensive, over 70 bln dollar arms market. It will cover deals on tanks, combat armored vehicles, artillery systems, combat aircraft and helicopters, warships, missile systems, and small arms.¹⁰⁴

It is obvious that without eliminating most of the above root causes and factors contributing in one way or another to emergence and rise of international terrorism it is hardly possible to take effective countermeasures by individual countries and the global community.

Speaking at the 12th Meeting of Heads of Special Services, Security Agencies, and Law-Enforcement Organizations, held in the Russian Federation (Kazan) on June 5, 2013, the Chairman of the UN Counter-Terrorism Committee Mohammed Loulichki said: 'The fight against terrorism not only needs to be through preventing terror acts but through persecuting and penalizing culprits, administering criminal punishment for terrorist activities. Besides, exterminating the causes of terrorism is important, for which the work to improve the economy, education, preservation of values highlighting the importance of dialogue and exchange of opinions, needs to be improved. We need to avoid relating the terror threat to one particular religion, culture and region, since terrorism knows no bounds'.¹⁰⁵

Role of Russia in fighting international terrorism

For many countries including Russia fight against terrorism has long been an important factor of domestic and foreign policy. In order to prevent the growth of extremism in the society and new acts of terrorism the state carries out federal and regional programs to address most pressing socio-economic issues in the North Caucasus and other problem regions, adopts tougher anti-terrorism legislation, increases spending on security forces, conducts police and military counter-terrorist operations, seeks to boost international cooperation on a bilateral and multilateral basis on this issue.

¹⁰⁴ <<http://www.rg.ru/2013/09/26/dogovor-anons.html>>, 26 Sep. 2013.

¹⁰⁵ <<http://www.tatar-inform.ru/news/2013/06/05/362846/>>, 5 June 2013.

On June 16, 2012, President Vladimir Putin signed a decree 'On the procedure for establishing the levels of terrorist threat, with additional measures to ensure the security of the individual, society and state'. The decree defines three levels of terrorist threat to introduce in different parts (facilities) of the Russian Federation: a) elevated ('blue') – if there is information requiring confirmation about a real possibility of a terrorist act, b) high ('yellow') – if there is confirmed information about a real possibility of a terrorist act, and c) critical ('red') - if there is information about a terrorist act or about other activities posing an imminent threat of a terrorist act.

A great deal of work to develop additional measures to strengthen anti-terrorist protection of means of transportation and infrastructure, as well as other public places, have been done. The federal law 256-FZ of July 21, 2011, 'On the safety of the fuel and energy complex' entered into force in its entirety on January 1, 2012.

On October 25, 2013, the State Duma adopted the law 'On new measures to combat terrorism' which introduces a mechanism for compensation for damage caused by terrorists by their families, as well as stricter penalties for creating a terrorist group or organization. The document makes changes to a number of laws including the Criminal Code of the Russian Federation and the law 'On Combating Terrorism'. It also makes it a criminal offense to create a terrorist organization and train in terrorist training camps. In particular, the Criminal Code is complemented by a new article 'On taking training in order to carry out terrorist activities'. According to the new article 'taking training obviously intended for learning to conduct terrorist activities' is punishable by imprisonment for a term of 5 to 10 years with a fine of up to 500,000 rubles. However, the article states that an individual – if he has committed no other crime – will be exempt from criminal liability if he reports to the authorities about such training, contributes to the disclosure of an offense or identifies the venue of training and other people who have undergone, carried out, organized or financed such training.

Another new article in the Criminal Code titled 'Organization of and participation in a terrorist group' fixes a penalty of imprisonment for a term of 15 to 20 years with a fine of up to 1 million rubles for organizing a terrorist group. While participation in a terrorist group is punishable by imprisonment for

a term of 5 to 10 years with a fine of up to 500,000 rubles. Thus, a terrorist group is defined as ‘a stable group of individuals formed in advance in order to carry out terrorist activities’ or to prepare or commit other crimes under the Criminal Code ‘or other crimes in order to promote, justify and support terrorism’.

Also punishment is established for organizing activities of a terrorist organization and participating in such activities (new article of the Criminal Code). Organization of an entity ‘which is recognized as terrorist in accordance with the legislation of the Russian Federation’ is punishable by imprisonment for a term of 15 to 20 years with a fine of up to 1 million rubles, and the participation in it – by imprisonment from 5 to 10 years with a fine up to 500 thousand rubles.

Participation in an illegal armed formation, as well as in an armed formation on the territory of a foreign country not envisaged by the legislation of that country in a manner contrary to the interests of the Russian Federation, increases penalties to 6 years of imprisonment with restraint of liberty for up to 2 years.

Another judicial norm states that ‘any person can be charged with illegal export from or transfer to the Russian Federation of raw materials, equipment, technology, scientific and technical information, as well as with performing illegal activities or providing illegal services which obviously can be used for development of weapons and military equipment and which are covered by export controls’.

Given that most terrorist attacks committed on the Russian territory is in one way or another related to international terrorism or extremism, the Russian leadership is interested in the exchange of information and good practices in this field with other countries with special attention paid to the development of regional cooperation within the CIS, CSTO and SCO. For instance in October 2012 Moscow held XI Meeting of heads of special services, security agencies and law enforcement agencies of foreign countries-partners of the Russian Federal Security Service (FSB). The meeting identified the following priority areas of multilateral cooperation for the near future: development of common approaches to counter the ideology of terrorism and joint active measures to prevent its further spread; consistent increase of trust level in the field of counter-terrorism which will multiply the integrative potential of partnerships; search for opportunities and

creation of conditions to neutralize activities of terrorist organizations in different parts of the world; destruction of leaders and supporters of terrorist organization living outside national territories; proactive efforts in those regions of the world where regular serious terrorist threats has not been registered yet but objective preconditions are in place.

The CIS and SCO Anti-Terrorist Center (ATC) actively participated in the organization of 'Don Anti-Terror 2012' international anti-terrorist exercises. Issues of enhancing anti-terrorism activities are discussed at the annual meetings of heads of national ATCs and by the Council of heads of security and special services of the CIS. The SCO Regional Anti-Terrorist Structure held its 21 meeting on September 14, 2012 in Cholpon-Ata (Kyrgyzstan).¹⁰⁶

Cooperation between Russia and other countries on a bilateral and multilateral basis within the framework of their security councils also develops successfully. On June 6-8, 2012 St. Petersburg hosted an international meeting of high representatives in charge of security issues which was attended by secretaries of security councils, national security assistants to presidents and prime ministers, directors of security services and other high-level representatives from 60 countries and relevant international organizations. There are also examples of successful cooperation on counter-terrorism and peacekeeping between Russia and NATO, the EU, and OSCE (in Afghanistan, Somalia, Sudan, etc.).

Simultaneously Russia is working to confirm the leading role of the UN in combating international terrorism, ensure strict implementation of UN Security Council resolutions and of the universal conventions, as well as effective realization of the Global Counter-Terrorism Strategy adopted by the UN General Assembly in September 2006.

¹⁰⁶ Juravel, V.P., *Issues of combating terrorism in modern Russia in 2012*, <<http://mir-politika.ru/3686-voprosy-protivodeystviya-terrorizmu-v-sovremennoy-rossii-v-2012-godu.html>>, 18 Feb. 2012.

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To summarize, it should be noted that underestimating the danger of international terrorism in the context of the ongoing scientific and technological progress and global arms race can lead to catastrophic consequences for humanity. A possibility of international terrorists acquiring weapons of mass destruction becomes increasingly apparent. Only closer international cooperation and collaboration can help to confront this global threat. It is important to turn all on-going local, regional and international conflicts into political and diplomatic dialogue and to seek for mutually acceptable options for peaceful settlement. It is also time for the great powers to do away with Cold War relapses, intensify disarmament processes, achieve complete elimination of WMD arsenals, significantly reduce production and export of conventional arms, establish strict control over scientific research in the area of dual use technologies. The idea of the arms trade being immoral and unethical, and blood money being criminal money seems very relevant at the present stage of international development. Only the reduction of overall proneness to conflict in the modern world and drastic cuts in stockpiles of all types of weapons seem to be able to contribute significantly to containment of the terrorist threat.

5. INFORMATION WARS OF THE 21TH CENTURY: FROM THEORY TO PRACTICE

Natalia ROMASHKINA

In the modern world information and communication technologies become a key factor in the functioning of the global economy, policy and security systems. Information warfare becomes an increasingly important element of the military capabilities of states, complementing and sometimes replacing the traditional military means. Simultaneously the information sabotage also becomes a new weapon of collective and individual subjects of cyberterrorism.

First new information technologies, including the long period of information-psychological pressure, massive use of electronic warfare during the fighting were used by the United States in operation Desert Storm in 1991 in Iraq. After this, information technoligis (and block) were used in the increasing scale in operations in Yugoslavia (1999), Afghanistan (2001), Iraq (2003), Libya (2011).

Information and psychological influence effectively applied during the Georgia-South Ossetian conflict in 2008 aiming to distort world public consciousness of the real picture of the beginning and course of the conflict to influence political decisions from all parties involved. Not having sufficient own resources for a large-scale international campaign, there're a lot of evidences that Georgia relied on the technical and intellectual support of the US and prepared for war¹⁰⁷. Similar methods were actively applied in

¹⁰⁷ Halpin, T., Boyes, R., 'Georgia loses the fight with Russia, but manages to win the PR war', *The Times*,

Ukraine in the winter 2013-2014 and continue to be applied till now.

One of the striking examples of other forms of information confrontation is impact not on people's consciousness, but on the information management systems of critically important technical complexes – application in 2010-2012, computer malicious programs (MS) Stuxnet, Duqu, Flame and Wiper, caused damage to the Iranian uranium enrichment plant in Natanz, and the NPP in Bushehr, in order to brake the nuclear program of Iran. According to experts, the MS was created with the support of state structures by extremely qualified professionals with sufficient financial support. That's why it was not the case of cybercrime, but an act of cyber warfare. In 2013, the CEO of Russian company 'Kaspersky Lab' informed about the infection program Stuxnet not only Iran's network nuclear facilities, but also Russians¹⁰⁸.

Nowadays, in this regard, the problem of information security becomes an essential component of national and international security. appeared in the end of the last century A variety of projects concepts of information security discovered the lack of a common conceptual framework in this area and common methodology to assess the threats, their discrepancy with the options existing normative-legal bases at national and international levels. The formation of appropriate intellectual-political base is an urgent task and a prerequisite for the development of international political and legal norms and mechanisms of global governance and regulation in this area.

Information war and its variations

Already in ancient times, the impact on the psychology of the enemy often considered more important than its physical destruction. More than two thousand years ago, the great Chinese strategist sun Tzu wrote: 'War is a way of lies. Therefore, even if

<<http://www.timesonline.co.uk/tol/news/world/europe/article4518254.ece>>; 'Russia and Georgia Clash Over Separatist Region', *The New York Times*, 08 Aug. 2008; 'Russians Push Past Separatist Area to Assault Central Georgia', *The New York Times*, 11 Aug. 2008; 'Russia attacks Georgia on two fronts as conflict escalates', *The Times*, 11 Aug. 2008.

¹⁰⁸ <<http://nuclearno.ru/text.asp?17591>>.

you can, show the enemy your inability. When you should enter into battle the forces, pretend inactive. When the goal is close, show, that it is far away; when it is really far away, create the impression that it's close'¹⁰⁹.

Modern global information revolution has given to such activities limitless possibilities. For the first time the term 'information war' was used by Thomas Rona, former scientific Advisor to the US Department of defense in report 'weapons Systems and information war', prepared for the Boeing company in 1976¹¹⁰, where it was noted that the information infrastructure is a key component of the US economy and at the same time vulnerable during war and peace.

Officially, first it appeared in the Directive of the Minister of defence of the USA '*Information Warfare*' of December 21, 1992¹¹¹, In October 1998 US Department of defense introduced a 'Joint doctrine for information operations', which explained the ratio of the basic concepts:

- **information operation** – actions to impede the collection, processing, transfer and storage of information the information systems of the enemy when defending one's own information and information systems;

- **information war** is a complex effect (the collection of information operations), exerted during a crisis or conflict on a specific enemy or more opponents to perform or contribute to solving the assigned tasks'¹¹².

In August 1995 the National University of defense of the USA published the work of Martin Libicki who specialized in problems of application of information technologies in the system of national security for a long time, under the title 'What is the information war?', in which the author described the information

¹⁰⁹ Sun Tzu The art of War.

<<http://cclib.nsu.ru/koi/projects/satbi/satbi/books/menu.html>>.

¹¹⁰ Rona, T.P., *Weapon Systems and Information War*, US Department of Defense, <http://www.dod.gov/pubs/foi/reading_room/09-F-0070WeaponSystems_and_Information_War.pdf>.

¹¹¹ DoD Directive TS-3600.1, 'Information Warfare,' 21 Dec. 1992.

<<http://www.dtic.mil/whs/directives/corres/pdf/300003p.pdf>>.

¹¹² Joint Pub 3-13 'Information Operations', US Department of Defense, Dec. 1998. <http://www.fas.org/irp/doddir/dod/jp3_13.pdf>.

war as a mosaic of different forms.¹¹³ According to him, there are seven kinds of information war.

1. ***The war in the sphere of control and management*** happens in the real battlefield, although it's not something new for the US military. It focuses on the communication channels between the command and performers. Cutting these channels, the attacker tries to achieve a malfunction of systems of troops control, communications lines and the whole system of control of the enemy at the strategic, operational or tactical level. The attacking side isolates command from the performers.

2. ***Reconnaissance information war*** - collection of important military information and the protection of their own due to the development of information technologies it allows to obtain absolute knowledge about the enemy.

3. ***Electronic warfare*** is conducted in the sphere of communications, and it is not a new form of warfare. It means acting against the electronic communications: telecommunications, radar, computer networks, etc. cryptography is an important element in it.

4. ***Information and psychological warfare*** is the usage of capabilities of information and resources against human consciousness. M.Libicki divides this type into four forms of reference: a cultural conflict, operations against the national will, the military leadership and the enemy troops.

5. Malicious computer programs (including viruses) are denoted as the principal means to defeat during the ***'hacker' war*** and computer network denoted as the object of influence. Their violation may occur in peacetime and wartime against the military, public and private networks and information resources. From the military point of view depending on the purposes and objects of operations may be defensive and offensive.

6. ***Economic information war*** derived from a combination of economic and information warfare and may take one of two main forms - information blockade and information imperialism. The first is based on the assumption that in the future the state will depend on the information flows like today, they depend on material supply

¹¹³ Libicki, M.C., *What Is Information Warfare?* (United States Government Printing, 1995).

and exchange. Information imperialism is based on the economic essence of imperialism.

7. In 1995 *Internet warfare* was called by M. Libicki as information war of the future and believed that it was untimely to talk about it. He introduced concepts such as information terrorism, semantic attacks, simulation war Gibson-war. Already some computer attacks, for example, usage of malicious programs on nuclear objects of Iran in the period 2010-2012, have been classified by specialists exactly as cyber warfare.

According to the Russian special services, the concept of 'information warfare' provides:

1) suppression (in wartime) elements of infrastructure of state and military governance (*the defeat of the command and control centers*);

2) electromagnetic impact on the elements of information and telecommunication systems (*electronic warfare*);

3) obtaining reconnaissance data by interception and decryption information flows transmitted through the communication channels, and also on a side radiation and through specially embedded in premises and technical means of interception of electronic devices (*electronic reconnaissance*);

4) unauthorized access to information resources through the use of hardware and software breakthrough protection systems of information and telecommunication systems of the enemy and their subsequent distortion, destruction, theft or breach of the normal functioning of these systems (*'hacking' war*);

5) formation and mass distribution of misinformation or tendentious information by information channels of the enemy or global networks for impact assessment, intentions and orientation of the population and decision makers (*psychological warfare*);

6) receive information by *intercepting and processing open information* transmitted over insecure connection channels, circulating in the information systems, as well as published in massmedia¹¹⁴.

Information and Psychological Warfare at the present time has become one of the most effective and rapidly developing

¹¹⁴ Markomenko, V.I., 'Invisible protracted war', *Nezavisimoe voennoe obozrenie*, 16 Aug. 1997.

forms of warfare which is used by leading countries to achieve their allies.

Information and Psychological Warfare is a certain methodology of changing global picture of the world to the opposite party in a given direction. Under the opposite side should be understood individuals (or a group of persons), decision-makers at different levels and a separate group of people or the mass consciousness of the people as a whole¹¹⁵.

Comparing with other kinds of influence, information-psychological has a number of basic features:

- take place on foreign territory, without restrictions of crossing the border, and penetrate, to the mind of the enemy;
- leaves no visible traces, object of impact seems that it is he who makes the decision, actually it turns out to be a slave of other person;
- very profitable for its initiators, because a small amount of input information may lead to the maximum significant effect, for example, to the formation of the necessary public opinion;
- one fact in the conditions of information-psychological war can easily achieve different interpretations, up to diametrically opposite¹¹⁶.

The main form of reference and the main element of the information-psychological war are the **information-psychological operation** – a complex of coordinated, agreed and concerned by the goals, objectives, place, time, objects and procedures, types, forms and methods of information and psychological impact. Information and psychological operations differ in scope, goals and objectives, objects impacts, the technologies used and the conditions in which they are held.

In general we can predict the improvement of methods, expansion of spheres of application, and subsequently, the

¹¹⁵ Matvienko, Yu. A., 'Information and psychological warfare as a form of resolution of the social-political contradictions in modern societies', *Information war*, 2008, No. 4.

¹¹⁶ Pocheptsov, G., *Information and psychological warfare* (Moscow: SINTEG, 2000).

domination of the information-psychological war over other types¹¹⁷.

Modern technologies of cyber war

Malware programs Stuxnet¹¹⁸, Duqu¹¹⁹ and Flame¹²⁰ were detected by specialists from different countries in 2010-2012. They share a number of technical parameters such as the high complexity of the code and the purpose for which they apparently were created. Experts note that the functionality of malware programs differs from usual in the field of cybercrime as it 'was not set up to steal money and personal data of the user, not to send spam, and to sabotage the enterprises and incapacitate the industrial

¹¹⁷ Matvienko, Yu.A., 'Information and psychological warfare as a form of resolution of the social-political contradictions in modern society', *Information war*, 2008. No. 4.

¹¹⁸ Stuxnet – a computer worm, a malicious Trojan horse program designed to attack computers running visualization system of production processes Siemens WinCC, <<http://www.securelist.com/ru/descriptions/15071649/Worm.Win32.Stuxnet.a>>. It spreads on removable media and builds into Windows systems. Its name is derived from two drivers (mrxnet.sys and mrxcsl.sys), <<http://blogs.technet.com/b/mmpc/archive/2010/07/16/the-stuxnet-sting.aspx>>.

¹¹⁹ Duqu – computer network worms, malicious Trojan program designed for cyber espionage. The program collects information about the system, makes screenshots, it looks for files intercept passwords. Gostev, A., 'Mystery Duqu: Hi, 'Mr. B. Jason' and 'Dexter'', *All about Internet security*, 11 Nov. 2011, <http://www.securelist.com/ru/blog/40855/Tayna_Duqu_Privet_Mr_B_Jason_i_Dexter>. It spreads via e-mail. The name derived from the prefix '~DQ', which was used in the names of all files created by it. *W32.Duqu. The precursor to the next Out (Version 1.4)*, Symantec Corporation, 23 Nov. 2001.

¹²⁰ Flame – Trojan backdoor program, which has features common for worms created for cyber espionage. The program can record audio from a microphone attached to your computer, make screenshots, monitoring of keyboard and network traffic. Gostev, A., 'Flame: frequently asked questions', *All about Internet security*, 30 May 2012, <http://www.securelist.com/ru/blog/207763998/Flame_chasto_zadavaemye_vopr_osy>. The program is controlled by an operator and can spread through local network or from removable media. The name has received the title of one of the modules responsible for carrying out attacks and infecting new computers. Flame also known as the Flamer. 'Identification of a New Targeted Cyber-Attack', *IrCERT*, 28 May 2012, <<http://www.certcc.ir/index.php?name=news&file=article&sid=1894>>.

systems'¹²¹. September 2010 the CEO of 'Kaspersky Laboratory' E. Kaspersky compared this fact with the opening of 'Pandora's box'. Such systems are widely used in oil pipelines, power plants, large communication systems, airports, ships, and even global, military installations.

Malware programs Stuxnet was discovered by specialist of Belarusian company 'VirusBlokAda' S. Ulasen . Messages subsequently led up to the discovery of Stuxnet arrived from Iran¹²².

As a result of code analysis specialists found that for the first time his tracks were recorded in 2005, and the first samples were received in the database of the anti-virus companies in 2007¹²³.

In July 2010, Symantec launched traffic monitoring system of the virus Stuxnet, which allowed it to keep track of the number of infected computers in the particular region. Statistics showed that most infected computers by Stuxnet- almost 60% - were located in Iran (see fig. 1): by September 2010, there were infected more than 60 thousand computers. In addition, it appeared that a large portion of infected computers was used by Simatic Step 7, developed by Siemens AG¹²⁴.

During the analysis of infected computers by program Stuxnet experts from Symantec revealed that, initially, the Stuxnet was directed against the five institutions, and all had an office in Iran¹²⁵.

¹²¹ 'Kaspersky Lab provides its insights on Stuxnet worm', *Kaspersky Lab*, 24 Sep. 2010.

<http://www.kaspersky.com/about/news/virus/2010/Kaspersky_Lab_provides_its_insights_on_Stuxnet_worm>.

¹²² 'The Man Who Found Stuxnet – Sergey Ulasen in the Spotlight', *Eugene Kaspersky's Blog*, 2 Nov. 2011, <<http://eugene.kaspersky.com/2011/11/02/the-man-who-found-stuxnet-sergey-ulasen-in-the-spotlight>>.

¹²³ McDonald, G., Murchu, L. O., Doherty, S., Chien, E., 'Stuxnet 0.5: The Missing Link (version 1.0)' *Symantec Corporation*. 26 Feb. 2013, p. 2. <http://www.symantec.com/content/en/us/enterprise/media/security_response/whitepapers/stuxnet_0_5_the_missing_link.pdf>.

¹²⁴ Chien, E., 'Stuxnet: A Breakthrough', *Symantec Blogs*, 12 Nov. 2010, <<http://www.symantec.com/connect/blogs/stuxnet-breakthrough>>.

¹²⁵ Falliere, N., Murchu, L.O., Chien, E., *W32.Stuxnet Dossier (version 1.4)*, Symantec Corporation, Feb. 2011, p. 7.

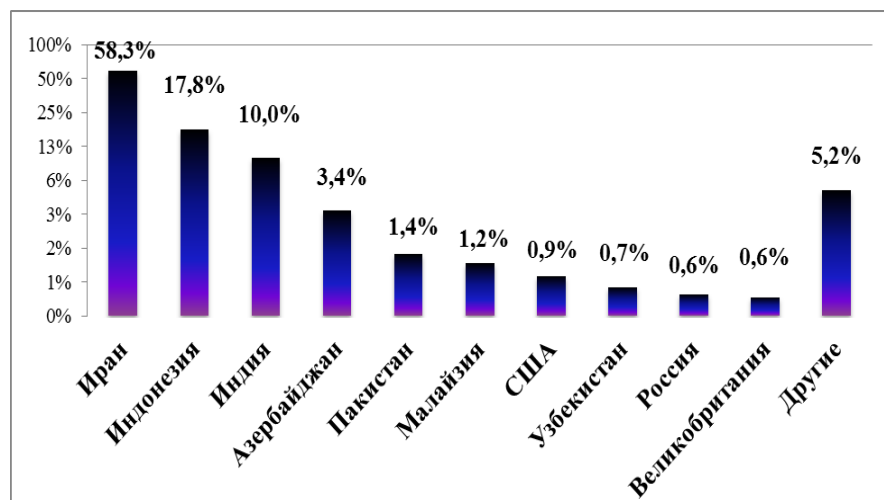


Figure 1. The share of infected computers by Stuxnet in different countries¹²⁶.

The first mention about the MS Duqu registered on 1 September 2011 at the service Virustotal¹²⁷. Code analysis of virus engaged in Laboratory of Cryptography and System Security (CrySyS) Budapest University of Technology and Economics, Kaspersky Lab ('LC'), Symantec and other specialists. Experts noted the connection between Duqu and Stuxnet. In CrySyS it is believed that the creators of Duqu were likely to have access to the mainframe of stuxnet and it's noticed that there were a similar structure and philosophy of building two viruses¹²⁸. The programs were written on the same platform Tilde (because the majority of its files begins with the icon tilde ~). Employee of 'LK' noted that Duqu was probably created to spy on Iran's nuclear program¹²⁹.

It was also revealed that in each attack Duqu had used unique files with different names and checksums, and goals had

¹²⁶ The figure is based on: Falliere, N., Murchu, L.O., Chien, E., *W32.Stuxnet Dossier (version 1.4)*, p. 6.

¹²⁷ Gostev, A., 'Mystery Duqu'...

¹²⁸ *Duqu: A Stuxnet-like malware found in the wild, technical report*, p. 5.

¹²⁹ Naraine, R., Duqu First Spotted as 'Stars' Malware in Iran, *All about Internet security*, 5 Nov. 2011,

<http://www.securelist.com/en/blog/208193211/Duqu_First_Spotted_as_Stars_Malware_in_Iran>.

been carefully chosen. A large part of the registered targeted infected computers by Duqu lockated also in Iran (see fig. 2).

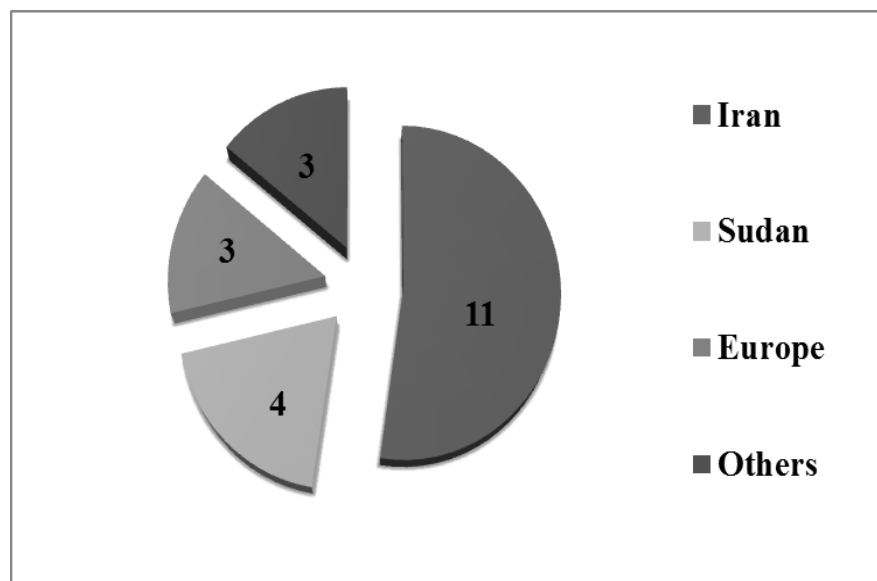


Figure 2. The geographical distribution of incidents of infection EAP Duqu.¹³⁰

Analysis of the activities of victims's organizations and the nature of the information which was interesting for authors of Duqu, suggested that the main purpose of attacking the Iranian incidents were any data to the systems of production management in various industries of Iran, as well as the commercial relationships of a number of Iranian organizations.

In April 2012, the media reported about unknown MS, which is supposedly erased data from the hard drives of computers in the Ministry of oil of the IRI. The program was named the *Wiper*. Its mass attack was recorded on April 22, 2012¹³¹. And after it the Iranian authorities took the decision to switch off all tank farms from the Internet. At the same time, it was noted that the oil

¹³⁰ The figure is based on: Romashkina, N., Machucova, A., 'Malicious attack on Iran's nuclear program', *Information war*, 2013, No. 4.

¹³¹ Erdbrink, Th., 'Facing Cyberattack, Iranian Officials Disconnect Some Oil Terminals From Internet', *The New York Times*. 23 Apr. 2012, <http://www.nytimes.com/2012/04/24/world/middleeast/iranian-oil-sites-go-offline-amid-cyberattack.html?_r=2&>.

industry was not affected by the cyberattack, because it remains mostly mechanical.

During code analysis Wiper 'LUX' made the following conclusions:

- 1) Wiper is responsible for removing sensitive data from computers of the government of Iran;
- 2) the MS Wiper uses the Tilde as Stuxnet and Duqu;
- 3) during the investigation of the incident with the removal of data was found another WP, called Flame and specialists separate it from the Wiper¹³².

Experts of 'LK' believe that the Wiper can be associated with Israeli developers. Wiper created and deleted the registry key, referring to service module Rahdaud64, which was named after the great biblical king David (דָּוִד, in Arab tradition - Daud), who annexed the greatest number of areas, and the adjective Rah (רַע), translated from the Hebrew meaning 'mad, bad, malicious'¹³³.

Information about the discovery of the *Flame* came from a variety of sources, approximately at the same time – on 29-30 of May, 2012. In 'LUX' believes Flame as 'the most sophisticated cyber weapons today'¹³⁴. Immediately were noted similarities between the Flame and the previously known Stuxnet and Duqu. There were geography of attacks, narrow target orientation combined with the use of specific software vulnerability. At the same time, similarity in the code between Stuxnet and Flame wasn't noticed, because the Flame did not use a framework Tilde¹³⁵.

The functionality of the Flame is quite varied, but the main aim is stealing of the data. The program is aimed at getting access

¹³² 'Kaspersky Lab Publishes New Research about Wiper, the Destructive Malware Targeting Computer Systems in April 2012', *Kaspersky Lab*, 29 Aug. 2012, <http://www.kaspersky.com/about/news/virus/2012/Kaspersky_Lab_Publishes_New_Research_about_Wiper_the_Destructive_Malware_Targeting_Computer_Systems_in_April_2012>.

¹³³ Alexander Gostev Twitter account, 29 Aug. 2012, <<https://twitter.com/codelancer/status/24083355280826368>>.

¹³⁴ Gostev, A., 'Flame: frequently asked questions'...

¹³⁵ Gostev, A., 'Back to Stuxnet: the missing link', *All about Internet security*, 11 June 2012, <http://www.securelist.com/ru/blog/207767012/Back_to_Stuxnet_propushchenno_e_zveno>.

to e-mails, documents, messages, conversations on the territory of secret objects¹³⁶.

The spread of Flame happened in the Middle East, the most active attack was subjected to Iran (see fig. 3).

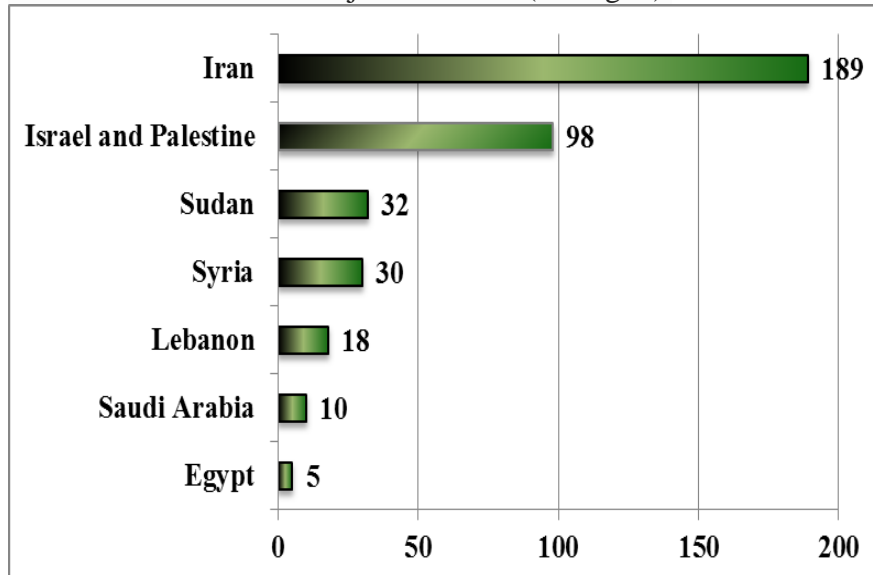


Figure 3. The geographical distribution of incidents of infection by MS Flame¹³⁷.

“LUX” compares Stuxnet with a rocket. The upper stage module – body computer “worm” – used Duqu, although “warhead” (in the case of Stuxnet it was a block which put out centrifuges of operation) was not installed: the MS could be equipped with the aim to impact against a particular purpose. Symantec believed that Duqu was preparation for the implementation of the Stuxnet's attacks. Similarities between Duqu and Stuxnet appeared also in identical hardware platform architecture. On this basis, the experts came to the conclusion that Duqu and Stuxnet were parallel projects, established by one or cooperating team of extremely qualified professionals with extensive resources and essential financial

¹³⁶ Gostev, A. Flame‘Flame: frequently asked questions’...

¹³⁷ The figure is based on: Romashkina, N., Machucova, A., ‘Malicious attack on Iran's nuclear program’...

support. And it's believed in 'LUX' that the program was created with the support of state structures¹³⁸.

All MS devide in functionality – part of them spies on the user, part erases the information from the infected computer, and Stuxnet puts out of action industrial equipment. It allowed to talk about it not simply as an example of cybercrime and cyber warfare, cyberterrorism or cyberwar¹³⁹.

In 2011, the media named states-customer. Information appeared that Israel and the United States had stood for the attack of Stuxnet to the objects of the uranium enrichment plant in Natanz. The New York Times newspaper published the information that in Israel's Negev desert, where was a research nuclear centre, was build an exact copy of the enrichment plant in Natanz, to test a cyber weapons, namely the Stuxnet¹⁴⁰. It was pointed out that it was a team-work not only of Israel, but also of the USA. Interestingly, that one of the authors of the article was chief of the Washington Bureau David Sanger – author of “Confrontation and Concealment: Obama's Secret Wars and an Amazing Use of American Power”, published in June 2012. There was revealed the existence of the plan, including cyber attacks on Iranian industrial systems developed in the United States during the presidency J.W. Bush¹⁴¹.

The suspicion that Israel could start Internet warfare against Iran, appeared in 2009, when the specialist of the research Institute of the US Cyber Consequences Unit S. Borg said that the sensitive Iranian enterprises to the intervention – such as the uranium enrichment plant – was vulnarable to any of the MS¹⁴². After the

¹³⁸ 'Kaspersky Lab provides its insights on Stuxnet worm'...

¹³⁹ Hypponen, M., 'Why Antivirus Companies Like Mine Failed to Catch Flame and Stuxnet', *Wired*, 1 June 2012, <<http://www.wired.com/threatlevel/2012/06/internet-security-fail/>>.

¹⁴⁰ Broad, W.J., Markoff, J., Sanger, D.E., 'Israeli Test on Worm Called Crucial in Iran Nuclear Delay', *The New York Times*, 15 January 2011, <<http://www.nytimes.com/2011/01/16/world/middleeast/16stuxnet.html>>.

¹⁴¹ Sanger, D.E., *Confront and Conceal: Obama's Secret Wars and Surprising Use of American Power* (New York: Crown Publishers, 2012).

¹⁴² Williams, D., 'Wary of naked force, Israelis eye cyberwar on Iran', *Reuters Analysis*, 7 July 2009, <<http://www.reuters.com/article/2009/07/07/idUSLV83872>>.

discovery of the existence of Stuxnet S. Borg expressed the view that Israel had the capacity to create such viruses¹⁴³.

In February 2011 at a farewell ceremony for outgoing head of the Army of Defense of Israel, Gabi Ashkenazi featured a video in which among the operational successes of General was named a Stuxnet¹⁴⁴. And in December 2011, Larry Constantine – pioneer in software engineering confirmed that the main suspect in the development of Stuxnet is still considered to be Israel in an interview to the magazine IEEE Spectrum¹⁴⁵.

In July 2013, a former employee of the US national security Agency Edward Snowden said that Stuxnet is a joint venture between the US and Israel¹⁴⁶.

In general currently, the source of malicious programs exists in almost every country, but 83% of all sites use for the dissemination of “malware”, are situated just 10 countries. The leader of this rating is the USA, where is a quarter of all the sources of infection¹⁴⁷.

At present, we speak about a whole class of software that can be classified as “cyber weapons”. It includes MS, the establishment and funding by government bodies of various countries of the world. These programs are used against the citizens, organizations and agencies of other States¹⁴⁸.

There are three main groups of threats in this category.

¹⁴³ ‘A worm in the centrifuge: An unusually sophisticated cyber-weapon is mysterious but important’, *The Economist*, 30 Sep. 2010, <<http://www.economist.com/node/17147818>>.

¹⁴⁴ Williams, Ch., ‘Israel video shows Stuxnet as one of its successes’, *The Daily Telegraph*, 15 Feb. 2011, <<http://www.telegraph.co.uk/news/worldnews/middleeast/israel/8326387/Israel-video-shows-Stuxnet-as-one-of-its-successes>>.

¹⁴⁵ ‘St. Cherry, with L. Constantine. Sons of Stuxnet’, *IEEE Spectrum ‘Techwise Conversations’*, 14 Dec. 2011, <<http://spectrum.ieee.org/podcast/telecom/security/sons-of-stuxnet>>.

¹⁴⁶ ‘The first cyber weapons’ struck a nuclear facility’, 11 Nov. 2013, <<http://internetua.com/pervoe-kiberorujie--porazilo-yadernii-ob-ekt>>.

¹⁴⁷ <http://www.kaspersky.ru/about/news/virus/2010/onlain-ugrozy_v_iii_kvartale_2010_goda_bolee_500 mln_popytok_zarajeniya>.

¹⁴⁸ Gostev, A., *Kaspersky Security Bulletin 2012. Cyber warfare*, <http://www.securelist.com/ru/analysis/208050779/Kaspersky_Security_Bulletin_2012_Kiberoruzhie>.

- **“The destroyers”** – programs designed to destroy the bases of data and information in general. Can be implemented as “logic bombs”, or in advance embedded in the system and to be triggered at a particular time or during a targeted attack with low performance. The closest example of such a program is used.

- **Spyware** – Flame, Gauss, Duqu, miniFlame were created to collect all possible information available, mostly very specific (for example, data from projects Autocad, SCADA systems, etc), which could then be used to create other groups threats.

- **Tools cyber sabotage** is the highest form of cyber – threats, the activities of which would lead to physical destroy of the object of attack. Of course, Stuxnet is in this category. This threat is unique and its application appears rare, but every year more and more efforts of different States will be focused on the development of such threats and to safeguard against them.

Information security

Information security as a concept has arisen along with the advent of information communications and the perception of the fact that people have interests which can be damaged by manipulating the media of information communications.

According to a broad definition, information security is the state of the society in which every person, community and state are protected against a certain kind of threats such as organized information flows aimed at the deformation of public as well as individual conscience¹⁴⁹.

Today this notion is interpreted both in a broad and a narrow sense. The former implies the IS of a person, a society and a state as a whole. The latter implies the safety of the information itself and the information media as well as the defense against information weapons used by combatants and adversaries.

Information security of state is the security of its information resources and personal and public rights of citizens¹⁵⁰.

¹⁴⁹ Petrov, V.P., Petrov, S. V., *Information security of the person and society: manual* (Moscow: ENAS, 2005).

¹⁵⁰ Pilipenko, V.F., *Safety: theory, paradigm, concept, culture. Dictionary reference* (Moscow: PER SE-Press, 2005).

In today's society the information sphere consists of two components: technical and psychological ones. Consequently, information security has also two components: technical and psychological¹⁵¹.

The psychological component should be considered as an inalienable part of the IS with reference to the interests of a person, a society and a state.

Legal protection of information requires a definition of the term.

In the US and European legislations this notion is revealed through the following principles:

- *accessibility* is an access to information and implies information systems' operation regardless of possible malfunctions and disorders caused by electric power supply shortage, natural disasters, accidents or attacks;

- *authenticity* is authentication of the user (including the possibility of anonymity);

- *completeness* of the information means that information is sent, received, and stored completely, without any distortions;

- *confidentiality* means the protection of the information from interceptions.

This definition through the principles enables to determine the content of the legislation in the sphere under consideration and the main prospects for growth. These concepts can be found in a number of laws. As a result, they enable to elaborate a unified approach to IS in the contemporary legislation. For instance, confidentiality is an inalienable part of the laws applied to personal data, telecommunications, electronic circulation of documents, consumers' rights in finances and medicine.

In Russia, as in many foreign countries, the adoption of political doctrinal acts precedes the development of legislation in the sphere of IS.

IS was recognized as an independent part of security in the Legislation of the Russian Federation in 1992 when the act About Security of March 5, 1992 N 2446-I was adopted. *The Doctrine of*

¹⁵¹ Rodichev, Yu., *Information security: Standard and legal aspects* (St. Petersburg, 2008).

*Information Security of the Russian Federation*¹⁵² (see fig. 4), passed in 2000, laid the foundation of the regulatory legislative structure which provides the IS. This doctrine is founded on *the Concepts of the Russian Federation National Security*, a cornerstone document of national security.

Figure 4. Structure and Basic Provisions of the Doctrine of Information Security of the Russian Federation.

<p>PREAMBLE: <i>contents of the Doctrine:</i> ‘a set of official views on the purposes, tasks, principles, and main directions adopted to ensure information security of the Russian Federation’; <i>purposes of the Doctrine</i> are to provide a basis for the state policy the Russian Federation adheres to ensure its information security, for the improvement of ensuring information security; for the development of target programmes to ensure information security.</p>			
<p>SECTION I Informational Security of the Russian Federation ARTICLE 1 – National interests of the Russian Federation and the protection of them in the sphere of information security. ARTICLE 2 – Russian Information security types of threats. ARTICLE 3 – Sources of threats to</p>	<p>SECTION II Methods of Ensuring Informational Security ARTICLE 5 – General methods of ensuring IS of the Russian Federation ARTICLE 6 – Features of ensuring informational security of the Russian Federation in various spheres of public life ARTICLE 7 – International cooperation of the Russian</p>	<p>SECTION III Basic Provisions of the State Informational Security Policy of the Russian Federation and Priority the Implementation Measures ARTICLE 8 – Basic provisions of the state information security policy of the Russian Federation. ARTICLE 9 – First and foremost IS activities and measures to ensure the</p>	<p>SECTION IV Organizational Basis of Informational Security System of the Russian Federation ARTICLE 10 – Main functions of the information security system of the Russian Federation. ARTICLE 11 – Fundamental elements of the organizational basis of the information security systems.</p>

¹⁵² Doctrine of information security of the Russian Federation, 9 Sep. 2000, No. Pr-1895.

information security. ARTICLE 4 – State of information security of the Russian Federation and the main information security objectives.	Federation with the aim to information security ensure.	information security of the Russian Federation.	
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International cooperation in the sphere of information security

The development and proliferation of information weapons, the militarization of informational technologies, and an increasing uncontrollability in the sphere of information are becoming a powerful destabilizing factor; they exert an impact on the whole system of international relations and agreements. The leading states are more vulnerable than others because they are more dependent on informational technologies.

Under the development of cyber weapons and the threat of cyber wars, the states assign an important part to strengthening the industry which protects information in telecommunication systems, computerized systems of state and military administration; they also put an emphasis on the management of enterprises and infrastructures and on improving the education of highly qualified information security personnel.

Information Security should be provided both at the technical level as well as at the legal one, and these technical and legal components should be interwoven.

The legal support is taking shape as the developing technologies cause the change in social relations which demand some additional regulation. In the contemporary legislation, both in Russia and abroad, more and more new terms and norms which reflect the innovation process are being coined.

Nonetheless, many legal terms remain vague (for example, information war, information combat, information brinkmanship,

information weapons, as well as their impact, features, and types). As a result, the terms cyber crimes, cyber terrorism, cyber war are confused, although they require the application of quite different legal norms and actions of quite different legal institutions, which complicates the situation. That is why one of the most urgent issues should be the necessity to work out a clear and transparent conceptual apparatus used in international and national documents functioning in the sphere of information security. Besides, earlier adopted lists of threats in the above-mentioned documents should be revised taking into consideration the rapid development of informational technology as an object and a subject of hostile actions.

The information security legislation also requires a clear-cut definition of all participants and structures responsible for the sphere. It is designed to establish the interaction of state authorities, on the one hand, and public structures and business, on the other hand, in order to work out optimal administration in the sphere.

National segments of information nets are subjected to a legal regime which is determined by national jurisdictions. At the same time, the problem of information security because of its distinct transboundary nature can be solved efficiently through concordance, unification and internationalization of all the above-mentioned components.

Nowadays the urgent and vital task is to introduce and to incorporate the processes of civilian and military informatization into the international legal framework. It deals with the prohibition of development, production, and application of information weapons as well as with the fight against information terrorism and crimes, which requires an international set of methods enabling to monitor factors that pose a threat to the security of global information and communications systems.

A promising measure is the joint resolution to create a bilateral workgroup dealing with the threats in the sphere of informational and communication technology signed by the Russian and US presidents at the G8 Summit in June 2013. The workgroup will hold regular meetings, estimate the emerging threats, elaborate

and coordinate joint measures to counter such threats and to strengthen the confidence.¹⁵³

It is evident that the top priority task is to work out a regulatory and informational technologies base to exclude suspicions of each other in case of cyber diversions against information control systems of strategic forces and anti-missile defense systems, against control systems of nuclear power plants, spacecraft control systems, and control systems of energy and transport infrastructures.

Along with the above-mentioned steps, it is reasonable to develop the methods and programmes against cyber crimes, especially in banking and financial institutions, systems, and communications.

In the future it may be possible to abandon the most destabilizing means of information wars by analogy with the agreements on arms reduction. Such agreements will be turned into multilateral ones; they will be transformed into norms and mechanisms of global informational security regulation.

¹⁵³ 'First day of G8: Putin and Obama's meeting', Interfax agency, <<http://www.interfax.ru/world/txt.asp?id=313009>>.

6. THE DEBATE ON THE FUTURE OF EUROPEAN SECURITY: INTERIM BALANCE SHEET

Andrei ZAGORSKI

The concept of the “debate on the future of European security”¹⁵⁴ was introduced in 2009. It stands for the ongoing dialogue concerning relevant European security issues in a similar way as the concept of the “European security architecture” described the debate of the early 1990s, or the concept of a “Common and comprehensive security model for Europe for the twenty-first century” stood for the debate of the second half of the 1990s. These concepts highlighted distinct stages of that debate following changes in the European landscape and the European security agenda.

The evolution of the contemporary debate on the future of European security was marked by the evolving foreign policy posture of the Russian Federation as manifested in the speech by President Vladimir Putin at the Munich Security conference in February 2007, 2008 President Dmitri Medvedev’s proposal for a European Security Treaty (EST), and in the current Russian policy which, since 2009 and particularly since 2012, prioritizes the erection of a Eurasian Economic Union and of a Eurasian security community.

The central question of the contemporary debate concerns the role of Russia in the European security order. This debate continues in different formats on different platforms.

¹⁵⁴ See, inter alia: *The debate on the Future of European Security and the Role of the OSCE. Food for Thought Paper by the Greek Chairmanship*, OSCE, CIO.GAL/48/09, 8 Apr. 2009.

For western countries, the major, although not the single platform for this debate is the Organization for Security and Cooperation in Europe (OSCE). Three informal OSCE ministerial meetings were held between 2008 and 2010: in Helsinki in December 2008, on the Greek island of Corfu in the summer of 2009, and in Almaty in the summer of 2010. In 2010, a meeting of heads of state or government of the OSCE participating states was held in Astana eleven years after the previous OSCE summit.

The OSCE based discussions have gone through several phases: the Corfu process (2010), the discussion of the ways to build a Euro-Atlantic and Eurasian security community from Vancouver to Vladivostok ('V+V', 2011), and approaching the 40th anniversary of the Helsinki Final Act ("Helsinki + 40", 2012—2013). The Helsinki + 40 process continues. Later in 2013, it was structures and is supposed to pursue in the coming two years.

From the Russian perspective, the debate on the future of European security is pursued in a wider framework. It is not reduced to the OSCE based dialogue but is pursued along multiple avenues, including consideration of the ESP proposal; NATO—Russia dialogue which embraces several relevant issues and, not least, is supposed to explore possibilities for missile defence cooperation; discussion of an eventual institutionalization of EU—Russia external security cooperation; prospects for establishing relations between the Customs Union and the European Union, the Collective Security Treaty Organization (CSTO) and NATO; reinvigoration of conventional arms control in Europe.

In this context, efforts aimed at consolidating bilateral and multilateral cooperation among post-Soviet states, deepening and eventually widening the Customs Union and the Single Economic Space now including Russia, Belarus and Kazakhstan, represent an important part of the Russian European security policy.

The dialogue and its agenda is rather specific in each particular format. However, in all cases it is related to the principal question of Russia's role in the forthcoming European security order.

Basic policy options

Searching for solutions to ensure Russia's appropriate participation in the contemporary European security order against the background of profound changes in the political landscape of the continent over the past twenty years is at the heart of the ongoing debate.

Largely due to its own choice, Russia has remained at the periphery of the not yet fully exhausted process of the *extension of the Euro-Atlantic community of states*. 35 of 51 European and North American OSCE states (altogether, there are 57 OSCE participating states) are now members of either EU, NATO, or both. As integration of South Eastern Europe (former Yugoslavia and Albania) into Euro-Atlantic institutions progresses, it is post-Soviet states that remain at the periphery of this process.

Attempts to mitigate consequences of this development by establishing *mechanisms for direct dialogue and cooperation between Russia, on the one hand, and EU and NATO, on the other*, have largely failed to date. Moscow's relations with both organizations are in deep crisis. At the same time, *multilateral institutions of cooperation among post-Soviet states, and particularly the Commonwealth of Independent States (CIS) remain amorphous*. Attempts to reverse this trend by erecting the Customs Union and a Eurasian Economic Union of Belarus, Kazakhstan and Russia so far have resulted in reducing the geography of post-Soviet economic integration to three countries. At the same time, the Customs Union itself has yet to prove its viability.

Meanwhile, *mechanisms of direct cooperation between the EU and NATO with post-Soviet states have taken shape*. More recently, this cooperation got increasingly differentiated as regards its forms and intensity. The NATO-membership option for a few post-Soviet states is shelved since 2009. However, as revealed by dramatic developments that accompanied the November 2013 debate over signing the association agreement and related accords between EU and Ukraine, initialing similar agreements with Georgia and Moldova that resulted in a political crisis in Ukraine and a Russian interference, the issue of a rapprochement between post-Soviet states with Euro-Atlantic institutions is not off the agenda of relations between Russia and the West. On the contrary, it gains in urgency and has moved to the core of the controversy

between Russia and the Euro-Atlantic community. The EU European Neighbourhood Policy that was transformed into the Eastern Partnership program in 2009, and the divergence of Russian and EU policies toward their common neighbours have moved from the periphery to the core of the EU-Russia relations.

Developments above that reveal the direction of the evolution of multilateral cooperation in Europe don't find the appreciation among Russian political elites. Particularly since, as a result of those developments, Russia finds itself on the periphery of the Euro-Atlantic world. To address this problem, three options can be considered in order to complement the existing European security order in a way allowing for an appropriate participation of Russia.

1. Russia does not question profound changes that have occurred in Europe over the past two decades, including the extension of the Euro-Atlantic community. Instead, Moscow seeks to *ratify the status quo* resulting from those changes by preventing any further eastward extension of whatever Euro-Atlantic institutions in whatever form and seeking an explicit or tacit recognition of the post-Soviet space as an area of Russia's "privileged interests". This option can also be called a "*new Yalta*" to pick up the analogy with the early 1945 agreement of the leaders of the anti-Hitler coalition that recognized the inclusion of East European countries, with a few caveats, into the Soviet sphere of influence.

While a status quo ratification could imply many different arrangements, the most important of them shaping a "bipolar" European security order would be a mutual recognition and the establishment of formal relations between two evolving security communities within the OSCE area – the Euro-Atlantic and the Eurasian. Those would be representative of the two major pillars of the forthcoming European security order. Respective arrangements could imply in particular:

a) delineating geographic areas of responsibility between NATO and CSTO, EU and the Customs Union (to be transformed into a Eurasian Economic Union), for example, by signing of formal cooperation agreements between them;

б) fixing the neutral (non-aligned) status of post-Soviet states not members of the CSTO, such as Ukraine or Moldova;

b) the ratification of the status quo could be complemented by increasing triangular cooperation between Russia, US and EU on a wide range of issues of international security, exempting from this cooperation, however, issues that may arise within the Eurasian or the Euro-Atlantic community.

Should this option materialize, it would imply developing of a “bipolar” European security order based on cooperation between two communities of states consolidated within Euro-Atlantic and Eurasian multilateral institutions. The Russian leadership proceeds on the basis that a “bipolar” European security order does not inevitably imply confrontation between the two groups of states. It suggests that relations between them shall evolve towards the formation of a “harmonious economic community between Lisbon and Vladivostok”, a free trade area and even “enhanced” integration.¹⁵⁵

Although the option of establishing a “bipolar” European security order, or a “new Yalta”, is not entirely excluded in the West, it is not seen as a desirable or optimal solution.¹⁵⁶ Preference is given to another option of developing multilateral cooperation in Europe.

2. Despite substantial differences in the outcome of post-communist transformation of East European and East Central European countries, now members of NATO and the EU, many in the West don’t consider the policy of a mutually acceptable *integration of Russia and of post-Soviet states – particularly of those of Eastern Europe and South Caucasus – into the Euro-Atlantic community* as exhausted.

Integration can’t be simply reduced to identifying an optimal solution for Russia not necessarily to accede but at least to become a real strategic partner and enter a sort of association with the EU and NATO. It would require a deep convergence of the domestic political and economic order of Russia with those of the West on the basis of common values and institutions enshrined, not least, in the 1990 Charter of Paris for a new Europe and reconfirmed by the

¹⁵⁵ Putin, V., A new integration project for Eurasia — the future that is born today, *Izvestiya*, 3 Oct. 2011.

¹⁵⁶ See, inter alia: Mankoff, J., ‘The Future of Russia: From Europe to Eurasia?’ In: Bertelsmann Stiftung (ed), From *Cooperation to Partnership: Moving Beyond the Russia—EU Deadlock* (Gütersloh: Verlag Bertelsmann Stiftung, 2013), pp. 113-125.

OSCE summit meeting in Astana in December 2010. Should such a convergence materialize, the issue of a further “eastward extension of the West” would lose its sensitivity since, as a result of convergence, Russia itself would become part of the West.

Integration of Russia presupposes the interest of Moscow, and the preparedness of the West to include the Russian Federation not only into the economic, but also into the common security order. Russian political elites, however, are not prepared to accept this option while being committed to maintaining a symbolic, although illusory “self-sufficiency” and rejecting the idea of a convergence with the West.

The majority of political elites in the West are not prepared to embrace any sort of membership of Russia into the Euro-Atlantic community either, although the debate on the future of European security has reinvigorated that discussion. As part of this debate, many European political figures, including former German foreign minister Joschka Fisher,¹⁵⁷ former German Defence minister Volker Rühle, Polish foreign minister Sikorski and others endorse the eventual Russian membership in NATO. The debate on the future of European security through the lens of developing of a security community implies exactly the option of an eventual integration of Russia into the Euro-Atlantic community.¹⁵⁸ Indeed, the idea to elaborate on the concept of a security community in the 2010 Astana commemorative declaration was pursued by the delegation of France.

Although integration of Russia into the Euro-Atlantic security community is not entirely off the agenda today, it is not pursued for a simple reason that such integration neither is desired by contemporary Russia, nor are many policy makers in the West prepared to embrace it. Whenever considered, integration is only seen as a remote option.

3. An agreement between Russia and the West on the basis of either the former or the latter option above is contemporary highly unlikely. At the same time, they both can live with the

¹⁵⁷ Fischer, J., ‘Russland in die Nato. Europa und Amerika müssen endlich eine Antwort auf die Herausforderung durch Moskau finden’, *Süddeutsche Zeitung*, 12 Jan. 2009.

¹⁵⁸ Trenin, D., *Ultimate peace: The 21st century Euro-Atlantic as a security community* (Moscow: ROSSPEN, 2013).

second best option for each – *maintaining modus vivendi*, i.e. maintaining the current state of affairs, which no one is happy with but, at the same time, no one can overcome.

Maintaining *modus vivendi* implies that, in the time to come, neither the geographic limits of the Euro-Atlantic security community, nor the final mode of Russia's relationship with this community are defined. All options for further evolution of the European security order are kept open. None of them is reduced. The pursuit of any of them is postponed while being not feasible these days.

In this respect, the West would not push either the integration of post-Soviet states into NATO, or their association with the European Union. At the same time, it would neither explicitly, nor implicitly recognize any special rights of Russia in the post-Soviet space. The West would pursue a Russia-policy similar to the one it has pursued over the past decade – a policy of pragmatic cooperation wherever it is possible based on the expectation that, at some point in time, Russia would embark on a comprehensive modernization path and readmit political pluralism, political and economic competition. In the anticipation of this development, the West would pursue vis-à-vis Moscow a policy of active engagement into political dialogue and joint action in order to promote its gradual, albeit slow socialization within the Euro-Atlantic community of states.

However, the implementation of the EU' Eastern Partnership as well as the accelerated erection of the Customs Union and the Single Economic Space implying their prospective transformation into a wider Eurasian Economic Union represent a challenge to the fragile balance of the *modus vivendi* maintenance. Developments before and in the aftermath of the November 2013 Vilnius Eastern Partnership summit, at which the endorsement of an Association agreement between Ukraine and the EU was anticipated, have marked another, although not the last culmination in the competition of two integration projects. Further pursuit of either integration project would, willingly or unwillingly, lead to a partial *revision of the status quo* by unilateral action. The European Union, Russia and Ukraine now pay a high price, directly and indirectly, for engaging in this competition.

Major avenues for the pursuit of the debate on the future of European security

Policy options for further development of the European security order are not subject of direct exchange. The ‘debate on the future of European security’ concentrates on more specific issues. Nevertheless, eventual impact of particular decisions under consideration is assessed by participants against this broader political background. Lack of consensus between Russia and the West concerning the direction relations between them should take – whether they should fit into the logic of further extension of the Euro-Atlantic community or whether they should be based on the assumption of a bipolar European security architecture – are not a single but one among the most important reasons why, *in the past six to seven years, no substantial progress has been achieved in the consideration of any single issue that has been advanced by the Russian Federation* or, reciprocally, by western countries.

Lack of progress in the “debate on the future of European security” fits well into the option of maintaining *modus vivendi* in Russo—western relations: each of them must live with the current state of affairs while nurturing the hope to be able to transcend it on their terms in the future. However, the maintenance of *modus vivendi* is regularly challenged and is accompanied by the escalation of rhetoric in Russo—western relations.

Reinvigoration of conventional Arms Control in Europe.

In 2007, Russia suspended the implementation of its obligations under the 1990 Treaty on Conventional Armed Forces in Europe (CFE). The declared purpose of the suspension was to motivate NATO member states to ratify the 1999 Agreement of Adaptation of the CFE Treaty (ACFE) and to consent to the consideration of Russian proposals to further revise the provisions of that agreement.

Even if this was the real motive behind the suspension, the effect of the Russian move is opposite to it – a practically entire degradation of the conventional arms control regime in Europe. Two series of consultations, in 2008 and in 2010—2011, that attempted to save the CFE regime and to agree on its further

modernization, failed.¹⁵⁹ In the course of those consultations, the demand to ratify the ACFE was withdrawn. A mandate for negotiations on a new agreement to replace it was never agreed. As a result, later in 2011, NATO member states suspended the implementation of most of their obligations vis-à-vis Russia under the CFE Treaty.

Attempts at returning to conventional arms control (CAC) in Europe have not been abandoned. Relevant discussions keep going on.¹⁶⁰ However, there is no visible progress in identifying new approaches to CAC. The year 2013 has passed in anticipation of the emerging consensus on the issue within NATO. This process turned out to take longer than initially expected. The formulation of new Alliance's proposals, anticipated at the end of 2013, did not materialize due to persisting differences among its member states.

At the same time, deliberations of the past two years reveal a trend, which hardly facilitates the outcome Russia was looking for when withdrawing from the CFE in 2007. There is a broad consensus now that the 1990 CFE Treaty has achieved its main goal – that of eliminating the capability for launching surprise attack and for initiating large-scale offensive action in Europe. The goals of the CFE Treaty are attained. Most of states parties have even gone further by reducing their holdings of Treaty limited equipment far below the limits established not only by the CFE, but also by the 1999 ACFE. The probability of a large scale armed conflict in Europe is now considered close to zero.

Deliberations on the reinvigoration of CAC in Europe now include the consideration of new objectives a new eventual treaty should serve. The need to address sub-regional imbalances of conventional armed forces, i.e. that of a conventional superiority of

¹⁵⁹ See inter alia: Zagorski, A., *Conventional arms Control in Europe: Is there a way out of the stalemate?* (Moscow: IMEMO RAN, 2013), pp. 164–173.

¹⁶⁰ See, inter alia: Badrak, V., 'Future CFE treaty – a Ukrainian view', 12 Nov. 2013, <http://www.europeanleadershipnetwork.org/future-cfe-treaty--a-ukrainian-view_912.html?utm_source=ELN+Newsletter&utm_campaign=38f8328614-Conventional+Arms+Control+in+Europe&utm_medium=email&utm_term=0_8e6b30e571-38f8328614-100244237>; Lunn, S., *Conventional Arms Control in the Euro-Atlantic Region: Is it Desirable? Is it Achievable? Policy Brief*, Oct. 2013. <<http://www.europeanleadershipnetwork.org/medialibrary/2013/10/11/1107a683/Simon%20Lunn%20Conventional%20Arms%20Control%20October%202013.pdf>>.

Russia, in particular, in the Baltics, and, as a result, to consider measures that would prevent hidden concentration of conventional armed forces in specific regions has become particularly prominent in the current debate.

Russian experts challenge the thesis of the existence of such sub-regional imbalances.¹⁶¹ But the ongoing discussions within NATO clearly support the conclusion that any agreement between Russia and Alliance's members concerning CAC, if ever reached, will have to address the issue.

More recently, CAC discussions are increasingly conducted in conjunction with the last years' debate over tactical nuclear weapons in Europe, although the two issues are not formally linked to each other.

These trends make the prospects for overcoming the CAC stalemate today much more uncertain than seven years ago when the Russian Federation *de facto* withdrew from the CFE.

Corfu process and Helsinki + 40.

After the 2009 informal ministerial meeting on the island of Corfu, in 2010, the OSCE based debate on the future of European security was structured in form of a "Corfu process". The agenda of the latter was supposed to include issues put forward by Russia and by other participating states. During the OSCE chairmanship by Kazakhstan, discussions within the Corfu process became specific and structured within ten thematic groups (see table 1).

Informal discussion of proposals submitted within the groups was supposed to help the formation of a consensus on a wide range of issues on the OSCE agenda. Coordinators appointed by the Chairmanship – an old working method of the OSCE – were expected to facilitate this process. The group on general questions of Euro-Atlantic security was set up particularly in order to enable the discussion of the Russian proposal of a European Security Treaty. However, the EST draft never was introduced for a discussion within the OSCE. This group turned out to be the

¹⁶¹ See Shulga, O., 'The Conventional Imbalance and Debate on Russian Non-Strategic Nuclear Weapons', <http://www.europeanleadershipnetwork.org/the-conventional-imbalance-and-debate-on-russian-non-strategic-nuclear-weapons_462.html?utm_source=ELN+Newsletter&utm_campaign=38f8328614-Conventional+Arms+Control+in+Europe&utm_medium=email&utm_term=0_8e6b30e571-38f8328614-100244237>, 6 Feb. 2013.

“emptiest” as far as the number of submitted proposals is concerned.

Altogether, several dozens of proposals were submitted and discussed within the framework of the Corfu process.¹⁶² However, no visible progress in consensus building was achieved on any of them. This did not remain without effect on the outcome of the OSCE meeting of heads of state or government hosted in Astana later in 2010. At the same time, the Corfu process revealed a number of important trends underlying the current state of affairs within the OSCE.¹⁶³

First of all, it revealed a deep division within the Organization as regards the prospects and the main directions of its further development. The OSCE is split onto an absolute majority of participating states around the US and the EU, and a Russia-led minority. CSTO member states submitted, individually or collectively, a total of 22 proposals within the framework of the Corfu process. None of their proposals was supported by any other OSCE participating state (the single exception was Serbia which co-sponsored one of those proposals). At the same time, none of the CSTO member states co-sponsored any proposal submitted by other participating states – either by EU member states, the US, or others. Such a split within the Organization was not observed at any time since the end of the cold war.

Secondly, in substantial terms, the Corfu process revealed a principled gap between Russia’s and western approaches as regards methods of increasing the effectiveness of the OSCE in preventing eventual (re)escalation of conflicts within the OSCE region. Major debates within the Corfu process involved widely endorsed US proposal aiming at expanding the freedom of the acting Chairman of the OSCE to take mandatory temporary de-escalation measures without waiting until a consensus of all participating states has matured.¹⁶⁴

¹⁶² See: *Interim Report Summarizing Proposals Put Forward Within the Corfu Process*, CIO.GAL/117/10, 2 July 2010.

¹⁶³ Zagorski, A., ‘The European Security Dialogue’, In: *The European security dialogue in preparation of the OSCE Summit*, edited by Dr. Daniel Warner with Nicolas Perrin (Geneva: The Graduate Institute, 2010), pp. 8–26.

¹⁶⁴ *Food-for-thought on conflict prevention and crisis management in the OSCE area*, PC.DEL/93/10, 19 Feb. 2010.

The US also proposed to upgrade some of the existing OSCE crises regulation mechanisms by incorporating some elements of the Russian EST proposal. In particular, it proposed to update the 1991 “Berlin mechanism” of the OSCE by granting the acting Chairman the authority to convey extraordinary OSCE conferences to discuss specific conflict situations, and to allow such conferences to take decisions without the consent of parties to the conflict under consideration.

These proposals were rejected by Russia and other CSTO member states who, in their proposals, asserted there was no need to introduce additional instruments for OSCE crises regulation. They also stressed the need to strictly observe the consensus rule while taking any OSCE decisions, and in particular the need to obtain prior consent of all parties to a conflict before any measures are decided upon.¹⁶⁵

The discussion of issues raised during the Corfu process continues. Modest expectations of taking it to another level are associated with the 2014 Swiss Chairmanship of the OSCE, as well as with preparations for the 40th Anniversary of the Helsinki Final Act in 2015. However, the debate within the Helsinki + 40 process initiated by the Irish OSCE Chairmanship in 2012 is very much reminiscent of the debates within the Corfu process in terms of both, substance and organization.

As agreed between Ukraine, who chaired the OSCE in 2013, and Switzerland, eight thematic groups were formed. Their agenda is almost identical with that of thematic groups of the Corfu process (see table 1).

There is little to no difference in the method of the Helsinki + 40 process as compared with the Corfu process. Coordinators are appointed in all thematic groups and are supposed to facilitate consensus on issues under consideration. However, the division that has manifested itself in 2010 is still there. It is largely implied by the fundamental differences in the way Russia and western states see the future of European security. It is hard to anticipate whether Switzerland – the most capable Chairmanship in the last five years

¹⁶⁵ *Proposal for a draft decision on conflict prevention and crisis management in the OSCE area*, FSC-PC.DEL/1/10/Corr.1, 19 Jan. 2010; *Crisis management in the OSCE area, Food-for-Thought Paper in the framework of the Corfu Process*, PC.DEL/413/10/Corr.1, 19 May 2010.

– will live up to the expectation to help to narrow this divide, a task its predecessors turned out unable to manage.¹⁶⁶

Table 1.

Thematic focus of working groups within the Corfu process and Helsinki + 40

Corfu process (2010)	Helsinki + 40 (2014)
Implementation of all OSCE norms, principles and commitments	
The role of the OSCE in early warning, conflict prevention and resolution, crisis management and post-conflict rehabilitation	Further strengthening OSCE capacities across the conflict cycle
	Striving for tangible progress towards the settlement of protracted conflicts
Arms control and confidence and security building regimes	Conventional arms control and confidence and security building regimes
Transnational and multidimensional threats and challenges	Further enhancing OSCE capacities in addressing transnational threats
Economic and environmental challenges	Enhancing the strategic orientation of the economic and environmental dimension
Human rights and fundamental freedoms, democracy and the rule of law	Strengthening the human dimension
Enhancing the OSCE's effectiveness	Enhancing the effectiveness and efficiency of the OSCE
Interaction with other organizations and institutions	Interaction with the Partners for Co-operation and with international and regional organizations
The cross-dimensional approach	

¹⁶⁶ In 2014, in the course of the Ukrainian crisis, deliberations within the Helsinki + 4- process were put on ice.

to security	
General questions of Euro-Atlantic security	

Sources: Interim Report Summarizing Proposals Put Forward Within the Corfu Process, CIO.GAL/117/10, 2 July 2010; Helsinki +40 Process. URL: <http://www.osce.org/cio/110111>, posted 27 December 2013. Last accessed 28 December 2013.

Russia – NATO.

The 2009 decision to shelve, although not entirely to drop the option of further eastward extension of NATO, as well as repeated adjustments, last time in 2013, of the US plans to deploy ballistic missile defense systems in Europe were appreciated in Russia.

The November 2010 Lisbon summit meeting of the NATO–Russia Council triggered expectations of a “reset” in relations between Russia and the Alliance while setting the goal of achieving a true strategic partnership. Developing cooperation on ballistic missile defenses and on Afghanistan was at the heart of these expectations. Successful cooperation in those areas was supposed to dramatically transform Russia-NATO cooperation.

Three years later the Lisbon enthusiasm evaporated entirely. The two sides have not moved an inch in agreeing on missile defense cooperation. Today, they are further away from an agreement on the issue than in 2010. And, after NATO combat forces are withdrawn by the end of 2014, NATO-Russia cooperation on Afghanistan which was valued on both sides even in the periods of tense relations, as for instance in 2008 after the war in Georgia, will be on decline, not on surge.

Russia–European Union.

The 2010 German proposal to explore the establishment of an EU-Russia Political and Security Committee on ministerial level was appreciated, too. Establishing such a committee would be regarded as a major step toward institutionalizing cooperation between Moscow and Brussels on external security issues and thus add another important element to the European security architecture. Though today this issue is formally not off the agenda, it is no longer pursuit.

One reason for this is the lack of consensus within the EU. The implementation of the German proposal was linked by the EU

(and by Germany) to EU-Russia cooperation in particular towards a resolution of the Transnistria conflict. Despite some formal progress, such as the resumption of official talks on the conflict resolution within the 5 + 2 format, the current status of the conflict resolution process does not justify expectations of a breakthrough any time soon.¹⁶⁷ Taking the more recent decline in relations between the EU and Russia triggered by the mounting political crisis in Ukraine and the Russian interference in this situation, the implementation of the German proposal any time soon appears highly improbable. Any institutionalization of EU-Russia external security cooperation, if at all, has become a very remote goal.

Consolidation of post-Soviet space.

Apparently, there is no other area, in which dilemmas of the contemporary debate on the future of European security would manifest themselves as sharply as in the competition of two integration projects – that of the Eastern Partnership of the EU and that of the erection of a Eurasian Economic Union. This competition has dramatically escalated since 2009.

Consolidation of the post-Soviet space around Russia fits directly into the prospect of the formation of a bi-polar European security architecture. Success or failure of a Eurasian Economic Union and security community determines, whether a Eurasian pillar of that architecture is erected. Russian leaders repeatedly, directly or indirectly, addressed the issue of cooperation with post-Soviet states against the background and in the context of the debate on the future of European security.¹⁶⁸

The competition of the two integration projects culminated since the autumn of 2013 further into 2014.

The importance of the issue was elevated as the signing of the EU-Ukraine Association and a Deep and Comprehensive Free Trade Area agreements anticipated at the Eastern Partnership summit meeting in Vilnius in November 2013 would make the accession of Ukraine to the Eurasian Economic Union effectively impossible. It would thus provide a set back to the formation of a

¹⁶⁷ See, inter alia: Remler, Ph., ‘Negotiation Gone Bad: Russia, Germany, and Crossed Communications’, <<http://carnegieeurope.eu/2013/08/20/negotiation-gone-bad-russia-germany-and-crossed-communications/gjd2#>>, 21 Aug. 2013.

¹⁶⁸ See inter alia: *Joint press conference with the President of Ukraine Viktor Yanukovich*, 21 Apr. 2010, Ukraine, Kharkov, <<http://www.kremlin.ru/transcripts/7518>>.

Eurasian community as one of the pillars of the future European security architecture. In Vilnius, three other Eastern Partnership countries – Armenia, Georgia and Moldova were expected to initial similar agreements.

In Russia, this development was perceived from the very beginning as a step leading toward a revision of the status quo in Eastern Europe as it got shaped after the end of the cold war. Moscow undertook bold steps to prevent the signing of the relevant documents in Vilnius. Long before the summit, Russia launched a campaign highlighting what Ukraine, Armenia and Moldova could benefit from membership in the Customs Union – the future Eurasian Union. This campaign was reinforced by a substantial tightening of the customs clearance procedures at the border with Ukraine, and by introducing of new non-tariff limitations in trade with Moldova.

In September 2013, Moscow succeeded to persuade Erivan to declare that it would seek membership in the Customs Union instead of entering an association with the European Union. As a result, Armenia declined from initialing in Vilnius of the already negotiated set of agreements with the EU. Instead, in December 2013, an action plan (or a road map) for Armenia's accession to the Customs Union was endorsed.

Georgia and Moldova went on to initial agreements with the EU in Vilnius.

Further developments in Ukraine are well known. Several days ahead of the Summit Kiev suspended the signing of the association agreements with the EU without ruling out the possibility to endorse them later. At the same time, Ukraine did not embrace the alternative option to the Eastern Partnership – entering the Customs Union with Russia. The package of Russo-Ukrainian agreements signed in Moscow on 17 December 2013 thus represented a compromise. However, Kiev's decision triggered a deep political crisis in Ukraine, a crisis in its relations with the EU and Russia, and a crisis in relations between Russia and the EU yet pending a final outcome.

Although Moscow celebrated the defeat of the EU after the Vilnius summit, its overall outcome, if measured against the background of dilemmas implicit in the debate on the future of European security discussed above, was rather reminiscent of a draw. Ukraine neither signed up for an association with the EU, nor

did it opt for the accession to the Eurasian Economic Union. But the restoration of the *modus vivendi*, achieved at a high price, turned out to be short-living and degenerated into a domestic political crisis in Ukraine and confrontation with Russia.

Moldova and Armenia opted for different decisions prior to the Vilnius summit. Both have yet to stand up to those decisions. The accession of Armenia to the Customs Union, and the signing of the initialed agreements on the association with the EU have yet to be accomplished.

Interim balance sheet of the debate on the future of European security

The analogy of a trench warfare apparently fits best to describe the interim results of the last seven years of the debate on the future of European security. Those involved in this debate still are far away from a common vision of the direction, in which the European security architecture shall evolve. Taking into account the crisis which evolved over the 2013 Eastern Partnership Vilnius summit, now they are even further away from a common understanding than they have been in 2007 or 2009.

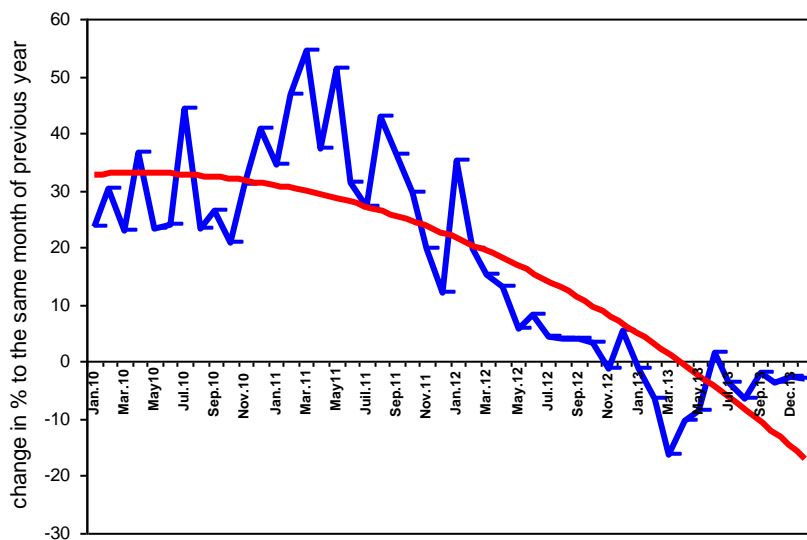
In the years since the Munich speech delivered by president Putin or since putting forward the Russian proposal for a European Security Treaty, the Russian Federation has failed to achieve any substantial progress practically on any path that was supposed to lead toward a ratification of the *status quo* in the post-Soviet space. At the best, some tactical successes of Russia can be recorded which, however, don't change the general state of affairs.

It seems to be a widely shared understanding that the pursuit of the erection of the Eurasian pillar of the eventual future European security architecture and the near prospect of its transformation into a Eurasian Economic Union as well as of its geographic extension to Armenia and, prospectively, to Kirgizstan stand for a success of Russian policy. However, the effectiveness and the success of this project have yet to be demonstrated, particularly against the background of the slow down of mutual trade among its members over the last years (see figure 1).

The interim balance sheet of the contemporary debate on the future of European security is therefore rather modest. Neither

Russia, nor the West appear to be capable to alter the status quo. They are neither ready to agree on any option of complementing the existing European security architecture – by building it either upon Euro-Atlantic security institutions, or on the basis of two pillars which would imply the need to institutionalize relations between the Euro-Atlantic and a Eurasian communities.

Figure 1.
Monthly change of intra-Customs Union trade in 2010-2013



Source: Eurasian Economic Commission statistical data, http://www.eurasiancommission.org/ru/act/integr_i_makroec/dep_stat/test-trade/Pages/default.aspx.

7. NEW ASPECTS OF RUSSIA'S POLITICAL AND MILITARY COOPERATION WITH THE CIS COUNTRIES

Vadim VLADIMIROV

Russia has recently managed to achieve effective military-political cooperation (MPC) with the CIS countries, as a result of active and not just declarative implementation of the National Security Strategy of the Russian Federation to 2020, the Military Doctrine of the Russian Federation and the Concept of the Foreign Policy of the Russian Federation. The cooperation is carried out in the form of Russia's military presence in several countries of the Commonwealth, and deployment of Russian troops within the framework of the Collective Security Treaty Organization (CSTO).

Since 2010, in the Commonwealth Russia has faced a number of new serious challenges of military-political nature. They require reviewing many ways and means of cooperation, given the fact that MPC differs in regions of the CIS (the western region, South Caucasus and Central Asia) depending on the geopolitical factors and dynamics of economic and political development.

The western region

The last three years have seen a significant increase in tensions along the west border of the Commonwealth. One of the factors is proximity of NATO which continues its enlargement policy and seeks to consolidate its influence in the CIS countries. Countries historically close to Russia with economic, political and military ties to Moscow – Belarus, Ukraine and Moldova – are situated in this region.

Belarus

The military and political course of Belarus towards Russia defines stable Among the CIS countries, members of the Western Region and despite some differences in the positions of the two countries are not currently a cause for serious concern. Military and political relations between Russia and Belarus can be described as a strategic alliance at the present stage, which means unconditional willingness of the two countries to implement a full-fledged military cooperation within the Union State and establishment of a common defense space.

Cooperation between Moscow and Minsk continues to build on the particular model. It retrieves a small country a significant benefit from the strategic partnership, successfully exchanging their commitment alliance with Russia on specific economic and political benefits.¹⁶⁹

Ukraine

Ukraine has always been a major partner of Russia in the western part of the former Soviet Union, but in recent years it that the contacts between the two countries in the economic and political sphere seriously weakened.

In 2011-2013, Ukraine continued to reduce its participation in the CIS unified defense, giving up joint action with Russia in this area in favor of a policy of rapprochement with NATO. Which it considers the most effective structure of European security. Embodiment of such a course, in practice, particularly manifested in the adoption in May 2012 of a new military - political doctrine of Ukraine, involving a radical reform of the national security sector. The doctrine proclaimed a policy of 'active neutrality', which involves the creation of a circular defense of the country in any direction (including Russia).¹⁷⁰ The doctrine reduces the extent of military cooperation with the Russian Federation, which mainly are intended to be carried out only with an emphasis on limited joint action in the border areas despite Russia is described as a 'strategic partner'.

¹⁶⁹ Tsiganok, A.D., *Strategic military cooperation between Russia and Belarus*, Strategy Culture Fund, 4 Feb. 2012.

¹⁷⁰ On the decision of the Council of National Security and Defense of Ukraine from 8 June 2012. 'A new edition of the military-political doctrine of Ukraine', <<http://www.odnarodyna.com.ua/node/9040>>.

During the presidency of Viktor Yanukovich Ukraine carried out a policy of rapprochement with the West. 2013 was marked by the preparation Association Agreement with the EU. According to some military experts on the draft agreement, Ukraine would undertake to strengthen their involvement in EU-led civilian and military operations, crisis management, as well as in the exercise carried out in the framework of a common policy on defense and security. Ukraine also was aimed in this agreement at closer technological cooperation with the European Defence Agency.¹⁷¹ Ukraine anyway already performs, many of the listed actions and the association with the EU, obviously, would give them only a certain legal justification.

For example, in Ukraine in the framework of cooperation with European countries conducted research in the framework of the US National Missile Defense (NMD) on opportunities to counter missile 'Topol -M'. That Western companies are willing to cooperate with the defense enterprises of Ukraine demonstrated the preparation of a project to build warships class 'Corvette' for the Ukrainian Navy (six EU countries indicated willingness to place their license production on the territory of Ukraine).¹⁷²

According to some reports, started to be realized a number of joint Ukrainian-Polish projects in development and production of high-precision weapons systems and protection against high-precision weapons. In addition, Poland has purchased a license for the production of the Ukrainian light armored vehicle 'Dozor'.

First Western states procurement projects Ukrainian military products. In particular, Belgium bought a batch of precision weapons.¹⁷³

Undoubtedly Ukraine counted on to benefit from the rapid activation of strategic cooperation with the West, however, as many experts believe that it could be only benefits a limited nature, given the specific features of the Ukrainian military- industrial complex

¹⁷¹ 'Conclusion about the consequences of signing the draft agreement on association between Ukraine and the EU economic and trade relations with Russia and other member countries of the Customs Union', *Kiyevskiy vestnik*, 14 Sep. 2013. <http://kyiv-vestnik.com.ua/public_s6394.html>.

¹⁷² 'Russia fears Ukrainian defense cooperation ventures with Western companies', 21 Dec. 2013, <http://zn.ua/UKRAINE/rf-opasaetsya-sblizheniya-ukrainskih-oboronnyh-predpriyatiy-s-zapadnymi-kompaniyami-135586_.html>.

¹⁷³ Ibid.

(MIC). The fact that the production capacities of the Ukrainian military-industrial enterprises generally unprofitable in relation to its domestic market and the European market for their products, with the exception of high-precision weapons is non-competitive. Therefore, excessive focus on the West may increase the risk of further reducing the productive capacity of Ukrainian machine-building complex. In addition, Ukraine in case of association with the EU will be forced to open their MIC for proposals from Europe that would deprive its considerable number of orders.

With regard to military and political ties with Russia, it should be noted that in recent years they have become less responsive to the needs of the two countries, their industrial and technological potential and opportunities for cooperation. Russia has been increasingly forced to operate on the principle of self-sufficiency, creating a closed-cycle production of military equipment.¹⁷⁴ This required additional cost, and often without the cooperation of Ukrainian military-industrial enterprises, which is to be a very difficult task.

Particularly Russia has not yet managed to establish production of gas turbines for warships producing NKPG 'Zorya' - Mashproekt. Ukrainian enterprises GKB 'Uzhnoe' and PO 'Uzhmash' is undoubtedly of interest of Russia in terms of creating new heavy ICBM, GP 'Antonov' - modernization of the Russian dilapidated fleet of military transport association ZMKB 'Progress' is very important to snap some types of helicopters and military aircraft and special purpose. However, the crisis in Ukraine and around the joining of Crimea to Russia in March 2014 seriously complicates or makes it impossible bilateral cooperation, especially in the areas related to the national security of the Russian Federation.

Until recently it was a very acute problem and growing competition from a number of Ukrainian enterprises producing high-quality defense products. First of all we are talking about GKKB 'Luch' (precision ordnance) HKBM - Malyshev Plant (tanks and armored vehicles), Konotop factory 'Aviacon' (repair of

¹⁷⁴ Tsvetkov, V.A., 'The place and the role of Russia in the former Soviet Union', *Spatial Economics*, No. 1, 2011, p. 51.

helicopters), GP 'Ukroboron service' (repair of air defense systems, S-300 and SAM 'Buk') and many others.¹⁷⁵

Quite natural that Russia in the last few years continued to show interest in Ukrainian enterprises to privatization, joint production, formulation of certain technologies or production that Russian technology has not mastered. Experts believe that by providing assistance to Ukraine in the amount of \$ 15 billion (after the meeting between Yanukovich and Putin in December 2013), a number of these problems could be partially resolved if not occurred after that dramatic changes in the political situation in Ukraine. Course of the new Ukrainian government headed A.Yatsenyuk (in Russia the new Ukrainian authorities consider illegitimate), became even more pro-Western oriented, and Russia's relations with Ukraine seriously complicated, which obviously will affect all areas of their previously been developing bilateral cooperation.

Moldova

The events in Moldova for Russia and its accession to the EU are not strategically important and does not pose a direct threat to its national security. Nevertheless, political development in Chisinau, certainly had a certain influence on the interests of Moscow.

As is well-known, Moldova successfully uses all the economic benefits that Russia gives her as a member of the CIS, but its political course remains very specific. Despite repeated statements to change the government of Moldova on the desire to build a long-term 'strategic' partnership with Russia, this cooperation was not so easy. Moldova has consistently stressed that it adheres to its policy of strict neutrality, and referring to the course chosen by her, she refuses to discuss with the MPC issues within the CIS.

Proclaimed neutrality lately does not interfere with Moldova to seek ways aimed at active rapprochement with NATO, as well as Romania.¹⁷⁶ While that rapprochement with NATO Moldova prevents its policy on Transnistria. Chisinau has consistently refused offers Russia to solve the problem by creating the

¹⁷⁵ 'Russia fears cooperation'....

¹⁷⁶ 'Moldovian Romania or Romanian Moldova', *Kommersant plus* (Moldova), 29 July 2011, <www.inosmi.ru/moldova/20110802/17278458>.

Transnistrian settlement confederal state. On the other hand, which came to power recently liberal-democratic government of Moldova has hinted at the possibility of solving the Transnistrian conflict by force. However, this may lead to loss of the territory of the Republic of Moldova, as it happened with Georgia.

Chisinau acts parallel with the requirements of the withdrawal of Russian military forces from the territory of Moldova, who allegedly posed a threat to national security, and also requires changes to the format of the peacekeeping mission in the region.

According to Russia, Moldova signing an association agreement with the EU, i.e. modernization of Moldova in accordance with the policy of expanding the EU's influence in Central Europe, leads to a complication of the political situation in the region. Not to mention the possible deterioration of the economic situation of the country in case of a weakening economic ties with Russia (Russia has enough capacity in this regard), Moldova, and may also interfere with the political crisis. Continued attempts at rapprochement with NATO up to allegations of possible failure of the policy of neutrality, and the intention, according to the KGB PMR provide for NATO military bases,¹⁷⁷ according to experts, can cause discontent with Moscow and adversely affect the settlement of the conflict in Transnistria. Policy aims at closer integration with Romania, in turn, can lead to a 'smearing' of the sovereignty of the Republic of Moldova.

PMR recently been proposed to harmonize its legislation with that of the Russian Federation and expressed a desire to join the Customs Union (CU). In case of further deterioration of relations between Moldova and PMR Russia can force closer cooperation with Transnistria, until the recognition of its independence. All this, along with attempts to Gagauzia spend own policy, could lead eventually to the territorial disintegration of Moldova. Keeping in mind that the policies carried out by the current authorities of Moldova, is not supported by all the population. Such a course could be end with political zugzwang, that is, the loss of opportunities for making profitable decisions.

¹⁷⁷ Pushkov, A., 'Moldova conducts secret negotiations on NATO integration', 16 Jan. 2014, <http://blackseafleet-21.com/news/16-01-2014_pushkov-moldavija-vedet-tajnye-peregovory-ob-integratsii-v-nato>.

Situation in the South Caucasus

South Caucasus is on the view of vital importance for Russia's security. Due to its proximity to the Russian economic, it plays a significant role in its economy. At the same time it is a source of armed conflict fraught with escalating into regional wars, where Russian Federation could be involved. In these circumstances, Russia is doing everything possible to prevent destabilization in the South Caucasus, seeking for this all available means: economic, political and military.

Armenia

Armenia remains Russia's closest partner in the South Caucasus and its main strategic ally. The most important dimension in bilateral relations is the military-political sphere.

There is a Russian military base (RMB) in Armenia, which is a key element of a regional balance of power in the context of the unresolved Nagorno-Karabakh conflict and the continuing difficulties in the relations between Armenia-Azerbaijan-Turkey.

However, the situation is not so clear in the sense that bilateral cooperation with Russia will not allow Armenia to fully respond to all challenges and threats to its security. Due Karabakh conflict, Armenia is actually blockaded by Azerbaijan. Traffic through the territory of Armenia was previously hampered by the reluctance of Georgia to support an ally of Moscow, and after the war in 2008 the situation has only worsened. Rail links snapped, and virtually stopped supplying the RMB in Gyumri, which directly affects the security of Armenia. Yerevan attempts to secede from isolation in the region through enhanced cooperation with the US and the EU do not give the desired results. As recent events have shown, the West has not considered the fact that the Eastern Partnership without the participation of Russia leads to a situation when Armenia felt particularly threat to its security, which the West is not able to compensate.

In these conditions were very relevant Moscow's efforts to strengthen the MPC with Armenia. In this regard the most important factor was the ratification of an agreement of August 12, 2010 of extending the agreement on the presence of RMB in Gyumri until 2044, as well as the modernization and rearming of the RMB. Significantly it was also decided to modernize and rearm

of air defense systems and Border Guard Service of Armenia with the assistance of Russia.

Additional guarantee of security for Armenia was to provide an opportunity to buy Russian weapons for Yerevan with Russian domestic prices (directly from the Russian military-industrial complex), which gives an opportunity to reduce defense expenses. Taking into account that Azerbaijan's military budget is officially estimated at \$ 3.6 billion, and Armenia - \$ 700 million, new forms of military cooperation with Russia help Yerevan to balance the military budgets of the two countries.

Importantly strengthening of Russian-Armenian military-political cooperation against the backdrop of the overall revitalization of the Russian policy in the South Caucasus. Thus, during his visit to Azerbaijan in August 2013, Russian President Vladimir Putin, focusing on enhancing the role of Russia in the region, said about the need to seek a political solution to the Karabakh problem, unlock the Abkhaz railway, as well as Russia's intention to participate in the construction railway to Iran. These statements have certain diplomatic consequences and in particular led to a decrease in the risk that Azerbaijan will seek a military solution to the Karabakh problem. Increased attention to Turkey's policy decisions related to the opening of the border with Armenia. Moreover, they seem to have coincided with not yet articulated interest of Georgia to resume humanitarian cooperation with Abkhazia and South Ossetia.

The meeting of the presidents of Azerbaijan and Armenia in Vienna on 19 November 2013, where issues of bilateral relations were again discussed for the first time after the failure of similar talks in Kazan in 2011, as well as the problem of Nagorno-Karabakh. Perhaps this meeting would not had attracted so much attention if it was not preceded of a declaration of Armenian President S. Sargsyan about Armenia's entry in September 2013 in the Customs Union (CU).

All of the above come to the conclusion that enhanced action Russia in the South Caucasus in recent years allowed her to promote the retention of Armenian associations in the EU, but also resulted in some easing of tension in the region.

However, further development of the MPC Russia with Armenia Moscow solutions requires a number of serious problems. Thus to ensure real, not declarative military support to Armenia by

the countries - members of the Collective Security Treaty Organization, to overcome the negative attitude of some CSTO countries to join the Armenian to CU, solution to Nagorny Karabakh, as well as easing fears of Armenia that the Russian arms supplies to Azerbaijan is supposed to be her real threat.

Azerbaijan

The cooperation in new condition with Azerbaijan is undoubtedly important for political, economic and military-technical areas, along with the general course of balancing policy on Baku and Yerevan.

The leading role of the process is played with the need to determine the complex issues related to the Caspian Sea (its status, the prospects of building oil and gas pipelines, preventing the invasion of the outside naval forces to the Caspian Sea) as well as most importantly the decision of the Karabakh problem.

After the meeting of the presidents of Azerbaijan and Armenia in Kazan in 2011 resolution of the Karabakh problem again deadlocked which significantly reduced the mediating role of Russia in this matter and its impact on Azerbaijan. However, experts note that recently the role of Azerbaijan in the South Caucasus began to change. In 2011 Western experts have recorded a sharp decline in oil and gas production in Azerbaijan (by 4 and 10 %). As a result gas exports fell by 27%.¹⁷⁸ This means that the economic power of the country began to decline, in turn reducing the chances of Baku on the Karabakh issue by force.

In addition, a possible Iran way out of external insulation could reduce the West's interests in the Caucasus and the Caspian Sea where it is concentrated only 4-5% of the world's energy sources. Thus, it becomes increasingly clear that the new conditions of Karabakh fate will be decided not only in bilateral relations between Baku and Yerevan, but also with an impact of economic and strategic interests of other countries.

Against this background, the role of Russia in the Karabakh issue may again increase substantially. Russia, as before, continues to emphasize its commitment to the policy of balance in the relations with Baku and Yerevan. In this matter the visit of Vladimir Putin in Baku in April 2013 was very important, when the

¹⁷⁸ 'Oil and gas production in Azerbaijan is rapidly falling', 12 Dec. 2011, <<http://neftegaz.ru/news/view/100998>>.

Russian president along with a call to solve peacefully the Karabakh problem said that Azerbaijan could be 'equitable geopolitical partner of Russia.'

These considerations cast doubt on the claims of some analysts that Russian supplies of weapons to Azerbaijan (which are estimated to the Defense Ministry for 2011-2012. amounted to about \$ 700 million) could be an incentive to strengthen and last intention to solve the Karabakh issue by force.

Russian officials have repeatedly stressed that the purpose of these arms shipments has exclusively economic benefits. At the same time, as noted by the CSTO Secretary General Nikolai Bordyuzha, arms sales to non-members of the CSTO also takes into account of considerations of parity conservation in the Caucasus, and this principle is taken into account on making decisions for arms sales to Azerbaijan.¹⁷⁹

On the other hand, the supply of Russian weapons to Azerbaijan is one of the levers of political influence on the situation in the South Caucasus. After all, if Russia fails to deliver weapons, it will make someone else, such as Turkey. And if you dare to Baku much more purchasing NATO weapons from Turkey, it will strengthen Turkey's influence on Azerbaijan and the weakening of Russia's position in the region. There is another positive aspect Russian arms supplies to Baku: Azerbaijan purchasing the weapon with high market prices makes Armenia receives preferential supply, i.e. Baku actually financed arms supplies to Armenia.

Georgia

Georgia after 2008 in a short time has managed to strengthen its economic and military-political position based on aid from Western countries and restore the combat potential of the army. Military infrastructure of the country was restored - mainly from extrabudgetary sources in the form of US and NATO grants. Only US spending on the relevant objectives are estimated at \$1 billion.¹⁸⁰ However, Georgia has failed to implement its major economic and foreign policy objectives. Despite the signing of the Association Agreement with the EU, Georgia is far from full-

¹⁷⁹ Khalatyan, A., 'Armenia in CSTO priorities', 12 July 2013, <<http://www.inosmi.ru/sngbaltia/20130712/210891187.html>>.

¹⁸⁰ Areshev, A., 'The foreign policy of Georgia before the new boundaries: problems and prospects', 3 Dec. 2012, <<http://www.belvpo.com/20069.html>>.

fledged relations with the EU and NATO membership. More importantly, Georgia was not able to regain the lost of Abkhazia and South Ossetia. As many experts believe that the West itself starts to bother the need to support Tbilisi as a loyal satellite, and Georgia receives hints about the need to normalize relations with Moscow by a tool such as delivery of Georgian goods to the Russian market. Georgian leaders start to understand it. After coming to power, the 'Georgian Dream' coalition Georgian Prime Minister Boris Ivanishvili repeatedly stated about the need to improve relations with Russia in parallel with progress towards the 'Euro-Atlantic dialogue.' The same statement was said by Georgia's new president G. Margelashvili.

An important attempt to normalize relations with Russia was the refusal in the new Military Doctrine of Georgia to consider Russia as an enemy.

Given that Russia has no objection to the normalization of relations with Georgia over the last year there have been some positive developments at various levels. The meeting of the Prime Ministers of the two countries in Davos (January 2013), reached an agreement on the supply of certain types of Georgian goods to Russia, in particular wines and spirits, and the restoration of transport links, Russian Foreign Minister Sergei Lavrov said on possible restoration of diplomatic relations between the two countries in the foreseeable future. However, the main obstacle to the full normalization of Russian-Georgian relations is the unwillingness of Georgia to resolve many questions no decision on the return of Abkhazia and South Ossetia. According to most experts, this approach is counterproductive especially for Georgia, which is larger than Russia is interested in a prompt normalization of relations between the two countries. However Tbilisi decelerates moving closer to Moscow - for example, the political crisis in Ukraine has led to a new stage of cooling in bilateral relations.

In general, the resolution of the problem 'of the seized territories' is likely to be a long process, where the Georgian side will need to learn to separate humanitarian from political issues. When Georgia is ready for this approach - time will show.

Military-political situation in Central Asia

Central Asia in recent years has transformed the focus region of the concentration of Russian foreign policy in the CIS.

According to the most international experts, the situation in Afghanistan after the withdrawal of US troops in this country and its allies in the summer of 2014 has sharply deteriorated, and it will pose a serious threat to the security of the region, and identifies new challenges for Russian policy in Central Asia. It will happen to the fragile environment and constantly changing balance of power as between the major regional players - Russia, China, US, and Russia's relations with the Central Asian states.

Despite the withdrawal of troops from Afghanistan, so that the US military presence in Central Asia should be on the decrease, the United States today are doing their best to keep to a certain extent its economic and military presence in Uzbekistan, Tajikistan and Kyrgyzstan.¹⁸¹ Russia makes everything possible to prevent it. But Moscow should make serious efforts and prove that it is able to assume full responsibility for security in the region after 2014. This task is complicated by a number of both old and new problems.

Serious negative factor is still the lowest proportion of China's involvement in Central Asian security affairs. Virtually ignoring the CSTO, China is actively involved in international cooperation in the SCO framework, reaping the fruits of expanding economic cooperation with the countries of the region, as complex and costly problems associated with the strengthening of security (to train local law enforcement agencies, etc.) to solve it leaves Moscow.

On the other hand, an obstacle to the strengthening of Russia's position in the region is an ongoing internal discourse in several Central Asian countries aimed at the seizure of the so-called

¹⁸¹ On the Tajik-Afghan border has recently opened two border posts that were built with US assistance. For Uzbekistan, the administration of President Barack Obama has asked Congress for 2013 of \$1.5 million under the Foreign Military Financing Program and \$300 thousand for the Program of military education and training'. The United States also leads informal talks about carrying under their control Transit Center of Kyrgyzstan in any other country (candidates are Tajikistan and Uzbekistan) - if not as a military base, then under another convenient excuse. See: Pasha, A., 'Central Asia: Policy and weapons', 28 Nov. 2012, <<http://www.belvpo.com/ru/19827.html>>.

imperial domination of Moscow, as well as the continuing tension among countries in the region on a range of issues.

Under these conditions, a great success for Russia was to strengthen political and military cooperation between Russia and Kyrgyzstan and Tajikistan in 2012-2013. Equipping these countries weapons and technical facilities is a key factor in ensuring the safety of these republics, and possibly the whole of Central Asia.

Kyrgyzstan

The Russian greatest regional success was achieved in its relations with Kyrgyzstan in 2011-2013. Among other CIS countries Kyrgyzstan has one of the weakest economies and, in particular, has virtually no energy sources, except hydropower. This creates political instability, aggravating challenges from Islamic fundamentalists and extremists. These factors make it difficult to develop Kyrgyzstan as a system of stable relations with Russia, which is its main economic and military-political partner. Russia supplies almost all types of weapons, the army has composed Kyrgyzstan establishes preferential prices for ammunition, assists in the preparation of national military personnel. The country is stationed military airbase 'Kant' and other military facilities. However skillfully using the full cooperation of Russia, Bishkek until recently actively tried to balance its relations with Moscow, realizing cooperation with foreign powers, especially the US and China. In Kyrgyzstan is an American military base, recently renamed the Transit Center. Moscow has long sought to close it, and despite promising to do so and getting under these promises additional loans from Moscow, the Kyrgyz government tightens the process. In turn, the Ministry of Defense of Kyrgyzstan in recent years repeatedly demanded the rent increase for the use of Russian military facilities on its territory.

However, since 2011, Russia has managed to turn the tide in their favor. During his visit to Bishkek, Russian President Vladimir Putin in 2011, the document has been agreed to extend Russia's presence in Kyrgyzstan. The essence of this paper is the legal union after 2017 all Russian military facilities in Kyrgyzstan in a single database. The new structure will airbase in Kant, the test site on Lake Issyk-Kul, space tracking multiple objects and military factory 'Dastan'. In this cluster until it enters separate group of Russian FSB border troops stationed in Osh, but negotiations on the establishment of a military base in Osh underway.

Thus, under a new guise military base actually saved the current level of the presence of Russian military forces in Kyrgyzstan. All these Russian facilities will operate for 15 years, since 2017.¹⁸²

In general, although the agreements reached between Moscow and Bishkek agreement suggests that the Kyrgyz leadership has once again opted for a partnership with Russia, there is reason to believe that these decisions are largely driven by economic considerations and another crisis situation in the country. Recall, this operation cost for Russia was on \$ 1.1 billion.¹⁸³ How to behave in case of Kyrgyzstan serious changes in the military-political situation in Asia and Kyrgyzstan itself, is difficult to predict with certainty. Much of this issue depends on the efficiency of Russian diplomacy.

Tajikistan

The fact that Kyrgyzstan due to special circumstances got in a privileged position in the field of military-political relations with Moscow had enough perceived negatively in Tajikistan. After all, according to many Tajik experts, namely Tajikistan, Kyrgyzstan and not a key springboard that can prevent Russia from infiltration of Muslim extremism and drug trafficking from Afghanistan, especially after 2014.

Russia today is a leading partner of Tajikistan in the military-political sphere. So, after the Civil War until 2005, Tajikistan received from Russian arms and military equipment (AME) in the amount of \$ 1 billion, and in the period from 2005 to 2013 - to \$ 411 million. In Tajik Nurek is above horizon tracking station, part of the space Forces of Russia.¹⁸⁴ Russia is interested in airfields Tajikistan, seeking their lease. But the main Russian military facility in Tajikistan is 201st RMB - an outpost of Moscow's influence in Central Asia, as well as a stabilizing factor, which provides pro-Russian orientation of Tajikistan.

¹⁸² Volodin, A., 'Russia won the battle for Central Asia?', 24 Sep. 2012, <<http://www.belvpo.com/16494.html>>.

¹⁸³ Gladilin, I., 'Russia exported to Kyrgyzstan to stake his reputation', 27 Feb. 2013, <<http://www.km.ru/world/2013/02/27/otnosheniya-rossii-s-respublikami-byvshego-sssr/705022-rossiya-postavila-v-kirgizii>>.

¹⁸⁴ 'Russian Ambassador in Tajikistan I. Lyakin-Frolov about the Tajik-Russian relations', *Asia-Plus*, 7 Nov. 2013, <www.news.tj/ru/node/176180>.

The value of this base where deployed six thousand Russian troops, lies in the fact that from the very beginning of its existence, it has provided stability situation in the country and was an obstacle to the revitalization of the radical Islamists. To cope with the latest from the Tajik government forces was never enough.

In political circles Tajikistan well aware of this, and therefore, even in opposition Tajik press never directly raised the issue of the withdrawal of RMB country. However, in Dushanbe constantly demanded higher rent for Russian military facilities, especially for this military base. These requirements are particularly intensified after the announcement of the withdrawal of US troops from Afghanistan.

According to political analysts, has a strict policy against Moscow in the MPC, Tajikistan is twofold. On the one hand, it continues to maintain its traditional policy of most Central Asian allies in Moscow aimed to haggle about the greatest possible economic and military aid. On the other hand, Tajikistan obviously got hope or assurance that the US and its allies before finally withdraw from Afghanistan will seek neutralizing Islamic factor, create a network of military bases in the border areas with Afghanistan, including Tajikistan. This means that Dushanbe, apparently looking to increase in the future influence of the US and NATO in Central Asia, which Moscow is trying to prevent.

Under these conditions, a major achievement of Moscow was the decision taken by 2 September 2011 during the visit of the then-Russian President Dmitry Medvedev to extend the 49-year lease term 201st RMB, including the years after the creation of RMB in 2005.¹⁸⁵

Russia was able to convince Tajikistan abandon disproportionate demands for higher rents, guarantee assistance in case of aggression of various forces and providing \$ 200 million in Dushanbe on rearmament. This agreement has long had to be ratified, but Tajikistan under various pretexts, delays the process. This means that Moscow has managed to strengthen its position only partially, and it still has to watch closely to pro-Russian course

¹⁸⁵ Full text of the Agreement on the status and conditions of the Russian military base in Tajikistan, 13 Nov.2012, <<http://nm.tj/politics/5697-polnyy-tekst-soglasheniya-o-statuse-i-usloviyah-prebyvaniya-rossiyskoy-voennoy-bazy-na-territorii-tadzhikistana.html>>.

Dushanbe was continued in case of changes in the political situation in the region.

Uzbekistan

Uzbekistan in its political course is aimed primarily at to become a leading regional power, while keeping leverage on the political process and foreign policy in neighboring countries. One of the objectives of Uzbekistan within the framework of this policy is to weaken Russia's role in Central Asia, although official statements on the subject, of course, is not done. Tashkent has repeatedly refused to participate in the international structures, organized by Moscow, believing that their activities are contrary to its strategic interests.¹⁸⁶ In June 2012, Uzbekistan once again came out of the Collective Security Treaty Organization, whose decisions he repeatedly sabotaged.

Trying to counterbalance Russian influence in Central Asia and most effectively ensure its own security, Uzbekistan is trying to establish greater cooperation with China and the United States. However, apparently, this policy does not bring the expected results Tashkent. China is interested in cooperation with Uzbekistan, but mainly in the economy. At the same time, as recent events in Syria, China is not going to defend the country even close to it is neither economically nor in the more politically and militarily. With regard to relations with the United States Uzbekistan, they after the events in Andijan in 2005 for a long time remained cool. Although, according to military experts, the total US military aid to Tashkent, including law enforcement agencies annually ranges from \$ 70 to 100 million.¹⁸⁷

Recently, the situation begins to change. Withdrawal of US troops from Afghanistan, US forces will inevitably carry more gentle rate relative to its partners in the Central Asian region, including Uzbekistan.

22 September 2012, the US Congress agreed to intensify of the weapons supply to Tashkent. In the list of permitted supply includes demining equipment, devices to scan the area from the air,

¹⁸⁶ Malashenko, A., The main intrigue of Uzbekistan, 13 Feb. 2013, <<http://www.belvpo.com/ru/23631.html>>.

¹⁸⁷ 'US versus Russia in the defense and military-political cooperation with Uzbekistan', 24 Nov. 2011, <<http://www.csef.ru/index.php/ru/component/csef/project/-/-/?id=2150>>.

night vision devices, eavesdrop on machinery, equipment for control of the Internet, etc.

At the same time, getting these weapons from the United States can hardly compete with military supplies from Russia. The fact that all information received from the US weapons technology is dual-use, calculated that in the foreseeable future Uzbekistan soon have to face not with the Taliban aggression, and the fight against opponents of the regime in the country. In addition, Uzbekistan itself tends to limit the deepening military ties with the US and the West, that rather explained by fears of being drawn into a wider military conflict (in particular, a possible confrontation with Iran), as well as suspicions of the country's leadership, that sooner or later the United States can tempted to arrange in Uzbekistan 'color' revolution.

Accounting for these factors orients Tashkent to recognize the role of Russia as a leading military, political and economic power in the region, as well as the continuation of bilateral cooperation with Moscow on a wide range of areas. In turn, Russia and Uzbekistan remains an ally, though not too predictable and binding. Uzbekistan is undoubtedly important for Russia as a country through which all important communications in the region, including transport routes from Tajikistan and Kyrgyzstan to Kazakhstan and Russia. Besides, Moscow wants it or not, Russia and Kazakhstan will be forced to cooperate with Tashkent in terms of withdrawal of US troops and their allies in Afghanistan, because the main highway so-called Northern route passes through the main point of the Afghan-Uzbek border - Termez.

Kazakhstan

Despite the fact that in recent years more and more Kazakhstan aspires to become an independent center in the region, it continues to provide its own security, strengthening economic and military-political integration with Moscow.

It is this problem is posed in the development strategy of Kazakhstan 2030.¹⁸⁸ Kazakhstan remains one of the few countries in the CIS, which has close ties with Russia in the field of defense industry. In the Russian-Kazakh Baikonur is using and four military polygon. While 70% of Kazakhstan's 13 defense companies

¹⁸⁸ Strategy 'Kazakhstan-2030', <http://mod.gov.kz/mod-ru/index.php?option=com_content&view=article&id=187&Itemid=13>.

delivered to Russia.¹⁸⁹ Russian arms supplies to Kazakhstan at prices equal to the cost of weapons for most of the Russian army and preparing military personnel of Kazakhstan. Successfully executed an intergovernmental agreement on joint work program in the field of military-political cooperation in the interests of the armed forces of the Russian Federation and the Republic of Kazakhstan for 2008-2012.

However, despite the statements of the leaders of both countries, bilateral military cooperation between Moscow and Astana has a solid foundation, there is reason to believe that the situation is not so rosy. Number of contradictions have emerged during very tough negotiations over the future of Baikonur, as well as the functioning of the CSTO. Kazakhstan is the only country to officially express their negative attitude towards Armenia's accession to the Customs Union. Recently Astana makes it clear that in case of an outbreak of hostilities over Nagorno-Karabakh Kazakhstan definitely need to support Azerbaijan, with which it has friendly relations. In Kazakh opposition press there are more publications with criticism of the CSTO, which, as stated, is completely under the influence of Moscow and 'contain' the development of bilateral relations between Kazakhstan and other international organizations.

Turkmenistan

The process of interaction between Russia and Turkmenistan in the military sphere is quite controversial and closely connected with the problems of economic relations between the two countries, especially with gas supplies. In the first years after the proclamation of independence of Turkmenistan military and political relations between Moscow and Ashgabat have evolved quite successfully. However, since the mid-1990s, they began to deteriorate rapidly, which greatly contributed to the policy of 'Gazprom', seeking to avoid Turkmenistan to the European gas market. As a result, Turkmenistan became increasingly distance themselves from Russia, accusing it of imperial ambitions and unwillingness to implement an equal partnership dialogue. Vector foreign policy of Turkmenistan was rapidly shifting towards the US, the EU and Turkey. With the advent of the new Turkmen President Berdymukhammedov apparent willingness to revive relations with

¹⁸⁹ *Aktyubinskiy vestnik*, 11 Nove. 2011, pp. 32-38.

Russia, including in the military-political sphere. However, the contradictions in the economic field continue to impede the revival of military cooperation between the two countries.

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The analysis of the latest developments in the military-political sphere in the CIS to illuminate the wide range of problems that may be faced in the implementation of Russian policy in the field of defense and security in the CIS. A significant number of these problems, on the one hand, closely associated with the political and military-political situation in the CIS countries themselves (conservation perspectives of various political regimes, the potential in the field of defense and defense production), on the other hand, with the challenges that come from such countries and groupings of countries like the US, China, the EU and NATO, energizing politics in the former Soviet space. Preserved an important influence factor and outstanding (protracted) conflicts in the CIS.

To the large extent the contours of political and military cooperation of the CIS countries are also determined by the situation in the CSTO, which is likely to be a key element in ensuring the security of Central Asia after the withdrawal of troops from Afghanistan in 2014, the organization in recent years achieved significant practical success: has formed its own military structure CSTO created a collective rapid reaction force (RRF) in 2011 concluded arrangements to place third countries on the territory of countries-members of the CSTO only with the formal consent of all partners in the organization. But at the same time CSTO faces a number of large-scale problems. These include, for example, the amorphous structure of the organization (which is the formation of three regional, united under one Russian military-political umbrella), and the difficulties that may arise in the practical application of RRF and other military and political leverage.¹⁹⁰

¹⁹⁰ In 2012, at the December session of the Collective Security Council adopted decisions aimed at creating common troops - CSTO collective forces that involve the consolidation of existing power structures under the overall command,

The most important aspect of strengthening the position of the CSTO would serve as a full international recognition of this organization, its transformation into an essential component of security in Central Asia. Moscow in general managed to achieve recognition of the CSTO at the UN and the OSCE, but attempts to develop cooperation with NATO so far been unsuccessful. These attempts are actively opposed the US calling the CSTO 'ineffective' block. According to Washington, the prospect of cooperation with NATO CSTO would strengthen Russia's influence in Central Asia, which the United States do not want to admit. In connection with the events in the Ukraine, which resulted in the February-March 2014 for the next cold spell in relations between Russia and the Western countries, the possibility of establishing contacts between the CSTO-NATO became even more elusive.

In an increasingly competitive military-political vector in the CIS with other major powers with interests in the region, Russia in recent years, in addition to relying on the CSTO also focuses on courses related to the conclusion of agreements on long-term military-political and military-technical cooperation with the CIS countries. In relations with many countries of the Commonwealth in this respect there is a stable positive dynamics - with Belarus, Armenia, Kazakhstan, and Kyrgyzstan. With other countries due to the influence of various political factors failed to achieve any tangible successes - such as Ukraine and Turkmenistan.

creating a system of controls, as well as strengthening these forces by aviation components.

PART II. EXPERT INSIGHTS

8. Technology transfer in Russia's modern innovation system
9. Nunn-Lugar program has ended: what's next?
10. Russia's military-technical cooperation with BRICS countries:
key aspects
11. Safe tolerance criteria of nuclear non-proliferation regimes:
conference of the International Luxemburg Forum

8. TECHNOLOGY TRANSFER IN RUSSIA'S MODERN INNOVATION SYSTEM

Lyudmila PANKOVA

In the new millennium technology transfer (TT) is becoming an increasingly important component of national innovation systems (NIS) and one of the determining factors of strengthening the innovation activity. Both at the national and international level there is a rising trend of transfer of technologies not only as systematic knowledge¹⁹¹, but also as general knowledge which, according to some experts, has the quality of divisibility and thus of recombination.¹⁹² Given the high dynamics of modern information and technological development and steady movement towards a knowledge economy we should talk about not just technology transfer but rather scientific and technological transfer among new industrial countries¹⁹³.

The list of subjects of technology transfer is rather extensive: almost all the components of the innovation infrastructure including public research institutions, laboratories,

¹⁹¹ The definition of 'technology' given by the World Intellectual Property Organization (WIPO) contains a criterion of system approach: 'technology - a systematic knowledge of the production process, the application process or service, regardless of whether these are displayed in the invention, industrial designs, utility model, the new process plant technical information or services provided by specialists in the design, installation, operation or production activities'.

¹⁹² Science Technology Industry Review, OECD, N14, 1994, pp. 119-132, Domenico Foray, Ecole Centrale and CNRS (ECT), Paris. (Recombination model innovation was proposed D. Fareem).

¹⁹³ In this article, however, we will use the traditional term 'technology transfer.'

private companies, as well as industrial parks, business incubators, technology brokers network, etc. The latter are of particular importance for technology transfer in the innovation system of the largest foreign countries. Technological brokers offer a wide range of services including provision of databases of potential partners and opportunities of markets of high technologies, consulting, marketing research, and in some cases – for the organization of R&D related to refining products. Thereby an active information exchange develops and stable network structure is formed within the innovation component of high-tech industries.

Thus, technology transfer involves science, technology, production and management (meaning as the actual transfer of technologies and their legal protection). In general, the transfer of technology is a complex, multi-step process of cooperation between different actors to create new intellectual product.

Three factors have had fundamental impact on the development process of technological transfer in the last two and a half decades: increased interaction between the military and civilian sectors of the economy, the internationalization of R&D especially in the 1990s, and the growth of private sector spending in the high knowledge-intensive technologies.

The first factor: the interaction of military and civilian sectors. Starting from the late 1980s, the civil sector has become an increasingly important source of innovation for the military sector. According to many experts, it should be used as efficiently as possible, but not forgetting the traditional overflow of technologies from the military to civil sector. Transfer of military technology to the civilian sector, in particular, can contribute to economic benefits, the cost-effectiveness of research and development, as well as to contribute to strengthening the innovative capacity¹⁹⁴.

In addition, it is important to consider such factor as development of dual-use technologies. According to US experts,¹⁹⁵

¹⁹⁴ The importance of technology transfer from military to civilian sphere is emphasized by the following example: 40-50% of a huge (600-700 billion dollars) military budget of the US Ministry of Defense (DoD) in the late 2000 went to the technology development. See: Bracken, P., *Technological Innovation and National Security* (Foreign Policy Research Institute, June 2008) <<http://www.fpri.org/enotes/200806.bracken.innovationnationalsecurity.html>>.

¹⁹⁵ Carpenter, J., Carr, R.K., *Measurement and evaluation of technology transfer from US dual-use and technology program*, Defense Conversion Strategies.

about 90% of the US DoD fundamental research (category 6.1. in the US classification of military R&D) and 50% of exploratory development (category 6.2, respectively) have the potential dual use. In a well-known US DoD development plan of 22 critical technologies (funded by the US military in the 1990s), 75% of them were dual-use technologies. The above examples demonstrate an important contribution of DoD research activities in the area of R&D to both military and civilian economy.

The second factor: the internationalization of R&D sector.

An important factor in scaling up technology transfer and, in general, the acceleration of innovation processes in knowledge-intensive sectors of the modern economy is the rapid development of international cooperation and integration. The trend of deepening integration and interpenetration of national scientific and technical complexes of all, without exception, the major industrialized countries of the West through joint research and development, joint ventures, strategic partnerships, international consortia increases steadily. There are non-traditional forms of international knowledge sharing. For example, as mentioned in the monographs of IMEMO RAN¹⁹⁶, offshore outsourcing is expanding, which is recruitment of highly skilled workforce 'on request' on the territory of other states. Growing technological interdependence of national scientific and technical complexes, increasing rate of movement of ideas, highly qualified personnel, resources increase scientific and technical potential of the companies involved in cooperation and expand the scale and scope of transfer of scientific and technological achievements.

Third factor: a paradigm shift in the sources of R&D funding in industrialized countries (increase in spending on research and development of the private sector). Initially, when the principal source of funding for R&D was military agencies, technology transfer was considered by countries and especially the United States an incentive for national economy and way of

NATO ASI Series: Disarmament and Technologies (Kluwer Academic Publishers, 1997), p.304.

¹⁹⁶ *New phenomenon in the world technology transfer* (Moscow: IMEMO, 2010); Kirichenko, E., *International technology transfer: assessment, problems and prospects / new phenomenon in the world of technology turnover*, (Moscow: IMEMO, 2010), p. 10.

returning taxpayers' money spent on R&D funding. Today, a large (or significant) part of the US R&D is financed by the private sector. This shift in the structure of financing has led to an increase in importance of technology transfer provided by the cooperative efforts of the US military laboratories and their partners in industry, academia, state and local government.

Many experts argue that private high-risk research will play an increasing role in the financing of innovation in defense and aerospace sectors. According to US experts, even purely military success in the context of evolving technological changes will to a greater extent than previously attract private investments¹⁹⁷.

The modernization of not only DIC but the entire Russian economy, the need to accelerate innovative development makes technology transfer (especially between the military and civilian sector) a special task and opens up new possibilities which did not exist before in the United States and other the developed countries. Access to critical high-tech dual-use technologies and to the world's scientific and technological achievements in general is becoming an essential component of modernization of the Russian economy and indispensable instrument of state innovative policy.

Technology transfer and its commercialization should be seen as one of the basic elements of building innovation system in Russia. The necessary conditions for this, according to majority of Russian experts, are legislative and legal improving of technology transfer and its institutionalization.

Key milestones in the development of technology transfer in Russia

History of the development of technology transfer in the former USSR and Russia can be divided into three periods.

First period of 1960-1980s. The beginning *of this stage* of the development of technology transfer was associated with the space-related activities and continued through the early years of perestroika. Technology transfer process was mostly intra-character: replication of technologies and knowledge mostly carried

¹⁹⁷ *Innovation in Aerospace and Defense*, (CRA Charles River Associates, February 2010), p.32.

out in a limited range of industrial, scientific and technological sectors.

The military-industrial complex (MIC) which held a special place in the national economy of the USSR (DIC accounted for up to 75% of the scientific and technological potential of the industry) made large contributions to technological transfer in this period. However, various barriers to overflow of technology and a lack of a clear mechanism for technology transfer (including its shortcomings in legal support) did not contribute to its effectiveness and greatly hindered the spread of technological progress in the national economy of the former Soviet Union.

Almost until the beginning of the operation of Mir orbital space station in 1986 the issue of interaction of space activities with the vital problems of the economy and even development of fundamental research was practically nonexistent. The main objectives were prestige, defense needs and political ambitions. While in the US just a few years after the beginning of the space age, transfer of technology made a separate line in the budget of NASA (National Aeronautics and Space Administration)¹⁹⁸.

The second period of the development of technology transfer in the country covered the 1990s. During this period, technology transfer was not considered by the government as a priority for economic development and modernization. The space industry entered a period of profound transformation, although its enterprises, laboratories and research groups enjoyed greater freedom of action in international cooperation. In a deep economic crisis lack of a clear mechanism for technology transfer, imperfections of the patent-licensing system, and legal illiteracy of actors involved in international cooperation on the Russian side quite often led to a loss of technology and wasting technological advantage.

Nevertheless, the development of such processes as conversion (especially in the last decade of the 20th century), commercialization, rapidly developing internationalization, emergence of dual-use technology combined with a trend of integration between civil-military and science-industrial complexes (that boomed in industrialized countries during this period)

¹⁹⁸ It should be noted that at the early stages the effectiveness of the technology transfer process, the so-called spin-off, was low.

provided important impetus for the strengthening of technology transfer.

The low efficiency of the process of technology transfer through the 1990s in Russia can be also explained with its original orientation on the interaction between higher education and industry. And although for the creation of the first science park in Tomsk (1990) not only institutions of higher education were used but also Tomsk Scientific Center of the Siberian branch of the Academy of Sciences of the USSR, the overall level of participation of the Russian Academy of Sciences (RAS) institutes in the creation of the first industrial parks and their further activity was clearly insufficient.¹⁹⁹ In this regard, it should be noted that in the 1990s there was a sharp decline in RAS inventions patented abroad from 400 in 1989 to 6 in 1995, and although in 1997 this figure reached 63, it was only 16% from the level of the late 1980s. During the same period, the number of applications filed for inventions decreased from 2,300 (in 1989) to 501 (in 1997).

It is noteworthy however that in this second period – from 1991 to 1999 – 9925 contracts (including 3687 patent assignment contracts and 5238 licensing agreements) with foreign partners were registered which was about five times more than the same indicator at the first stage of development of the technology transfer.

Since the late 1990s (and until now) we witness a new – *third – period* in the development of technology transfer in Russia. Technology transfer mechanisms during this period are taken into consideration by the political leadership of the country in terms of its impact on national technological development and economic growth.

Presidential Decree № 556 ‘On legal protection of results of research, development and technological works of military, special and dual-use’ (see Box 1) was adopted in May 1998. And in July of the same year Presidential Decree № 863 ‘On State Policy on commercializing the results of scientific and technological activities and intellectual property in the field of science and technology’ was signed.

¹⁹⁹ Rogalev, N., Technology Transfer and Commercialization in Russia, In: *Global Perspectives on Technology Transfer and Commercialization Building Innovative Ecosystems*, Edited by John Sibley Butler and David V. Gibson, 2011.

Crucial in terms of formation of a new legal framework attracting attention to the organization of technology transfer was the adoption in 2006 of the fourth part of the Civil Code (Federal Law № 230 and № 231 of 18.12.2006) which clearly defined the goal of protecting intellectual property (Box 1).

And only in 2008 the Federal Law № 284 ‘On the transfer of rights for common technologies’ was passed²⁰⁰. It was the beginning of the formation of the necessary mechanism for the disposal of rights for Russia’s uniform technology of civil, military, special or dual nature, as well as the order of transfer of rights on its use. It certainly helped to create real conditions to expand cooperation between military and civilian sectors of the economy at the level of the national economy, as well as within the military-industrial complex²⁰¹.

The use of military technologies is currently governed by both general and special laws. As a result there may be limitations and difficulties and not only for exporting the products abroad. However, according to Russian experts, the presence of these technologies creates a number of advantages: they are the most advanced in Russia, can create a competitive advantage of domestic products through having a special technical properties²⁰². The support for the concept of dual-use technology and innovations (ie those that can be applied both in the military and civilian sector) would contribute to the improvement of the mechanism of

²⁰⁰ Article 1542, part 4 of the Civil Code (2006) introduced the concept of ‘uniform technology’. ‘Uniform technology’ means a result of scientific and technological activities in the objective form, which includes some combination of inventions, utility models, industrial designs, software or other intellectual property subject to legal protection ... and can serve as the technological basis for certain practical activities in the civil or military sphere’.

²⁰¹ As of 2008, civilian production in DIC was 41.6%, and the military - 58.4%. If we subtract the volume of production intended for export – in the civil and military defense industry it is 12.7% and 29.3% respectively – we will find that the proportion of civilian production of defense companies for the domestic market during the period was 28.9%, and for military production this number slightly exceeded 29.0% (29.1%). That is at the end of the past decade the Russian DIC produced for domestic market roughly equal shares of civilian and military products – about 29% of its total production.

²⁰² Belyaev, V.A., ‘Harmonization of the interests of domestic holding companies and their foreign partners in the program of development, production and sales of medical equipment and health care products’, *Bulletin of the Academy of Military Sciences*, 2012, No 3, p. 60.

technology transfer and intensification of mutual overflow of military and civilian technologies. Providing arms and military equipment (AME) companies with the rights for intellectual property that they developed and the responsibility for its commercialization will be a significant source of income for these companies and will contribute their funds investing in the development of weapons and military equipment .

The Russian legislation include a number of restrictions on the export of military technologies or dual purpose. Licensor, for example, must obtain additional approvals from authorities responsible for this category of technologies (FSB, ROE, etc.).²⁰³ Under federal law № 183 ‘On Export Control’ (Box 1) the state exercises control over the export of technologies that can be used for the development of weapons of mass destruction, their delivery systems and other types of military hardware.

Box 1.

Formation of the legal and regulatory framework affecting the creation and development of Russian technology transfer

- 1998 (May 14) – Presidential decree No 556 ‘On legal protection of the results of research and development, design and experimental and technological work of military, special and double use’.
- 1998 (July 22) – Presidential decree No 863 ‘On state policy of involvement in economic turnover the results of scientific and technical activities and objects of intellectual property in sphere of science and technologies’.
- 1998 (September 29) – Government resolution No 1132 ‘On priority measures of legal protection of interests of the state in the process of economic and civil turnover of the results of research and development and technological work of military, special and double use’.
- 1999 (July 18) – Federal law No 183 ‘On export control’.
- 1999 (September 2) – Government resolution No 982 ‘On the use of the results of scientific-technical work’.

²⁰³ Zinov, V.G., Vovk D.N., *Business innovation: the practice of technology transfer* (Moscow, Academy of Business, 2010), p. 39.

- 2001 (August 08) – Federal law No 128 ‘On licensing of individual types of activities’ which sets procedure to obtain an authorization on the use of technology listed in its text.
- 2002 (January 14) – Government resolution No 7 ‘On inventory and cost assessment of rights on the results of research and development work’.
- 2002 (February 26) – Government resolution No 131 ‘On state registered results of research and development, design and experimental and technological work of military, special and double use’.
- 2003 (March 11) – the Russian president approved ‘The fundamental principles of military-technical policy of Russia for the period until 2015 and further’.
- 2003 (December 08) – Federal law No 164 ‘On the basic principles of the state regulation of foreign trade’ which determines the methods of state regulation of foreign transactions on goods, services and intellectual property.
- 2006 (December 18) – Federal law No 230 - the fourth part of the Civil Code about the rights on results of intellectual activities and means of individualization. Federal law No 231 ‘On the introduction of the fourth part of the Civil Code of the Russian Federation’.
- 2008 (January 1) – the legislation on intellectual ownership (change of regulation of rights on the results of intellectual activities and means of individualization).
- 2008 (December 25) – Federal law No 284 ‘On the transfer of rights for uniform technologies’ introducing the real mechanism of managing rights on uniform technologies of civil, military, special or double use belonging to Russia, as well as the mechanism of transfer of rights on their use.
- Decision of the Government of the Russian Federation of 09.04.2010 No 218. Implementation of complex projects, activities aimed at industry interaction with universities - on the commercialization of scientific products within the framework of small innovative companies, including those established at universities in accordance with the Federal Law No 217 of 02.08.2009.
- 2011 (June 5) – Federal law ‘On introducing changes in the Federal law ‘On the transfer of rights on uniform technologies’

(relating in particular to publishing information about public tenders in the Internet).

- 2012 (December 29) - Federal law No 275 'On the state defence order'. Entered in effect on 1 January 2013.
- 2012 Federal law No 174 on the establishing the Fund of advanced research.
- 2012 (March 22) – Government resolution No 233 which approved the regulation of public customers' management rights on the results of intellectual activities of civil, military, special and dual purpose.

Similarly, when importing the technology which use involves licensing procedures, the licensee must comply with the requirements of the Federal law No 128 (Box 1) 'On licensing of certain types of activities'. Its text has a list of technologies and procedures for obtaining permission to use them. In addition, in transactions with foreign partners Russian companies are also governed by the Federal Law No 164 'On the basis of state regulation of foreign trade' (Box 1).

So, increasing efficiency of transfer of products of military and dual-use nature to civil industries is only possible within the framework of established and mature technology transfer system at the national level (with specific issues such as the need to meet the requirements for security and export control). In the late 1990s – early 2000s such a system began to take shape: major components of the modern framework of technology transfer in Russia began to form. At the same time re-equipment of the Russian army and rising costs of military R&D obviously strengthened the role and importance of technology transfer process.

The main barriers to technology transfer

The following issues create major barriers to technology transfer in Russia.

First, the problem of *imperfect system of intellectual property protection and the system of legislative and legal support of technology transfer in general*

Legislative and regulatory framework of the technology transfer in Russia is under formation (Box 1), but the pace of its evolution is very low. Meanwhile, intellectual property protection is vital for attracting additional investment and resources for the development of technology, especially at the early stages of research to realize the potential of their future commercialization.

The functionality and efficiency of regulatory framework are determined by the fact that it should not only be regulative but, as noted by majority of Russian experts, legally organizing transfer of knowledge and technology and containing the appropriate mechanisms and incentives.

In our opinion, of paramount importance today is the development and adoption of a full-fledged national law on the transfer of technology which should be the backbone of the legislative and legal support for technology transfer. The law should provide the tools for the implementation of the economic turnover of intellectual activity and not just regulation of the consolidation and transfer of technologies developed by or with the state budget assistance.

In the United States the adoption of the federal law on the transfer of technology in 1986 started the process of creating an engineering research centers, university-industry cooperative research centers, centers of excellence managed by the National Science Foundation. The latter were established in almost all major US universities. Having a broad program of scientific research, they essentially sought to become centers of crystallization of new high-tech firms. Usually centers of excellence operate with mandatory equity participation of state budgets and private companies.

Russia also needs the development of a law on technology commercialization. According to Russian experts, the most important tool for bringing together research teams of different departments and individual scientists to task for the commercialization of research results²⁰⁴ is currently the federal target program (FTP). And, in particular, FTP 'Development of the

²⁰⁴ Chernyshev, V.A., Ovodenko A.A., Bukov, V.N., Scheinin, Yu.E., Schurman, V.A., Boblak, I.V., 'Experience creating technology design and manufacturing information-computing environment for aircraft avionics systems based on the concept of integration, modularity and unservicing', *Bulletin of the Academy of Military Sciences*, 2012, No 3, p. 133.

defense industry in 2007-2010 and to the period up to 2015', FTP 'On the development of space activities up to 2030', etc. Unfortunately, according to experts, the aims and objectives of the FTPs do not include support of research teams, integration of all sectors of science, and special mechanisms for these purposes.

Also there is a need to pay greater attention to the development of measures to strengthen and expand cooperation between science and industry in Russia.

In our opinion, the negative factor is the virtual absence of legal framework for the interoperability of the Russian Academy of Sciences (RAS) with the real sector of the economy, as it reduces the possibility of technology transfer. It requires changes in legislation, possibly a resolution of the Russian government, which would become a financial and organizational tool that provides interaction of RAS institutes with the real sector of the economy, similar to a Government decree No 218 (of 09.04.2010) that regulates the interaction of university research with the real sector of economy.

Russia also needs to increase the participation of research institutes and design bureaus in research to accelerate the implementation of new achievements of fundamental science and new technologies and high-tech products. Experts emphasize, in particular, that it is appropriate in the process of development of the FTP 'Research and development of priority areas of scientific-technological complex of Russia for 2014-2020' to develop and incorporate into the FTP tools for the participation of the leading research organizations in the problem-oriented research conducted by academic and university science to form a technological advance at the pre-commercial stage of budget funds²⁰⁵.

The most important task to address the protection of Russian intellectual property in international transfer of technology (which differs greatly from intranational transfer²⁰⁶) is the development of

²⁰⁵ Ibid, p. 133.

²⁰⁶ In particular, one of the mechanisms of international technology transfer is new forms of international trade of high-tech products, including the implementation of offset programs that involve not only providing the importer with goods and services, but also with technology. See: Belinsky, A., *Modern trends and mechanisms of technology transfer (US experience)* (Moscow: Institute for the US and Canadian Studies, 2009).

appropriate regulatory support in accordance with international standards.

From the position of the Russian legislation, attention should be directed to the following provisions of the US practice: R&D performed jointly by industry, universities, Ministry of Defense research organizations; transfer of copyrights on the products to participating companies and universities (the state is only entitled to free use of the products); use of the military department of civil products (reducing the cost of purchasing weapons by 5% to 50%); no fewer than 15% of the military department of applied research is in the area of dual-use technologies. These provisions could be reflected in the additions to the Russian law 'On defence' and 'On the contract system'.

Second, *the obvious disadvantage of the development of technology transfer is the lack of appropriate institutional infrastructure* that should be considered as a prerequisite for the implementation of effective technology transfer.

The core elements of infrastructure for technology transfer and commercialization could be national technology transfer centers, consortia of state corporations (or public institutions in general) for technological transfer. It is possible to create a platform for information sharing and consultancy on technology transfer at the national, regional or sectoral levels.

Attention should be drawn to the need to improve the network of specialized organizations and centers for technology transfer (infrastructure technology transfer), as well as the formation of a database on the possibilities of transfer and the creation of special programs and initiatives.

In this regard, it is important to note that the network of technology transfer centers in Russia is gradually increasing, although their effectiveness and efficiency are not high enough. In June 2010, for example, the Center for Technology Transfer (CLT) of RAS and ROSNANO was established²⁰⁷ with the main objective to assist RAS with the creation of commercially successful projects in the field of nanotechnology and their later transfer to ROSNANO for investment support.

²⁰⁷ The center was established in accordance with the Decree of the Presidium of RAS No 174 from 29 June 2010.

CLT of RAS and ROSNANO has already implemented more than 20 projects in the field of nanotechnology²⁰⁸ and about half of these projects have received the status of 'resident' in 'Skolkovo' Fund. It is assumed that in the future profile of the CLT goes beyond nanotechnology, ie CLT will generally support the institutions of RAS on technological and commercial refining projects, assess market prospects for technological solutions, create and adjust business models and business plans, form competitive applications, search for investors²⁰⁹.

In the US the main components of the institutional infrastructure of technology transfer include Federal Laboratory Consortium for Technology Transfer (comprising more than 700 research laboratories and centers of 17 federal departments and agencies whose remit includes the authority for the transfer of technology)²¹⁰, various departments on research and application of technologies, as well as regional centers for technology transfer. All these institutions together form a common infrastructure within the national economy which has significant powers and capabilities in the field of dissemination of advanced technologies not only in the national economy, but also in the international format. Infrastructure for technology transfer in the United States involves inherent and special funding arrangements²¹¹.

The experience of the US Federal Laboratory Consortium in terms of transfer of military technology to the civilian sector is of particular interest. It involved several dozen US military laboratories. The purpose of creating such a consortium was not only to accelerate the transfer of scientific and technological achievements obtained in the public and private sectors, but most importantly to expand the relationship between federal laboratories and research centers and industry.

Unfortunately, the majority of Russian experts point to an exceptionally low connections between Russian scientific

²⁰⁸ <www.rusnano.com/about/press-centre/news/76519>.

²⁰⁹ Joint meeting of the Board of Directors of RAS institutes and Coordinating Council on Innovation and Intellectual Property of Academy of Sciences, 7 Feb. 2011, RAS Regulation from 7 Feb. 2011.

²¹⁰ Federal Laboratories Consortium was created in 1974, and approved by the US Congress in accordance with the law on the transfer of technology in 1986.

²¹¹ Belinsky, A., *Modern trends and mechanisms of technology transfer (US experience)*...

institutions and industry. It should be noted that this problem is chronic for Russia in recent years. Indicative in this respect is the following example. Back in the early 1990s on the order of the Minister of Science and Technology the inventory of available technological advances was held. The result was depressing: out of 2000 only seven technologies were developed for commercial use²¹².

Thirdly, *the patent activity in Russia is clearly insufficient*. In 2010 in Russia 22 large corporations protected only 1,000 patents. Of these the number of international patents amounts to five²¹³ while only Microsoft has 5000²¹⁴.

Russia's share in the global amount of applications for patents is still low. According to the WIPO, in 2011 this proportion was only about 2%. The share of Russia in the global number of patents issued annually to national applicants is 5%, also too small. For comparison, in 2011 Russia occupied the sixth place in the number of applications for patents (41,414) after China - 526412, USA - 503582, Japan - 342,610, South Korea - 178924, and India - 42291.

At the same time, attention should be drawn to the growth and activity of state enterprises, bureaus, research institutes and universities which share as a transmitting party grew in total registered contracts from 7.6% in 2008 to 19.93% in 2012, ie more than 12%.

A positive trend is the growing number of patent applications for inventions: from 26.7 thousand in 2000 to 39.4 thousand in the middle of the past decade²¹⁵ (in 2011 the number of patent applications exceeded 41 thousand). Similar rates are typical for the US, while Japan, Germany, Canada, France and Italy in the first half of the past decade, for example, experienced relative stagnation.

²¹² *Independent Newspaper*. 12 Feb. 1999, p. 2.

²¹³ According to the data announced by Minister of Economic Development Elvira Nabiullina at the meeting of the Commission for Modernization and Technological Development of Russian Economy (Arzamas, 31 Jan. 2011), <www/atomic-energy.ru/statements/2011/02/04/18263>.

²¹⁴ Vardul, N., 'Impotence of innovations. Bill Gates as a living reproach to the Russian state corporation', *MK in St. Petersburg*, 2011, No 8, p. 10.

²¹⁵ WIPO Statistics Database, Dec. 2008.

According to Rospatent, at the end of 2012 in Russia there were 181,515 patents, 50,746 patents for utility models and 22630 patents for industrial designs. Number of contracts on alienation in 2012 was 3035 (including contracts for the disposition of the rights and agreements on exclusive and non-exclusive license), including 264 contracts relating to mechanical engineering, machine tools and manufacturing equipment.

From the standpoint of patent activity, Rosatom state corporation achieved the greatest successes in Russia. By the beginning of the current decade it tripled allocations for new technologies, not only in the traditional area of nuclear plants (NPPs), but also in related areas such as the development of composite materials²¹⁶.

A positive factor, from the standpoint of technology transfer, is an increase in exports of Russian technologies: from \$203 million in 2000 to \$533 million in 2006. However, unfortunately, at the same time imports of technology also increased with \$183 million in 2000 to \$1128 million in 2006²¹⁷. That is, a negative balance of payments amounted \$595 million. For comparison, in 2006 the export of technology from the United States amounted to \$75,380 million and import - \$35,479 million. Germany, France, UK, Japan, Canada all have a positive balance of payments for technology.

In addition to these problems creating barriers to effective technology transfer, it should be noted the absence of a single, well-prescribed technology transfer system within industry, that is the absence of clear rules and sectoral approaches to overflow of technologies. It is necessary to develop measures to stimulate the activities of state enterprises, various departments and other entities to use existing scientific and technical capacity for effective implementation of inventions. The lack of transparency in military-oriented R&D, which is partly related to security restrictions, also should be noted. Also programs to support small businesses as a necessary component of technology transfer require greater attention. The experience of foreign countries demonstrates that the transfer to small and medium companies patent rights on scientific

²¹⁶ The data by V. Konuzina, IFC 'Aleamar' analyst, and other experts, <www.atomic-energy.ru/statements/2011/02/04/18263>, 4 Feb. 2011.

²¹⁷ Federal State Statistics Service, 'Group of Eight'. *Statistical compilation* (Moscow, 2009), p. 98.

and technical information and scientific results obtained in the course of research on public contracts, including the military department, promotes the expansion of innovative effect of relevant research and development. The most important factor is the development of the technology transfer system of public-private partnership. Using this tool the state can contribute to the advancement of commercial technologies and simultaneously enhance effective access to them in case of need for future military needs.

Certainly, in the development of technology transfer, there are other difficulties (barriers). For example, there is a lack of clear and sound criteria and guidelines for the search of necessary technologies (as experts note, interesting developments in Russia can be found in the most unexpected organizational entities), as well as a difficulty of assessing the effect of commercial technologies. The development of Russia's mediation networks and venture capital funds also needs additional attention.

The bifurcation point today defining the scope and pace of scientific and technological transfer in Russia for decades to come, is to find a balance between the increasing role of the state and the freedom of entrepreneurial initiative. The government should expand its area of responsibility for the development of science and technology, constantly and effectively adjusting the mechanism of innovation processes for technological transfer.

In general, there is a fairly large number of problems hurdling the establishment of effective technology transfer in Russia. However, it can be stated that the transfer of technology in Russia continues perfecting tools for interaction of the main actors of the innovation process, above all science and business. There is already a lot of important decisions, practical steps and experience in place.

9. NUNN-LUGAR PROGRAM HAS ENDED: WHAT'S NEXT?

Dmitry KONUKHOV

Over two decades ago Russia and the USA have started a joint cooperation on improving safety and security of nuclear weapons, fissile materials and relevant facilities located in Russia and other former Soviet republics (в русском – странах). Since 1993 these activities were implementing under the framework of special bilateral Nunn-Lugar Program. As a result in last 20 years these joint efforts achieved to solve all pressing challenges related to nuclear safety&security, however there are still areas and tasks which can benefit from further cooperation (specifically, the disposal of excessive for the national security purposes weapons-useable materials and strengthening the overall nuclear security framework). On June 17, 2013, the Program came to its end, prior to what Russian and US authorized agencies have discussed the areas for cooperation beyond Nunn-Lugar, which resulted in signing of the bilateral Protocol to the Framework Agreement on a Multilateral Nuclear Environmental Program in the Russian Federation (MNEPR).²¹⁸ That step reorganized the basis of future cooperation, changing its framework from Nunn-Lugar agreement's overreliance on the donor-recipient relationship to a more balanced partnership with shared interests, joint management and governance, as well as co-funding, which were featured under MNEPR platform.

²¹⁸ Signed on 21 May 2003. See the text of MNEPR at: <<http://www.oecd-neo.org/law/MNEPR-en.pdf>>.

Program origins

After the breakdown of the USSR under the circumstances of deteriorating economic situation Russia has faced a new set of challenges in a field of nuclear nonproliferation and disarmament. Obligations to reduce its nuclear arsenals under START-1 and unilateral Presidential Nuclear Initiatives (PNIs) were undertaken by the Soviet Union and further confirmed by the Russian Federation. Thus it was needed not only to fulfill the commitments to reduce the numbers of both strategic and nonstrategic nuclear weapons (SNW and NSNW), but also to establish a safe repatriation of Soviet nuclear arsenals left in Ukraine and Kazakhstan and provide the funds for compensating these two states for the removal of HEU contained in nuclear ammunition. All those tasks were to be accomplished in a situation of a deep crisis within Russian nuclear industry. At that time Russia, which was the only post-Soviet republic who bore all the USSR international debts, wasn't able to meet its obligations in disarmament without international support. The preliminary ideas about how such support could be established were discussed by the USSR and US presidents George Bush and Mikhail Gorbachev, but the elaboration of this initiative has been presented in August 1991 by US Senator from the Democratic Party Sam Nunn, who sponsored a bill on US assistance to the USSR on a broad range of areas, including safe storage and transportation of nuclear weapons and dealing with socio-economic problems within Soviet Armed Forces²¹⁹. The initial version of this bill was met skeptically by the Oval office administration, until US Senator from the Republican Party Richard Lugar co-sponsored the bill in November 1991. That second version was concentrated mostly on assistance in safeguarding of nonproliferation and strengthening the disarmament efforts undertaken by the USSR and Russia. This 'consentrated' (i.e. limited by the number of fields to cooperate) version and its wording were interpreted by US political establishment as more relevant to the national interests than the previous ones, and it finally was approved by Congress.

Thus Cooperative Threat Reduction Program (CTR) established by aforementioned Nunn-Lugar Act embarked one of

²¹⁹ Orlov, V. (ed), *Global Partnership Against The Spread Of Weapons Of Mass Destruction (Guidebook)* (Moscow, 2005), p. 12.

the main areas of cooperation for the two decades to follow, namely – elimination of warheads and delivery systems and securing weapons-useable material and nuclear facilities. Nunn-Lugar Program²²⁰, was aimed and focused on upgrades to physical protection systems, material control and accounting measures, capabilities to detect and respond to insecurities and nuclear smuggling under new, post-Cold War circumstances. Later, on October 11th, 1993, the passage of Soviet Threat Reduction Act added the assistance to Russian nuclear weapon industry facilities and prevention of ‘brain drain’ of nuclear specialists to the ‘threshold’ states²²¹ to the list of areas to cooperate on. Initially the Act made US\$450 million available for financing priority projects to strengthen nuclear security in Russia²²², but, for example, when the 1998 crisis laid some constraints on Russian budget, the Program financing was raised to US\$ 1,08 bln²²³. Later, when Russian atomic industry got recovered from the difficult times of 1990s and the budget started to receive more revenues, Russian quota in the Program financing has been raised significantly, so the nuclear cooperation between Russia and the United States has evolved from its early 1990s focus on assistance to Russia, to full-fledged commercial cooperation in the early 2010s.

However, cooperation over the past 20 years has by no means been limited to its primary focus of addressing urgent nuclear security problems in Russia. The effects of that cooperation go much deeper. The two countries have:

²²⁰ Soviet Nuclear Threat Reduction Act, sponsored by senators Sam Nunn (D.) and Richard Lugar (R.), has finally passed through the US Congress on 12 Dec. 1991. Upon the breakdown of the USSR the document was refurbished in 1992 as Agreement Concerning the Safe and Secure Transportation, Storage and Destruction of Weapons and the Prevention of Weapons Proliferation, commonly known as the Nunn-Lugar Cooperative Threat Reduction (CTR) Umbrella Agreement, which expired on 17 June 2013.

²²¹ Threshold state is a state which political and military leadership has made a decision to embark on a nuclear weapon program and carry out works in this direction.

²²² See more: Orlov, V., Timerbaev, R., Khlopkov, A., *Nuclear Nonproliferation in US-Russian Relations: Challenges and Opportunities* (Moscow: PIR – Center, 2010), p. 177.

²²³ Orlov, V. (ed), *Global Partnership Against The Spread Of Weapons Of Mass Destruction (Guidebook)*... p. 12, pp. 20-21.

- Increased mutual trust in the nuclear area and to some extent have overcome the related suspicions which plagued the relations between Moscow and Washington during the Cold War;

- Established regular contacts not only between relevant government experts and officials but also between nuclear industries and nuclear scientists;

- Enhanced their nuclear security technologies and procedures;

- Laid the foundation for commercial cooperation; and

- Secured financial resources and nuclear expertise from other countries and involved them in various international projects on nuclear security, such as the G8 Global Partnership program launched in Kananaskis (Canada) in 2002.²²⁴

As a result of Program's implementation by the October of 2012 there were 7610 nuclear warheads deactivated (with a prospect to reach the number of 9265 by 2017)²²⁵²²⁶. Among other achievements there were dismantled and/or eliminated or sealed:

- 902 intercontinental ballistic missiles (ICBM);

- 498 ICBM silos;

- 191 ICBM Mobile Launchers;

- 33 Nuclear Weapons Carrying Submarines;

- 684 Submarine Launched Ballistic Missiles;

- 906 Nuclear Air-to-Surface Missiles;

- 155 Bombers;

- 194 Nuclear Test Tunnels\Holes.

Over 590 nuclear weapon transportation operations were established, the security of 24 nuclear weapons storage facilities was improved, 39 stations of biological threats monitoring were constructed and equipped. Ukraine, Belarus and Kazakhstan became nuclear-free countries i.e. non-nuclear weapon states (NWS). Despite the significant assistance by the USA, the main

²²⁴ Khlopkov, A., Konukhov, D., Lee, B., Lieggi S., et al. 'US-Russian Partnership for Advancing a Nuclear Security Agenda: Recommendation for US-Russian cooperation in strengthening nuclear security in the former Soviet states and Southeast Asia', June 2012, <<http://www.nti.org/analysis/reports/new-paper-promotes-us-russian-cooperation-security/>>.

²²⁵ Kozichev, E., 'How the Nunn-Lugar Program Has Been Implementing', *Kommersant*, 10 Oct. 2012. <<http://www.kommersant.ru/doc/2040919>>.

²²⁶ 'Nunn-Lugar CTR Scorecard', US Defense Threat Reduction Agency, May 2013, <<http://www.dtra.mil/Missions/Nunn-Lugar/scorecards.aspx>>.

part of strategic offensive warheads was eliminated by Russian financial efforts. The Program created the International Science and Technology Center (ISTC), which was responsible for short-term financing of projects, which engaged about 30 thousands scientists and technical specialists previously involved into the WMD and delivery systems research activities.

CTR Program experienced some legal, political, or technical problems, particularly as it began to expand in the mid- to late-1990s, and as many new actors, facilities, and areas of cooperation were added to the original focus of the CTR efforts.

Thus, speaking about political issues, one can refer to the fact that among the initial conditions proposed by US side to start a cooperation within Nunn-Lugar Program there were two disputable issues: oversight for Russian military R&D works in sight of its adequacy for defense purposes and control over nuclear disarmament process on every stage, not to mention the proposal for Russia to compensate US assistance by paying with oil\gas deliveries. These conditions were considered by Russia as unacceptable, especially in sight of budget constraints in the beginning of 1990s.²²⁷ These conditions have been withdrawn only after Russia threatened to cancel the negotiations process at all.

Among other impediments that prevented cooperation from being even more successful and productive were:

- an inability to establish a required legal and institutional framework for cooperation in a timely manner, causing substantial delays in implementation, as remains the case with the plutonium disposition program;

- a failure to negotiate clear parameters and requirements for all stages of the project, including associated verification and access procedures, as was the case with the construction of the fissile material storage facility at Mayak;

- an overreliance on the donor-recipient relationship as opposed to a gradual transformation into a true partnership that included shared interests, joint management and governance, as well as co-funding. One of the most notorious examples of an inability by both sides to adapt and transform resulted in the

²²⁷ Mikhailov, V., 'Shorthand Record's Points. Peoples Deputies Congress of June 17, 1992', In Orlov, V. (ed), *Global Partnership Against The Spread Of Weapons Of Mass Destruction (Guidebook)*... p.. 15.

withdrawal of the Russian Federation from the International Science and Technology Center (ISTC);

- an absence of a well-developed implementation plan spanning the entire cycle of the project, not just initial scoping efforts. A joint Russian-US feasibility study on the possible conversion of six Russian research reactors from HEU to LEU is one such recent example.²²⁸

Beyond Nunn-Lugar: reformatting cooperation

Nevertheless the cooperation under Nunn-Lugar umbrella has left a successful legacy: both sides learned the hard way of how to discuss its contradictions in sensitive areas and pursue reciprocal strategic interests. The Cold War rivalry made way for cooperation. Nunn-Lugar umbrella became a basis for several projects in related spheres, not only between Russia and the USA, but also on multilateral level. Other huge success – HEU-LEU Agreement, under which more than 500 tons of HEU were converted to LEU and shipped to the USA to power its NPPs on commercial basis; which has generated an estimated \$17 billion in revenue for the Russian state (not taking into account its indirect positive effects)²²⁹; and which is to be concluded by 2014 – might not even take place, if not for Nunn-Lugar.

Despite all the successes of Nunn-Lugar Program, expert community was proposing some changes to include into cooperation's legal framework in order to comply with recent developments of Russian nuclear industry. Russian side estimated the cooperation as unequal since the Program's framework was tough on nuclear damage responsibility conditions, access of US specialists to Russian strategic facilities, the donor-recipient relationship. Russia was constantly increasing its share of

²²⁸ Khlopkov, A., Konukhov, D., Lee, B., Lieggi S., et al. 'US-Russian Partnership for Advancing a Nuclear Security Agenda: Recommendation for US-Russian cooperation in strengthening nuclear security in the former Soviet states and Southeast Asia'...

²²⁹ Khlopkov, A., Neff, Th., Aboimov, M., 'Megatons to Megawatts Program: Hard Lessons and New Opportunities for US-Russian Nuclear Cooperation', *Russia Direct Quarterly Report*, March 2014, <<http://www.russia-direct.org/quarterly-megatons-megawatts-program>>.

Program's financing over these decades and recently became disinterested of even showing a slightest notion that the USA are paying for physical security of Russian warheads and related nuclear materials. In other words, Moscow wasn't ready to continue the CTR agreement at all because it no longer needs Washington's financial assistance to carry out the program and does not want to risk revealing sensitive information to the United States. Also Moscow had resented being dependent on Washington to pay for securing its own weapons.²³⁰

The terms of Soviet Nuclear Threat Reduction Act expired on June 17, 2013. Prior to that, on June 14, Russia and the USA have discussed the areas for cooperation beyond Nunn-Lugar, which resulted in signing of the bilateral Protocol to the Framework Agreement on a Multilateral Nuclear Environmental Program in the Russian Federation (MNEPR). According to the document, the cooperation between two parties will be continued on a broad range of areas, including but not limited to:

- improving security of nuclear and radiological material;
 - customs control of nuclear and radioactive material;
 - recovery and securing of radioactive sources;
 - consolidation of nuclear material and conversion of excess highly enriched uranium (HEU) to low enriched uranium (LEU);
 - conversion of HEU research reactors to operate with LEU;
- and
- nuclear submarine dismantlement.²³¹

Countering the over-reliance of 'donor-recipient' style of collaboration, under the new framework the Russian Federation will assume the costs and complete without further US assistance two areas of bilateral CTR cooperation previously covered by the CTR framework, namely - ballistic missile elimination and chemical weapons destruction. From the US side Departments of Energy and Defense remained involved as agreement's implementation executive agents, from Russian side this list was concluded by

²³⁰ Horner, D., Collina, T., 'Nunn-Lugar Program Scaled Back', *Arms Control Today*, July/Aug. 2013. <http://www.armscontrol.org/act/2013_0708/Nunn-Lugar-Program-Scaled-Back%20>.

²³¹ *Protocol to the 2003 Framework Agreement on a Multilateral Nuclear Environmental Programme in the Russian Federation (MNEPR)*, 14 June 2013, <[http://www.mid.ru/bdomp/graf_site.nsf/webrus/20130092/\\$FILE/13_92.pdf](http://www.mid.ru/bdomp/graf_site.nsf/webrus/20130092/$FILE/13_92.pdf)>.

‘Rosatom’ State Corporation, Federal Customs Service and Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor).

Later, in September 2013, two parties signed Agreement on Cooperation in Nuclear- and Energy-Related Scientific Research and Development²³², which marked joint efforts to further shift to more balanced cooperation. The document entered into force on January 24, 2014, and sets the framework for collaboration on research in fields of:

- civil nuclear energy;
- nuclear nonproliferation and nuclear security, including measures in support of International Atomic Energy Agency (IAEA) safeguards, security, technology development;
- nuclear science and technologies;
- controlled thermonuclear fusion, experimental, theoretical and computational work; safety and materials; technologies for fusion energy, etc.;
- international cooperation aspects of peaceful uses of nuclear energy, including development and implementation of advanced nuclear security and safety and radiation safety technologies;
- use of nuclear and radiation technologies for medical, industrial, and other peaceful purposes;
- education in the area of nuclear science and technology, including issues of systematization and preservation of knowledge on nuclear and radiation technologies²³³.

The parties’ executive agents for implementation of this agreement became ‘Rosatom’ State Corporation from the Russian side and the Department of Energy – from the US side.

First steps into reformatting the cooperation framework were made by signing of the Agreement for Cooperation in the Field of

²³² *Agreement between the Government of the United States of America and the Government of the Russian Federation on Cooperation in Nuclear- and Energy-Related Scientific Research and Development*, Vienna, 16 Sep. 2013.

<<http://fissilematerials.org/library/u-s-department-of-energy-agreement-with-rosatom.pdf>>.

²³³ For more thorough analysis of the Agreement on nuclear science and technology cooperation see: Lysenko, M., ‘Nuclear Nonproliferation Remains a Priority in Russian-US Relations’, *Security Index*, 2014. No 1(108), 20, pp. 19-28. <<http://pircenter.org/media/content/files/12/13898754210.pdf>>.

Peaceful Uses of Nuclear Energy, referred to as the US-Russia 123 Agreement, entered into the force in January 2011.²³⁴ Set of objectives to pursue within Russian-American cooperation drifted from nuclear safety area (which Russia can manage itself by now) to the cooperation on civil atomic energy R&D projects. The stock of existed projects in this area remains limited and doesn't require the framework of 123 Agreement, since all the cooperative measures were covered by less comprehensive agreements.

During the two decades of Nunn-Lugar era, the executive agents of the cooperation had also been changed. From the beginning the Department of Defense acted as a main counteragent from the US side was, right now the greater part of projects is under Department's of Energy supervision. As part of efforts to fulfill the framework of cooperation two countries set up a bilateral Senior Interagency Working Group²³⁵ led by Alexander Rumyantsev, head of the Federal Agency on Atomic Energy (which has since become the 'Rosatom' State Corporation) and Samuel Bodman, the US Energy Secretary. Later on the working group's remit was transferred to the new Nuclear Energy and Nuclear Security Working Group under the Russian-US Bilateral Presidential Commission, which is co-chaired by the Rosatom Director Genral, Sergey Kiriyyenko, and US Deputy Secretary of Energy Dan Poneman. This Working Group is aimed to catalyze the cooperation in civil atomic energy use, for which the balance between the two topics mentioned in Group's name is required, since nuclear security issues has been dominating over civil atomic energy cooperation's questions until recently. For example, Working Group's Joint Statement of December 6-7, 2010, defined eleven

²³⁴ Initially signed on 6 May 2008 by Rosatom Director General Sergey Kirienko and US Ambassador to the Russian Federation William Burns, but its entering into force was postponed several times by various technical and political reasons till 9 Dec. 2010. See: Khlopkov, A., 'US-Russian 123 Agreement Enters Into Force: What Next?', *Nuclear Club Journal*, No 5-6, 2010, <<http://ceness-russia.org/data/doc/US-Russian-123-Agreement-Enters-Into-Force-What-Next.pdf>>.

²³⁵ Bilateral Senior Interagency Working Group was created as a result of agreements reached during the Russian-US presidential summit in Bratislava, on 24 Feb. 2005, to facilitate the cooperation on nuclear security and joint projects. The Group became an important instrument of political assistance to the cooperation on Nunn-Lugar and Global Partnership Programs.

steps to implement in short and middle terms, and all of these steps are related mostly to nuclear security field.²³⁶

As of today, the main part of challenges to face within Nunn-Lugar Program has been already solved over the years of cooperation, and Russian nuclear industry not only is already capable to bear the costs of improving nuclear security in Russia, but even aims to penetrate US nuclear markets. As of January 2014, for example, JSC ‘Tekhsnabexport’ (‘TENEX’) had 13 commercial contracts with the total value of \$11 bln to provide enrichment services in the USA for a 2013-2025 time frame.

As the Nunn-Lugar programs wind down in Russia and the international community increases its attention to global nuclear security – reflected in initiatives such as the Nuclear Security Summits, UNSCR 1540, GICNT, and others – the two countries have an opportunity to expand their cooperation in countries with which the United States or the Russian Federation have historical ties, have formed new partnerships, or have concluded contracts for the construction of nuclear power plants or other nuclear infrastructure. The expiration of CTR in 2013 provides both countries a unique opportunity to transform their foundation of bilateral cooperation into a true partnership with a global reach.²³⁷

This can be done through considering the best practices of Russian-US cooperation of past years. One of the more recent programs perceived as a success story is cooperation in the conversion of research reactors from HEU to LEU and repatriation of fresh and irradiated HEU fuel from third countries. While Russia has been involved in the Russian Research Reactor Fuel Return (RERTR) program for a long time²³⁸, concerted efforts to expedite

²³⁶ Joint Statement on the Results of the Nuclear Energy and Nuclear Security Working Group Meeting. 6-7 Dec. 2010, <http://energy.gov/sites/prod/files/edg/news/documents/2010_Nuclear_Security_Joint_Statement.pdf>.

²³⁷ Khlopkov, A., Konukhov, D., Lee, B., Lieggi S., et al. ‘US-Russian Partnership for Advancing a Nuclear Security Agenda: Recommendation for US-Russian cooperation in strengthening nuclear security in the former Soviet states and Southeast Asia’...

²³⁸ On 27 May 2004 Russia and the United States signed a bilateral Agreement Concerning Cooperation for the Transfer of Russian-Produced Research Reactor Nuclear Fuel to the Russian Federation, which formed the legal framework for Russian-US cooperation in the removal of research reactor fuel of Russian origin back to Russia. The Agreement was to remain in force for a 10-year period. In

the removal of HEU fuel and conversion of research reactors to LEU received a major boost with the launch of the US-led Global Threat Reduction Program in 2004 and, later, support from the US-Russian 2005 Bratislava Initiative.

As a result of this Program a total of 790 kg of fresh HEU fuel and 1,269 kg of irradiated HEU fuel had been removed to Russia, for a total of 2,059 kg. That amount of material would have been enough to make more than 80 nuclear devices.²³⁹ A total of 2,529 kg of nuclear fuel is to be removed under the RRRFR program by 2016.²⁴⁰ As of March 1, 2014 all HEU fuel has been completely removed from nine out of the 14 states that participate in the RRRFR program, including Bulgaria, the Czech Republic, Hungary, Latvia, Libya, Romania, Serbia, Ukraine, and Vietnam. Fresh HEU-based fuel has yet to be removed only from Belarus. There is also some spent HEU fuel left in Germany, Kazakhstan, Poland, and Uzbekistan. In Poland and Kazakhstan, HEU fuel remained in the reactor cores until recently, so it will now need some time to “cool down” before it can be transported. The plan is to remove that fuel from both countries in 2014-2016.²⁴¹

There is a general recognition both in Russia and the United States that RRRFR is one of the most successful bilateral programs not just in the area of nonproliferation but in Russian-US

December 2013, when that original term was approaching its end, the two countries extended the agreement for another 10 years until 27 May 2024. See more: *Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning Cooperation for the Transfer of Russian-produced Research Reactor Nuclear Fuel to the Russian Federation*, 27 May 2004, <<https://www.fas.org/irp/world/russia/fuel-2004.pdf>>.

²³⁹ *Joint Statement of the Co-Chairs of the Nuclear Energy and Nuclear Security Working Group of the Bilateral US - Russia Presidential Commission*, 26 June 2013, <<http://energy.gov/articles/joint-statement-co-chairs-nuclear-energy-and-nuclear-security-working-group-bilateral-us>>; ‘Last Batch of HEU-based Nuclear Fuel Removed from Hungary to Russia’, Nuclear.Ru, 5 Nov. 2013, <<http://nuclear.ru/news/75180/>>; ‘Vietnam Removes High Enriched Uranium Research Reactor Fuel’, IAEA, 3 July 2013, <<http://www.iaea.org/newscenter/news/2013/vietnamheu.html>>.

²⁴⁰ Highly-Enriched Nuclear Fuel Removed from the Czech Republic to Russia. Communications Department of Rosatom, 8 Apr. 2013, <<http://www.rosatom.ru/journalist/news/b55027804f2f3426a72affe78e7a3442>>.

²⁴¹ Khlopkov, A., Konukhov, D., ‘RRRFR Program: Contribution to Nuclear Nonproliferation and Russian-US Relations’, 19 Mar. 2014, <http://ceness-russia.org/data/doc/14-03-20_RRRFR_Article_ENG.pdf>.

cooperation as a whole. Russian Deputy Foreign Minister Sergey Ryabkov has described the program as an almost perfect example of cooperation²⁴². Igor Bolshinsky, the project manager of the program representing the US Department of Energy, believes that the experience of cooperation under the RRRFR program is unique in terms of the coordination of joint Russian and US efforts in third countries²⁴³. Factors contributing to the success of this program were:

- Political flexibility and coordination, allowing either country to take the lead in negotiating the removal efforts.
- IAEA coordination and participation in the project.
- Clear understanding of the safety and security benefits of the project by all participants.²⁴⁴

One of the underreported benefits of US-Russian cooperation has been the widespread introduction of Russian-designed and manufactured detection equipment at former Soviet Union border crossing points. As part of the Second Line of Defense (SLD) program between the Russian Federal Customs Service and the US Department of Energy, 383 border crossings and international mail exchanges have been equipped with radiation detection systems.²⁴⁵ This equipment includes Yantar monitors, a fixed-position system that can screen passengers, luggage, international mail, cars, trucks and railway carriages for radiation. There are also several man-portable versions of the device. One of the most distinctive features of the SLD was its 50/50 financing throughout the entire term of the program. The United States has provided financing for 124 facilities, Russia for 123, with joint financing for another 136 facilities.

The depth of historical and specialized knowledge built through this multi-decade collaboration can serve as a solid

²⁴² Russian Deputy Foreign Minister Sergey Ryabkov's address to the participants of Joint Russian-US tabletop exercise on avoiding illicit nuclear material trafficking (Moscow, 23 May 2011).

²⁴³ Khlopkov, A., Konukhov, D., 'RRRFR Program: Contribution to Nuclear Nonproliferation and Russian-US Relations'...

²⁴⁴ Khlopkov, A., Konukhov, D., Lee, B., Lieggi S., et al. 'US-Russian Partnership for Advancing a Nuclear Security Agenda: Recommendation for US-Russian cooperation in strengthening nuclear security in the former Soviet states and Southeast Asia'...

²⁴⁵ Ibid.

foundation to significantly advance and accelerate nuclear security, bilaterally and even multilaterally. After 20 years of US-Russian cooperation, some principles for success have emerged, which can be considered as a useful starting point when considering new cooperative projects:

- **Address challenges recognized by all key stakeholders.**

Lack of support for the project at the implementation level of participating governments makes a project more vulnerable to various problems, even if it has the backing from the states' top leadership.

- **Need for host states to provide co-funding in cash or in kind.** Co-funding makes a project more sustainable not only in the event of the donor's exit, but also in situations when funding is delayed due to domestic legal or other difficulties.

- **Use of indigenous technology whenever available.** Using local technology reduces the cost of maintaining the equipment involved and, in some cases, can also contribute to the development of relevant technologies for all participating states.

- **Reliance on local specialists and contractors.** Use of local specialists creates local jobs and generates broad support for the project among the host country's private sector. The private sector, in turn, builds positive goodwill among the general public and relevant officials.

- **Infrastructure for human capacity building.** The sustainability of security projects relies on the availability of adequately trained human resources and the capability of the country to ensure the supply of specialists on a continuing basis. Training programs established under the umbrella of leading universities tend to be the most sustainable.

- **Extraterritorial significance/importance.** A project is more sustainable if it also serves the needs of other countries, especially the neighboring countries and the region as a whole. This principle is especially relevant to projects that focus on training or include equipment and technology development, so that the benefits of the project can be shared with other countries.

- **Sustainment strategy from the start of the project.** At a minimum, a sustainment strategy should address how the project will be managed and funded when the initial funder steps down, and

how the project will be modernized or adjusted after a certain period of time.²⁴⁶

* * *

Starting in 1991 and throughout the two decades main challenges to the nuclear security and nuclear nonproliferation regimes were greatly reduced by efforts under the Nunn-Lugar umbrella, which were focused on upgrades to physical protection systems, material control and accounting measures, capabilities to detect and respond to insecurities and nuclear smuggling in Russia and former Soviet Union states.

These efforts, as well as bilateral relations between the Russian Federation and the USA in general, have evolved and are no longer based on financial and technical assistance of one country to another. Several of these programs, like RRRFR and SLD, have been transformed into true partnerships based on shared resources and equal contribution of expertise and technology. Russian-US cooperation under the Nunn-Lugar umbrella has enabled the two countries to accumulate valuable expertise and experience of practical cooperation in sensitive areas. The expiration of CTR in 2013 provides both countries a unique opportunity to transform their foundation of bilateral cooperation into a true partnership with a global reach, first of all – in civil nuclear energy field.

More of it, the cooperation between two countries presents itself as a unique example of cooperation of nuclear states in a field of nuclear security and nonproliferation. Areas of such collaboration – transportation, safe storage and dismantlement of nuclear weapons – marked the unprecedented level of mutual trust after the Cold War era gained by the middle of 1990s. The transformation of the cooperation to a more balanced (between nuclear security and civil nuclear energy) agenda has been started in 2010s and may even not existed if not for Nunn-Lugar experience.

²⁴⁶ Khlopkov, A., Konukhov, D., Lee, B., Lieggi S., et al. 'US-Russian Partnership for Advancing a Nuclear Security Agenda: Recommendation for US-Russian cooperation in strengthening nuclear security in the former Soviet states and Southeast Asia'...

This experience should be cherished because the cooperation in field of nuclear nonproliferation presents itself as a most successful and significant bilateral collaboration in Russian-US cooperation as a whole. At the same time low levels of commercial intercourse between two countries, series of political *demarches* (Magnitsky Act and Dima Yakovlev's Act) growing confrontations on ABM system in Europe, situation over Libya and Syria, led to a significant cooling of bilateral relations over the past years, which marked the end of the 'reset' process, started under Barack Obama and Dmitry Medvedev. The situation over Ukraine and Crimea has consummated the U-turn in relations, which resulted in Washington spearheading the implementation of sanctions against cooperation with Russia. Many experts had already commented, that experience of cooperation in sensitive areas, like nuclear security, nonproliferation and disarmament, which is so hard-to-gain and easy-to-lose, may also be used by certain political groups as a leverage against Russia on Ukraine issues²⁴⁷.

²⁴⁷ Guarino, D., 'US Nuclear Security Efforts in Russia Stalled Amid Ongoing Ukraine Crisis', Global Security Newswire, 5 Mar. 2014. <<http://www.nti.org/gsn/article/us-nuclear-security-efforts-russia-stalled-amid-ongoing-ukraine-crisis/>>.

10. RUSSIA'S MILITARY-TECHNICAL COOPERATION WITH BRICS COUNTRIES: KEY ASPECTS

Marianna YEVTODYEVA

Objectives of Russia's military-technical cooperation with BRICS countries

Since the formation of informal association of the BRIC countries²⁴⁸ which in 2011 with accession of the Republic of South Africa was transformed into BRICS, the Russian Federation pays considerable attention to development of the military-technical cooperation (MTC)²⁴⁹ with its participating countries.

Two BRICS countries – India and China – remain for today the largest buyers of the Russian arms and military equipment (AME). Besides, both of these countries, along with Brazil and the

²⁴⁸ The first short meeting of heads of states of BRIC countries which took place after a 'Group of Eight' meeting was held in July 2008. The first summit of BRIC with participation of heads of states of the association took place on 16 July 2009 in Yekaterinburg.

²⁴⁹ Military-technical cooperation, according to the Federal Law 'On Military-Technical Cooperation of the Russian Federation with Foreign States' of 19 July 1998 (No. 114-FZ), is understood 'as activity in the field of international relations, connected with export and import, including delivery or purchase, of military products, and also with development and production of military products'. To the military products (MP) this act imputes arms, military equipment, works, services, results of intellectual activity, including exclusive rights to them (intellectual property) and information of military-technical relevance, 19 July 1998, <<http://www.fsvts.gov.ru/materials/492A334D72F0E528C325745C00335DEF.html>>.

Republic of South Africa (South Africa, SAR), are also significant trade and economic partners of Russia with whom the turnover grows every year²⁵⁰. Experts predict the further growth of trade, economic and investment interactions between the BRICS countries, and also their active cooperation in the sphere of international policy and security, in the field of reforming of the international monetary system, integration of national economies of the participating countries, multilateral interaction in exploitation of natural resources, as well as in spheres of industry, science&technology and innovations²⁵¹. Thus the sphere of MTS can be designated as a significant, but by no means paramount area of interaction which the BRICS countries at present time carry out.

Nevertheless, the Russian Federation plans to develop military-technical cooperation with BRICS countries in wider scale and on wider basis, than with some other foreign states and unions of states. Some statements of Russian officials from 'Rosoboronexport' and Federal Service for Military-Technical Cooperation of Russia (FSMT)²⁵² as well as some other the events related to development of Russia's MTC system indicate on it.

Recently the Russian president Vladimir Putin within the meeting of the Commission on military-technical cooperation highlighted the key directions and tasks in the field of MTC with BRICS countries which realization the Russian party will promote. V. Putin has emphasized that MTC of Russia with partners within the BRICS group and Vietnam 'has to come to qualitatively new level'. This meant the solution of such tasks, as *development of production cooperation, carrying out joint research and development projects (R&D), creation of effective system of after-sale servicing, joint entry into the markets of third countries,*

²⁵⁰ Volumes of turnover of the BRICS countries in 2011. See the table in the article: Toloraya, G., BRICS: Attempt of Coordination of Long-Term Strategy, <http://russiancouncil.ru/inner/?id_4=1506#top>, 7 Mar. 2013.

²⁵¹ BRICS and Beyond. Goldman Sachs Global Economics Group, 2007, <<http://www.goldmansachs.com/our-thinking/archive/archive-pdfs/brics-book/brics-full-book.pdf>>; Kulkov, I., 'Parities of BRICS', *UNIDO in Russia*, No 8, 2012, <http://www.unido-russia.ru/archive/num8/art8_6/>.

²⁵² OAO 'Rosoboronexport' as a part of 'Rostec' state corporation, is the state intermediary in the Russian Federation which is able to conduct trade in the export markets of military products, technologies and services. FSMT is the main specialized federal body which exercises coordination and control in the field of MTC of Russia with foreign states.

*amongst others with products released jointly in the framework of agreements on licensed arms production*²⁵³.

In realization of these tasks Russia seeks to rely on strengthening of trade, economic and investment interaction with BRICS countries, growing technological, industrial and scientific capacities of partners of the association.

Also development of the MTC with BRICS states in a certain degree can be promoted by actively developing political dialogue between the partner countries, including contemplated ‘coordination of activities on a wide range of issues of the global and regional agenda’²⁵⁴.

At the same time it is necessary to emphasize, that according to the Concept of participation of the Russian Federation in BRICS approved on March 21, 2013 the BRICS format “does not provide for dealing with military-political issues and for the creation of mechanisms of cooperation in the military sphere”. Such approach is, most likely, not only especially Russian, but agreed by all association’s member countries decision. It means that MTC of the BRICS members will develop only in a bilateral format, and at the same time no any special instruments of coordination of military-technical, and, more widely, military-political interaction at the level of the association will be created, unlike some other directions of interaction of the participating countries (for example, in the sphere of international security, science, industry and innovations, etc.).

Objective of this study is to consider the issue how far Russia and its respective authorities and agencies dealing with problems of military-technical cooperation manage to develop MTC with BRICS countries within priority tasks designated above. Both differences of conditions of military-technical interactions with each of BRICS countries and features of their arms markets,

²⁵³ Meeting of the Commission on military-technical cooperation with the foreign countries, Moscow region, Novo-Ogarevo, 17 Oct. 2012, <<http://news.kremlin.ru/news/16673>>.

²⁵⁴ In more detail about the directions, purposes and formats of cooperation of the Russian Federation with BRICS countries see in the Concept of participation of the Russian Federation in BRICS, <<http://news.kremlin.ru/media/events/files/41d452a8a232b2f6f8a5.pdf>>, 21 Mar. 2013.

purchasing policy and some other factors are taken herewith into consideration.

Brazil and South Africa: tuning up ties

In the process of developing of arms markets of BRICS partners Brazil and the South Africa, Russian arms exporters have to consider their certain specific features, consisting, on the one hand, that they have rather small capacity²⁵⁵, and on the other hand, that leading suppliers for armed forces of both countries within the last decades were the American and European producers of arms and military equipment. One more important feature of Brazil and the South Africa is that they have duly highly developed own military industry – at least, a number of its sectors. Thereafter both countries are interested not so much in direct purchases of weapon products, as in conclusion of agreements on licensed production of AME in which they are interested, and also in access to up-to-date technologies for their production.

The following examples can confirm it. Brazil, since 2000, has bought from France as at one of the leading suppliers of arms and military equipment Clemenceau aircraft carrier (transferred from the French military Forces), 12 upgraded multi-purpose combat aircraft Mirage-2000 B/C, 12 upgraded multi-purpose helicopters AS-532 Cougar (a half of them were produced in Brazil under the license agreement), a big consignment of the EC-225/EC-275 helicopters, and signed contracts on licensed construction at the Brazilian enterprises of 6 patrol boats Vigilant P-400 and of 4 diesel Scorpene submarines. With the USA during the same period agreements on purchase of 9 planes of basic patrol aircraft of P-3A/B Orion, 10 anti-submarine SH-60B Seahawk helicopters, more than 20 multi-purpose UH-60L Black Hawk helicopters, and also the agreement on modernization of fighting systems on 5 Brazilian submarines of the classes Tupi and Tikuna Type-209/1400 were

²⁵⁵ According to the SIPRI database, Brazil in 2008-2012 imported arms for the sum of 1425 million dollars, and the Republic of South Africa – on 1116 million dollars. For comparison, India and China for the same period bought only from the Russian Federation arms and military equipment on \$12,384 and 5,148 bln respectively. SIPRI Arms Transfers Database, retrieved 26 Nov. 2013.

concluded. Other largest suppliers of AME for needs of the Brazilian armed forces were Germany, Great Britain, Italy and Israel²⁵⁶.

Among the most significant orders of the Republic of South Africa in the 2000th years one should noted the purchase of 26 multirole JAS-39C Gripen fighter aircraft from Sweden, 12 Hawk-100 training combat aircrafts from Great Britain, 30 light A-109K helicopters from Italy, and also three Type-209/1400 submarines and some other armaments from Germany. Practically all these transactions provided application of offset programs within which the exporters had made investments in the defensive industry of South Africa²⁵⁷.

As far as can be judged from the mentioned contracts, the aviation market and production market for the Navy of Brazil and the Republic of South Africa are almost completely “occupied” with the largest defense companies of the USA and European countries. Thus, opportunities of Russian Federation in military-technical cooperation with these countries are quite limited. This *is evidenced* among others by the figures on volumes of MTC and purchases of arms and equipment by these countries from Russian companies.

According to the SIPRI estimates, Russia in 2008-2012 delivered to Brazil arms and military equipment on 161 million dollars, and to the Republic of South Africa there were no deliveries of AME at all²⁵⁸. The Rostec corporation announced more higher figures on military export to Brazil for the same period (the sum of \$306,7 million was mentioned)²⁵⁹, however it doesn't change the general trend.

²⁵⁶ Transfers of major conventional weapons to Brazil, 2008-2012. SIPRI Arms Transfers Database, information generated 26 Nov. 2013; ‘Military import of the countries of Latin America in 2001-2008’, CAVAT, Analytical materials to the exhibition FIDAE-2010, Santiago, Chile, pp. 21-23, <<http://www.armstrade.org/files/expo/FIDAE-1.pdf>>.

²⁵⁷ Transfers of major conventional weapons to South Africa, 2008-2012, SIPRI Arms Transfers Database, information generated 26 Nov. 2013.

²⁵⁸ Volume of military export of Russia, 2008-2012, SIPRI Arms Transfers Database, information generated 31 Oct. 2013.

²⁵⁹ ‘Brazil will buy surface-to-air missile systems from Russia on billion dollars’, Lenta.ru, 4 Feb. 2013.

Russia still did not succeed to offer large contacts in the military-technical cooperation to the South Africa which would be approved by the country's Defense Ministry. Only by the beginning of 2013 Russia and the Republic of South Africa started realizing a number of small projects in scientific-technical and military-technical area to which can be referred: the opening in Johannesburg of the regional Russian helicopter maintenance facility; the use of the space center in the South Africa for data acquisition from the Russian satellites; and installation of optical system for more accurate reception of signals of GLONASS system in the southern hemisphere. As a result of the Russian-South African negotiations in Durban that have taken place in March, 2013 after the fifth summit of the BRICS countries, the agreement on coproduction of Ansat-class light multi-mission helicopters was also reached, and talks on supplying MS-21 Russian passenger jets to South Africa continued²⁶⁰.

With Brazil, since 2008 when the Russian-Brazilian intergovernmental agreement on military-technical cooperation was concluded, interactions in military-technical area developed more actively. In five years from 2008 to 2012 250 Igla-S portable surface-to-air missiles (SAM), 12 multi-purpose combat Mi-35M helicopters and 150 Storm anti-tank missiles for the Mi-35 helicopters were delivered from Russia to the Brazilian military²⁶¹. The Rostec corporation and the Brazilian company Odebrecht Defesa e Tecnologia have signed in December, 2012 the memorandum on production of helicopters of a line of Mi-171 in the territory of Brazil. In February, 2013 within the visit to Brazil of Russian Prime Minister D. Medvedev the declaration on intentions concerning military-technical cooperation with Brazil in the field of air defense was signed²⁶². Along the line of formation of after-sale servicing (ASS) of the Russian equipment in Brazil it is planned to establish the helicopter maintenance facility (primarily, for servicing of Mi-35), and besides to organize in cooperation with the Odebrecht company servicing and repair of other types of

²⁶⁰ Vladimir Putin made a working visit to South Africa at the invitation of President Jacob Zuma, 26 Mar. 2013, <<http://eng.kremlin.ru/news/5172>>.

²⁶¹ Transfers of major conventional weapons from Russia to Brazil, 2008-2012, SIPRI Arms Transfers Database, information generated 31 Oct. 2013.

²⁶² Paniyev, Yu., 'Brazil will be put on a needle (Igla)', *Nezavisimaya gazeta*, 22 Feb. 2013, <http://www.ng.ru/world/2013-02-22/8_brazil.html>.

production of military and civil use²⁶³. In the space industry construction and putting into operation in February, 2013 in the capital of Brazil of GLONASS station of differential correction and monitoring was also a big success²⁶⁴.

Thus, aviation and space industries (plus, in a case of Brazil – the sphere of air defense) became very successful ‘niches’ for military-technical cooperation with Brazil and the Republic of South Africa. As for prospects of interactions in MTC with both countries, with the Republic of South Africa projects on joint assembling of multi-purpose helicopters, and also carrying out research and development on some other samples of military equipment, including radar-tracking systems and rocket engines are thrashed out now²⁶⁵. With Brazil the contract for delivery of Russian armored cars ‘Tiger’²⁶⁶, the agreement on delivery of three batteries of the Pantsir-S1 surface-to-air missile and anti-aircraft artillery systems and several tens of ‘Igla’ portable SAM systems in addition to the already bought²⁶⁷ are further discussed. By information of the media, total amount of the deal on ‘Pantsir’ and ‘Igla’ SAM systems could reach one billion dollars, and one of important conditions of the contract from the Brazilian side is transfer of technological documentation on production of these systems by means of which their licensed production in Brazil will be initiated.

²⁶³ ‘Brazil will be engaged in production of the Mi-171 helicopters’, Lenta.ru, 17 Dec. 2012.

²⁶⁴ ‘In the Western hemisphere the first land station of monitoring of GLONASS began to work’, *Kommersant*, 19 Feb. 2013, <<http://www.kommersant.ru/news/2131315?isSearch=True>>.

²⁶⁵ ‘Rosoboronexport’ will present for the first time at an exhibition in the Republic of South Africa some natural samples, CAVAT, 18 Sep. 2012, <http://vpk.name/news/75476_rosoboronekспорт_vpervyie_predstavit_na_vyistavke_v_yuar_srazu_neskolko_naturnyih_obrazcov.html>.

²⁶⁶ ‘Interview of the First deputy director of FSMT of Russia A.V. Fomin to Interfax agency’, 27 Feb. 2012, <<http://www.fsvts.gov.ru/materials/C19B9716E1FF8D9244257B1700492179.html>>.

²⁶⁷ Interest of Brazil in purchase of three batteries of Pantsir-S1 air defense missile-gun systems and two batteries of portable SAMs Igla was declared in February, 2013 by the chief of the Joint General Staff of Brazil José Carlos de Nardie, Paniyev, Yu., ‘Brazil will be put on a needle (Igla)’...

Among other perspective projects which are considered at the moment by this country, possible accession of the Brazilian party to the Russian-Indian project on development and production of the fifth generation jet fighter T-50 can be mentioned (in Russian - PAK FA, Prospective Airborne Complex of Frontline Aviation). According to the experts, discussions on prospects of cooperation on development of the fifth generation fighter have certain chances of success, considering that T-50 – actually only fifth generation fighter which Brazil can receive in the near future on condition of its producing at its own enterprises²⁶⁸.

Earlier experts had discussed also the opportunities of participation of Sukhoi holding with Su-35 multi-purpose fighters in the tender on purchase of 36 fighters for needs of the Brazilian Air Force (the contract sum - about 4 bln. dollars), however in December, 2013 the Brazilian Defense Ministry declared the winner of the tender Swedish Saab with JAS-39E ‘Gripen’²⁶⁹.

Problems and prospects of MTC with China

Although China remains the second largest buyer of the Russian arms and military equipment, Russia had experienced in recent years many problems and difficulties in relations with its east neighbor in the sphere of MTC. Since 2004-2005 *export of the Russian arms to China is being decreased significantly*, a large number of the contracts declared earlier were cancelled²⁷⁰. The volumes of contracts negotiated with PRC have gradually

²⁶⁸ Kramnik, I., ‘Russia-Brazil: from helicopters to PAK FA?’, Voice of Russia, 10 Apr. 2013, <http://rus.ruvr.ru/2013_04_10/Rossija-Brazilija-ot-vertoletov-k-PAK-FA/>.

²⁶⁹ Russia insisted on inclusion of the Su-35 jets in the tender which has been excluded earlier from competition. The corresponding inquiry was made, particularly, during the visit by the minister of defense of the Russian Federation Sergey Shoigu to Brazil in October 2013. See: ‘Shoigu will try to incline Brazil to T-50’, *Military parity*, 15 Oct. 2013, <http://www.militaryparitet.com/ttp/data/ic_ttp/6171/>.

²⁷⁰ China refused to turn into the firm contract the order on delivery about one hundred of technological sets for licensed producing of Su-27SK, and didn't order after the first the second squadron of the naval fighter jets Su-30MK2 (the first delivery of 24 fighters to the PRC was made in 2004).

decreased²⁷¹; as a result by 2007 the People's Republic of China gave place of the largest importer of Russian AME to India. By this time China thanks to active development of defense sector turned itself into rather large producer and seller of AME, having become also the powerful competitor of Russia in the world's arms market.

The most significant agreements on deliveries of AME concluded between Russia and China in 2004-2006, according to SIPRI data, were contracts on purchase of 16 S-300 SAM systems and surface-to-air missiles 48N6T2 for their equipment, 9 Ka-28 anti-submarine warfare (ASW) helicopters, 9 Ka-31 airborne early warning (AEW) helicopters, 54 Mi-17 transport-assault helicopters, and also 100 AL-31 turbofan engines intended for the J-10 fighters made in China²⁷². The supplies under these agreements were carried out since 2006 by the end of 2012. Another important element of Russian-Chinese agreements in the MTC area were orders placed by the PRC for the Russian sea search radars intended for equipment of twenty Type-054A (Jiangkai-2) frigates of Chinese production²⁷³; supplies of these radars were made in 2008-2012.

The period from 2007 to 2012 appeared for the Russian-Chinese relations in the area of MTC even less 'saturated' from the point of view of the conclusion of new agreements on military purchases. Moreover, it was complicated by contradictions and scandals in MTC sphere, including those connected with copying of the Russian military equipment²⁷⁴.

²⁷¹ However, due to long terms of implementation of the signed contracts the general volume of deliveries of AME to China in the second half of the 2000s remained at the level of \$1,5-1,7 bln per year.

²⁷² Transfers of mayor conventional weapons from Russia to China, 2008-2012, SIPRI Arms Transfers Database, information generated 31 Nov. 2013.

²⁷³ In 2004 China ordered 20 Fregat air search radars (Top Plate in NATO classification), 80 MR-90 (Front Dome) fire control radars, and 20 Mineral-ME (Band Tilt) sea search radars capable on over-the-horizon detection and targeting. In 2009 the contract on purchase of 4 MR-123 (Bass Tilt) fire control radars was signed.

²⁷⁴ According to some data, even after signing in 2008 of the Russian-Chinese agreement on protection of intellectual property, the Chinese producers continued to carry out activities dealing with copying of the Russian military equipment. This problem became so sharp for the Russian-Chinese relations that it was raised officially during the state visit of Russian president D. Medvedev to China in September, 2010. See, Kuzmin, V., 'Tea on the gas stove', *Rossiiskaya gazeta*, 28 Sep. 2010, <<http://www.rg.ru/2010/09/27/kitay-site.html>>; <http://www.ukrudprom.ua/digest/Prosim_ne_kopirovat.html>, 27 Sep.2010.

For China itself, on the contrary, it was time when serious success and breakthroughs both in the sphere of military production, and in the field of export of the Chinese arms samples were achieved. Thus, by 2010 China constructed three new submarines of the Yuan class (Type 41, 41B and 41C)²⁷⁵, produced in big consignments J-10 and FC-1 (JF-17) jet fighters (the latter - in cooperation with Pakistan), completed the development and launched into production the multi-purpose heavy fighter J-11B created on the basis of licensed Russian Su-27, and the early warning aircraft KJ-2000 (first Chinese Airborne Early Warning and Control System, AWACS), constructed on the basis of transport IL-76MD and equipped with domestically designed radio engineering complex. Carrier-based fighter aircraft J-15 in which construction elements of the Soviet pilot carrier-based fighter T10K and the carrier-based Su-33 air defense fighter with folding wings are combined became one more Chinese aerotechnical innovation product²⁷⁶. Among other things, China continued development of its own fifth generation aircraft under the name of J-20. Besides aviation equipment, the Chinese producers of arms actively copied other samples of the Russian AME²⁷⁷, counting on the subsequent export of these arms.

From 2007 to 2012 China and the Russian Federation managed to reach agreements only upon deliveries to the PRC of turbofan engines AL31FN and D-30KP2 in rather large numbers intended for equipment of the Chinese planes²⁷⁸, and upon delivery

²⁷⁵ Experts consider that they were mostly copied from the Russian Kilo class submarines (Project 877 and Project 636). See: 'China copied all last projects of the Russian diesel-electric submarines, and probably, of Lada class', *Military parity*, 27 Sep. 2010.

²⁷⁶ Some experts link rather fast production of J-15 by China copied from Su-33 with the fact that the PRC succeeded to get a prototype of this plane from Ukraine.

²⁷⁷ Among significant examples were the Type 99G tank developed in the process modernization of the Russian T-72 tank; medium range HQ-9 SAM system – the Chinese clone of S-300P system; the DH-10 cruise missile for arming of planes of the strategic aviation (its prototype was the Soviet X-55 rocket), etc.

²⁷⁸ In 2009 contracts for delivery to China of 122 AL-31FN turbofans with which licensed Su-27CK produced in China and the multi-purpose J-10 fighters are equipped, and of 55 D-30 turbofans intended for the H-6K bombers, and, by some assessments, for the Y-20 military-transport aircraft were signed. In 2011 China requested again from Russia 184 D-30 engines, 123 AL-31 FN engines and

of 4 MR-123 fire control radars for Zubr landing crafts acquired from the Ukraine. Other new agreements on cooperation and arms supplies with China were not concluded in this period. In 2013, according to information appeared in mass media, Russia resumed execution of the contract for delivery of the Il-76MD military transport planes and 4 Il-78 tankers²⁷⁹.

It is remarkable that Russia has undertaken in recent years active efforts to attract China to cooperative research and development and co-production of different perspective types of armaments, as well as to other projects on military-technical cooperation. However China refused many such offers because it made earlier decisions on completely independent R&D. So happened to projects on construction of many models of Chinese planes, including the project of the aircraft of fifth generation J-20 (the PRC started to work on it, by different estimates, in 1995 or 1997, informally using at the same time Russian groundwork on the issue)²⁸⁰. Besides, the People's Republic of China doesn't participate in the projects of applying of GLONASS system of satellite navigation approved by other BRICS countries - Beijing as long ago as in early nineties made a choice for development of its own Beidou (Compass) satellite system²⁸¹.

Negotiations on joint development and production of the heavy helicopter on the basis of Russian Mi-26, that are underway since 2010, probably, will become an exception from the trend

150 AL-31 engines of other modification with which the Chinese J-11B will be equipped, and signed the relevant contracts. According to expert's forecasts, export of turbofans will proceed until the People's Republic of China started its own production lines on release of similar models of motors; this process may already take place in the next several years.

²⁷⁹ Konovalov, I., 'Il-78: second birth', *Voenna-promyshlennii kurier*, 13 Mar. 2013.

²⁸⁰ In design of the 'demonstrator' of J-20 presented by the PRC in January 2011 the elements copied from S-37 'Berkut' and 'MiG 1.42' made by the Mikoyan design bureau could be used. See, Bogdanov, K., 'It's not a fighter of the fifth generation', *Voenna-promyshlennii kurier*, 19 Jan. 2011.

²⁸¹ By the end of 2012, having launched 12 satellites, the People's Republic of China completed the first phase of deployment of Beidou system, and by November 2013 equipped with Beidou navigation systems military units of the army.

alluded to above. However there are still only discussions on the possibility of the joint project²⁸².

As a whole it should be noted that since China has already purchased from Russia practically all arms that were necessary from the 'available range', it will show thereafter interest only to the latest Russian defense research efforts. It is a question of researches of arms and military equipment that were only recently adopted for service, or whose development is at the final stage, and first of all of the Russian Su-35 fifth generation fighters, S-400 SAM systems and submarines of the fourth generation of 'Amur' class.

Intention to get the Su-35 fighters and S-400 SAM systems China officially indicated in November, 2010 during the visit to the PRC of the Russian defense minister Anatoly Serdyukov. The Chinese officials then declared readiness 'to resume buying major Russian weapons systems after a several-year break'²⁸³. Later on started negotiations on purchase by the PRC of the Amur-class submarines.

The prospect for conclusion of the contract on Su-35 is most actively discussed today – this issue is more than two and a half years on the agenda of negotiations between the Chinese side and 'Rosoboronexport'. China expresses big interest in acquisition of state-of-the art Russian aircraft owing to the technological capabilities of Su-35. Inter alia, they include a new complex of onboard avionics on the basis of the digital management information system, new onboard radar 'Irbis-E' with the phased antenna array, big range of detection of air targets (up to 400 km) and increased (to 30) number of targets that can be detected and tracked up at one time. In Su-35 are also used new 117S (AL-41F1S) turbofan engines with the increased thrust and thrust vectoring. These distinguishing features provide Su-35 with technological and fighting advantages in comparison not only with 4th and '4+' generation fighters as Rafale and EF 2000, but also

²⁸² 'Superheavy Russian-Chinese helicopter: what it will be and whether will be at all?', *Voenna-promyshlennii kurier*, 26 Aug. 2013, <http://vpk.name/news/95593_sverhtyazhelyii_rossiiskokitaiskii_vertolet_kakim_on_budet_i_budet_li_voobshe.html>.

²⁸³ Pomfet, J., 'Military strength is eluding China', *The Washington Post*, 25 Dec. 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/12/24/AR2010122403009_2.html>.

with the upgraded American F-16 and F-18 fighters (and, by some estimates, F-35)²⁸⁴.

The Russian-Chinese negotiations on Su-35 are conducted in a closed format, however it is known that by results of the visit of Russian defense minister S. Shoigu to the PRC in November, 2012 the parties managed to agree on the initial order for 24 Su-35 (plus it is planned to add to the contract an option on delivery of additional 24 planes if implementation of the agreement will move effectively). According to the data cited in mass media, the Russian negotiators demand from the Chinese party strict guarantees of protection of the property rights on Su-35, and on the up-to-date systems with which the aircraft is equipped (117S engines and Irbis-E onboard radars)²⁸⁵. Russia also insists that the signed contract must be an agreement on deliveries, and not a licensing agreement.

According to expert's forecasts, the agreement on Su-35 can be signed no sooner than in 2014, and real deliveries of fighters to China can start no sooner than in 2016-2017, that is only after implementation of the existing order on Su-35 made by the Russian Air Forces.

As well as in a case with Su-35, export deliveries of S-400 SAM systems will start only after implementing of the most part of orders of the Russian military - in process of 'release' of the production capacities of Almaz-Antey concern where they're produced.

China can become the first buyer of S-400 systems, but some other countries can also (including Belarus and Kazakhstan). According to sources in Russian defense industry complex (DIC), the sales of S-400 'Triumph' SAM systems to China will begin not earlier than in 2017²⁸⁶. As for possible terms of the contract and the

²⁸⁴ 'The Chinese delegation will evaluate Su-35', *Voenna-promyshlennii kurier*, 4 June 2013, <<http://vpk-news.ru/news/16222>>; Minnick, W., 'China's New Jet, Radar Complicate US Posture', *Defense News*, 8 July 2013.

²⁸⁵ 'Whether Russia will sell to China a consignment of Su-35 fighters?', BBC, 6 Mar. 2012, <http://www.bbc.co.uk/russian/international/2012/03/120306_su-35_russia_china_deal.shtml>; Novichkov, N., Milovanova, L., 'Achievements of military aircraft industry of the Heavenly Empire', *Voenna-promyshlennii kurier*, 28 Nov. 2012, <<http://vpk-news.ru/articles/13335>>.

²⁸⁶ 'Russia will sell to China S-400 SAM systems after 2017', Lenta.ru, 27 June 2012.

number of systems that China plans to purchase, there're no yet any official documents or declarations on intentions on this issue.

Information on negotiations with the PRC on buying and licensed production of non-nuclear fourth generation submarines of Amur 1650 project (export version of the Lada submarine project 677E) is now available only in the form of leaks in mass media, and also general statements made by the general director of the company developing Amur non-nuclear submarine (NNS) – the Central Design Bureau (CDB) for Marine Engineering 'Rubin' Igor Vinyit²⁸⁷.

Technological advantages of Amur NNS that are important for China as the potential buyer consist in a low level of noisiness of the submarine, ability to conduct multiple rocket launching by all torpedoes at the sea and land targets, and the increased distance of detection of targets in comparison with other existing hydroacoustic systems. Submarine launched multi-purpose Club-s missile system with which the submarine is equipped, and a number of new Russian technologies on decrease of visibility of submarines are also very attractive²⁸⁸. Experts believe that China will be able to get access to such technologies only if it will insist in the framework of the negotiation's process on conditions of joint development and/or licensed production of NNS of 677 project in the People's Republic of China.

The firm contract on construction of submarines of the 1650 project for the Chinese Navy (a deal worth not less than 2 billion dollars) is assumed to be signed no sooner than in 2015.

According to other data, the contract will be signed much later because the PRC, as well as other possible buyers of the up-to-date Russian NNS²⁸⁹, are interested in equipment of "Amur" submarines by new and completely modified air-independent

²⁸⁷ Kiselyova, E., 'Amurs' on the Chinese coast', *Kommersant*, 20 Dec. 2012; Novichkov, N., Milovanova, L., 'Tears against the background of 'Amur'', *Voенно-promyshlennii kurier*, 17 Apr. 2013.

²⁸⁸ Ibid.

²⁸⁹ India and Venezuela also show interest to the 'Amur' submarines project 1650.

propulsion systems (AIPS); however, the corresponding project of the CDB Rubin isn't yet fully completed²⁹⁰.

It is important to note that all three contracts considered above which are in the discussion stage with China, are in general quite negatively assessed by the mass media, especially by military experts from the western countries. Numerous warnings on a big range of negative consequences which will come in case of approval by the FSMT and 'Rosoboronexport' of the relevant agreements are addressed to the Russian side. They are connected actually both with prospects of development of the Russian defense industry complex and arms exporting system, and with security landscape in the Asia and Pacific Region²⁹¹. Concerning possible influence of these contracts on the potential of the DIC in Russia opinions are announced that with acquisition of Su-35 and "Amur" NNS China will be able to advance for many years in development of its own aircraft industry and motor engineering, and also in construction of domestically designed submarines. All this in the long term can cause serious damage to interests of the Russian producers and exporters of arms and military equipment.

Problems and prospects of MTC with India

Development at the current stage of military-technical cooperation between Russia and India, when compared to other BRICS countries, is, at first sight, the least problematic. In 2007 India occupied the first place in the list of buyers of the Russian arms and military equipment in terms of volume of supplies, and so far has maintained this position. According to assessments of the

²⁹⁰ The CDB 'Rubin' is preparing to display a prototype model of the AIPS for this submarine no sooner than in 2016. See http://ria.ru/defense_safety/20130715/949752590.html, 15 July 2013.

²⁹¹ According to these estimates, the procurement of Su-35 by China will create a powerful counterbalance for military aviation of Japan, India and Vietnam. Besides, together with acquisition of S-400 systems, China will be able to strengthen considerably its air defense strike capability by expanding its range of action to 400 km, that is up to covering of all territory of Taiwan and airspace over the disputed Japanese-controlled Senkaku Islands. Minnick, W., 'China's New Jet, Radar Complicate US Posture', *Defense News*, 8 July 2013; http://www.militaryparitet.com/ttp/data/ic_ttp/5898/, 26 May 2013.

Centre for Analysis of Strategies and Technologies (CAST), it is India with which as of 2011 most of the large contracts (for an amount of more than \$500 million) on export of the Russian AME were concluded. For this period 8 such contracts were in force, including delivery of 140 machinery sets for licensed assembly of Su-30MKI (plus an agreement on delivery and licensed assembly of 40 Su-30MKI in total); purchase of 29 MiG-29K/KUB naval fighters for heavy air-capable cruiser 'Vikramaditya'; purchase of 80 Mi - 17B-5 transport helicopters; development, delivery and licensed production in India of 250 turbofan engines AL-55I for Indian training aircrafts; construction of three frigates 'Talvar' of the project 11356M²⁹².

Speaking of other significant agreements with India, operating during the period from 2007 to 2012, in respect of naval equipment it is necessary to mention works on re-equipment and modernization of the Russian aircraft carrying cruiser in an aircraft carrier 'Vikramaditya', the agreement on leasing of the nuclear submarine 'Nerpa' of the project 971, and deliveries to India of several 'Harpoon' (Plank Shave) and 'Fregat' (Top Plate) air search radars and 30 MR-90 (Front Dome) fire control radars for equipment of Indian destroyers and frigates.

In 2007-2012 in a segment of air defense multiple launch rocket systems (MRLS) 'Smerch', 250 'Igla-S' portable SAM systems, and 28 'Tunguska' 2S6M surface-to-air gun and missile systems were delivered to India, in the field of armaments for ground forces the contract on delivery of 347 ready-to-use T-90S tanks to India and 223 vehicle sets for their production has played an important role²⁹³.

India is for today one of the few countries with which Russia has the long-term program of military-technical cooperation. Most of points of the program for MTC with India for 2001 to 2010 were implemented, and the volume of the signed contracts in its framework made about \$30 billion²⁹⁴. In 2009 new

²⁹² The main existing contracts for export of the Russian arms and military equipment (as of March 2011), <<http://www.cast.ru/figures/>>.

²⁹³ Transfers of major conventional weapons from Russia to India, 2004-2012. SIPRI Arms Transfers Database, information generated 26 Nov. 2013.

²⁹⁴ 'Interview of the deputy director of FSMT of Russia Vyacheslav Dzirkaln to Interfax-AVN agency', 21 Aug. 2012,

intergovernmental agreements on the program of military-technical cooperation for 2010-2020 and on after-sale servicing of AME delivered to India were concluded. And in 2011 in India the first facility for maintenance and repair of civil helicopters was established.

Experts emphasize that in relations with India Russia managed to turn from a paradigm of ordinary arms trade to model of cooperation within which joint projects in defense industry are being implemented (from R&D stage to a production stage)²⁹⁵. Russian-Indian project on development and coproduction of 'BrahMos' cruise missiles²⁹⁶, as well as signed at the end of the 2000-ies contracts on design and joint development of the medium-lift multirole transport aircraft (MTA) and the T-50 fifth generation combat aircraft, or FGFA (Fifth Generation Fighter Aircraft)²⁹⁷ play a key role in this respect. Actually all of them are carried out on the basis of the principle of 'risk-sharing partnership', that is equal shares of investments from the countries in implementation of agreements. According to FSMT of Russia, the Russian companies develop with the Indian partners cooperation in research and development in approximately forty projects²⁹⁸. On these joint

<<http://www.fsvts.gov.ru/materials/FE4531D8A0A12CB944257B170049217F.html>>.

²⁹⁵ <<http://periscope2.ru/2011/10/04/4830/>>, 10 Apr. 2011.

²⁹⁶ Missiles which were developed within this project can be produced in ship-, land-, air-, and submarine-launched variants. So far 'BrahMos' missiles have been inducted in eight warships of the Indian Navy and in some regiments of the Indian Army.

²⁹⁷ Founders of the joint venture on development of MTA are the Russian United Aircraft Corporation and 'Rosoboronexport' from the Russian side and the HAL Company from the Indian side. In turn, the Ilyushin Aviation Complex carries out works on development of the aircraft, including development of a prototype of MTA. The Indian company HAL participates also in development of the T-50 fifth generation aircraft, as well as the Sukhoi Design Bureau from the Russian side; it is planned to create the plane in two modifications – export FGFA option and the Russian PAK FA. In 2010 the framework agreement was signed on the project, and by the beginning of 2013 the agreement on a preliminary design stage was implemented. See,

<http://www.militaryparitet.com/ttp/data/ic_ttp/5994/>, 15 July 2013;

<http://vpk.name/news/87069_samolet_mta_budet_prodvigatsya_na_mirovoi_ryinok.html>, 29 Mar. 2013.

²⁹⁸ <<http://www.fsvts.gov.ru/materials/FE4531D8A0A12CB944257B170049217F.html>>, 21 Aug.2012.

research and development projects, as well as on further elaboration of interaction in licensed production, are pinned big hopes from the point of view of prospects of interaction of Moscow and Delhi in the military-technical sphere.

As a whole, however, MTC between Russia and India isn't free from a significant number of 'old' and rather recently emerged problems. A lot of attention both in mass media and in expert community was paid recently to many of them.

First of all it is necessary to mention in this respect such acute issue as remaining discontent of the Indian recipients of arms with *quality of realization of contracts signed with India* by the Russian companies; the Indian representatives raised in this regard a large number of complaints on many of them, and many disputes related to revision of agreement's provisions emerged²⁹⁹.

Among of the hardest projects in this regard were the agreement on modernization of the aircraft carrying cruiser 'Admiral Gorshkov' in an aircraft carrier 'Vikramaditya'³⁰⁰, and also the contract on completion and leasing for 10 years of the 'Nerpa' nuclear submarine³⁰¹. There were delays in implementation of other significant contracts too – for example, more than a year delay in delivery of the last ship from the second shipment of 'Talvar' frigates ordered by India. As it can be judged, the Indian side is still dissatisfied by the efforts that are undertaken by the Russian producers of AME on improvement of quality of implementation of contracts and technical servicing of the defense products delivered to India.

The second essential thing that must be emphasized is that in recent years *in the Indian market of arms deliveries the competition has sharply increased*. The USA, Israel, as well as a number of the European and CIS countries – first of all, Great Britain, Italy,

²⁹⁹ On more details about disputes on concrete contracts see: *Military-Technical Cooperation of Russia with the Foreign Countries*, ed. by N.I. Kalinina (Moscow: IMEMO RAN, 2010), pp. 147-149.

³⁰⁰ In process of its implementation the Russian company exercising the contract – 'Sevmashpredpriyatiye' - insisted on almost twice cost increase, the implementation deadline was also postponed several times.

³⁰¹ There were technological problems in the framework of the project, in 2008 during tests there was a technogenic accident on the submarine in which 20 people were lost. The term of delivery of the submarine to the Indian Navy was repeatedly transferred, finally the transfer took place in 2012.

Uzbekistan, and also Germany and France – work on it more and more actively.

Military-technical cooperation between New Delhi and Washington since the mid-2000s was especially thriving; it became possible due to signing by the US and India in 2005 the New Framework for Defense Cooperation, and later the agreement between two countries on cooperation in civilian nuclear power sphere. In fiscal year 2011, New Dehli became the third-largest purchaser of US arms, signing contracts worth near \$4.5 billion. According to estimates of the Washington's Centre for Strategic and International Studies (CSIS), by the middle of 2012 the volumes of Indian-American military-technical cooperation (the total amount of the signed contracts) were about \$8.8 billion, and further they can only increase³⁰².

India also began to play in recent years a significant role in structure of conventional arms export of such countries, as Israel, Great Britain and Italy³⁰³. Most likely, the role of France as supplier of arms for India in the short term can also enhance: in this sense implementation of an agreement on delivery of 126 Rafale multi-purpose fighters to New Dehli may be of key importance³⁰⁴.

Taking into account the increasing competitiveness on the Indian arms market, and a course on diversification of military purchases of the Indian government, a question in what areas and sectors of the Indian market of AME the Russian suppliers still can hold key positions has become more and more relevant. There aren't many such spheres left – during the last two decades India, as

³⁰² *US-India Defense Trade: Opportunities for Deepening the Partnership*, CSIS Report, June 2012,

<http://csis.org/files/publication/120703_Latif_USIndiaDefense_Web.pdf>.

³⁰³ In 2007-2012 India took the first place by volumes of AME exported from Israel (as a whole India has bought arms from Israel for \$703 million), and entered the triad of leaders on AME purchasers in Great Britain and Italy. In Great Britain during this period the contracts implemented with India, amounted to \$1,05 bln, or 17% of exported AME, in Italy – \$337 million, or 9% of exported AME. Volume of Arms Imports to India, 2007-2012. SIPRI Arms Transfers Database, retrieved 1 Dec. 2013.

³⁰⁴ In 2012 the French concern Dassault Aviation won the largest in the Indian history international tender on delivery of 126 multi-purpose fighters for the Indian Air Force. This deal is valued by experts at more than \$18 billion, and negotiations on its final conditions are in a closing stage.

well as China, has bought the most part of the Russian arms and arms systems in which it was interested. bln. dollars.

As military experts forecast, Russia will hold for some years a priority in the Indian market in such sectors, as tanks, large-caliber multiple launch rocket systems, fighting helicopters and aircraft (thanks to agreements on Su-30MKI and MiG-29K/KUB, and to the FGFA and MTA programs). At the same time in the field of aviation equipment the USA and the European countries, including France, may become Russia's powerful competitors. Not really favorable forecasts can be made also concerning purchases and construction of underwater and surface vessels for Indian Navy³⁰⁵. The situation with possible purchases by India of air defense and missile defense systems of Russian production is very uncertain too³⁰⁶.

As for the Russian-Indian projects on joint research, development and production of arms, in their realization there are many problems too, and the situation of uncertainty remains. We will consider as an example the agreements on MTA and T-50 mentioned above. India and Russia estimated originally that both

³⁰⁵ Some experts consider that in purchases of diesel submarines New Delhi will gradually refocus on Western Europe, and others note that Russia will retain – on condition of strict adherence to contractual obligations – good opportunities for cooperation with India in the field of multi-purpose nuclear submarines. See: Periscope2: News of DIC and MTC of Russia, 10 Apr. 2011, <<http://periscope2.ru/2011/10/04/4830/>>. Chances of reorientation of India on more active interaction with the USA and the European suppliers on the surface vessels are quite high too. The Russian will hardly be able to offer India cooperation in the field of construction/ modernization of the aircraft carrying ships (except 'Vikramaditya') and the large-capacity landing ships.

³⁰⁶ Within the tender announced recently India plans to buy two regiments of short-range air defense systems for air defense/missile defense (AD/MD) forces. The Russian air defense concern 'Almaz-Antey' offers the Indian party in this regard the short-range SAM systems Tor-M2KM; and as for other AD/MD systems, - options of purchase big range Antey-2500 and middle range Buk-M2E systems. Besides Russia, India also conducts consultations concerning purchase of air defense/missile defense systems with some other countries, including the USA, Israel and France. Litovkin, V., 'Hot sky of Bangalore', *Nezavisimoye voennoye obozrenye*, 22 Feb. 2013; 'Russia will test the latest ZRK 'Tor-M2KM' for the Indian tender', <http://ria.ru/defense_safety/20140206/993387980.html>; Topychkanov, P., *Prospects of establishment of MD in India in a context of regional security*, Carnegie Moscow Centre Working Papers, №3, 2012. <http://carnegieendowment.org/files/WP3_2012_Topychkanov_rus.pdf>.

projects would be realized in terms from six to ten years, since 2010³⁰⁷. Today, however, many experts, as well as sources in governmental circles of both countries express doubts that it will be possible to implement contracts on development and production of the multirole medium-lift transport aircraft and the fifth generation combat aircraft within such short deadline³⁰⁸. Quite slow rates of implementation of both projects together with other 'problem factors' (distinctions of the Ministries of Defense of both countries in demands to armaments that are being developed, delays with financing, claims that contracting parties over- or underestimates the cost of contracts) lead, eventually, to strengthening of fears that they won't be successful and won't cover costs³⁰⁹. Thereby instead of acquisition of positive experience of cooperation between the Indian and Russian participants the discontent and the number of mutual claims can increase that will be reflected, evidently, on all interactions of two countries in the field of research and development.

Thus, it is very important both for Russian and for the Indian party to overcome present difficulties within implementation of joint defense R&D, first of all under the contracts on FGFA and MTA as the most *representative* examples of interaction in this sphere. At the same time it is necessary to use relatively high, as one can judge, level of interest of the heads of the Indian military industrial complex in implementation of technological cooperation with Russia³¹⁰.

³⁰⁷ 'Military-Technical Cooperation of Russia with the Foreign Countries',... p. 146.

³⁰⁸ At the beginning of 2013 it was declared by the Indian Ministry of Defense on situation around T-50 (FGFA) that in 2013-2014 financial year it will hardly be possible to sign the final technical contract on the project. There also appeared data that terms of development of FGFA can be shifted because the Indian party, seeking to have the advanced fighter with the improved characteristics, submitted to Russia in 2012 more than 40 new requirements for PAK FA model improvement. See: Konovalov, I., 'MTA program: infinite flight around', *Voенно-promyshlennii kurier*, 14 Nov. 2012; 'FGFA is necessary to India for a jump in the future', 18 May 2012, <http://www.militaryparitet.com/perevodnie/data/ic_perevodnie/2938/>.

³⁰⁹ Konovalov, I., 'MTA program: infinite flight around'...

³¹⁰ The statements of heads of the HAL company concerning the FGFA project can confirm it. By their estimates, the experience of participation in the FGFA program of flight tests will be quite important for the Indian party, and as a whole

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To sum up it should be noted that it is quite difficult to regard the relations of the Russian Federation with BRICS countries in MTC sphere today as complete system – they actually aren't such system. This is caused largely by distinctions in interests of the countries, their “multi-vector” military-technical policy, distinctions in development of their MTC systems, including in respect of cooperation with Russia in military-technical issues. Thus, with Brazil and the Republic of South Africa the Russian arms manufacturing companies rather recently began to find mutually acceptable areas and forms of cooperation, facing with their strong orientation to the American and European producers of arms and military equipment whereas with China and India various forms of military-technical cooperation are at the moment already well mastered. But on Indian and Chinese ‘vectors’ other problems emerge - ‘exhaustion’ of opportunities in the field of direct purchases, need of establishment of effective cooperation in the sphere of high technologies and up-to-date types of weapons. In relations with almost all BRICS countries Russia also faces the acute issue of strengthening of the competitiveness on their arms markets. As a result the forms of work with partners from BRICS countries in the military-technical area become more and complicated (participation in tenders and prior negotiations, detailed study of requirements of the customer on parameters of equipment and arms acquired, etc.).

With Brazil and the South Africa within several years which have passed from the moment of establishment of BRICS, and in many respects due to strengthening of political and trade-economic interactions, the Russian side succeeded to arrange cooperation on a number of important projects. At the same time essential breakthroughs in the MTC area with these countries were not reached yet. Signing of the contract with Brazil on purchase and licensed production of Pantsir-S1 and Igla-S SAM systems (valued at 1 bln. dollars) and/or ‘entry’ of the Brazilian manufacturers into the T-50 (FGFA) project could be such ‘breakthrough’ agreements. Any

the project ‘will give profound knowledge on design of the state-of-the-art aircraft which will help us in the future’. See: ‘FGFA is necessary to India for a jump in the future’...

large agreements with Brazil and the Republic of South Africa on purchasing/ co-production of certain aircraft equipment could play also important role.

In relations with the PRC and India as key buyers of the Russian AME during the last two decades the problem of decrease in real volumes of military purchases had become more critical. The Russian authorities and agencies responsible for the military-technical cooperation, are striving to react by various methods to this decrease in volumes of the income. As far as can be judged from the statements of the senior executives of the FSMT of Russia, it is a question first of all of such forms of reaction, as diversification of sales of arms and military equipment, including entry into the new markets of military production, more active development of the system of after-sale servicing and repair of the MP delivered for export, increase of a share of research and development and contracts on coproduction of AME within the system of military-technical cooperation.

It is planned to carry out the corresponding activities by means of further strengthening of interactions with BRICS countries ‘on the new principles’ – realization of projects in the sphere of defense research and development, establishment of the servicing centers for the Russian military equipment, implementation of the ideas of transformation of the BRICS countries in ‘operators’ organizing contacts in the MTC area within large subregions – South America, the Central and South Africa, Southern and South East Asia.

In realization of some of these tasks positive trends are already found. On the other hand, a number of the important areas of cooperation with BRICS countries in the sphere of MTC remain only ‘ideas on paper’.

If to speak, for example, about creation of the system of after-sale servicing of the Russian equipment, its development actually is only in an initial stage, and in some sectors – isn’t yet beyond planning. Effectively working after-sale servicing centers are created abroad today only by “Helicopters of Russia” holding, other AME manufacturing companies have much more modest progress.

In the sphere of R&D, including joint defense R&D, the BRICS countries show different degree of preparedness to cooperate with the Russian side, reasoning first of all from own

national interests and priorities. Some countries are inclined to trust only to the equipment and technologies which proved that they are in demand (in this regard, for example, the position of Brazil concerning projects on FGFA and licensed production of the Russian SAM systems significantly differs), others, like China, are primarily focused on tasks of development of own defense industry complex and defense technologies, and consider the projects of interaction with Russia in the MTC sphere first of all through this 'prism'. For this reason prospects of cooperation with the People's Republic of China in the field of R&D can be overlooked only in very narrow sphere – in respect of most significant contracts on the up-to-date Russian AME in which receiving China is strongly interested (for example, the contract of construction of the latest-generation non-nuclear submarines).

With India, unlike other countries of BRICS, some significant steps in realization of joint R&D is already made, many large projects in this sphere really start working. However there is a wide range of the problems connected directly with an embodiment of coordinated plans of cooperation.

To overcome existing problems, and also to preserve in the long term a significant role of Russia in MTC with the foreign states, it is very important for the Russian side to obtain timely and accurate realization of contracts that were concluded and improvement of quality of after-sale technological servicing of delivered equipment, and also to conduct successfully information support of the process of promotion of products on the Indian market. Only then Russian exporters of AME will manage to withstand the increasing competition from the western suppliers.

11. SAFE TOLERANCE CRITERIA OF NUCLEAR NON-PROLIFERATION REGIMES: CONFERENCE OF THE INTERNATIONAL LUXEMBURG FORUM

Vladimir YEVSEEV

There have been recent positive trends in strengthening the nuclear non-proliferation regime. This is primarily due to the interim agreement “Joint Action Plan” signed in Geneva on November 24, 2013 between the representatives of the Islamic Republic of Iran (IRI) and “six” of international mediators (five permanent members of the UN Security Council and Germany) to resolve the Iranian nuclear crisis. The agreement has identified both priorities and the final steps of Iran and the West to resolve this crisis.

Naturally it was more a tactical success. However, in exchange for weakening extremely painful financial and economic sanctions for six months, Tehran has agreed to provide daily access of IAEA inspectors to the uranium enrichment plant in Natanz and Fordow, where the equipment of continuous monitoring of the amount of fissile material is being installed. The Agency inspectors will get access on a regular basis to facilities where gas centrifuges are assembled, to the components’ production areas and to the storage, as well as to the uranium mines and facilities for the production of uranium concentrate. The Iranian side has also taken the following commitments: to submit extensive information to IAEA on all nuclear facilities with details on each building (structure), to suspend uranium enrichment process from 5% to 20% (uranium -235) for six months and to take other measures, precluding the possibility of rapid enrichment of grade fissile material in Iran.

Some improvement is observed on the Korean peninsula. In the short term this could lead to a resumption of six-party talks on ways to resolve the crisis over North Korea's nuclear program.

In these circumstances the role of the largest non-governmental organizations has objectively increased in the field of nuclear non-proliferation, arms limitation and reduction. Among them the International Luxembourg Forum on Preventing Nuclear Catastrophe occupies a special place. In a short time it has managed to bring together a representative group of prominent experts to address the most difficult tasks in the field of global and regional security. This was clearly demonstrated during the International Conference on Safe Tolerance Criteria of nuclear nonproliferation which was held on 21-22 May 2013 in Montreux (Switzerland). It was attended by 22 prominent experts and diplomats from 9 countries³¹¹.

This conference was fundamentally different on agenda from the previous conferences of the International Luxembourg Forum. It marked the beginning of a new research program on safe nuclear tolerance. Within this program experts of the International Luxembourg Forum focus on defining criteria of undeclared activities to develop nuclear weapons that can be used by the IAEA and UN Security Council to identify the goals and nature of nuclear programs of the member states of the Non-Proliferation Treaty (NPT). Such criteria can serve as a basis for respective measures on the part of the IAEA and UN Security Council to prevent states from violating or abandoning the NPT, as well as facilitate setting the limits of safe tolerance within the framework of nuclear non-proliferation regime³¹².

There is no doubt that the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) establishes only general obligations: for the nuclear powers not to transfer nuclear weapons to other countries, and for non-nuclear states - not to acquire it. In addition, the Treaty promotes cooperation in the field of peaceful nuclear

³¹¹ List of participants of the Luxembourg Forum 'Safe Tolerance Criteria of Nonproliferation', Montreux, 21-22 May 2013, <<http://luxembourgforum.org/forum/montreux-2013/uchastniki/>>.

³¹² *Safe Tolerance Criteria for Nuclear Nonproliferation Regimes. Proceedings of the conference of the International Luxembourg Forum on Preventing Nuclear Catastrophe*, Montreux, 2013 (Montreux: National Institute for Corporate Reform, 2013), p. 15.

energy and science and requires the IAEA to ensure the exclusively peaceful use of this cooperation³¹³.

At the same time, the NPT does not account for the variety of nuclear activities and cooperation among states in last forty-five years against the backdrop of huge geopolitical, scientific, technical and information changes. According to the experience of the previous decades, the non-nuclear countries can have no formal breach of the Treaty to come close to creation of nuclear weapons under false pretenses to withdraw from the NPT under Article X.1, and then in a short time to develop nuclear weapons. North Korea performed it in 2003-2006, that demonstrated the lack of effectiveness of IAEA safeguards for states that have not acceded to the Additional Protocol (1997) to the Agreement concerning the IAEA safeguards. In terms of growing global nuclear energy and international cooperation in this area the threat of the further proliferation of nuclear weapons and falling into the hands of terrorists could be significantly increased.

In this regard, the concept of safe nuclear tolerance involves the need for effective control of nuclear activities from the standpoint of performing not only by the provisions of the NPT, but the entire non-proliferation regime, including the requirements of the Additional Protocol (1997), the modified Code 3.1, the Zangger Committee and the Nuclear Suppliers Group (NSG), agreements on export control standards and other required international and national legislative responses to the violations of the nuclear non-proliferation.

Specificity of the issue requires advanced control and analysis of adjacent areas: regional features, foreign and military policy, the economy, development of potential carriers of nuclear weapons, etc. Moreover, the requirements for safe tolerance may be extended to other types of activity states. Some areas can be stressed: the military use of outer space, the development of precision weapons with conventional warheads, the creation of a missile defense system, the development of biotechnology, the development of weapons based on new physical principles and the supply of weapons to illegal armed groups.

³¹³ Timerbayev, R.M., *Russia and nuclear non-proliferation: 1945-1968* (Moscow: Nauka, 1999), pp. 354-359.

The above ideas have been developed at a meeting of the Supervisory Board of the International Luxembourg Forum, which was held in Warsaw on 10-11 December 2013. It was attended by 13 renowned experts and diplomats from 4 countries³¹⁴.

At this meeting, in order to identify any state striving to develop nuclear weapons, the following was proposed to consider: failure of a state to comply with the requirements of the Additional Protocol (1997) to the Agreement with the IAEA for the Application of Safeguards, the creation of a closed nuclear fuel cycle (NFC)³¹⁵ with limited peaceful activities in nuclear field, refusing to participate in the work of international centers providing nuclear-related construction of underground nuclear facilities, advanced missile program, obstruction of inspections by the IAEA, the statement about the possibility of withdrawal from the NPT in connection with the issues of national security and others.

In case of a combination of such evidence concerning any state it was proposed to take measures on the part of the UN Security Council in full articles 41 and 42 of Chapter VII of the UN Charter as actions in relation to threats to the peace, breaches of the peace and acts of aggression. In addition, it was stated that the functions of the IAEA are not sufficient to prevent nuclear proliferation, especially in relation to the means of delivery of weapons of mass destruction. It would be desirable on the basis of the relevant decision of the management of the official nuclear states and other stakeholders to establish a specialized international center or agency.

Within the framework of meetings held by the Luxembourg Forum experts have analyzed the process of developing nuclear weapons and its delivery systems, primarily using missile

³¹⁴ List of participants of the meeting of the Supervisory Board of the Luxembourg Forum, Moscow, 10-11 Dec. 2013, <<http://luxembourgforum.org/forum/warszawa-2013/uchastniki/>>.

³¹⁵ There are two types of NFC: open and closed. In a closed nuclear fuel cycle, in contrast to open at the radiochemical enterprises is processed (reprocessing) of spent nuclear fuel for the purpose of recycling preserved uranium-235, almost all of the mass of uranium-238 and plutonium isotopes produced during the operation of nuclear reactors for civilian and military purposes. In the open NFC spent nuclear fuel and radioactive waste is considered together with the residual fissile isotopes excluded from further use.

technology. This has revealed the following steps, which usually took place in all nuclear states³¹⁶:

a) research and development;

There is a significant archive of information in the Internet on the design of nuclear warheads that could greatly facilitate the task of the state that decides to create nuclear weapons. And because of the relative technical simplicity of the design of nuclear warheads on the basis of weapons-grade uranium is not necessary to conduct its tests. Another thing, if the charge is made from weapons-grade plutonium. In this case, the nuclear test is mandatory, since there is a need to ensure implosion, i.e. compression of fissile material by a nuclear explosion.

It is extremely difficult for the international community to control research work, since it involves a limited number of specialists. Such researches can be conducted in civil research organizations of dual-use without informing the involved staff about the real purpose of the work.

b) development work;

c) ground (underground) tests;

This stage affects both the phase of the nuclear area (subcritical nuclear test of individual elements of a nuclear warhead) and the area of ballistic missile tests. In particular, tests of missile engines are conducted on the ground or in abandoned premises. Initially, technical intelligence didn't allow receiving information about ground testing of missile engines. Later, such a possibility let getting the information, so that the tests were performed indoors, without the emission of combustion products.

Russian experts believe that there are no features of missile development infrastructure or ground testing of rocket technology that would indicate the development of nuclear weapons. There is only indirect evidence of such development, for example storage for nuclear warheads. In this respect, only operational information may be useful as a solid proof.

d) flight tests.

It is primarily about testing of ballistic missiles. During the "Cold War" a new ballistic missile development took 10-15 years,

³¹⁶ *Safe Tolerance Criteria for Nuclear Nonproliferation Regimes. Proceedings of the conference of the International Luxembourg Forum on Preventing Nuclear Catastrophe...* pp. 27-31.

thus ensuring high reliability of its operation. Such countries as Iran or North Korea, causing concern of the international community, are able to reduce this time, for example, twice in the expense of the reliability requirements of the systems.

So, after several unsuccessful launches DPRK could orbit a satellite of the Earth Kvanmenson-3 (Bright Star-3 with the carrier rocket Ynha-3 (Milky Way-3) in December 2012. Then, many experts believed that the probability of such an event does not exceed 10%. On the basis of the specified North Korean launch vehicle ballistic missile can be developed to deliver a nuclear warhead. This situation is fundamentally different from the Iranian rocket "Safir", which cannot be used for similar purposes, even after work on improving it. But as a base for the development of a carrier of nuclear weapons Iranian rocket Simorg can be used, which has never worked out practically during flight tests.

It should also be noted that in the Soviet Union and the United States telemetric information obtained during flight tests of ballistic missiles was used in different ways. In the USSR, it was codified, which created serious difficulties for US technical intelligence. Americans didn't encrypt the same information, but used a very sophisticated way of transmission, making it difficult to interpret the information received from the Soviet side.

The air carriers with required capacity could be used for delivery of nuclear weapons. In particular, Iran has obtained 12 Su-25 aircrafts with carrying capacity of up to 4 tons and 70 old American light multi-role fighters Northrop F-5 Freedom Fighter/Tiger II, which were developed in the late 1950's with carrying capacity of 3 tons.

Other issues in the field of nuclear non-proliferation were discussed in detail. Russian experts drew attention to the fact that now 1270 tons of highly enriched uranium are stored in the world. Basically, it is spread in the territory of Russia and the United States. Americans have declared information about how much they have gained of the material and how much of it is in storage. France and Britain did the same. Among official nuclear states only Russia and China do not have desire to declare the amount of their fissile material, refusing to go to improve transparency measures in this field.

It is believed in Europe that the level of progress in the field of nuclear non-proliferation, Russia is positioned at the level of the

70's. Therefore it is necessary to significantly reduce stocks of strategic and tactical nuclear weapons, the potential of uranium enrichment and reprocessing of spent nuclear fuel and simultaneously to enhance the IAEA's role in preventing nuclear proliferation. However, some states refuse to grant the Agency additional powers in this area.

According to Western experts, positive dynamics in the field of strategic nuclear arms reductions has now disappeared. In reality, taking into account offsetting rules established at the Prague treaty START, Russia and the US in the medium term, will be able to retain a high degree of readiness for combat use more than 2000 nuclear warheads on each side. The number of deployed delivery vehicles is reduced to 700, but return potential much grows, primarily in the United States. Given the major controversies on missile defense and the imbalance in tactical nuclear weapons, Moscow and Washington do not negotiate further reductions of nuclear weapons, while China, India and Pakistan are increasing their nuclear arsenals.

Some experts believe that the Russian program of modernization of strategic nuclear forces (SNF) will be revised due to lack of funds. In the US, on the other hand, modernization of their strategic nuclear forces in the amount of \$ 900 billion over 20 years will begin in 2020. By this time the missile defense issue will overshadow because Moscow implements its own plans in this area, and Washington plans to limit the deployment of a global missile defense program. All this may become a platform for holding Russian-American talks on nuclear weapons. However the prompt global strike program which develops new long range high precision conventional weapons can seriously impede such talks³¹⁷.

According to the US, China has no desire to discuss its nuclear capability. Aggressiveness on territorial issues with Japan, South Korea and the countries of Southeast Asia has increased. An armed conflict may emerge between Beijing and Tokyo at certain scenario of future developments.

³¹⁷ 'Prompt Global Strike' - an initiative of the US armed forces to develop a system allowing to strike the usual (non-nuclear) weapons to anywhere in the world for 1 hour, by analogy with a nuclear strike using intercontinental ballistic missiles.

In addition, Pakistan opposes a treaty banning the production of fissile material for military purposes, which suits India and China. At the same time, the US Senate has not accelerated the process of ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT)³¹⁸, despite President Barack Obama's attempts to facilitate this process. And this coincides with the interests of India, China and Pakistan, which are limited to a moratorium on nuclear testing.

North-East Asia has caused particular concern in the sphere of nuclear proliferation among the experts, where the buildup of DPRK nuclear capability allows the South Korea and Japan putting additional pressure on the United States and serves as a cover for the exercise of their own nuclear ambitions.

Broad discussion was caused by the issue of the establishment of the closed nuclear fuel cycle. Currently 15 states have reached this level, including nine nuclear states, Brazil, Argentina, Iran and Japan. South Korea is trying to achieve it, 70% of the population vote for the favor of creation of nuclear weapons in the country and the issue of withdrawal from the NPT is discussed in the parliament. Earlier there have been serious irregularities in Seoul in the field of nuclear non-proliferation (the first time - a small amount of weapons-grade plutonium, the second - a certain amount of laser enrichment of uranium to weapons grade).

According to Russian experts, this problem is possible to solve due to the internationalization of the nuclear fuel cycle. There is some positive in this regard. Thus, the United States, Russia and France have agreed on reactors on fast neutrons. The need for this is due to the fact that stocks of separated plutonium are constantly accumulated, and the demand for it from the mixed (uranium and plutonium) nuclear fuel for NPP is rather limited. It is assumed that the basis of this agreement will be based on Russia's proposals, since an industrial design reactor on fast neutrons BN-800 as part of Beloyarsk operates only in our country and also a transportable unit,

³¹⁸ To date, 157 states have ratified the CTBT, including 36 of the 44 states needed for its entry into force. The CTBT de facto nuclear states have not signed India, Pakistan and North Korea. Apart from these countries, the US, China, Israel, Iran and Egypt have not ratified the CTBT. The fate of that contract depends largely on Washington's position on its ratification.

designed for heat and power remote areas is being created. In the latter case, the consumer will not have access to nuclear fuel, which greatly reduces the threat of nuclear proliferation.

In addition, the number of research reactors operating on highly enriched uranium is significantly reduced in the world. Now in this area only reactors for military purposes are operated.

Another problem concerns the MOX fuel which is common enough in the world and potentially suitable for weapons quality. The reserves of the so-called reactor-grade plutonium are continuously accumulated and produced in the power reactors. This plutonium, as shown by scientists from the US, after conduction of a series of relevant experiments can be used to create nuclear weapons³¹⁹.

During the discussion it was noted that the Group of the IAEA provided \$ 150 million for nuclear fuel bank creation in Kazakhstan. Russia went on and created a similar center in Angarsk with a stockpile of nuclear fuel in the form of uranium hexafluoride, sufficient for three reboots power reactor 1 GW. The cost of this material is 300 million dollars. Iran cannot apply to these banks of nuclear fuel, as it has unclosed questions before the Agency on its nuclear activities, which are supposed to have a military component.

It was also indicated that nuclear weapons are now more accessible compared with the past development. This was confirmed, for example, during the last two North Korean nuclear tests. Under these conditions cooperation is needed between the leading states to curb illegal export of sensitive nuclear technologies. So, North Korea received from Pakistan gas centrifuges for uranium enrichment and created at least one facility. Syria could obtain reactor, enriching plutonium from the DPRK, but this was prevented by the Israeli air force. If the export control rules in the nuclear field are not strengthened, then by foreign aid the state may make a leap in the development of nuclear technology for military purposes.

Several experts noted that sometimes US creates additional problems by their shortsighted policies. Recently, for example,

³¹⁹ This possibility to validate the US after 60 unsuccessful experiments (the first one was in 1962). When this used SNF obtained in gas-graphite reactor progress type 'Magnus', rather than the much more common light water power reactor.

Brazil and Argentina have applied for the NSG. As members of the NPT, less control over their activities is required; it could be a negative consequence of the US-India nuclear deal in the nuclear area.

It is believed in the US the ratification of the Additional Protocol (1997)³²⁰ did not exclude the possibility of secret nuclear weapons developing. However, in this case, it will be easier for the IAEA to identify violation nuclear nonproliferation regime by a country. It should be noted that the Additional Protocol developed in the 1990's does not take into account some aspects which are now taking place. The IAEA inspectors have no experience in the field of missile technology.

Surely, the state's intention to develop nuclear weapons is very difficult to assess. It is necessary to compare the available capacity (the number of nuclear power plants, potential carriers of nuclear weapons, etc.) with the stated intentions. In principle, it is possible to reveal the secret plans in the nuclear field, but the problem has two aspects³²¹:

1) Technical:

Nuclear potential of the state can be created as a result of production (acquisition) of necessary fissile material, nuclear weapons and their delivery vehicles. At the same time nuclear materials can be imported (Pakistan got them from China), and the assembly of a ready nuclear warhead which requires a large number of technical personnel. In fact, now there are no technical barriers for getting nuclear weapons materials. The combination of all these factors speaks for the state's desire to obtain nuclear weapons.

2) Political:

External threats, availability of a confrontation potential and more can create an environment that will push the ruling power to develop nuclear weapons.

³²⁰ Currently 18 states, for purely political reasons, refused to ratify the Additional Protocol (1997). Some of these states are afraid that this document will be used for US interference in their internal affairs. Others, such as South Korea, do not exclude the possibility of developing nuclear weapons. *Safe Tolerance Criteria for Nuclear Nonproliferation Regimes. Proceedings of the conference of the International Luxembourg Forum on Preventing Nuclear Catastrophe...* pp. 98-111.

³²¹ Ibid.

The above division of technical and political aspects is somewhat arbitrary. Thus, dual technologies create hidden opportunities for nuclear weapons. However, their implementation is provided only with the relevant external conditions.

In general, experts believe that the process of nuclear weapons cannot be relied solely on the IAEA. In particular, Japan and South Korea could become the potentially nuclear states, with respect to which the Agency had no serious complaints. If all nuclear facilities located in the state are under IAEA safeguards, then illegal activity can be revealed on these objects. But then sometimes it's too late to react from the international community.

Considerable attention was paid by the participants of the Forum to the issue of Iran, which, as stated, lacks one to two years to build a nuclear weapon. Some of them believe that the political system of Iran will not contribute to change in the future policy on nuclear program, so compromise between the West and Iran in this matter is impossible.

UN Security Council demands that Iran suspends uranium enrichment process (from 5 to 20%) as long as it will not implement the Additional Protocol (1997) to the Agreement with the IAEA safeguards. The need for this is due to the fact that Iran has already accumulated so much fissile material, since its enrichment can produce six nuclear warheads. And now in the process of uranium enrichment only 25% of the available gas centrifuges low powers P 1 are involved. If necessary (for the involvement in the work of all centrifuge installation of more powerful types of centrifuges) the process of uranium enrichment to weapons grade can go fast enough.

Besides, heavy water reactor in Arak could soon become operational, which could potentially serve as reactor-grade plutonium. Once it starts to work on it will be impossible to put air strikes because of the possibility of radioactive contamination of the surrounding countryside.

It should be noted that the production of crude nuclear weapons does not require the development of advanced technologies. Iran could do it, and it consistently creates the required research and production potential.

It is believed in the United States that Tehran after the appropriate political solution will need one year to build a nuclear weapon. For delivery systems not only ballistic missiles, but also

other means can be used. At the same time, premature military action against Iran will push it to the immediate creation of nuclear weapons.

American experts have noted that the US has enough powerful weapons that even conventional warheads can disrupt gas centrifuges at Iran's underground uranium enrichment plant at Fordow. And if the US armed forces strike a blow, they will continue to bomb it to prevent operation of the enterprise. However, it is possible that Iran has prepared another secret object for uranium enrichment.

Contrary to the European opinion which offers to recognize Iran's right to enrich uranium for peaceful purposes, the Americans believe that this decision will stop counterproductive negotiations between Iran and the international mediators to resolve the nuclear issue.

On the basis of the Conference in Montreux in 2013 and the Supervisory Board meeting of the Luxembourg Forum, following tradition, final documents were adopted and sent to the leaders of the leading states and heads of major international organizations.

In general, it should be noted that in 2013 the activities of the International Luxembourg Forum on Preventing Nuclear Catastrophe, strengthening the nuclear non-proliferation, arms limitation and reduction were quite successful. At a conference in Montreux a lot of current proposals and recommendations that can be used to overcome the crisis in the field of non-proliferation and arms control were submitted. This was confirmed by the high expertise of the Luxembourg Forum as an organization aimed at facilitating the resolution of the most acute problems of global and regional security.

PART III. DOCUMENTS AND REFERENCE MATERIALS

12. Key documents of the Russian Federation on national security, defence, and arms control (January-December 2013)

12. KEY DOCUMENTS OF THE RUSSIAN FEDERATION ON NATIONAL SECURITY, DEFENCE AND ARMS CONTROL (JANUARY–DECEMBER 2013)

Tamara FARNASOVA

Legislative acts

Federal Law no. 26–FZ of 14 March 2013 ‘On ratification of the Agreement between the Government of the Russian Federation and the Government of the Italian Republic on rail transit of arms, ammunition, military equipment, military equipment and personnel via the territory of the Russian Federation in connection with the participation by the Armed Forces of the Italian Republic in international efforts to stabilize and rebuild the Islamic Republic of Afghanistan’

Passed by the State Duma (SD) on 22 February 2013; approved by the Federation Council (FC) on 6 March 2013; signed by the President on 14 March 2013.

Federal Law no. 68-FZ of 7 May 2013 ‘On ratification of the Agreement between the Russian Federation and the Republic of Tajikistan on the status and conditions of the Russian military base in the Republic of Tajikistan’

Passed by the SD on 19 April 2013; approved by the FC on 27 April 2013; signed by the President on 7 May 2013.

Federal Law no. 74 -FZ of 7 May 2013 ‘On ratification of the Agreement between the Russian Federation and the Kyrgyz Republic on the status and conditions for the Presence of the Unified Russian Military Base in the Kyrgyz Republic and the

Protocol between the Russian Federation and the Kyrgyz Republic on cooperation in the military area during the period before the entry into force of the Agreement between the Russian Federation and the Kyrgyz Republic on the status and conditions for the Presence of the Unified Russian Military Base in the Kyrgyz Republic'

Passed by the SD on 19 April 2013; approved by the FC on 27 April 2013; signed by the President on 7 May 2013.

Federal Law no. 392-FZ of 25 December 2013 'On ratification of the Agreement between the Russian Federation and the Republic of Kazakhstan on the creation of a joint regional air defence system of the Russian Federation and the Republic of Kazakhstan'

Passed by the SD on 20 December 2013; approved by the FC on 25 December 2013; signed by the President on 25 December 2013.

Federal Law hereby ratifies the above mentioned agreement signed in Astana on 30 January 2013.

Normative acts

Decree no. 359-r of the Russian Federation of 15 March 2013 'On signing the Agreement between the Russian Federation and the Republic of Armenia on military-technical cooperation'

Decree no. 472-r of the Russian Federation of 29 March 2013 'On signing the Agreement on the coordination of inter-state relations - CIS Member States in the field of atomic energy for peaceful purposes'

Presidential Decree no. 343 of 8 April 2013 'On the Procedure of the Russian Federation in the implementation of the Protocol on the mechanism of military and technical assistance to States-members of the Collective Security Treaty in cases of threats of aggression or an act of aggression'

Present decree approves provisions governing the implementation of the above document in Russia. The particular

emphasis is that the decision to provide military-technical assistance to a State-CSTO member is taken exclusively by the President of the Russian Federation and in accordance with Russian legislation.

Decree of the Russian Federation no. 1511-r of 28 August 2013

In accordance with the Federal Law ‘On International Treaties of the Russian Federation’ approved by this order submitted by the Russian Ministry of Defence agreed with the Russian Ministry of Foreign Affairs and other concerned federal executive authorities a draft agreement between the Government of the Russian Federation and the Government of the Socialist Republic of Vietnam on military cooperation.

The Russian Ministry of Defence is instructed to hold with their involved federal executive authorities to negotiate with the Vietnamese side and to reach an agreement and to sign it on behalf of the Government of the Russian Federation. Mentioned Agreement is authorized to make changes in the attached draft without changing its nature.

Decree no. 1625-r of the Russian Federation of 10 September 2013 ‘On signing the Agreement between the Government of the Russian Federation and the Government of the Republic of Belarus on early notification of a nuclear accident and the exchange of information in the field of nuclear and radiation safety’

Decree no. 1653-r of the Russian Federation of 16 September 2013 ‘On signing the Agreement between the Government of the Russian Federation and the Cabinet of Ministers of Ukraine on early notification of a nuclear accident and the exchange of information in the field of nuclear and radiation safety’

Decree no. 1785-r of the Russian Federation of 4 October 2013

In accordance with the Federal Law ‘On International Treaties of the Russian Federation’ and with the order approved a proposal of the Russian Ministry of Defence (MoD) agreed with the

Russian Foreign Ministry and the Ministry of Finance of Russia, on the negotiation and conclusion of the Agreement between the Russian Ministry of Defense and the Ministry of Defense of the Republic of Belarus on cooperation in identifying and evaluating radiation, chemical and biological conditions in the interest of regional groupings (forces) Armed Forces and the Armed Forces of the Republic of Belarus.

Decree no. 2065-r of the Russian Federation of 8 November 2013

In accordance with the Federal Law 'On International Treaties of the Russian Federation' approved by this order submitted by the Russian Ministry of Defence agreed with the Russian Ministry of Foreign Affairs and other interested federal executive authorities and previously worked with the Korean side draft Agreement between the Government of the Russian Federation and the Government of the Republic of Korea on military-technical cooperation.

Russian Ministry of Defence to hold negotiations with the DPRK side with other interested federal executive authorities in reaching an agreement to sign on behalf of the Government of the Russian Federation said Agreement, is authorized to make changes in the attached draft, not of a fundamental nature.

Presidential Decree no. 871 of 2 December 2013 'On measures to implement UN Security Council Resolution 2094 on 7 March 2013, includes a range of restrictions on the Democratic People's Republic, which was carried out a nuclear test, and in accordance the Federal Law № 281-FZ of 30 October 2006 of the special Economic Measures'

In connection with the above mentioned UN Security Council resolution with the present decree of 7 March 2013 and until further notice to all public institutions, industrial, commercial, financial, transport and other enterprises, banks, organizations, other legal entities and individuals under the jurisdiction of RF (among other measures) shall be prohibited:

- Provision of the Democratic People's Republic of any technical advice, services related to the provision, manufacture, maintenance or use of the items, materials, equipment, goods and technology to facilitate the implementation of the DPRK's nuclear

program or its ballistic missile program (named attached to Decree Appendix 3);

- Direct and indirect supply, sale or transfer (through Russian territory or citizens of, or with the use of ships and aircraft under the flag of the Russian Federation, and regardless of their country of origin) of any product in or out of North Korea, or North Korea or citizens acting on their behalf of individuals and legal entities , if the RF determines that such products may facilitate the DPRK's nuclear program or its ballistic missile program, or any other activity prohibited by the relevant Presidential Decree;

- Provision of financial services or the transfer of the territory of the Russian Federation, through Russian territory or from the territory of the Russian Federation or Russian citizens or legal persons, agencies, in accordance with the legislation of the Russian Federation (including branches abroad), or persons or financial institutions in the territory of the Russian Federation, any financial assets or other resources (including cash) that may contribute to DPRK's nuclear program or its ballistic missile program and other activities prohibited under the laws of the Russian Federation;

This document is supplemented by the following applications: Application number 1 - contains a list of individuals involved the implementation of nuclear and missile programs DPRK number Annex 2 - List of entities involved by the rocket-nuclear programs, and number 3 in the Appendix named items, materials, equipment, goods and technology to facilitate the implementation of the DPRK nuclear program or its ballistic missile program. The full text of these documents.

Russian Ministry of Foreign Affairs and all interested federal executive bodies in accordance with their competence should ensure the implementation of this Presidential Decree.

Decree no. 2328-r of the Russian Federation of 10 December 2013 'On the conclusion of the Agreement by exchange of notes between the Government of the Russian Federation and the Government of the United States to amend and extend the Agreement between the Government of the Russian Federation and the Government of the United States of America on cooperation in import the Russian Federation

research reactor nuclear fuel produced in the Russian Federation on 27 May 2004'

In accordance with the Federal Law 'On International Treaties' and by the order adopted by proposal of the State Corporation for Atomic Energy 'Rosatom' consistent with the relevant federal executive bodies and previously worked with the US side on the conclusion of the above mentioned Agreement. Draft notes attached. Russian Foreign Ministry instructed to carry out on behalf of the Russian Government to exchange notes constituting the mentioned Agreement, is authorized to make changes in the attached draft not touching the principal.

Resolution of the Government no. 1155 of the Russian Federation of 13 December 2013 'On approval of the application of kinds of prices for the products the state defense order'

In accordance with the Federal Law on the State Defense Order (GOZ) hereby decree approved the above mentioned Regulation, setting out the conditions, procedure for applying kinds of prices for the products included in the lists of products on GOZ, which is subject to state regulation of prices, as well as for goods (works and services) supplied by GOZ in connection with the development, manufacture, service, repair or disposal of these products, in the case of placing GOZ with a single supplier.

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